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**Existing, Experienced and Informed  
Realities of Sport Coaching through  
Transformational Leadership**

CLAIRE BRUCE-MARTIN

PhD

2022

# **Existing, Experienced and Informed Realities of Sport Coaching through Transformational Leadership**

**CLAIRE BRUCE-MARTIN**

A thesis submitted in partial fulfilment  
of the requirements of the  
University of Northumbria at Newcastle  
for the degree of  
Doctor of Philosophy

Research undertaken in the Faculty of Health  
and Life Sciences

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## **i. Abstract**

This study explores the applied practice setting of sport coaching through the theoretical lens of transformational leadership (TFL), examining the impact of this leadership approach specifically related to tennis coaches. Through embedding a novel, multistage, exploratory, sequential mixed methods design, conducted across three studies, the implementation of an iterative, reflexive research process was enabled supporting an integrative, abductive analysis of the theoretical and empirical data from across the studies. First, existing research from across TFL in sport coaching was systematically reviewed, identifying behavioural, relational, contextual and empirical themes. Specifically concerning integration of the differentiated constructs of TFL theory, the relational permutations of TFL behaviours across appropriately targeted sample populations, additionally the impactful differences evident across contexts varying sports are coached, and equally the opportunity for developing research designs that incorporate experimental, longitudinal, qualitative and mixed methods process, and evidenced outcomes. This highlighted current positioning of the research field through indicative trends, whilst also identifying opportunities for further enquiry, subsequently informing the implementation of an experiential narrative study conducted through use of semi-structured interviews (n=18) with experienced tennis coaches (M=18 years' experience). Employing reflexive thematic analysis of the tennis coaches' experiences as leadership figures enabled examination of the patterns identified, as well as the connections between the role of the coach and the specific constructs of TFL, alongside theoretical links to satisfaction of basic needs and mindfulness, culminating in three overarching themes: coaching context, satisfaction, and focus. The subsequent empirical data study utilised three measures (DTLI, BNSSS, MAAS) to further investigate TFL through the associations between tennis coaches and their athletes (n=422), informing a deeper understanding of behavioural, relational, and contextual impacts. The findings from the three studies highlight the current field of TFL in sport coaching research is limited in methodological scope and depth of evidence, which is problematic when attempting to demonstrate authentic transferability and generalisability across TFL in sport coaching research and applied practice contexts more broadly. Equally, awareness of the existing praxis of the differentiated constructs that form the conceptualisation of TFL within sport was limited, leading to the uncovering of complexities concerning enacting theoretical concepts across applied practice settings within tennis. Additionally, both the qualitative and empirical data suggest that satisfaction of basic needs, and the integral facets of mindfulness (awareness and acceptance), were apparent across coach experiences, and positively related to TFL approaches in tennis coaches, as perceived by their athletes. The convergence of these studies provides important insights into the challenges associated with activating TFL in sport coaching, whilst indicating a need for development of a broader range of research designs to support the further evidencing and application of this highly relevant theoretical concept, through authentic engagement and connection with both coaches and their athletes in specifically targeted applied practice settings.

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## v. Publications arising from this thesis

### Peer reviewed papers:

During the period of doctoral study at Northumbria University a range of methodological approaches were developed through this thesis, including systematic analytical review, experiential qualitative narrative, and exploratory sequential mixed methods. During the course of completing this doctoral research, the developed methodological approaches were also used to develop and support a range of research studies which resulted in the following published papers, and conference presentations:

- Winnard, A., Caplan, N., Bruce-Martin, C., Swain, P., Velho, R., Meroni, R., ... & Laws, J. (2021). Developing, Implementing, and Applying Novel Techniques During Systematic Reviews of Primary Space Medicine Data. *Aerospace Medicine and Human Performance*, 92(8), 681-688.
- Harden, M., Bruce-Martin, CF., Wolf, A., Hicks, K., & Howatson, G. (2019). Exploring the Practical Knowledge of Eccentric Resistance Training in High-Performance Strength and Conditioning Practitioners. *International Journal of Sports Science & Coaching*, 15(1), 41-52.
- Laws, J., Caplan, N., Bruce-Martin, CF., McGrogan, C., Lindsay, K., Wild, B., Debuse, D., & Winnard, A. (2019). Systematic Review of the Technical and Physiological Constraints of the Orion Multi-Purpose Crew Vehicle that Affect the Capability of Astronauts to Exercise Effectively During Spaceflight. *Acta Astronautica*, 170, 665-677.

### Conference proceedings:

During the period of doctoral study at Northumbria University the following conference abstracts were accepted for presentation:

- Bruce, C. (2019). Realities of excellence in sport coaching through experiences of transformational leadership. *The Canadian Association for Leisure Studies (CALs). 2019 "Weaving Our Stories", June 2019, University of British Columbia, Vancouver, Canada.*
- Bruce, C. (2018). Examining relationships between perception of tennis coach transformational leadership behaviour with athlete basic need satisfaction and mindfulness. *International Conference on Mindfulness (ICM) 2018 'Science from Within', July 2018, Amsterdam, Holland.*
- Bruce, C. (2015). Impact of Transformational Leadership within Sport Coaching: A systematic review of current literature. *British Psychological Society: Sport Exercise Psychology Conference (BPS-DSEP), December 2015, Leeds, UK.*

### **On-line publications:**

During the period of postgraduate study at Northumbria University the method developed through this thesis led to further collaborative studies and resulted in the following papers which have been published on-line:

- Laws, J. M., Bruce-Martin, C., & Winnard, A. (2020a). *Aerospace Medicine Systematic Review Group Basic NVivo User Guide for Systematic Reviews*.  
[https://www.researchgate.net/publication/342079678\\_Aerospace\\_Medicine\\_Systematic\\_Review\\_Group\\_Basic\\_NVivo\\_User\\_Guide\\_for\\_Systematic\\_Reviews](https://www.researchgate.net/publication/342079678_Aerospace_Medicine_Systematic_Review_Group_Basic_NVivo_User_Guide_for_Systematic_Reviews).
- Laws, J. M., Bruce-Martin, C., & Winnard, A. (2020b). *Aerospace Medicine Systematic Review Group Qualitative Methods Guide for Space Medicine Focused Systematic Reviews*.  
[https://www.researchgate.net/publication/339911374\\_Aerospace\\_Medicine\\_Systematic\\_Review\\_Group\\_Qualitative\\_Methods\\_Guide\\_for\\_Space\\_Medicine\\_Focussed\\_Systematic\\_Reviews](https://www.researchgate.net/publication/339911374_Aerospace_Medicine_Systematic_Review_Group_Qualitative_Methods_Guide_for_Space_Medicine_Focussed_Systematic_Reviews).
- Winnard, A., Bruce-Martin, C., & Laws, J. (2020c). *Aerospace Medicine Systematic Review Group Quantitative Methods Guide for Space Medicine Focused Systematic Reviews*.  
[https://www.researchgate.net/publication/339788931\\_Aerospace\\_Medicine\\_Systematic\\_Review\\_Group\\_Quantitative\\_Methods\\_Guide\\_For\\_Space\\_Medicine\\_Focussed\\_Systematic\\_Reviews](https://www.researchgate.net/publication/339788931_Aerospace_Medicine_Systematic_Review_Group_Quantitative_Methods_Guide_For_Space_Medicine_Focussed_Systematic_Reviews).

## **vi. Acknowledgements**

Firstly, my sincere thanks must be extended to my supervisor Professor Nick Caplan for his continual support and guidance throughout the process of my PhD. I feel very fortunate to have had the opportunity to work with a respected research Professor who is happy to share his expertise, knowledge, and experience. Through his considerate leadership and nurturing approach, it has enabled the further development of me as a researcher beyond the boundaries of my PhD which I am thoroughly appreciative of. I also wish to extend my thanks to Associate Professor Louise Davis, Dr Callum Arthur, Dr Les Ansley, Professor Paula Robson-Ansley, Karl Wharton, Rebecca Radley, Dr Edward Hall, Associate Professor Penny Rumbold, Dr Dan Peart, and Paul Agnew who have also each played significant roles in getting me started along the path of my research and keeping me going at points through the inevitable challenging moments doctoral studies present. I am greatly appreciative of all the discussions, feedback, support, and time you each invested in me as well. Importantly, my gratitude must also be directed to all of the participants that took the time to share their expertise, and experiences with me. Your willingness to engage alongside your openness to this research process were highly appreciated, and the dedication you each display for your craft of coaching is wholly admired. Finally, I would like to thank my wife for your unwavering selfless support, particularly the time you invested in enabling me to complete this challenging journey alongside our girls Molly, Jessica, and Florence. So, thank you for having belief in me, and for making our lives together so authentic and meaningful.

## **vii. Declaration**

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work. I also confirm that this work fully acknowledges opinions, ideas, and contributions from the work of others.

Any ethical clearance for the research presented in this commentary has been approved. Approval has been sought and granted through the Researcher's submission to Northumbria University's Ethics Online System 4/09/2015 and 27/10/2017.

I declare that the Word Count of this Thesis is 76,802 words

Name: Claire Bruce-Martin

Signed:

Date: 22/03/2022

“A leader is best when people barely know *they exist*...when *the* work is done, *the* aim fulfilled, they will all say: We did it ourselves.”

(Adapted from Lao-Tzu 600BC)

## **Chapter 1: Introduction**

### **1.1 Introduction to the thesis**

This chapter will present an overview of leadership theory and established concepts within the field of study, positioning transformational leadership (TFL) as part of the existing and continued development of leadership theory more broadly. Alongside this, the parameters within which sport coaching has evolved, the dynamic nature of coaching practice, and the multi-dimensional contexts that coaching practitioners apply their expertise across, will also be explored. This chapter will also present the philosophical viewpoint adopted within this thesis, providing the opportunity to examine TFL within sport coaching through this theoretical lens. Connections across the concept of TFL and sport coaching practice will form the theoretical and applied thread through the thesis, offering a platform from which the research objectives are formulated, and the outcomes realised that collectively deliver coherence across the presented research process (see figure 1.17 and appendix A).

The opening words for this chapter are from the founder of Taoism, Lao Tzu, that still have poignancy millennia later, capturing the enduring relevance of humility, piety, mentorship, and the ease with which parallels can still be drawn from these words and applied directly to the contemporary role of sport coaches (Khan & Ramzan, 2018; Potrac et al., 2020). This augments the reverence that coaches have for the role they fulfil within their sport, the varied contexts they share their expertise across, and often the selflessness with which they are willing to provide support and mentorship (Lyle & Cushion, 2016). The apparent timelessness of these words equally provides a connection to the relational challenges and behavioural demands placed on the shoulders of sport coaches (Côté & Gilbert, 2009), where expertise in leadership is an often a presumed and expected prerequisite for individuals that assume these roles (Lefebvre et al., 2021). This is a possible irony itself when considering the many hours coaches commit to development of their technical knowledge and experiential up-skilling, alongside openness and awareness of changes across practice and context enabling them to continually function, and flourish in their coaching role (Sullivan et al., 2012; Trudel et al., 2020), whilst simultaneously executing to the highest standards through delivery of an optimal participant experience and realisation of both required and desired outcomes (Vella et al.,

2013c). Within education pathways developed to support the up skilling of sport coaching practitioners, leadership resides as an integral element of this learning process (Bachkirova et al., 2017). Coach education sessions can often, though, be realised as crowded formal spaces with a remit to impart excesses of well-intentioned information, resulting in time pressured educational experiences (Piggott, 2012; Townsend & Cushion, 2017). Nevertheless, the value of successful sport coaches that commit to a personal journey of progressively scaffolded learning and development cannot be underestimated (Avner et al., 2017; Cassidy et al., 2016; Cushion et al., 2003; Garner et al., 2020), particularly when aligned to the realities of contemporary sport and its coexistence with, and interconnections to, demanding economic, political and social agendas (Day, 2015; Lyle, 2020). The widely regarded concept of marginal gains across sport identifies the value of paying high regard to minutiae of detail, and the accumulated impacts that embedding this approach can have for sport to ultimately improve engagement, performance and achieve identified outcomes (Hall et al., 2012). Leadership is an accepted element of the role that sport coaching encompasses (Arthur & Bastardoz, 2017; López de Subijana et al., 2021; Turnnidge & Côté, 2018) and the opportunity to identify marginal gains to support coaches within the context of coach leadership development and applied practice could exist. Therefore, further investigation into the potential impacts of up-skilling within this facet of applied coaching practice is viable to pursue, and highly relevant to the wider debate (Cushion et al., 2010; Lara-Bercial et al., 2020; Lyle, 2018b; Magnusen et al., 2021; Turnnidge & Côté, 2018) regarding the expanding skill set and responsibilities attributed to the role that current sport coaches fulfil.

## **1.2 The development of leadership theory**

Leadership has been a compelling subject across generations, distilling the boundaries that define the purpose and function of what leadership offers across varied contexts, and it continues to be a significant focus of research across the domain of psychology (Dinibutun, 2020; Zaccaro & Klimoski, 2002). Within this theoretical development process transformational leadership (TFL) has also realised wider acceptance through its application as an effective, and relevant approach to achieving required outcomes across a vast array of applied contexts (business, healthcare, education, creative arts). Which also includes sport and physical activity more broadly, but equally the specific behavioural facets of the sport coaching role and the integral connections to leadership (Dinibutun, 2020; Lara-Bercial et al., 2020; North et al., 2021). The thinking developed on leadership by classical philosophers and writers offers perspectives on who is best served to lead, and unsurprisingly are each heavily influenced by the era within which they developed

their work. Socrates (circa. 470 BC), an ancient Greek philosopher, bases leadership around utilising questions to instruct followers, allowing them to examine their own knowledge and beliefs (Cusher, 2018). Plato (circa. 428 BC), a devoted follower of Socrates, draws on the need of wisdom through the art of ruling by kings focusing on leadership through use of politics (Allen, 2011). Contrastingly, Xenophon (circa. 430 BC) provides an artistic view on rulers who lead through harmony, realism, and ethical responsibility (Tamiolaki, 2018). Similarly, Sun Tzu (circa. 400 BC), identifies that leadership is defined by organisational processes and culture with the leader relied upon to develop trust (Liu, 2017). From across the classical theoretical development roots of leadership knowledge it is clear that each school of thought incrementally builds upon, and further expands, the purpose and impact of the identified leadership role (Popper, 2005), which as Ruben et al. (2019) argue, is reflective of the pathway along which contemporary leadership theory has continued to evolve. Specifically, TFL theory is certainly viewed as an extension of classical leadership theory, reflected through its central tenant which is focused on leader and follower interactions as the potent combination to deliver desired outcomes (Bass et al., 2006; Popper et al., 1994; Yammarino et al., 1994).

Having established the historical philosophical cornerstones of leadership thinking and practice, it could be assumed that defining the purpose and parameters of leadership could potentially be simple due to the richness of its ancient roots embedded across generations of social, political, and economic development. However, it can be challenging to draw upon one specific definition that captures the resonance of leadership as an all-encompassing concept, across all contexts. Dinibutun (2020), offers a useful collection of contemporary researcher definitions of leadership, providing a valuable overview of the changing emphasis, language use, and specificity of focus that captures the concept of leadership over the 20<sup>th</sup> and early 21<sup>st</sup> centuries (see Table 1.0).

Table 1.0 Definitions of leadership (Dinibutun, 2020)

<b>Researchers</b>	<b>Definition of Leadership</b>
Blackmar (1911)	It is the centralisation of effort in one person.
Bernar (1927)	It focuses the attention of group members into the desired direction.
Copeland (1942)	It is the art of influencing.
Knickerbocker (1948)	It consists of a relationship between an individual and a group.
Stogdill (1950)	It is the process of influencing the activities of an organised group in its effort toward goal setting and

	goal achievement.
Bennis (1959)	It induces a subordinate to behave in a desired manner.
Bass (1961)	It is an individual's effort to change the behaviour of others.
Tannenbaum (1961)	It is interpersonal influence toward the attainment of a specified goal or goals.
Katz & Kahn (1966)	It is an influential increment over and above compliance with the routine directives of the organisation.
Burns (1978)	It transforms followers, creates visions of the goals that may be attained and articulates for the followers ways to attain those goals. Leadership persons mobilise resources to arouse, engage and satisfy the motives of followers.
Pondy (1989)	It is a form of social influence.
Schein (1992)	It is the ability to start evolutionary change processes that are more adaptive.
Bass (1994)	It is an interaction and leaders are agents of change whose acts affect other people more than people's acts affect them.
Drucker (1998)	It needs a leader. The only definition of a leader is someone who has followers.
Vroom & Jago (2007)	It refers to a potential or capacity to influence others.
Jung (2013)	It is the alignment of subordinates' activities and their motivational activation for goal attainment.

It is, however, important to also acknowledge from the onset that leadership as a discipline is a “super complex phenomenon...” (Block, 2014, p.233) that is constantly changing in response to the dynamic contexts within which it is employed. Buck (2014) emphasises this point, suggesting that fluidity in how leadership is utilised and refined is essential, arguing leadership theory is essentially rooted in lived experiences. Bolden et al. (2003) offers a succinct consolidated abridgment of leadership theories that continue to be investigated and adapted across research (see Table 1.1).

Table 1.1 Leadership theories (adapted from Boldon et al., 2003)

THESIS SECTION	THEORY	DETAIL	CONCEPT/S
1.2.1	Great Man Theory	Leaders are exceptional individuals that are born with a natural ability to lead. The theory revolves around males fulfilling leadership roles formed through western societal views largely around military leaders.	<ul style="list-style-type: none"> <li>• Carlyle's 'On Heroes, Hero Worship, and the Heroic in History'</li> <li>• Galton's 'Hereditary Genius'</li> </ul>
	Trait Theory	Extensive lists of traits that have been analysed in relation to leadership have been produced that generally draw on a broad array of human attributes.	<ul style="list-style-type: none"> <li>• Allport's 'Psychology of Personalities'</li> </ul>

1.2.2	Behavioural Leadership Theory	Focusing on the actions of leaders doing as opposed to just their attributes, examining behaviours led to the differentiation and use of leadership styles.	<ul style="list-style-type: none"> <li>• The Managerial Grid Model / Leadership Grid</li> <li>• Role Theory</li> </ul>
1.2.3	Contingency and Situational Leadership Theory	Specificity to the situation leadership is being applied is the overarching principle, drawing on any leadership style as deemed appropriate or most effective. Circumstances are acknowledged as the main parameter of this leadership approach to forecast the most productive leadership style to employ	<ul style="list-style-type: none"> <li>• Tannenbaum and Schmidt Leadership Continuum model</li> <li>• Hersey-Blanchard Situational Leadership Theory</li> <li>• Path-Goal Theory of leadership</li> <li>• Reddin '3D Theory' of leadership</li> <li>• Fiedler Contingency Theory</li> <li>• Vroom, Yetton, Jago Decision-Making Model of Leadership</li> <li>• Cognitive Resource Theory</li> <li>• Strategic Contingencies Theory</li> </ul>
1.2.4	Functional Leadership Theory	Focused on activities and action from those activities that leaders must execute to ensure effectiveness in the leader role.	<ul style="list-style-type: none"> <li>• Action Centred Leadership</li> <li>• Tuckman's Group Dynamics Theory</li> <li>• Five Practices of Exemplary Leadership</li> </ul>
1.2.5	Transactional Leadership Theory	Interactions between the leader and follower are integral to this theory, with a distinct emphasis on reciprocal positive outcomes used by the leader to reward as an exchange for follower dedication and engagement.	<ul style="list-style-type: none"> <li>• Leader-Member Exchange (LMX)</li> <li>• Full Range Leadership Model (FRLM)</li> </ul>
1.2.6	Transformational Leadership Theory	Leaders considered to be transformational are both inspirational and employ charismatic personality traits to garner a sense of belonging from followers leading to high levels of intrinsic and extrinsic motivation across the leader/follower dynamic.	<ul style="list-style-type: none"> <li>• Burns TL Theory</li> <li>• Bass TL Theory</li> <li>• Multi Factor Leadership Questionnaire, MLQ-5X</li> <li>• Differentiated Transformational Leadership Inventory, DTLI</li> </ul>
1.2.7	Developing Leadership Theories & Concepts	Collection of newer/developing theories/concepts that are connected to the fast moving and ever-changing elements across contemporary society where leadership is required with a general focus on adaptability and lived experiences.	<ul style="list-style-type: none"> <li>• Authentic Leadership</li> <li>• Ethical Leadership</li> <li>• Mindful Leadership</li> </ul>

### 1.2.1 The great man and trait theories

The foundations of leadership theories during the 19th century focused on identifying the role and purpose of leadership, a focus that continues to resonate across contemporary leadership theory particularly concerning TFL with effective leadership adjudged by capabilities of the leader to deliver outcomes (Bass, 1985) . These initial theoretical developments were explored by Thomas Carlyle (1993, 1846) through his "Great Man Theory" firmly suggesting that only a man could possess the appropriate characteristics of a great leader. Although not scientifically underpinned, this work asserts that the characteristics of a great leader are intrinsic, and great leaders are born not developed. Francis Galton's work titled *Hereditary Genius* further supports this positioning of leadership through his lens of eugenics that aimed to advance the human species through selective breeding of family blood lines. It is, however, also clear from this early school of thought identifying leader characteristics continues to be the cornerstone from which all

future work on leadership is firmly rooted and built upon (Case et al., 2011). From these initial assertions on leadership, the *Trait Theory* acknowledged the fundamental principle of leaders having identifiable personal characteristics (Bratton, 2020), with traits that are mirrored across a range of individual differences (Zaccaro et al., 2009) whilst increasingly refuting the assumption that leadership roles were only viable for the select few (Judge et al., 2002). Specifically across TFL theory, characteristics and traits are apparent, with Bass (1985) arguing the differential from this early 19<sup>th</sup> century work centres on the ‘traits’ of the leader and followers being equally established as vital to successful leadership outcomes (Arthur et al., 2017; Dinibutun, 2020). Primarily in TFL theory, through the founding principle of idealised influence identifying who is best placed to exert this, how, and to what effect, on the required outcome (Bass et al., 2003). More broadly, Kreiness (2020) further purports that traits are also present in TFL theory across the facet of intellectual stimulation, through expertise drawn upon from both the leader and followers enabling a collective growth mindset. Both facets of TFL theory highlighted here draw on the need for ‘traits’ to be present to realise effective leadership albeit through a backdrop of a harmonious partnership of leaders and followers (Arthur et al., 2016; Bass et al., 2006). The influence of leader traits and characteristics across the widely accepted contemporary leadership concept of TFL are distinct and underline the longevity of these initial theoretical writings that continue to resonate, and inform theory and applied practice currently (Avolio, 2007; Bolden et al., 2003). However, this initial narrow view of trait theory was subsequently challenged by a range of academics (Bird, 1940; Mann, 1959; Lewin, 1939; Stogdill, 1948; Zaccaro, 2007), exposing flaws in this simplistic theory due to the lack of acknowledgment that leadership styles can be adaptable, with situations impacting on leadership effectiveness, and similarly effectiveness through leadership being reliant on more than just the perceptions of followers. Learning from the trait approach supported the development of a pathway of research that started to also examine effective behaviours of the leader.

### **1.2.2 Behavioural leadership theory**

Behavioural leadership theory underlines the transition in thinking and research at this point from who the leaders are, to specific focus on what leaders do (Dinibutun, 2020), determining a range of leadership styles based on behaviours. Certainly highly reflective of contemporary leadership thinking and application, specifically as an underpinning principle of TFL theory with Arthur et al. (2016) similarly arguing that to achieve outcomes transformational leaders behaviour must focus on effective motivation in order to inspire action, stimulating a drive to achieve. Kurt Lewin’s seminal collaborative study with Lipitt

and White in 1939 (University of Iowa Studies) focused on observed behaviours and their effectiveness. Arguing that group management aligned with decision making and feedback through authoritarian, democratic, and laissez-faire leadership styles, offered clear evidence of the impact specific leadership styles have on the effectiveness of the leader and satisfaction of followers (Lewin, 1939). Similarly, the Ohio State University Leadership studies reinforced the role that leaders assume in relation to unifying needs of followers, culminating in the uncovering of consideration (nurturing followers), and initiating (task-orientation) as two primary facets of leader behaviour (Daft, 2018) developing into the Leader Behaviour Description Questionnaire (LBDQ) (Hemphill et al., 1957). Equally, the Michigan State Studies undertaken during the 1950's also examined and correlated leadership behaviours to effectiveness in the role, whilst identifying a further behaviour, "servant leadership", the essence of which is focused on group participation and impacts on satisfaction and productivity (Daft, 2018). With similar parallels also drawn to TFL theory through the impactful dynamic of collaborative leaders and followers (Bass et al., 2003; Jowett et al., 2019) as central to effective leader behaviour.

Equally of note within behavioural leadership theory is the Managerial Grid Model (MGM) developed by Blake and Mouton (1985) (see Figure 1.2) which identifies five primary leadership styles within this area of leadership behaviour centred on follower satisfaction (concern for people) being intrinsically connected to leader effectiveness and group outcomes (concern for production).

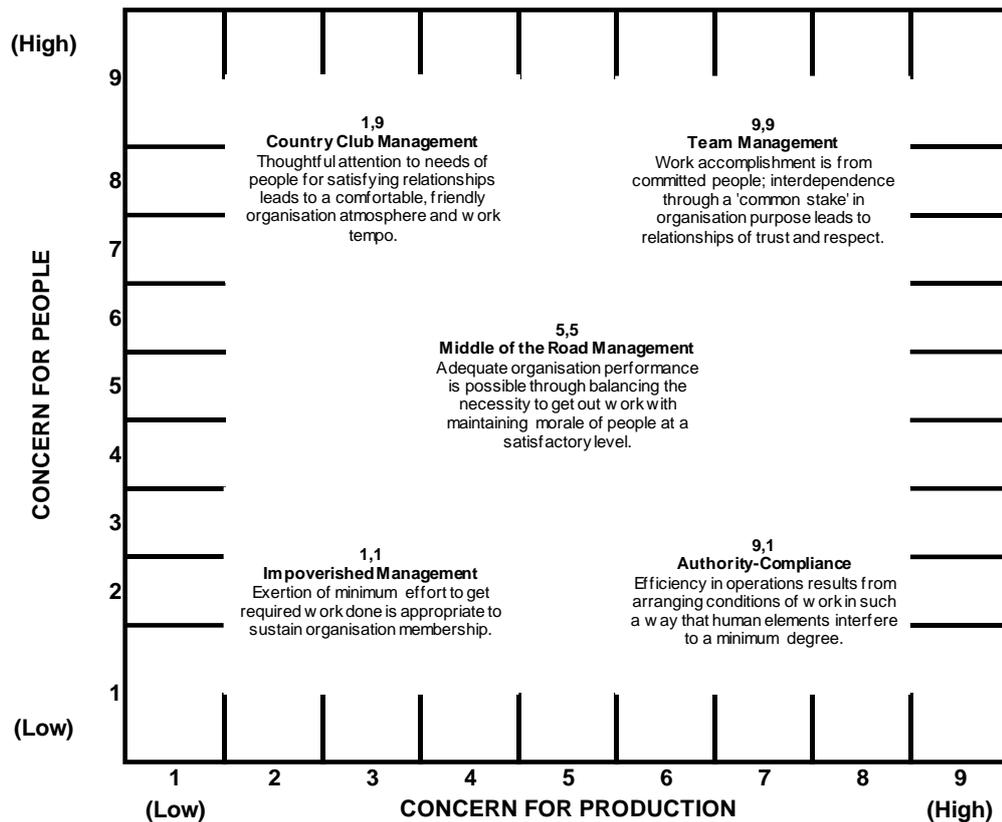


Figure 1.2 Managerial grid model (Blake and Mouton, 1985)

Within behavioural leadership theory, positive reinforcement clearly has innate connections that underpin behaviour modification within this leadership concept (Skinner, 1938). The primary facet of positive reinforcement within leadership is that leaders are made, not born (Direction, 2008), so anyone can learn to become a leader through utilising stimulus to respond to behaviour and increase the probability of that behaviour recurring (Skinner, 2014). This is further supported through contemporary research focussing on the application of TFL across both military (Hardy et al., 2010) and sporting (Lawrason et al., 2019; Turnnidge et al., 2017) contexts, demonstrating the ability to train and up-skill individuals to develop leadership skills appropriate to the complex context across which they are applied, and highlighting the enduring relevance of this early theoretical work. Daft (2018) captures the range of behavioural leadership theory (see Figure 1.3) offering clarity around the prevalent leadership behaviours of people-orientated and task-orientated that fundamentally underpin the research within this area.

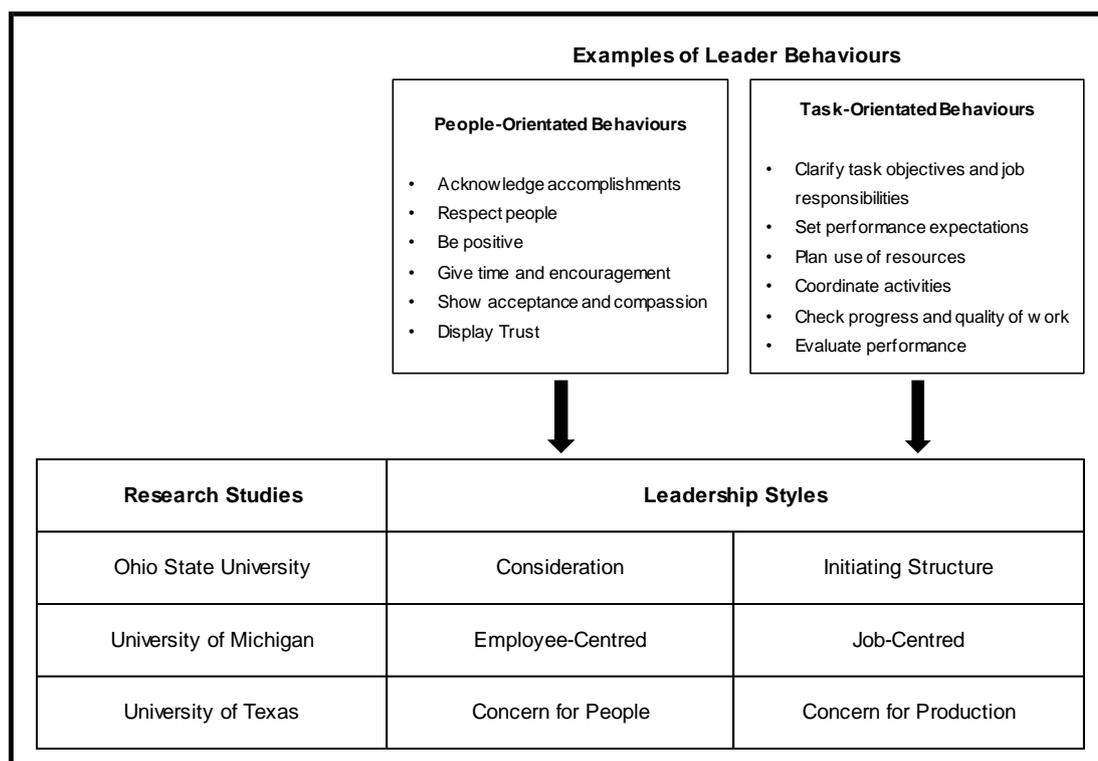


Figure 1.3 Themes of leader behaviour research (Daft, 2018)

As Dinibutun (2020) suggests, behavioural leadership theories aim to cultivate the training of a leader within a defined set of behaviours to function effectively within the role. However, this behavioural approach places little emphasis on the situations a leader may be needed to operate within leaving a potential gap in leader effectiveness.

### 1.2.3 Contingency and situational leadership theory

As learning from the trait approach supported the development of research examining effective behaviours of the leader, it is also recognised as supporting the augmentation of contingency and situational leadership theory (Peretomode, 2012). Both contingency and situational leadership theory harmonise as each emphasises the far-reaching impact situations can have on the leader role. Similarly, across current application of TFL theory, the central elements of both contingency and situational leadership theory are clearly captured, equally informing the leader and follower skills and contexts within which they are applied (Bass et al., 2006; Dinibutun, 2020). However, alignment deviates across early work focused on contingency and situational leadership theory, Syque (2007) states contingency theory supports the need for selection of the right leader for the right situation (skills and capability), and contrastingly situational leadership underlines the need for adaptability of the leader to any given context (skill adoption and development). Identifying this difference more clearly can be achieved through examining the concepts developed

that are classified as situational leadership. These include:

- Tannenbaum and Schmidt Leadership Continuum model (1973)
- Hersey and Blanchard Situational Leadership Theory (1976)
- Path-Goal Theory of leadership (1975, 1996)

The Leadership Continuum model was developed by Tannenbaum and Schimdt (1973) (see Figure 1.4). They were among the first researchers to identify the complexity of the leader role through discussing the factors that shape the approach adopted by the leader (i.e. the followers, the situation), in addition to the person tasked with fulfilling the leadership role.

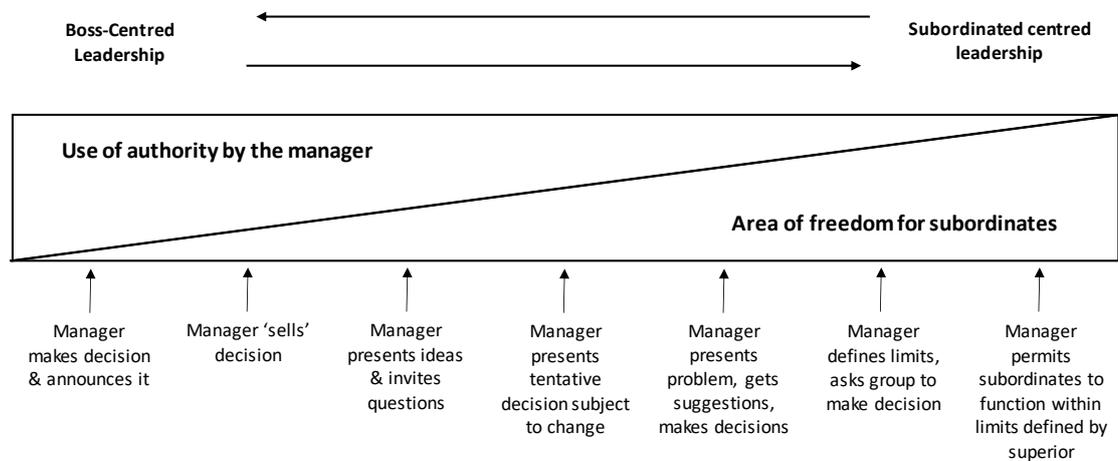


Figure 1.4 Leadership style continuum (Tannenbaum and Schimdt, 1973)

Tannenbaum and Schmidt (1973) illustrate these influential factors as a continuum utilised as a sliding scale dependant on available skills and situational demands. Hersey and Blanchard (1976) extended this continuum leadership style through their situational leadership theory, which also acknowledged the 'maturity level of subordinates' (i.e. a follower's appetite and competence to address the task). Within this situational leadership concept, focus is firmly on the leader's ability to identify capabilities of subordinates (followers) to execute the leadership role effectively (Dinibutun, 2020). A principle that resonates distinctly across the theoretical foundations of TFL theory that Bass (1985) argues is correspondingly achieved through improved awareness, transcendence of self-interest, and alignment of leader-follower needs, skills and wants. Similarly, the Path-Goal Theory of Leadership developed by House and Mitchell (1975) also identifies the need for effective leaders to be flexible in approach with both situational factors and follower characteristics. Leadership researchers more recently believe the line between contingency and situational facets of leadership is less distinct, with Popper et al. (1994),

for example, arguing that effectiveness of transformational leaders occurs through alignment of both needs and skills of leaders and followers, and Bass et al. (2006) further stating complementary recognition of both elements within the TFL role supports collective achievement, whilst equally reflecting the complex contexts across which TFL is applied (Arthur et al., 2016; Fischer, 2016, Kelloway et al., 2012).

Whilst it is acknowledged that the dynamic and flexible facets of situational leadership theory are a distinct asset within the role of a leader, it can also be noted that this responsiveness is significantly dependant on leader and followers ability to be equally reactive and proactive to evolving situations (Peretomode, 2012). With this potential theoretical deficiency, an increasingly compelling case for contingency leadership theory was presented across the concepts within this approach, which include:

- Fiedler Contingency Theory (1967)
- Vroom, Yetton, Jago Decision-Making Model of Leadership (1973, 1988)
- Cognitive Resource Theory (1987)
- Strategic Contingencies Theory (1971)

Fiedler (1967) developed a persuasive Contingency Model of Leadership through identifying two main leadership styles of relationship-orientated (i.e. developing positive relationships with subordinates) and task-orientated (i.e. setting direction and standards to ensure positive performance from subordinates), examined through his Least Preferred Co-worker questionnaire (LPC, Rice, 1978). LPC results are aligned with the situation within which a leader operates (i.e. leader-member relations, task structure, position power), with analysis revealing the likelihood of success in the role and task (Fiedler, 1967). Similarly, the 'Decision-Making Model of Leadership' (Vroom & Jago, 1973, 1988) extends this thinking by aligning followers to the decision-making process. The focus of this model revolves around high quality and relevant decision making, whilst simultaneously gaining trust and agreement from followers to deliver successful leadership (Vroom et al., 1988). Equally, this model further demonstrates the influence that situational leadership theory continues to impart across current TFL research, specifically concerning the core principle of leaders working alongside their followers, Bass (1985) argues that TFL does not exist, or effectively work, without the acceptance and use of a complementary partnership.

Of equal relevance within contingency leadership theory, cognitive resource theory (Fielder & Garcia, 1987) draws heavily on situational theory, and adds contingencies focused on leader intellect, experience, and stress management as directly related to

positive follower experience and task outcomes (Vecchio, 1990). Finally, Hickson et al. (1971) argued for strategic contingency theory with a reduced focus on leader traits and behaviour, shifting the contingency thinking onto leadership as problem solving. The breadth of thinking across contingency leadership theory is apparent and, whilst it continues to draw on trait and situational theory, it also brings to the forefront a brighter focus on leader-follower relations, and connections to skills in leader decision making (Mumford et al., 2000b). Contingency theory offers a further opening of thinking around leadership both theoretically but, importantly, moving towards acknowledging challenges related to leadership roles within dynamic real-world contexts (Mumford et al., 2000a; Zaccaro et al., 2000). A feature that Arthur et al. (2017) argue is further underlined across TFL theory, through focus on shared values as a platform to enact collaborative solution focused partnership across leaders and followers. Enabling the drawing on skills and experience as deemed the most appropriate to achieve the collective outcome (Bass et al., 2003; Popper et al., 1994)

#### **1.2.4 Functional leadership theory**

Functional leadership theory focuses on achieving tasks through promoting and driving team effectiveness (Santos, et al., 2015), and emphasises the development of the team within the context of organisations with the leader utilising behaviours that ensure group needs are positively fostered to deliver results (Hackman & Walton, 1986). The central tenant of functional leadership theory is equally reflected across TFL theory, with Bryman et al. (1996) arguing collaborative approaches between leaders and followers enables the realisation of constructive and impactful outcomes. Additionally, Chelladurai (2007) further purports TFL theory similarly captures the multifaceted behavioural, relational, and situational complexities leaders and followers must both navigate and acknowledge, further illustrating the timeless influence of early functional leadership theorising. More generally, John Adair is widely acknowledged as being at the forefront of applying functional leadership theory within applied contexts illustrated through his 'Action-Centred Leadership Model' (1979) (See Figure 1.5).

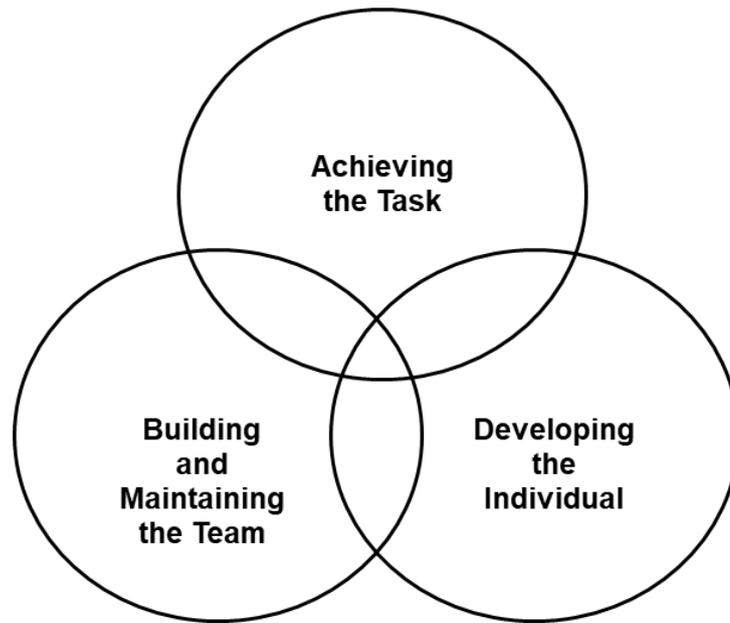


Figure 1.5 Action-centred leadership model (Adair, 1979)

Adair's concept captures the intersections between the individual, the task, and the team, determining outputs cannot be achieved without ensuring these three action-centred 'plates' are spinning simultaneously (Roe, 2020). Of further significant importance from Adair's work, however, was not only underlining what leaders do, but the clear underlining of the links between this theory and development of leader training (Kozlowski et al., 2009; Zaccaro et al., 2009), arguing that leadership skills could be learnt. This subsequently further challenged initial theorists' work arguing nature versus nurture or, more simply, are we born leaders (through genetics) or are leaders made (through skill development and influence of context) (Boerma et al., 2017). Functional leadership theory sits within the nurture viewpoint and Kouzes and Posner's (1987) Five Practices of Exemplary Leadership concept (see Figure 1.6 ) captures the essence of this theory through the 'leadership challenge model' offering five functional areas of leadership as cornerstones of effective relational leadership practice (Kouzes et al., 2006; Seemiller et al., 2013).

Practice	Commitment
<b>Model the Way</b> 	1. Clarify values by finding your voice and affirming shared ideals  2. Set the example by aligning actions with shared values
<b>Inspire a Shared Vision</b> 	3. Envision the future by imagining exciting and ennobling possibilities  4. Enlist others in a common vision by appealing to shared aspirations
<b>Challenge the Process</b> 	5. Search for opportunities by seizing the initiative and by looking outward for innovative ways to improve  6. Experiment and take risks by constantly generating small wins and learning from experience
<b>Enable Others to Act</b> 	7. Foster collaboration by building trust and facilitating relationships  8. Strengthen others by increasing self-determination and developing competence
<b>Encourage the Heart</b> 	9. Recognise contributions by showing appreciation for individual excellence  10. Celebrate the values and victories by creating a spirit of community

Figure 1.6 The five practices and ten commitments of exemplary leadership (Kouzes and Posner, 2006)

Through highlighting the primary words integral to this functional leadership concept (i.e. model, the way, inspiring, vision, challenge, process, enabling, act, encourage, heart), this concept centres on how leaders equip themselves through relationship building. Creating collective competencies enabling the delivery of effective collaborative outputs (Seemiller et al., 2013). Tuckman's (1965) Group Dynamics Theory further underpins the importance of group development within functional needs of effective leadership through his four-stage model of forming, storming, norming, and performing, arguing for the later addition of 'adjourning' acknowledging the value of group separation and reflection within this process (Tuckman & Jensen, 1977). Tuckman's work around stages of group

development is acknowledged as seminal to the research that sits within functional leadership (Bonebright, 2010), pulling to the forefront the leader/follower debate which continues to be examined across an ever widening and complex backdrop of leadership theories and contexts. None more so than across research focused on TFL theory with its central premise of effective transformational leaders needing to work in harmony with their followers (Arthur et al., 2017, Jowett et al., 2019). As Bass insightfully argues in 1985, transcendence of personal interest, alongside authentic investment in team collaboration epitomises the essence of optimally functioning TFL.

### **1.2.5 Transactional leadership theory**

The underlying principle of transactional leadership is the dynamic between the leader (i.e. person in position of power/decision maker), the follower (i.e. person/or people who receive and act upon instruction) and connections across power and policy within organisations so control can be maintained (Dinibutun, 2020; Bennet, 2009). Burns (1978) is widely regarded (Arthur & Bastardoz, 2020; Bass, 1985; Callow et al., 2009; Charbonneau et al., 2001; Turnnidge & Côté, 2020; Vella et al., 2010) as the first researcher to draw together the concept of transactional leadership, clarifying the underpinning premise that people are essentially motivated by incentives, be that reward or punishment (Bass, 1997; Burns, 1978; Buck, 2014; Ergi & Herman, 2000). What is abundantly clear from the application of transactional leadership is confidence and ego shapes the relationship with followers (Dinibutun, 2020), ensuring transactional leaders and their followers are positioned within a setting that supports (and often promotes) responsiveness to the 'carrot and stick' approach (Bennett, 2009). This transactional approach is equally visible across contemporary leadership practice (Arthur et al., 2015; Bass, 2003; Bass et al., 2006; Turnnidge et al., 2020) albeit through a less abrasive approach. A version of this is clearly apparent across the foundational pillars of TFL theory (Bass, 1985; inspirational motivation, intellectual stimulation, idealised influence, individualised consideration), with the transaction in this theoretical and applied context, Judge et al. (2004) argues, being both tangible (physical rewards) and intangible (interpersonal support and professional acknowledgement).

Interestingly, a further key feature of transactional leadership is the process of exchange taking place between the leader and follower that, once completed, ends or requires redefining to again foster a new mutually reciprocal relationship (Bass et al., 2003; Politis, 2002). The leader-member-exchange (LMX) theory developed by Dansereau et al., (1975) argued that such interactions are both dyadic and vertical in nature, and within this the

positive impact development of social relationships can have on the willingness for followers to continue to engage with the leader (Buch et al., 2016). The positioning of LMX theory as identifying transactions between leaders and followers moving from predominantly economic relationships, to refocusing on the social interactions opened up wider discussion concerning this insight (Bass et al., 2003; Buch et al., 2016; Hater & Bass, 1988; Judge & Piccolo, 2004; Politis, 2002). Further enabled specifically through the full-range leadership model (FRLM; Antonakis & House, 2013; Avolio, 2010; Bass & Riggio, 2006) which depicts leadership behaviours (see Figure 1.7) across three dimensions (i.e. passive/active, least effective/most effective, suboptimal/optimal), drawing on these as situations require, promoting the benefits of leaders being able to tailor their behaviour and, therefore, leader-follower relationships (Bass et al., 2006).

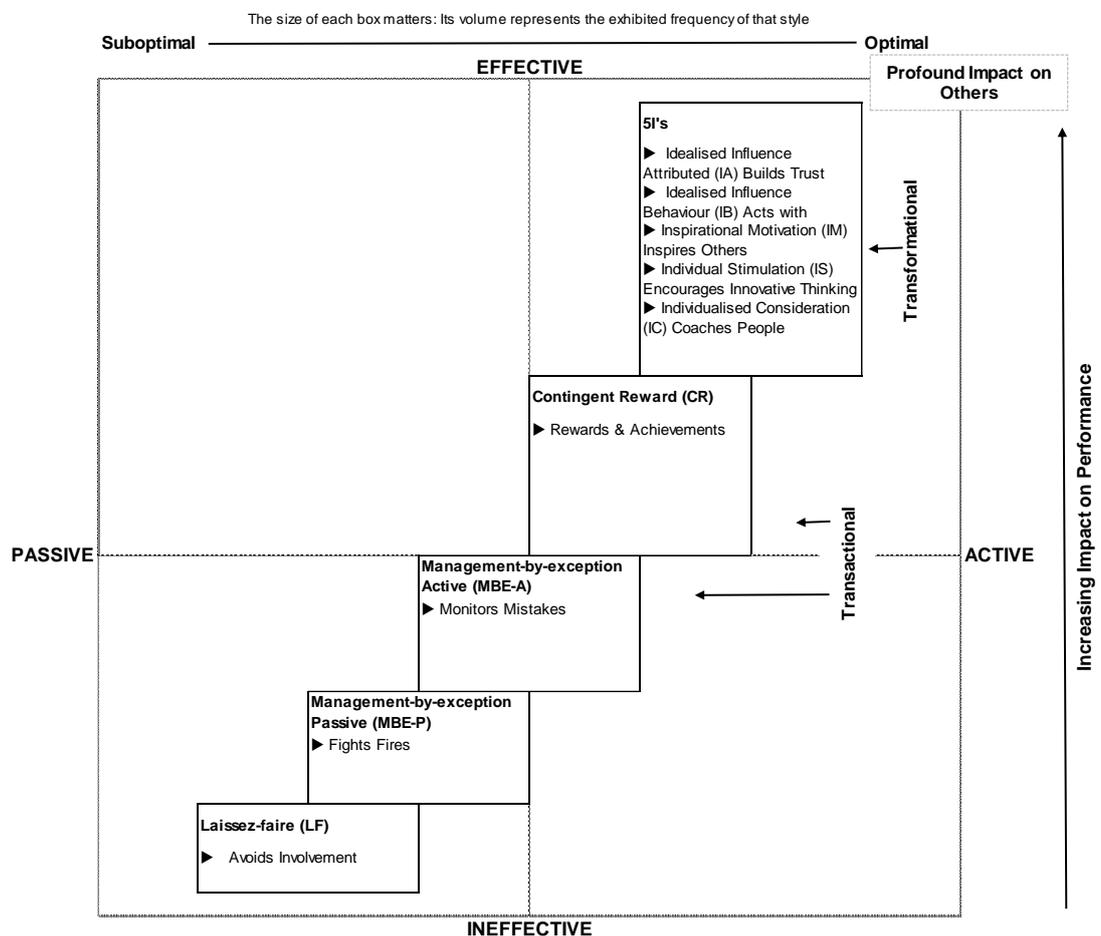


Figure 1.7 Full range leadership model (Antonakis & House, 2013; Avolio, 2010; Bass & Riggio, 2006)

The original FRLM identifies laissez-faire, transactional, and transformational leadership behaviours (Bass, 1985), and draws on, and includes, many of the leadership concepts that had gone before this work (e.g. trait, behaviour, contingency, situational, functional

theories of leadership) allowing for a multidimensional assessment of leadership behaviours, and the application and impact of these (Dinibutun, 2020; Garner et al., 2020; Turnnidge et al., 2020).

Transactional leadership reflects an action-orientated approach to leadership, reliant on follower engagement to execute tasks, and not reliant on follower development or sustained leader-follower relationships (Judge et al., 2004; Turnnidge et al., 2020). Transformational leadership (TFL), however, is identified as a proactive and empowering approach to the role of a leader (Bass, 1997), and will be discussed in detail in the next section of this chapter (section 1.2.6). Not depicted on Figure 1.7 is the addition of “toxic leadership” which was added when the FRLM was utilised across sport research referring to leadership behaviours that are explicitly reliant on use of anger and hostility to garner compliance from followers (Arthur & Bastardo, 2017; Garner et al., 2020; Turnnidge et al., 2017). The FRLM encapsulates the broadest range of leadership approaches allowing for identification of relational differences through applying a wide selection of behaviours reliant on contextual factors, importantly with the leader as the central decision maker. Judge et al. (2004) argued for, and developed an augmentation hypothesis stating that transformational leadership adds to, and builds upon, the foundation of transactional leadership. Specifically indicating that it is through a potential combination of both of these leadership approaches that an effective leader is defined (Arthur et al., 2015; Bass, 2003; Bass et al., 2006; Turnnidge et al., 2020;). This is of course in direct contention with the original theory offered by Burns (1978) that leaders are either transactional or transformational in approach, who equally implied that transformational leadership cannot take place without the foundational principles of transactional leadership. However, it is from the augmentation perspective (Judge et al., 2004) that researchers have begun to extend research focused across the multifaceted concept of transformational leadership. Bolden (2003) offers useful comparable insight across both transactional and transformational leadership theory (see Table 1.3), allowing for the similarities and differences to be identified at this point.

Table 1.3 Comparison of transactional and transformational leadership theory (Bolden, 2003; Covey & Gullledge, 1992)

<b>Transactional Leadership</b>	<b>Transformational Leadership</b>
Builds on man's need to get a job done	Builds on a man's need for meaning and make a living
Is preoccupied with purposes and values	Is preoccupied with power and position, morals, and ethics politics and perks
Is mired in daily affairs	Transcends daily affairs
Is short-term and hard-data-orientated	Is orientated toward long-term goals without compromising human values and principles
Focuses on tactical issues	Focuses more on missions and strategies

Relies on human relations to lubricate and human interactions	Releases human potential – identifying and developing new talent
Follows and fulfils role expectations by striving to work effectively within current systems	Designs and redesigns jobs to make them meaningful and challenging
Supports structures and systems that reinforce the bottom line, maximize efficiency, and guarantee short-term profits	Aligns internal structures and systems to reinforce overarching values and goals

### 1.2.6 Transformational leadership theory

The development of transformational leadership (TFL) theory indicated movement from the already acknowledged paradigms of leadership theory (Weber, 1947; Berlew, 1974, charismatic leadership theory; Downtown, 1973; Burns, 1978, transformational leadership; House, 1977, path-goal theory) through drawing together into a single concept the role of the inspirational leader being the agent for action across an organisation and its members, whilst simultaneously aligning to strategic goals (Arthur et al., 2017; Dinibutun, 2020). Burns (1978) was the first researcher to introduce the concept of a transformational leader, arguing for the associated leadership behaviours (see Figure 1.9 ) required to be a positive role model to stimulate connections with followers through use of motivational techniques, compelling goal setting and mutually sustainable relationship building (Bass, 1985, 1997).

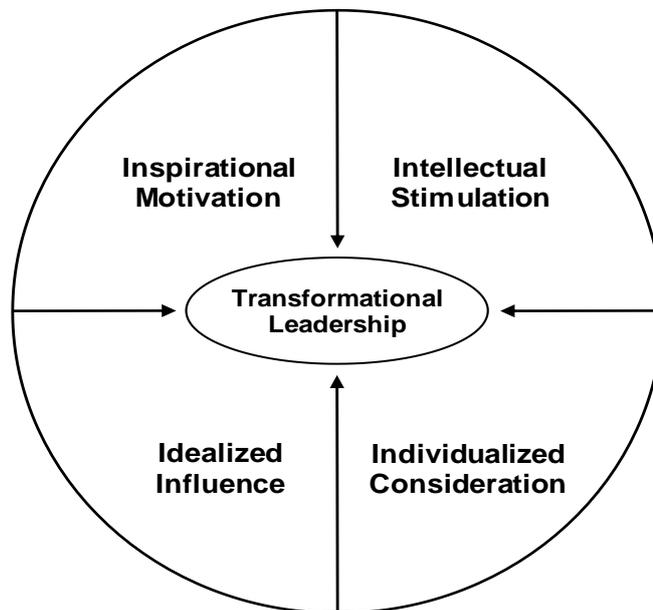


Figure 1.9 Transformational leadership model (Burns, 1978, p.5)

Whereas the overriding remit of transactional leadership is to deliver outcomes supported by reward or punishment (Bennett, 2009), TFL contrastingly centres on follower involvement. From Burns' (1978) initial conceptualisation of TFL theory, Bass (1985) subsequently extended the detail associated with the development of a transformational

leader through his summary of the connected elements that exist to create and instil transformational leadership behaviours:

1. By raising our level of awareness, our level of consciousness about the importance and value of designated outcomes, and ways or reaching them.
2. By getting us to transcend our own self-interest for the sake of the team, organization, or larger polity.
3. By altering our need level on Maslow's (or Alderfer's) hierarchy or expanding our portfolio of needs and wants.

(Bass, 1985, p.20; Arthur et al., 2015, p.323)

Through this Bass (1985) identifies the need for shared values, deployed through efficient and effective solution driven collaboration, resulting in leaders and followers delivering more than was originally expected (Bass, 1985). Transformational leaders are regarded as being confident and positive visionaries that engage with, develop, and elevate the self-worth of their followers to achieve morally and ethically sound results (Bass et al., 2003). Transformational leadership consist of four primary facets referred to more widely as the 4 I's: inspirational motivation, intellectual stimulation, idealised influence, individual consideration (Bass et al., 2006). With inspirational motivation relating to the high standards and expectations of the leader who is connected to the future direction and has the ability to impart the wider vision in such a way that followers feel valued as part of the drive to achieve (Arthur & Lynn, 2016). Additionally, intellectual stimulation takes place through empowerment of followers to adopt a growth mindset (Kreiness, 2020), embracing opportunities to learn when encountering new or difficult situations. Furthermore, idealised influence focuses on the trust and respect followers have in the leadership role, which is realised through exhibiting ethical and morally appropriate behaviours reinforced through dedication to followers and the strategic goals (Bass et al., 2003). Finally, individual consideration provides the platform for fostering positive relationships on an individual basis through relevant mentoring that values all contributions, encourages creativity, and demonstrates care and concern (Bass et al., 2006). Bass & Avolio (1993) further divided idealised influence into two sub-elements: idealised influence attributed (trusted and admired by followers garnered through social charisma, ethical and moral judgements, creating loyalty and pride by association), and idealised influence behaviour (achievement of the goal through values and beliefs, instilling a strong sense of purpose, and collective striving to deliver outcomes) providing a further delimitation of this TFL element from these two perspectives (Arthur et al., 2016; Bass et al., 1993).

Transformational leadership across current research is conceptualised as two specific constructs, global and differentiated which has impacted on choices made when pursuing areas of research utilising TFL as the underpinning theoretical framework. Arthur et al. (2015) observed that, from a global perspective, TFL theory suggests elements that are integral to this concept are correlated and reinforce each other, and from this can be viewed as a single global construct (Arthur et al., 2017; Jowett & Arthur, 2019). Conversely, the differentiated model of TFL permits the individualised analysis of targeted behaviours of TFL, opening up wider examination around the scale to which specific behaviours have different or similar effects (Antonakis et al., 2004). These differing conceptualisations of TFL have fuelled the development of measurement tools that equally distinguish between global or differentiated perspectives of TFL, with adoption of each rationalised by the research context, purpose and outcomes (see Figure 1.10).

	<b>TFL Measurement Tool</b>	<b>Global or Differentiated</b>
a	Multi Factor Leadership Questionnaire (original)*	G
b	Multi Factor Leadership Questionnaire-5X*	G
c	Transformational Leadership Inventory*	D
d	Rafferty & Griffin*	D
e	Differentiated Leadership Inventory	D
f	Safety Specific Transformational Leadership Scale*	G
g	Transformational Parenting Questionnaire*	G
h	Transformational Teaching Questionnaire*	G
i	Differentiated Transformational Leadership Inventory for Youth Sport*	D

Figure 1.10 Transformational leadership measurement tools a) Bass (1985); b) Bass & Avolio, (1994); c) Podsakoff et al. (1990); d) Rafferty & Griffin (2004); e) Hardy et al. (2010); Callow et al. (2010); f) Banding et al. (2002); g) Morton et al. (2011); h) Beauchamp et al. (2010); i) Vella et al. (2012)

The FRLM (Figure 1.7) embeds TFL as one of the three leadership concepts (i.e. transformational, transactional, and laissez-faire/non-leadership) through which the widely adopted measure of TFL (Arthur et al., 2016), the Multifactor Leadership Questionnaire-5X (MLQ-5X), has been developed and employed across a wide range of research domains (e.g. healthcare, sport, education, business, and management). The MLQ-5X was developed initially by Bass (MLQ, 1985) and subsequently revised by Bass & Avolio (MLQ-5X, 1994). Although this tool has been widely used, the MLQ-5X has also attracted critical narrative concerning its factorial and discriminant validity (Callow et al., 2009; Rafferty & Griffin, 2004, 2006), leading to the development of differentiated models of TFL. Podsakoff et al.'s (1990) lesser used (due to the popularity of the MLQ-5X) global measurement of TFL, the Transformational Leadership Inventory (TLI) was, however, utilised as a basis for the development of the Differentiated Transformational Leadership Inventory (DTLI) by Hardy et al. (2010). The DTLI offers seven sub-scales of TFL

(individual consideration, inspirational motivation, intellectual stimulation, fostering acceptance of group goals, high performance expectations, appropriate role model, contingent reward). Employed initially as a research tool in a military setting and further developed for application within the context of sport (Callow et al., 2009; Hardy et al., 2010), with the primary focus on targeting differentiated TFL behaviours to improve performance. It has been noted that without the opportunity to test and evaluate subscales of TFL behaviours through use of the DTLI, researchers would not have been aware of differential effects associated with TFL if only a global concept and measurement had been applied (Callow et al., 2009).

Popper & Zakkai (1994) suggest that transformational leaders are most effective due to the alignment they have with psychological and social needs of followers, coupled with their responsiveness on both individual and group levels. This further acknowledges the multi-faceted role transformational leaders are expected to fulfil, and the importance of connections with followers, as the central facets driving success, performance, and achievement of a collective mission (Bass et al., 2006). Having been studied across a vast array of contexts (military, educational, sport, health, business, and management) since its initial inception by Burns (1978) as a leadership concept, TFL is now considered to be one of the most influential leadership approaches (Arthur et al., 2016), and is regarded across both research and applied practice as a highly relevant concept with a broad reach, supporting the development of organisations, leaders, and their followers (Dinibutun, 2020; Fischer, 2016; Gomes, 2014; Kelloway et al., 2012).

### **1.2.7 Developing leadership theories and concepts**

Leadership as a combined subject area is wide ranging in its breadth of application, generating significant depth of debate, analysis, and narrative, demonstrated by the discussions presented across the earlier sections in this chapter. Alvesson & Einola (2019) suggest that contemporary society packages leadership as a wholly positive solution-focused remedy for change across organisations. Equally, they assert that this masking of leadership in such a singularly dominant positive light potentially detracts from the parameters within which leaders actually operate within the real world. Eagly (2016) goes a step further when they liken the ideology of leadership as being a restrictive box with the possibility of limiting research within a subject area. The continuous evolution of leadership theory and practice does, however, indicate a clear appetite for updated leadership approaches that resonate adaptability and relevance (Mathews, 2016). Anderson et al., (2017) align this to the impacts that new and younger generations have

in applied settings, through application of differing behaviours, varying approaches to problem solving, and decision making, aligned with the importance placed on openness and idea generation. Thoughts echoed by Mathews (2016), who offers a detailed comparison of traditional and new-genre leadership points of difference (Figure 1.11), that further underlines this perspective. Indeed, Lyons and Kuron's (2014) review, focused on workplace generational differences, indicates a significant shift in generational attitudes and values, fuelling the need for improved work-life balance, individualism, and wider ranging support from managers in leadership roles.

<b>Major Points of Difference Between the Traditional and New-Genre Leadership</b>	
<b>Traditional Leadership</b>	<b>New-Genre Leadership</b>
Search for universal leadership characteristics	Context-based
Examines power and hierarchy	Focus on mutual power and influence
Study Individually	Emphasis on the collective and the collaborative
Predicts behaviour and outcomes	Promotes learning, empowerment, and growth
Content-centred	Process-orientated
Transactional	Transformative
Reactive	Proactive
Behaviour-orientated	Cognitive-orientated
No importance to emotions	Emotion-focused
Leader-centred	Follower-centred
Instructional	Self-directed
Extrinsic-based	Intrinsic-based

Figure 1.11 Traditional and new-genre leadership differences (Mathews, 2016, p.2)

Acknowledgement of such generational differences has been embedded across leadership research, resulting in focus turning to revised and retitled leadership concepts that include authentic leadership, ethical leadership, and mindful leadership, each of which reflect the current direction of leadership research, alongside transformational leadership (Alvesson et al., 2019; Anderson et al., 2017; Mathews, 2016).

Authentic leadership has its underlying foundational roots in Greek philosophy, where knowing oneself was attributed to being one's true self (Avolio & Gardner, 2005). As a leadership concept, however, it is still accepted as an emerging field hotly debated by researchers striving to find consensus on its validity (Gardner et al., 2021). Emerging from the field of positive psychology, authentic leadership is rooted deeply in experience of working within organisations, and how individuals are empowered to lead through sharing of personal values and beliefs as their guiding principles (Mathews, 2016). George et al. (2007), a prominent researcher in the field of authentic leadership, offers five key principles that provide clarity around the behaviours that underpin this concept (sense of

purpose, distinct values, relationship building, goals and self-discipline, genuine heart). Although this concept is reminiscent of trait leadership theories (Bratton, 2020; Zaccaro et al., 2000), its nuanced differences are more generally focused on reflections of prior experiences to inform and shape authenticity across leadership practice (Avolio, 2007). Equally, the emergence of ethical leadership has been largely driven by post-millennium organisation challenges that have, in turn, instigated the desire to build, and in some cases rebuild, reputations on leadership, through implementation of ethical decision making that generates positive influence across all organisational levels (Brown & Trevino, 2006).

Ethical leadership is directly related to authentic leadership, spiritual leadership in its various guises (i.e. mindful leadership), and transformational leadership (idealised influence), due to its core facet revolving around the importance of executing morally appropriate judgment and related action (Anderson et al., 2017). Bandura's (2005) social cognitive theory provides the theoretical underpinning for ethical leadership, identifying modelling of appropriate (ethical) behaviour by leaders that will be both seen and learnt, whilst supporting the wider development of ethical culture and practices across organisations (Brown et al., 2006). Although not an entirely new direction for leadership researchers, as morally sound judgement is equally a central facet of both the global and differentiated constructs of transformational leadership (Arthur et al., 2016; Bass et al., 1993).

Finally, mindful leadership is equally realising attention from researchers as an emergent field of study, connected to spiritual roots, with the ancient view of this concept being akin to religious practice (Baltzell & Akhtar, 2014; Decuyper et al., 2018; Walsh, 2016). Practice that requires purification across deeds and thoughts to realise the meaning behind the role of the leader, their relationships with followers, and their ultimate purpose (Mathews, 2016). Although the foundational principles of mindfulness are traditionally aligned to religious practice, it has become more accessible allowing for its wider integration across contemporary society through its focus on development of positive self-management (Hougaard et al., 2016). Parallels can be drawn across mindfulness and Goleman's (2001) work on emotional intelligence, with both concepts requiring individuals to be deeply open and in tune with themselves, creating openness towards personal development, and commitment to being in the present (Decuyper et al., 2018; King & Badham, 2020). The overriding principal integral to implementation of mindful leadership is the ability to intentionally pay attention in the current moment through utilising a non-judgemental approach (Hougaard et al., 2016; Kabat-Zinn, 1994; King & Badham, 2020; Langer, 1992), with current studies demonstrating mindfulness can be trained, making it

an appealing option to support leadership development (Röthlin et al., 2016). It is clear from the presented overview of three of the currently emerging leadership theories (authentic leadership, ethical leadership, mindful leadership), that traditional concepts of leadership have been repackaged as opposed to a tidal change of theoretical principles, with the emphasis placed on the desire for genuine, morally sound, attentive leaders (Röthlin et al., 2016). These leaders have the ability to connect with and support the working millennial generations that are increasingly responsive to more personal and thoughtful organisational environments, that demand appropriately revised leadership practices (Anderson et al., 2017). Criticism around the specific differences and usefulness is, however, levelled at these emerging leadership concepts in comparison to traditional leadership theories (Alvesson et al., 2019). It is clear that a small, but growing, range of narrative and empirical research studies already exist, and published outputs are continuing, indicating sustained interest in this field that will support its further growth (Anderson et al., 2017; Magnusen et al., 2020; Siangchokyoo et al., 2020), ensuring the continued relevance and development of leadership as a field of study and valid evidence base (Alvesson et al., 2019).

### **1.2.8 Transformational leadership in sport coaching**

It is widely acknowledged by researchers and practitioners alike that the role of a sport coach is focused on imparting knowledge, skills, and experience to participants across varied settings and contexts, to achieve outcomes (Cushion et al., 2010; North et al., 2021, Turnnidge et al., 2020). Undoubtedly, coaches assume a pivotal role regarding the development, support, and preparation of participants both physically and mentally (Arthur et al., 2020; Côté et al., 2010), highlighting the complexities of the role sport coaching professionals assume, offering a broad, multi-layered domain of practice for researchers to examine. More generally, leadership paradigms have been examined concerning sport coaching by a range of notable researcher's (Arthur et al., 2017; Chelladurai, 1978, 2007; Côté et al., 2010; Kelloway et al., 2012; Smoll et al., 1989), across a broad array of sport coaching behavioural, relational, and situational facets (Aoyagi et al., 2008; Cotterill et al., 2021; Ermiş, 2019; Figgins et al, 2019; Sullivan et al., 2012). Notably, leadership research has been more broadly limited to high profile team sport such as football (soccer) and basketball (Carvalho & Gonçalves, 2020), the elite environment of cycling and swimming (Carvalho et al., 2020; Hall et al., 2012; Santi et al., 2014; Slater, 2012), and international events such as the Olympic games (Din & Paskevich, 2013; Lara-Bercial & Mallett, 2016). Currently leadership research focused on individual sport more generally centres on contributory facets of coach athlete relationship, sport governance, and coaches delivery

of technical knowledge (Felton et al., 2021; Hambrick et al., 2018; Kerr & Barker-Ruchti, 2015;) which includes a limited number of studies focused on tennis, tennis coaches and their athletes (Kolman et al., 2019; Piggott & Matthews, 2020; Riemer & Toon, 2001; Šlosar et al., 2019).

Arthur et al. (2017) observe TFL as a style of leadership that resonates distinctly with the role of a sport coach, through its primary elements of the transformational leader being able to inspire followers/others, create a values-based culture, provide intellectual stimulation, and focus on the developmental needs of followers. Brought to the forefront of psychology research within the field of organisational behaviour research (Arthur et al., 2020), it was Zacharatos et al. (2000) that connected TFL into the domain of sport and sport coaching through their study on parents within sport. From here, TFL has realised constant growth regarding the number of researchers engaging in this area of focus, the ever-widening range of sport coaching contexts it is now being examined across, and the range of influence a sport coach can have on development of athletes (Arthur et al., 2016; Potrac et al., 2020; Turnnidge et al., 2018).

Research focusing across the applied practice setting of sport coaching has been significantly shaped by theories of leadership (Lyle, 2018a; Vella et al., 2010) with the mediational model of leadership (MMoL; Smoll et al., 1978; Smith & Smoll, 2007) and the multidimensional model of leadership (MML; Chelladurai, 1993; 2007) as the two most widely drawn upon and applied (Arthur et al., 2017; Gilbert & Rangeon, 2011). The MMoL developed by Smith et al. (1978) is positioned from a social cognitive viewpoint (Bandura, 1977) and places principal elements of the coach leadership relational process at its central point, specifically illustrating the dynamic flow across: coach behaviours, player perception and recall of coach behaviours, players' evaluative reactions to coach behaviours, and coaches' perceptions of player attitudes (Smith et al., 1978). Through comprehensive inclusion of these connecting facets, the MMoL displays the complexity within which sport coaches operate (Lyle, 2020; Nichol et al., 2019; Potrac et al., 2020) and the multitude of situational and individual facets that create a congested, yet demanding, context within which sport coaches fulfil a leadership role. Alongside the development of the MMoL, the Coaching Behaviour Assessment System (CBAS; Smith et al., 1977) was also developed to enable the scientific measurement of coach behaviours through systematic deployment of an observational assessment tool within applied practice settings (Arthur et al., 2017). Through cross-sectional and intervention-focused research approaches integrating the CBAS, evidence gathered started to demonstrate that changes in coaches' behaviours were apparent, and equally possible to

engineer (McArdle & Duda, 2002; Smith et al., 1995), establishing this theoretical approach within the domain of leadership research in sport coaching. Similarly, Chelladurai (1993; 2007) developed the multidimensional model of leadership (MML) (Figure 1.12) enabling the further synthesising of the existing research from organisational psychology into the domain of sport, with the MML further illustrating the complexity that exists regarding the processes that take place to deliver effective leader, athlete, and team outcomes within sport contexts (Riemer, 2007).

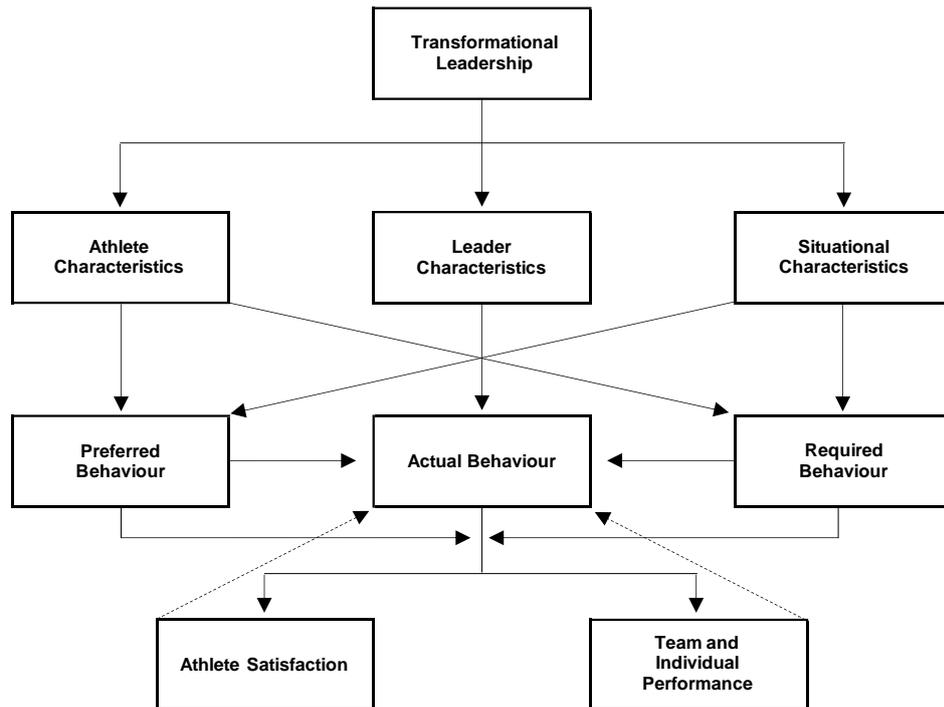


Figure 1.12 Multidimensional model of leadership (Chelladurai, 2007)

Adapted in 2007 to include TFL, this refinement of the MML further underlines the positioning of differing states of leadership behaviour (preferred, actual, and required) as the central influential tenants across sport coaching processes (Arthur et al., 2020) that are equally dependant on context (i.e. athlete, team). Chelladurai & Saleh (1980) also developed a measurement tool that has been employed alongside the MML across a wealth of research studies to date (Ermiş, 2019; Fletcher & Roberts, 2013; Jooste & Kubayi, 2018; Zhang et al., 1997), with the Leadership Scale for Sport (LLS) focusing on five specific dimensions of leadership behaviour (democratic behaviours, autocratic behaviours, training and instruction, positive feedback, and social support). Arthur et al. (2020) have recently offered possible revisions of the MML to further reinforce its application which includes: changing the positioning of TFL so it is removed as an antecedent in the model, inclusion of a wider range of leader behaviours, removal of the

required behaviour element, and the addition of relational mediators and moderating variables. This potential revisit to the MML demonstrates its lasting and continuing use and impact on research within the domain of sport coaching research. However, the MML is not without its critics, levelled specifically at the extensiveness of the behavioural and relational facets integrated across the model (Chelladurai, 2013), and equally the reliability of the LLS (Arthur et al., 2017). Nevertheless, researchers continue to rationalise the integration of the MML, and through continued adaptation of the frames of reference within the MML it will potentially further strengthen the case for its continued prominent place within this field of study, whilst also attempting to answer and resolve concerns researchers have raised about it (Turnnidge et al., 2018). From a broader perspective, current research across TFL and sport coaching purport positive results from identifying connections between TFL and sport coaching, more specifically for example: positive impacts on coach athlete relationships, improved team cohesion, higher quality communication, improved well-being, and the realisation of extra effort from athletes (López et al., 2021; Cronin et al., 2015; Smith et al., 2013; Stenling, et al., 2014; Arthur et al., 2011). From this it is clear that the main focus of TFL revolves around generating transformation of followers' and leaders' behaviours (Avolio et al., 1995), that align distinctly to the central purpose of a sport coaching role (Cushion et al., 2010).

As a global construct of TFL, and not specifically related to sport or sport coaching, researchers within this domain have subsequently developed sport specific measurement tools that have enabled a more targeted approach across the field of TFL research in sport currently (Callow et al., 2009). Specifically, the DTLI (see section 1.2.6) was developed as a differentiated model of TFL through application of its seven subscales (individual consideration, inspirational motivation, intellectual stimulation, fostering acceptance of group goals, high performance expectations, role modelling, contingent reward). Current researchers that have embedded the DTLI within their work on sport coaching have focused on examining TFL related to coach personality, athlete motivation, positive youth development, coach athlete relationship, youth sport coaching, and athlete narcissism (Arthur et al., 2011; Kassim et al., 2021a, 2021b; Newland et al., 2019; Newland et al., 2020; Radzi et al., 2021; Vella et al., 2013). Although the DTLI does demonstrate factorial, discriminant, and predictive validity (Hardy et al., 2010), as a measurement tool it still remains to be used more widely across sport research outputs. Equally, research undertaken by Vella et al. (2013a) focusing on youth sport utilising the DTLI evidenced that coaches' TFL behaviours had the potential to enhance youth personal development. However, the DTLI sub scale of high-performance goals was deemed as problematic for this context of coaching, which led to Vella and colleagues refining the original DTLI tool

into a revised DTLI for youth sport (DTLI-YS) which is also gaining further use and interest from researchers in this specific domain of youth sport coaching (Turnnidge et al., 2017; Vella et al., 2013a).

Transformational leadership as a theoretical framework within sport coaching has, and continues to, feature in a considerable and broad range of leadership and sport coaching research, and its contribution to expanding knowledge and understanding should not be underestimated in the domain of sport coaching leadership (Arthur et al., 2020). As with any area of research limitations exist, in part due to the maturation process that domains of study need to progress through, with TFL in sport coaching being relatively early in this process (Dinibutun, 2020; North et al., 2021). This, however, allows for gaps in this field of research to be embraced and further explored, leading to a potentially deeper, more meaningful evidence base being realised that will ultimately continue to support the leadership development of sport coaches and their applied practice.

### **1.3 The purpose and demands of sport**

Skinner and Engelberg (2018) argue that parameters within which sport focused research is undertaken can only be fully understood when the situational context within which theoretical frameworks are applied can be identified (Hoeber et al., 2017; Hoye et al., 2018; Smith et al., 2010). It is pertinent at this point in the current thesis, therefore, to consider the theoretical platform of TFL within sport coaching, across the broader domain of sport. Specifically, through identifying the foundations from which applied sport practice has developed, to the role it currently fulfils across complex and demanding contemporary political, societal, and economic landscapes (ESRC, 2021; Gratton et al., 2012; Seippel, 2019; Sport England, 2021). Establishing a transparent perspective of the existing impacts, and challenges across this context and the relevance of applying TFL as an appropriate theoretical framework to extend the field of study (Arthur et al., 2017; North et al., 2020).

The origins of sport have been traced back over 2,700 years to 776 BC where, in ancient Greece, sport was formally displayed through development of the Olympiad, now more widely known as the Olympic Games (since the first modern Olympics in 1896), which has subsequently developed into a globally recognised movement centred around the promotion of sport (IOC, 2021). Equally, the prominence of sport has been driven forward through its positioning as a vital political and social asset over subsequent decades, with sport being used to support the training of military recruits (Butterworth, 2017), generate multi-cultural and inclusive engagement (Ahmad et al., 2020; Ratna & Samie, 2017),

develop urban areas providing infrastructure and facilities (Massey et al., 2015), engage disaffected youth and promote health across populations (Morgan et al., 2020; Robertson et al., 2019), whilst also offering a platform to generate vast income through commercial opportunities (Gratton et al., 2012). Additionally, the emergence of sport was supported through the system of public schooling across Victorian Britain, specifically through the educational reform work of Thomas Arnold (John, 1967; Neddham, 2004). As the headmaster at Rugby School during the early 1800s, he established a revised curriculum of scholarly activity that included sport, aimed at preparing young gentlemen for societal leadership (Day & Carpenter, 2015). It was this innovative pedagogical reforming that was widely implemented across British public schooling which provided the national platform for sport as an integral element of childhood education and development. This process equally inspired Pierre de Coubertin to establish the International Olympic Committee (IOC) under the same ideology of fair play (Renson, 2009), leading to the modern day global Olympic Games and, together, these changes realised a seismic shift in the purpose and profile of sport. It is clear, therefore, that sport is wide and varied in both its function and appeal; Hoye et al. (2018) captured this notion well when they stated:

The growth and professionalisation of sport has driven changes in the consumption, production, and management of sporting events and organisations at all levels of sport. Countries with emerging economies such as Brazil, hosts of the 2014 World Cup for football and the 2016 Olympic Games, as well as advanced economic powerhouses such as Russia (host of the 2018 Olympic Games) and Japan (host of the 2020 Olympic Games), increasingly see sport as a vehicle for driving investment in infrastructure; for promoting their country to the world to stimulate trade, tourism, and investment; and for fostering national pride amongst their citizens. (Hoye et al., 2018, p.4)

Aside from the meteoric development of commercialised sport, physical education, and professionalism across many sports – an arguably more critical and globally impactful remit – equally sits within the domain of sport. This being the integral element of physical activity and its impacts on health across contemporary society (Westerbeek & Eime, 2021), it is this facet of sport that continues to ensure it remains central to national political agendas, due to the simple fact that physical activity has sustained and “...significant health benefits for hearts, bodies, and minds.” (WHO, 2021). Currently, World Health Organisation (WHO) data from 2019 detail seven of the top ten causes of death globally are related to noncommunicable diseases, such as cardiovascular disease, respiratory

illness, cancer, and diabetes. Each of these result in health challenges over a longer period of time and, therefore, the subsequent need for costly health interventions over the same protracted time period (WHO, 2019). With more than a quarter of the global adult population (1.4 billion adults over 18 years of age) inadequately active (WHO, 2021), this presents a myriad of international, national, and regional political, social, and economic policy challenges across every continent (Lara-Bercial et al., 2020) relating to physical activity and its direct links to population health. Specifically, the WHO state in relation to physical activity levels:

- Worldwide, around one in three women and one in four men do not do enough physical activity to stay healthy
- Levels of inactivity are twice as high in high income countries compared to low-income countries
- There has been no improvement in global levels of physical activity since 2001
- Insufficient activity increased by 5% (from 31.6% to 36.8%) in high-income countries between 2001 and 2016. (WHO, 2021, p.6)

With contemporary physical activity needs being inexorably connected to sport, it is important to equally acknowledge the vital mediating role that sport fulfils across the challenging landscape of global health policy and promotion (Donaldson & Finch, 2012; (Westerbeek & Eime, 2021),). Over 2700 years since the initial Olympiad in ancient Greece, sport still remains an essential facet of contemporary life, albeit with potentially more critically demanding and far-reaching demands placed upon it (Ahmad et al., 2020; Gratton et al., 2012; Kumar et al., 2018).

### **1.3.1 Sport coaching in the United Kingdom**

It is clear that participating in sport, whatever the motivation or context, creates and sustains improved health (Sport England, 2021; WHO, 2021). Current data from both the WHO and Sport England (SE) underlines the concerning trends in declining physical activity levels with many struggling to sustain engagement or commit to the required regular routines that reap the known associated health benefits (SE, 2021). This concerning backdrop provides the ideal illustration of the essential conduit role a sport coach fulfils, whilst equally underlining the wide-ranging agenda coaches are tasked with supporting. As UK Coaching state (UKC, 2021), “Great coaches get to know what motivates you as an individual.” However, this somewhat simplistic statement does little to unpack how sport coaching is conceptualised, not allowing for the capturing of its

purpose, characteristics, and the experiences that coaches deliver (Lyle, 2020). Horton (2015) observes further that defining sport coaching is a difficult task, and settling on a specific sentence or set of words that capture the full spectrum and essence of the role has, and continues to challenge researchers. Perhaps a more recent and appropriately pitched attempt to capture this complexity has been offered by Lyle (2020, p.14), where he captures the holistic nature of the sport coaching role, stating “... the use of the term sport coaching as an umbrella term for a family of coaching roles and domains invites context free generalisation that are less than helpful.” The scope of sport coaching practice is vast, as is the role which is further complicated by personal and situational contexts that equally impact on the characteristics of the delivery, experience, and outcomes (Lyle, 2020; Potrac et al., 2020). It is through identifying these specific facets of sport coaching that we can begin to acknowledge and develop collective understanding of the expanding significant societal role sport coaches provide (Council of the European Union and the Representatives of Governments of Member States, 2017).

In the UK, Canada and Australia, governments have initiated structural and organisation changes across the field of sport coaching (Duffy, 2010) creating a clearer emphasis on the labelling of sport coaching as a distinct profession (Taylor & Garratt, 2010a). The International Council for Coaching Excellence (ICCE) and the European Coaching Council (ECC) have both joined this increasing volume of support for more specific identification of coaching competencies and licensing systems for coaches as an integral feature of standardising and regulating sport coaching as a credible profession (Cassidy et al. 2016; Duffy, 2010). The ICCE and the ECC outline that integral to delivering a ‘world leading’ coaching structure is the development of the sport coaches themselves within high quality national coaching structures. More specifically through research-informed coach development interventions that identify aspects of potential professional and interpersonal learning needed to support coaches to deliver a consistent vision for sport coaching (Corsby et al., 2020; Avner et al., 2017; Garner et al., 2020; Paquette & Trudel, 2018a, 2018b; Taylor & Garratt, 2010b). Coaching as a profession in the United Kingdom (UK) has realised a steady evolution over the past two centuries, supporting the development of amateur and professional sport (Day & Carpenter, 2015), recreational sport throughout the leisure revolution during the 1980s (Torkildsen, 2012), and the inevitable role they now fulfil alongside clinicians regarding improving health and supporting rehabilitation needs (Mansfield et al., 2018). The profession is an integral element of the broader landscape of sport in the UK overseen by the Government’s Department of Culture, Media, and Sport (DCMS). The DCMS establishes the national sport policy agenda, tasking two centrally

funded agencies, UK Sport (elite/performance) and Sport England (grass roots/recreational), with the delivery of this increasingly complex policy remit. Outside of these primary agencies, UK Coaching (UKC) was also established as a registered charity with a singular focus on recruiting, developing, and supporting a coaching workforce across all delivery contexts and sports. Prior to the rebranding of UKC (from Sports Coach UK) in 2017, the driving change that enabled the acknowledgement of sport coaching as an integral facet of sport delivery was the publication of the Coaching Task Force (CTF) report in 2002. With the CTF establishing the national government agenda for sport coaching in the UK, this offered for the first time a specific and coherent pledge to advance the professionalisation and education of coaches across all domains of sport coaching. This essential high-profile development equally paved the way for the establishment of the UK Coaching Certificate (UKCC), enabling consistency across coaching qualifications endorsed through collaborative partnerships with multiple national governing bodies (NGB) of sport. The strategic direction at this point was the delivery of an internationally leading coaching profession focused on collective development of the growing coaching workforce, with the aim of creating coherence across multiple sports and, ultimately, the delivery of quality coaching. Currently, this national taskforce of qualified coaches now stands at over three million individuals who deliver coaching to in excess of thirteen million adults and children annually (UK Coaching, 2021). Working alongside UKC, is the Chartered Institute for the Management of Sport and Physical Activity (CIMSPA), a recently established body underpinning the professional standards across sport, physical activity and, within this, the profession of sport coaching. Specifically focusing on sport coaching, CIMSPA developed a set of employer-led professional standards to qualify the quality of sport coaching education and qualifications that UKC and CIMPSA collectively endorse, enabling the continuation of professional development across the sport coaching workforce, which detail:

- A coach will improve a participant's experience of sport and physical activity by providing specialised support and guidance aligned to their individual needs.
- Coaches can, and do, have an inspirational effect on individuals, groups, and communities.
- They lead the planning, preparation, delivery, continuous evaluation, and review of a series of sport and/or physical activity sessions.
- They ensure the culture and environment is designed to meet a participant's welfare needs and allow them the opportunity to achieve their goals and meet their aspirations. The participant's development as a person is central to the Coach's

activity. This means tailoring to the participant's needs and taking an inclusive approach.

- They work with participants, and a range of others such as other coaches, colleagues, volunteers, parents, teachers, youth workers and health professionals, to ensure the experience is the very best it can be.

(CIMSPA, 2018, p.4)

Sport coaching has continued along its journey of professionalisation as an integral feature of the wider landscape that sport now resides within and attempts to fulfil across global and national agendas (Lara-Bercial et al., 2020). Researchers equally continue to examine this professional domain, eliciting a consensus through acknowledging sport coaching as a valuable occupation (Lyle, 2020), with multiple responsibilities that are difficult to define and contain largely due to the political, social, and economic connections the role is now tasked with supporting (Cassidy et al., 2016; Lyle, 2018; Potrac et al., 2020). Jones et al. (2011, p.26) equally tap into this more complex facet of the sport coaching role, stating coaching is “an obligation driven social activity”, one that equally demands understanding regarding the levels of commitment, engagement, and emotional connection sport coaches personally invest across a multitude of applied practice settings (Potrac et al., 2020).

### **1.3.2 Current sport coaching research**

Existing sport coaching research has been reviewed systemically and narratively by researchers over recent years (Carvalho et al., 2020; Gilbert et al., 2004; Griffo et al., 2019; Magnusen et al., 2020; North et al., 2021) attempting to collate and categorise this often-unwieldy domain of study (North et al., 2021) to inform current limitations, and opportunities for future direction. Griffo et al. (2019), in their review of sport coaching literature between 2005-2015 uncover the six principal research themes depicting the focus of outputs during this timeframe which cover coach education (Garner et al., 2020; Langan et al., 2013; Lyle et al. 2017; Turnnidge et al., 2017; Vella et al., 2013), sport psychology (Duda et al., 2017; Jowett et al., 2019; Rocchi et al., 2017), coaching methods (Partington et al., 2013; Taylor et al., 2010; Turnnidge et al., 2018), sociology of sport coaching (Cassidy et al., 2016; Nichol et al., 2019; North et al., 2019), health (Berlin et al., 2018; Khan et al., 2012; Szczepaniak, 2020), and disabilities (Crisp, 2019; Cushion et al., 2020; Townsend et al., 2021), with sport psychology unsurprisingly releasing the highest level of outputs (n = 42.8%) (Griffo et al., 2019). Similarly, a reflection paper from the International Council for Coaching Excellence (ICCE) research committee equally offers

an important overview and insight across the field of sport coaching research, illustrating again the grounding of the published works in the same categories as Griffo et al. (2019) with the addition of sport sciences (North et al., 2021). The ICCE offers insight and reflection on the development of sport coaching research globally, indicating that it now stands as an autonomous discipline of sport science research more broadly due to its continued growth. It equally identifies the continued need for debate centred on the drive for consensus around defining the profession and associated parameters of sport coaching, agreeing methodological approaches, and understanding the impact of the specificity of the context within which coaching takes pace (North et al., 2021). Additionally, Magnusen et al. (2020) offers input on the need for the operationalisation of coaching research as being the primary factor potentially undermining the advancement of this field of study. Imploring researchers to understand the value of engaging with professionals across applied practice contexts of sport, to support the development of theoretical frameworks and methods that are equally relevant as they are robustly developed, validated, and standardised to enhance reliability across this field of study. Magnusen et al. (2020) offers an illustrative process (Figure 1.13) through which such collaboration between researchers and practitioners could be fostered, whilst also importantly underpinning the potential for consistency across these approaches more widely.

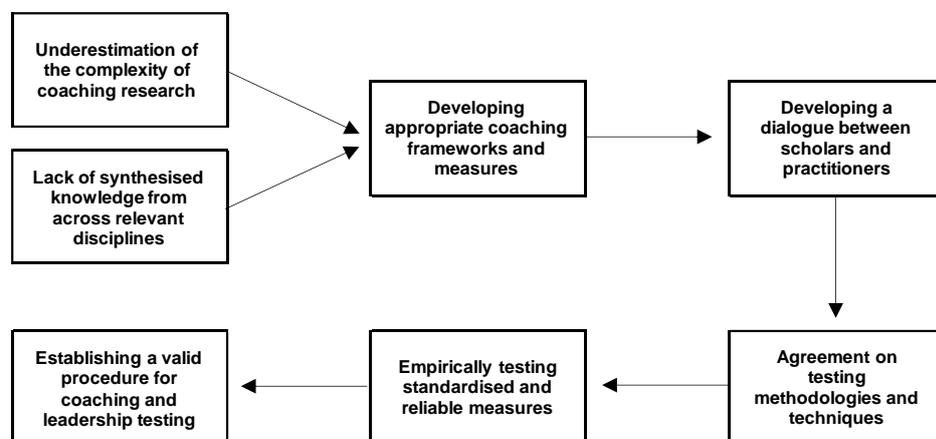


Figure 1.13 Process of operationalising coaching and leadership research (Magnusen et al., 2020, p.454)

Research focusing on the broad, and often complex to define role of the sport coach (Côté & Gilbert, 2009; Lyle & Cushion, 2016; Mallett & Rynne, 2010) is still in its relatively early stages of development (40-50 years old), but within this timeframe it has continued to produce an ever-expanding range of studies focusing on an even more exhaustive selection of topics and contexts (Griffo et al., 2019; North et al., 2021). It is also evident

that although the research evidence base across sport coaching literature continues to grow, studies produced are dominantly focused on sport psychology underpinnings within a narrow selection of largely sport science focused journals that currently garner a relatively minor level of impact (Carvalho & Gonçalves, 2020). The reviews and collective commentary published on sport coaching research more recently (Carvalho et al., 2020; Gilbert et al., 2004; Griffo et al., 2019; North et al., 2021; Magnusen et al., 2020) each conclude with closely aligned recommendations surrounding the future directions of this domain of research, stipulating the need to:

- Develop and examine a wider range of research questions and themes
- Integrate interdisciplinary approaches
- Enhance emphasis on research design to support reproducibility
- Adopt transparency across research practices to support trust in results
- Commit to collaborative approaches to research across researchers, practitioners, and governing bodies

(Carvalho et al., 2020; Griffo et al., 2019; Magnusen et al., 2020; North et al., 2021)

It is with these recommendations in mind that the wider community of sport coaching researchers and practitioners should now look to collaboratively support the development of this highly relevant evidence base, that has the opportunity to create a sustained positive impact across the applied context of sport coaching and their participants. The current study, therefore, addresses the call for further research into a number of these identified gaps in sport coaching research, specifically the development of a novel conceptual framework which includes research design and practices, integration of different research themes and theoretical perspectives, and support to advance governing body and practitioner applied practice. The final sections in this chapter will now draw on these areas in further detail providing additional clarity regarding the philosophical underpinning, research design, and aims of the current thesis.

#### **1.4 Philosophical underpinning**

To fully position the current research appropriately, it is important to provide an overview of the established philosophical underpinning that provides the important foundational platform, whilst equally allowing for explanation of researcher philosophical assumptions, ontological and epistemological perspectives, that support and inform methodological choice and design (Scotland, 2012). Hunt (2004) reinforces the imperative nature of

identifying these essential tenants of research from the outset through discussing the dependant connections they have across informing conceptualisations of leadership that equally dictate how researchers construct the parameters of their approach within the complex “historical-contextual superstructure” (Hunt, 2004, p.1) that is leadership.

#### **1.4.1 Research paradigms**

Thomas Kuhn (1970), a renowned and self-titled historian of science, states the significant role of paradigms through identifying their universal application across communities of practice allowing for the sharing of problems, insight, knowledge, solutions, and understanding. He equally posits the lack of defined mutually accepted interwoven theoretical and methodological beliefs causes challenges across fields of study regarding initial selection of research direction, modelling of problems, and critical analysis (Kuhn, 1970). Kuhn’s work underlined the function and use of paradigms across research more broadly, whilst equally demonstrating the connections across philosophy, science, and the social context they occur within (Anand et al., 2020). The three primary characteristics for identifying a research paradigm revolve around ontology, epistemology, and methodology (Figure 1.14). Each are the foundation from which researchers deliver a transparent overview of their approach to allow for: clarity across the relational components of research to be identified, endorsing of cohesion across theoretical discussion and links to social phenomena, and providing of a platform for researchers to acknowledge positioning of their work in its own right, but equally alongside existing research outputs across a domain of study (Grix, 2002). As Blaikie (2019) observes, the inception of all research is the ontological positioning through defining what is believed to constitute the nature of social reality, and importantly how components that make up reality exist and interact. Epistemology stems from the domain of philosophy revolving around the theory of knowledge, specifically how knowledge is gained regarding social reality. Hay (2002) discusses the interaction across ontological and epistemological assumptions (Figure 1.14) by determining if a defined reality exists, then within this reality conditions for obtaining and developing knowledge will also exist and awareness of this is essential. For the current study, the intention from the outset has been the adoption of openness regarding the approach and development of the research questions posed. This has allowed for the pragmatic consideration of appropriate methodology selection. This, however, also culminates in a diverse approach through integration of both positivist (quantitative deductive position and method) and constructivist (qualitative inductive position and method) approaches, creating complexity specifically across the ontological defining of reality as it is drawn from both objectivist and constructivist viewpoints.

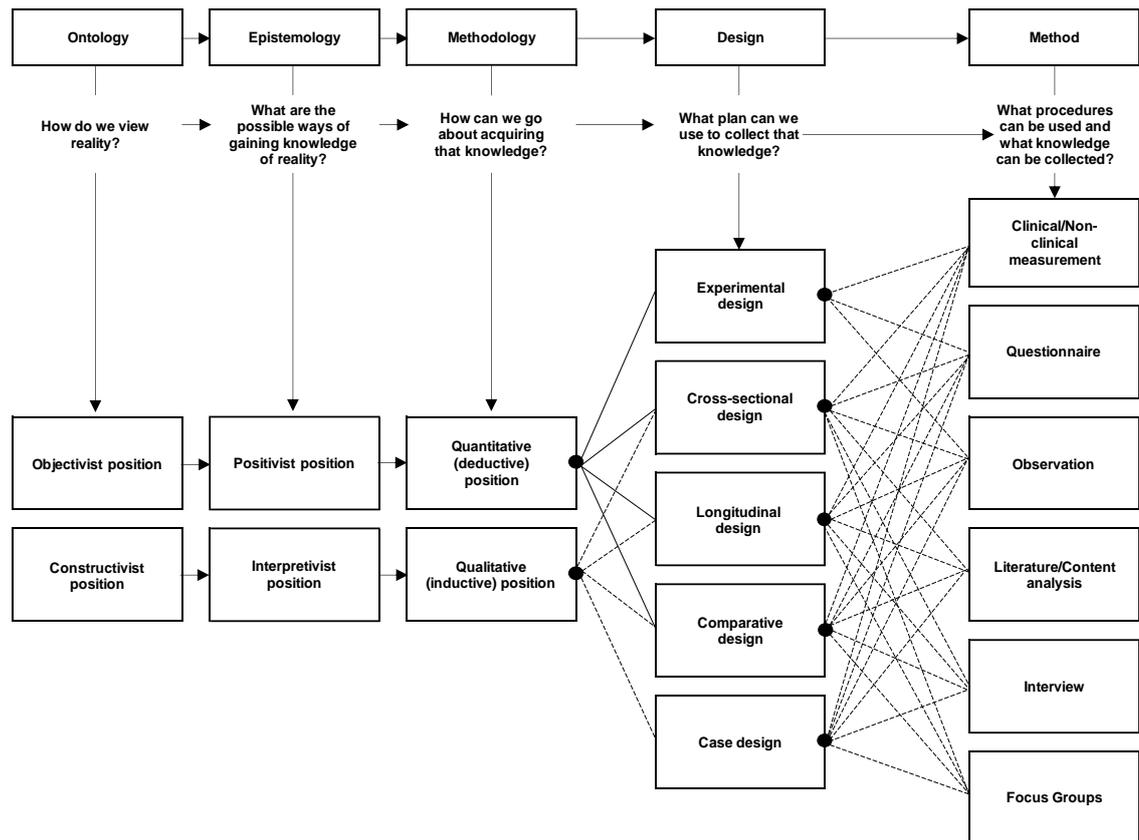


Figure 1.14 The building blocks of research (adapted from Smith, 2010; Hay, 2002)

Drawing on apparent opposite ontological viewpoints indicates the inclusion of multiple sets of beliefs, essentially opposing paradigms that are intrinsic to the implicit direction of scientific research. Idealistic researchers fundamentally believe in a purist approach, and that common ground does not exist between these polar opposite viewpoints, strongly arguing that they cannot be utilised together (Guba & Lincoln, 1994; Wilding, 2019). Similarly, distinguishing across both positivist and interpretivist positions can be problematic for researchers more generally, again due to the contrasting positions each of these epistemological routes advocate regarding the gaining and developing of knowledge. Positivism endorses the embedding of specific methods and protocols regarding the explicit study of social reality, seeking absolute truth through verification of evidence often expressed through functional statistical relationships that deliver objective reporting (Wilding, 2019). Interpretivism draws on socially constructed mediated assumptions of the real-world accepting reality as constantly changing phenomena, therefore asserting that truth is constructed, experienced, and developmental (Lincoln et al., 2011; Marshall et al., 2021; Potrac et al., 2014). These ‘paradigm wars’ have existed since the mid twentieth century with no apparent resolution likely until the development

over the past twenty years of the third methodological movement that has begun to establish mixed methods research (MMR) as an appropriate option when embedding multiple paradigms (Bazeley, 2018a; Hall, 2013; Tashakkori et al., 2020). Within this development the apparent ontological and epistemological incompatibilities have been reasoned through adoption of pragmatism or critical realism as the platform to bridge the division and support the development of cohesive MMR (Bazeley, 2018a, Maxwell, 2012; Tashakkori et al., 2020). From the perspective of a pragmatist, it is acknowledged that differing experiences of a reality are of equal relevance, with the practicalities of values and actions drawn upon so the outcomes of these potentially complex meanings can be evaluated, and successfully enacted (Bachkirova et al., 2017). The foundational work of Peirce, James and Dewey in the late nineteenth century brought pragmatism to the fore as a philosophical framework centred on the principles of what works and is useful is therefore true (Bacon, 2012; Brierley, 2017). Lyle (2020) suggests that the principal features of pragmatism allow for the conceptualisation of the complexities surrounding the field of sport coaching. Equally, Bachkirova et al. (2017) offer a compelling case for applying pragmatism across sport coaching research through identifying the depth and range of continually refreshed dialogue coaches develop to reinforce problem solving and practice development across applied contexts. Additionally illustrating that truth pragmatically is not absolute, Morgan (2007) draws the practical implementation facets of pragmatic research together through identifying complementary connections across theory, process, and data (Table 1.4) that supports the reciprocal embedding of qualitative and quantitative approaches enabling the potential convergence and integration across research outcomes (Bazeley, 2017, 2018b; Morgan, 2007).

Table 1.4 A pragmatic alternative to the key issues in social science research methodology (Morgan, 2007, p.71)

	<b>Qualitative Approach</b>	<b>Quantitative Approach</b>	<b>Pragmatic Approach</b>
Connection of theory and data	Induction	Deduction	Abduction
Relationships to research process	Subjectivity	Objectivity	Intersubjectivity
Inference from data	Context	Generality	Transferability

Intelligent practice is the essence of pragmatism as discussed by Glasgow (2013), supporting the application of practically applied outcomes derived from all approaches required to develop a full understanding of the research context (Bacon, 2012; Cruickshank et al., 2014). Equally, Bazeley (2017) argues that researchers who are prepared to transcend the vigorously protected demarcation between philosophical

viewpoints, methods and data will approach research with an open mindedness that supports the integration of valuable mixed methods thinking (Clark, 2019).

### 1.4.2 Mixed methods design

Flick et al. (2012) argue that combining multiple methodological practices is an approach to research that underpins rigor through developing a wide-reaching investigation across often complex contexts. Johnson & Walsh (2019) endorse the application of mixed methods, further stating the richness and depth of inquiry equally deliver a wider understanding and affirmation of social phenomenon. Mixed methods research (MMR) embeds both quantitative and qualitative data across research (Creswell, 2014; Johnson et al., 2019) underpinned further through the mixed nature of the research data and the combined interpretation of these data sets (Clark, 2019; Feters et al., 2013; Headley et al., 2020; Turner et al., 2017). Maxwell (2013) provides clarity regarding the dynamic essence of MMR through identifying five central elements of MMR (Figure 1.15) that compliment and support each other, ensuring the research question posed remains as the central focus whilst equally acknowledging the wider contextual and environmental factors the MMR takes place within (Bazeley, 2018b, Maxwell, 2013).

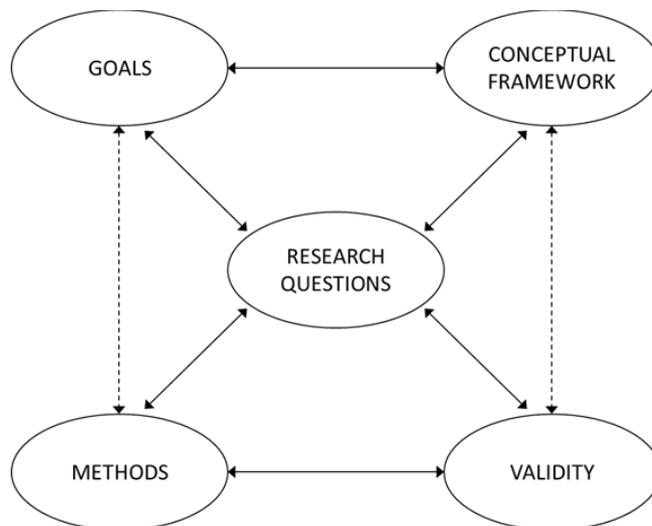


Figure 1.15 Interactive model of design (Maxwell, 2013, p5.)

Of primary importance across these core elements of MMR (Maxwell, 2013) is the integration of both qualitative and quantitative data (Bazeley, 2018b) that promotes and supports the uncovering of corroborative insights and understanding that may never have been uncovered if traditional single paradigm research had been undertaken (Clark, 2019; Mertens et al., 2016). Researchers concede that for mixed methods research to exhibit

its full robustness, impact and potential, clearly targeted principles need to be adhered to when integrating quantitative and qualitative research procedures and the resulting data outcomes (Creswell & Clark, 2017; Fetters et al., 2013; O’Cathain et al., 2010). Fetters et al. (2013) specifically indicates that integrative approaches can be embedded across the research design, method, and reporting stages of the research process (Table 1.5), highlighting the sequence and specific elements of the mixed method procedure undertaken.

Table 1.5 Levels of integration in mixed methods research (Fetters et al., 2013, p.2136)

<b>Integration Level</b>	<b>Approaches</b>
Design	Basic Designs: Exploratory Sequential Explanatory Sequential Convergent
	Advanced Frameworks: Multistage Intervention Case Study Participatory
Methods	Connecting Building Merging Embedding
Interpretation and Reporting	Narrative (weaving, contiguous, staged) Data Transformation Joint Display

This thesis embeds an exploratory sequential design which supported the collection of qualitative data that subsequently informed the quantitative research procedure, including the data collection (Fetters, et al., 2013; Onwuegbuzie et al., 2010). Creswell et al. (2011) offers specific discussion regarding integration at the method stage indicating this must include both data collection and subsequent analysis through connecting links across sampling, building that informs data collection approaches, merging that enables the drawing together of data for analysis, and finally embedding to demonstrate the linking of data collection and analysis across the research process (Creswell et al., 2011; Fetters et al., 2013). Equally, integration at the interpretation and reporting stages can also occur through integration of narrative centred on both qualitative and quantitative data sets, transformation of data where either statistical or narrative data are converted to enhance the connectedness in the data reporting, or similarly through joint displays that serve as illustrative information often underpinning the overall coherence at the research interpretation stages (Bazeley, 2018a; O’Cathain et al., 2010). The resultant coherence of mixed methods research provides the opportunity to examine the “fit” (Fetters et al., 2013,

p.2143) formed through integration of multiple mixed data sets allowing for clarity of the outcomes through confirmation of data (both quantitative and qualitative confirm the same results), the expansion of data (sources of data combine and widen understanding), or the possible discordance of the data (identifies inconsistencies across the data sets). Whichever of these outcomes occur, it is through investing specific attention across the stages of integration throughout the MMR that methodological credibility can be realised (Turner et al., 2017; Creswell et al., 2011) supporting the delivery of robust findings (Bazeley, 2017; Onwuegbuzie et al., 2010). An equally essential central facet of MMR is the reflexivity processes that are an integral and continuous feature of the development, implementation, convergence, and integrative processes (Bazeley, 2018b). The multi-stage essence of MMR presents the platform for potentially complex and divisive ethical, theoretical, and practical challenges to arise requiring appropriately pitched sensitive navigation that further underpins the quality of the research approach (Bazeley, 2017; Mortari, 2015). Cain et al. (2019, p.145) observe the critical “pillar” reflexivity constitutes across both qualitative and quantitative elements of MMR research, with a range of researchers identifying the essential need for reflexivity to be deployed at appropriate points along the research journey (Cain et al., 2019; Bazeley, 2018a; Hesse-Biber & Johnson, 2013). Researcher contemplation across the thinking, doing, synthesising, and dissemination aspects of MMR can be significantly strengthened through authentic researcher engagement with appropriately integrated reflexive practices (Cheek et al., 2015; Popa & Guillermin, 2017; Torrance, 2012), supporting transparency across the MMR process. From a pragmatist perspective the credibility and trustworthiness strategies instilled across the integrative MMR process enables the understanding of how this was achieved, whilst equally enabling the development of knowledge from research to support implementation of practical action underpinned by robust theoretical and applied evidence (Brierley, 2017; Grecic & Grundy, 2016). It is clear that although the case for MMR has been brought to the fore by many respected researchers (Bazeley, 2017; Creswell, 2014; Denzin, 2012), the debate over its application continues to fuel issues over its apparent controversial integration of multiple methodologies, conflicting paradigms, and more broadly establishing the value integrative MMR offers (Creswell, 2011; Tashakkori & Teddlie, 2011). It is however also equally agreed that utilising MMR does allow for a broader holistic investigation of research phenomena, providing the platform to demonstrate depth of inquiry across what are often multi-layered, and complex views and representations of reality within which pragmatic wide ranging research questions are explored focusing on the consequence of actions (Bazeley, 2017; Denzin, 2012; Flick et al., 2012; Lyle, 2020; Tashakkori et al., 2020).

In summary, this thesis under a pragmatist viewpoint (where the research question is central to the process, and methods are selected to best provide the answers to practical problems instilling action) will employ a multistage exploratory sequential mixed methods design (Figure 1.16) with an initial systematic review (phase 1) of existing theory undertaken to support and inform the design, direction, and measurements employed within the experiential narrative and quantitative studies (Beazley, 2018a; Creswell, 2014; phase 2). Further adaptation of the multistage exploratory sequential mixed methods model was applied for the current thesis through the explicit integration of a continuous reflexive process (Bazeley, 2018; Cain et al., 2019; Hesse-Biber et al., 2013), specifically positioned at pertinent building and interpretation stages of the current MMR process (Creswell, 2014; across phases 1, 2, and 3). Therefore, adhering to transparency regarding reflexivity across the MMR approach, these have been drawn upon across specific sections across the thesis:

- Section 1.4.3 Researcher positionality
- Section 2.7 Researcher mixed methods reflexivity phase 1
- Section 3.6 Researcher mixed methods reflexivity phase 1 and 2
- Section 4.9 Researcher mixed methods reflexivity phases 1 and 2 revisited
- Section 5.6 Reflection of researcher positionality

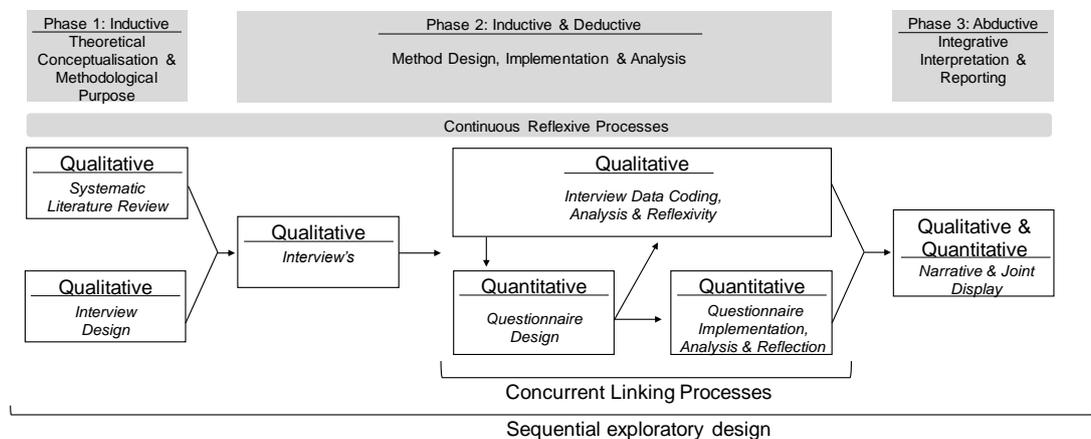


Figure 1.16 Current thesis multistage exploratory sequential mixed methods design (Adapted from Creswell, 2014; Turner et al., 2017)

The overarching focus of pragmatic MMR is the delivery of research results that demonstrate relevance to the context within which they will be applied (Bazeley, 2019), and equally demonstrate the potential to generate a real world practical situational, behavioural, or relational difference (Creswell et al., 2017; Tashakkori et al., 2011).

### 1.4.3 Researcher positionality

Identifying and sharing researcher positionality supports the acknowledging of existing innate assumptions, whilst offering the opportunity to establish transparency from the onset of the research process (Misener & Doherty, 2009). Specifically, regarding the potential impact of researcher biographical context, values and beliefs, experiences, and relationship with the research domain in focus. Each of these intrinsically personal elements carry the potential to influence the approach employed through the research process, and the articulation of research phenomena and resultant outcomes (Fusch et al., 2018). Guba et al. (1994) observe that it is predominantly noted in qualitative research where reflexivity is actively encouraged to promote openness and authenticity through which research is instigated, implemented, and ultimately disseminated. Specifically, across the reflective narrative sections of the present thesis the researcher opts to refer to themselves as 'the researcher' as opposed to explicitly writing in the first person. This was a personal choice, with the chosen identifying label providing a comfortable, subtle bridge across both objective and subjective observations, experiences, and feelings (Cushion, 2018; Tinning, 2021). Whilst enabling authentic engagement across this process of integrative reflexivity, and supporting the identification of "...implications, possibilities, and limitations..." (Lazard and McAvoy, 2020, p.160) as the research process evolved (Jasper, 2005; Lyle, 2018a).

It is with this in mind that the current researcher offers such insight across their position regarding the context of the studies undertaken to complete this thesis. Firstly, from a historical biographical perspective the researcher identifies as someone who has throughout their life, and currently, strongly identifies with participation in organised sport. From an early age through the enjoyment realised from curricular physical education and the associated competitive opportunities to lifelong engagement with sport, it is these experiences that continue to provide positive outcomes and experiences both physically and mentally. Whilst equally supporting personal social, relational, and behavioural developments, illustrating the prominent and constant role sport has fulfilled, both as a participant, and during adult life developing as a sport coach specialising in athletics (middle/long-distance running), in addition to supporting athlete strength and conditioning training. Equally, facets of the professional career journey have also most certainly informed research interests allowing the aligning of academic study to ten years experienced within the dynamic, outcome focused, and practical environment of retail management. Articulating the professional experience with these words is a conscious choice; they capture the essence of pragmatism, openness to adopting approaches that

achieve the most appropriate and practical result (Bazeley, 2018b; Grecic et al., 2016) through action orientated problem solving and decision making (Maxwell, 2013; Morgan, 2007). During these early formative years of career development, the developmental culture of the organisation coupled with the conscious nurturing and development of young managers enabled the witnessing of exemplar leadership. Experiences that have been conserved, refined, and drawn upon personally by the researcher during subsequent years enabling professional development, and personal lessons of growth that continue to resonate distinctly due to their lasting impression on beliefs and values more broadly. It is also important to acknowledge the active role the researcher has previously fulfilled regarding the organisation the second and third research studies focus on, through development and delivery of professional development learning sessions connected to coach development and coach pedagogic pathways. Although while fulfilling this role the fostering of professional relationships with the organisation was necessary, during the development of the current study the researcher ensured their self-identity was that of a partial outsider-insider expert (Coombs & Osborne, 2018; Fletcher, 2014; Kerr & Sturm, 2019) positioned clearly in this instance as a social science researcher. While the researcher's previous background with the organisation was not the primary purpose for pursuing this further engagement through research, it did however deliver common ground regarding understanding of the complexities the coaching role garners within this context, whilst equally enabling comparability across the broader domain of sport coaching. The common thread running through each of these professional and personal experiences can be further evidenced by sharing the affectionate nickname friends, teammates, and colleagues have bestowed upon the researcher through these years (from childhood into adulthood in both personal and professional settings), that being 'the fixer', further emphasising the practical action orientated disposition naturally adopted and implemented by the researcher. It is, therefore, also clear to appreciate the wider dichotomy that exists regarding expert views on the utilisation of multiple approaches available to conduct research has not inhibited the current study. The researcher does not experience conflict across ontological or epistemological positions, supported through the personal and professional life experiences drawn upon in this section that provide an explanatory underpinning regarding the researcher's intrinsic embracing of pragmatic approaches to reality and knowledge, centred on the premise of what practically works is the best approach (Bazeley, 2018b; Wilding, 2019).

## **1.5 Thesis objectives**

Therefore, the aim of this thesis is to establish empirical underpinnings of transformational leadership in sport coaching within the specific context of tennis through implementation of a novel exploratory sequential mixed methods design. Presented as three related studies, the objectives of this thesis were to:

- a) Further explain and better understand the research domain of transformational leadership in sport coaching through systematically identifying the emerging behavioural, relational, contextual, and empirical themes that currently exist, and the implications of these on current knowledge and future research (Chapters 1, 2 and 5).
- b) Explore experiences of tennis coaches as transformational leadership figures through examining the potential connections between the role of the coach and the specific constructs and context within which tennis is supported and delivered (Chapters 3 and 4).
- c) Investigate transformational leadership through the dyadic relationships between tennis coaches and their athletes to identify and inform possible behavioural, relational, and contextual impacts (Chapters 3 and 4).
- d) Examine the existing praxis of the constructs that form the conceptualisation of transformational leadership in sport from the outcomes of the research studies specifically within the context of the tennis coaching role (Chapters 2 and 5).

## **1.6 The proposed thesis and structure**

Research applying the theoretical framework of TFL has to date generated a range of valuable evidence regarding the behavioural, relational, and applied outcomes of TFL. Whilst a range of applied settings, coaching practice and athlete outcomes have been incorporated and studied across TFL. Research investigating the targeted experiences of specific sport coaches and the role TFL has in shaping coaches' relational exchanges, social interactions and situational development alongside theory remains limited in its scope, transferability, and generalisability. As suggested by Arthur & Bastardo (2017), research that embeds a broader range of research paradigms, coupled with consciously targeted methodological design and, as Magnusen et al. (2020) and Turnnidge et al. (2020) both suggest, studies that offer further investigation of coach social effectiveness and interpersonal behaviours, all highlight remaining opportunities to further explore this

relatively new domain of study. The following chapters, therefore, attempt to examine and extend theory, research, and applied practice across TFL in sport coaching by implementing a lesser applied mixed methodological approach to provide a coherent thread as a novel addition to this important field of sport coaching study (see figure 1.17 and appendix A). The objectives for each chapter are presented below.

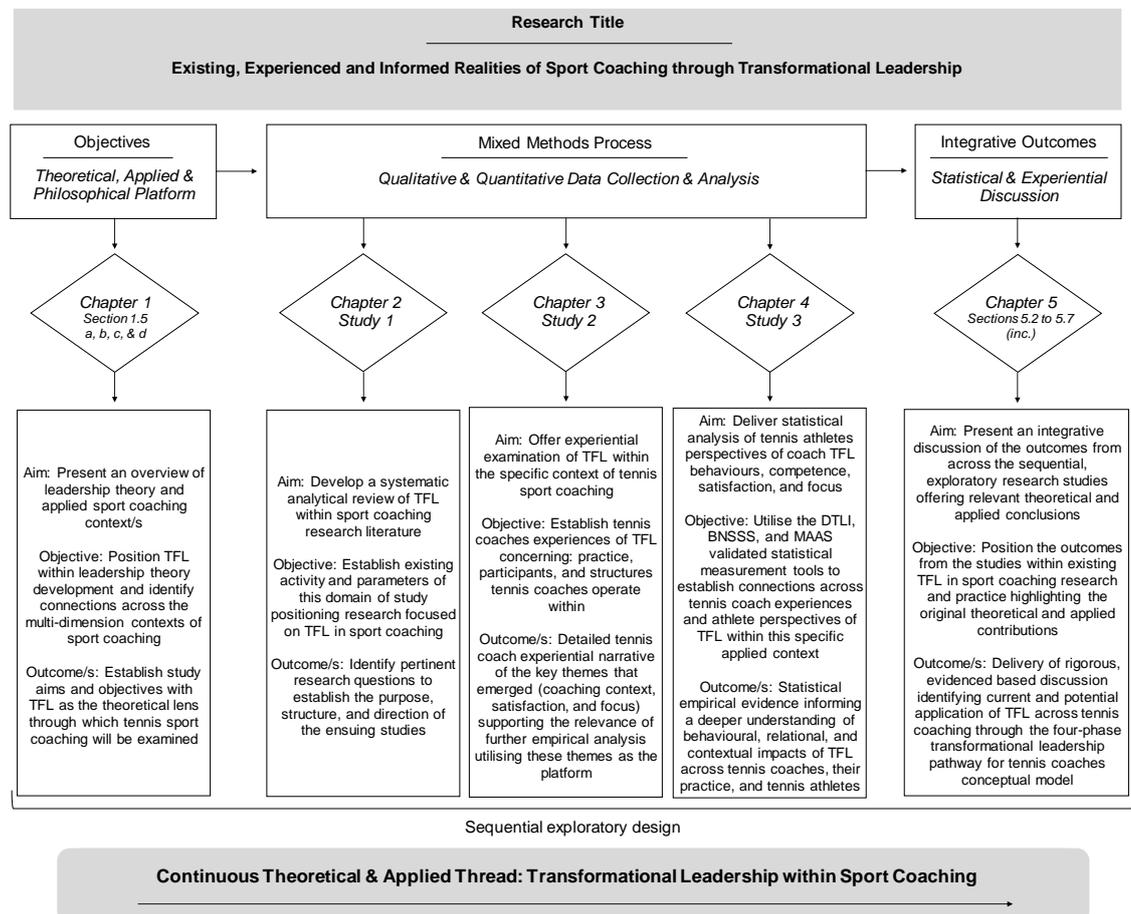


Figure 1.17 Thesis schematic diagram

This thesis is written as a linked collection of three research studies through which the application of transformational leadership theory was examined within the context of tennis sport coaching. Chapter 1 presents an overview of leadership theory enabling the positioning of TFL as an integral facet of the broader developments realised across leadership theory, and the TFL connections across the evolution of the multi-dimensional contexts of sport coaching. This initial chapter culminates through its presentation of the philosophical viewpoint the thesis has adopted, providing an opportunity to establish the research aims and objectives, in addition to clarifying TFL as the theoretical lens through which tennis sport coaching is focused upon across the developed studies. Chapter 2 presents the systematic analytical review of TFL within sport coaching research literature,

establishing current activity and parameters of this research area through analysis of the wide range of research data collated as part of this systematic process. This second chapter also details the existing positionality of research across TFL in sport coaching, identifying pertinent research questions that evolved from this study which enabled the establishing of the purpose, structure, and direction of the further two studies presented in this thesis. Chapter 3 offers qualitative empirical research evidence examining the visibility and utility of transformational leadership within the specific context of sport coaching in tennis. Establishing the breadth of leadership experiences across the tennis coaching role specifically related to coaching practice, tennis participants, and the structures within which tennis coaches operate. This second study provides detailed qualitative narrative as the platform to support the relevance of further empirical analysis of the key themes that emerged, specifically focusing on coach and athlete TFL connections to coaching context, satisfaction, and focus. Chapter 4 further expands on the outcomes from Chapter 3 through delivering quantitative empirical research data supporting the linking of the narrative from the sport coaches to their athletes, and within this, connections to the impact of TFL. Further measurements were also integrated into this study as a result of the research questions posed from Chapter 3 which supported the application of the Differentiated Transformational Leadership Inventory (DTLI, Callow et al., 2009), the Basic Needs Satisfaction in Sport Scale (BNSSS, Ng et al., 2011), and the Mindfulness Attention Awareness Scale (MAAS, Brown et al., 2003) within this final study informing the further examination of the relational aspects of TFL across sport coaching in tennis. Chapter 5 provides integrative discussion of the general findings arising from the research chapters and presents the central theoretical and applied implications, whilst also identifying original contributions and general implications, limitations of the research, and suggestions for future research directions.

Therefore, the aim of the following chapter is to present the systematic analytical review of TFL within sport coaching research literature as the primary stage of the sequential exploratory mixed methods research process through establishing current researcher activity, and the parameters of this research area. Achieving this through comparative analysis of the wide range of research data collated as part of this systematic process. This second chapter also details the existing positionality of research across TFL in sport coaching, identifying pertinent research questions evolving from this study regarding both philosophical, and methodological facets of the existing field of study, in addition to specific insight across behavioural, relational, and contextual facets of TFL applied environments within which sport coaching occurs.

## **Chapter 2: Transformational leadership within sport coaching: A systematic analytical review of current literature**

### **2.1 Introduction**

The professional and educational environments within which sport coaches operate continue to experience meaningful change in light of the sustained drive towards the professionalisation of the emerging profession (Cassidy et al., 2016; Lara-Bercial et al., 2020). For sport coaches this means engaging in relevant professional development aligned to the applied settings they operate within (e.g., Côté & Gilbert, 2009; Cushion et al., 2010; Nash & Sproule, 2009; Rynne et al., 2010). Within this targeted professional development, it has been recognised that coach leadership is an integral feature for realising coach competence, participant engagement, and both coach and athlete outcomes (Baker et al., 2003; Santos et al., 2010). Specifically, the context of sport accentuates the importance of coach leadership on shaping athlete experience, their cognition development, and impacts across athlete performance-related achievements (Arthur et al., 2011; Beauchamp et al., 2014; Bormann et al. 2016b; Loughhead, 2017; Vella et al., 2013b). To date, research has been conducted on coach leadership, adopting several different research paradigms, designs (Aoyagi et al., 2008; Partington & Cushion, 2013; Turnnidge et al., 2018) and theoretical frameworks (the full range leadership model, the mediational model of coach leadership, the multidimensional model of leadership for sport). However, it has been relatively recently in the last thirty years that transformational leadership theory has been considered an important framework to study leadership in sport (Arthur et al., 2017; Magnuson et al., 2020; North et al., 2021; Turnnidge et al., 2018), and it is across existing literature within the field of psychology transformational leadership continues to be one of the most extensively employed leadership theories (Arthur et al., 2012).

Transformational and transactional leadership was first introduced by Burns (1978) claiming that many of the differences between leaders and managers are manifested across the behavioural facets of transforming and transaction focused leadership. In essence suggesting a transformational leader offers a purpose that transcends short terms goals through employing charismatic behaviours focusing on continuous, mutual satisfaction of intrinsic needs (Burns, 1978). Bass (1985) further developed this work arguing transformational and transactional leadership do not sit at opposite ends of a continuum, but rather operate in conjunction with one another and that the best leaders are both transformational and transactional referred to as the augmentation hypothesis

(Bass, 1998). Through examining the application of the four dimensions of TFL (Bass, 1985; idealised influence, inspirational motivation, intellectual stimulation, individualised consideration) research has labelled transformational leadership as being morally sound (Burns 1978; Politis 2002), visionary, (Westley & Mintzberg, 1989), and being a constructive, impactful, and improved process of leading (Bryman et al., 1996). Within the broader domains of organisation psychology transformational leadership theory has been applied to a diverse range of contexts including the military (Bass et al., 2003; Hardy et al. 2010), business (Judge & Piccolo, 2004; Kelloway et al., 2012) education (Chin, 2007; Leithwood & Sun, 2012), the public sector (Rafferty & Griffin, 2006), and parenting (Morton et al., 2011). Equally, it has been over the past decade that transformational leadership theory (TFL) has achieved attention across the domain of sport coaching (Álvarez et al., 2019; Baird et al., 2020; Bormann & Rowold 2016a; Smith et al., 2017; Vella et al., 2013a), further demonstrating the distinct appetite to embed and examine the possible potent outcomes TFL behaviours and approaches can elicit across sport coaching research, coach development, and applied sport coaching practice settings (Arthur et al., 2017; Carvalho et al., 2020). Further demonstrated by Turnnidge and Côté (2018) through their published systematic review of literature focused on sport coaching specifically within the context of youth sport, aiming to underline how TFL theory could be applied to further knowledge concerning the effect coaches have on the progress of youth in sport specifically. This review identifies several valuable areas for future study that stem from the analysis of transformational leadership effects on the development of followers at three distinctive levels within youth sport: intrapersonal (task perceptions, self-perceptions, and emotions), interpersonal (leader-follower relationship quality and group processes), and environmental (motivational climate). The review highlights further valuable insights across the field of youth sport development which are focused on the bespoke nature of youth sport outside of the adult sport (post 18 years) environments relating directly to Côté and Gilbert's (2009) work on individual needs across the development process in sport. While this review clearly identifies several valuable areas for future study which included transformational leaders facilitating positive youth development in sport, youth sport longitudinal studies, development of youth sport evaluation tools, utilising qualitative and observational studies in youth sport, and youth sport intervention-based investigation (Turnnidge & Côté, 2018), they are all related to the singular domain of youth sport development. Additionally, it is also pertinent to acknowledge at this stage the broader review papers from North et al. (2021), and Griffo et al. (2019) that each presented wide ranging discussion focused on the broad scope of sport coaching research as a whole domain of study and applied practice, with no specific focus on leadership, or indeed on TFL.

Therefore, the purpose of this chapter was to systematically review transformational leadership literature with a focus on examining all contexts within which sport coaching occurs, regardless of performance level, or the focus of the participant group. Specifically, the review aims to provide a summary of sample characteristics, research designs and analysis employed up to 2021, and analytically examine the emerging behavioural, relational, contextual, and empirical themes that have been identified across the current pool of published research studies. Additionally, this review aims to deliver robust, up to date recommendations for scholars looking to examine transformational leadership theory focused within the field of sport coaching, but importantly across the multiple contexts in which this applied practice takes place. It is anticipated that this chapter will provide direction to researchers that are absorbed by how transformational theory can be utilised to effectively foster constructive progress across the diverse range of sport coaching contexts and practices, whilst equally providing an essential evaluation of the scope and complexity of knowledge that currently exists across TFL research within sport coaching.

## **2.2 Method**

### **2.2.1 Purpose**

A systematic review sets out to identify and discuss the existing range of evidence that covers the landscape of a specific research area to primarily understand and support development of practice (Bennie et al., 2017; Grant & Booth, 2009; Wilkinson et al., 2013). The research domain of sport coaching science has realised a rapid rate of growth and interest from researchers and practitioners alike, and as Bennie et al. (2017) specifically identifies, this brings with it the need for robust approaches to distil this expanding pool of research literature. Importantly, a systematic review approach allows for gaps in research to be drawn upon and analysed whilst also allowing for the identifying of suggested future research directions providing valuable insight and guidance to researchers and practitioners (Barnes et al., 2020; Torgerson, 2003; Turnnidge et al., 2018; Wilkinson et al., 2013). The method and process of data collection for this systematic review was based on the guidelines established and described by existing sport psychology review papers (Goodger et al., 2007; Park et al., 2013). Additionally, guidelines were also sought from the domain of clinical healthcare that focused more specifically on the development of the integrative review protocol, specifically the adoption of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Ewen et al., 2012; Johnston et al., 2018; Moher et al., 2009). Importantly, by following these guidelines, this review ensured the inclusion of the widest possible range of research irrespective of design (i.e.

quantitative, qualitative, mixed methods, intervention) to ensure a comprehensive review process was realised and the fullest range of research currently available was integrated for analysis (Mays & Pope, 2020; Pope et al., 2006).

### **2.2.2 Search strategy**

The procedure adopted for the systematic searching within this review utilised three levels to identify and locate peer reviewed empirical studies on TFL in sport coaching. Firstly, a range of keywords, and combinations of keywords constructed as a Boolean search string (Aliyu, 2017; (transformational leadership) AND (sport OR sport coaching OR sport leadership OR physical education)) were used to search electronic databases relevant to leadership and sport coaching (Johnston et al., 2018; Siangchokyoo et al., 2020; Turnnidge et al., 2018); PubMed, Sport Discus, Web of Science, PsycARTICLES, BIDS (Ingenta Connect), and the Psychology Journals database. As recommended in previous systematic reviews (Park et al., 2013; Rumbold, et al., 2012) experts within the subject specialism of TFL in sport were contacted to ascertain if any relevant keywords had been omitted. As a result of this process, no further keywords were included in the keyword combination used to undertake the electronic searches in this instance. Following this, the second level of systematic searching was focused on twenty specific journals (Table 2.0) relevant to the scope of the review which were also electronically searched using the same keywords and combinations of keywords constructed as a Boolean search string (Aliyu, 2017; (transformational leadership) AND (sport OR sport coaching OR sport leadership OR physical education)). The final level of the search utilised the process of citation pearl growing which has been integrated into existing sport and psychology reviews (Barnes et al., 2020; Molan et al., 2019) and involved a search of the reference lists of the full-text papers already identified as part of the sifting process enabling the capture of articles not retrieved in the initial two levels of the systematic search process.

Table 2.0 – Journals searched

Journal (electronically searched)
Academy of Management Journal
British Journal of Management
International Journal of Psychology
International Journal of Sport and Exercise
International Journal of Sport and Exercise Psychology
International Journal of Sport Science and Coaching
Journal of Applied Sport Psychology
Journal of Business and Psychology
Journal of Health Psychology
Journal of Sport and Exercise Psychology
Journal of Sport Behaviour
Journal of Sports Sciences
Leadership and Organization Development Journal
Leadership Quarterly
Physical Education and Sport Pedagogy
Psychology of Sport and Exercise
Quest
International Review of Sport and Exercise Psychology
Sport Coaching Review
The Sport Psychologist

### 2.2.3 Selection criteria

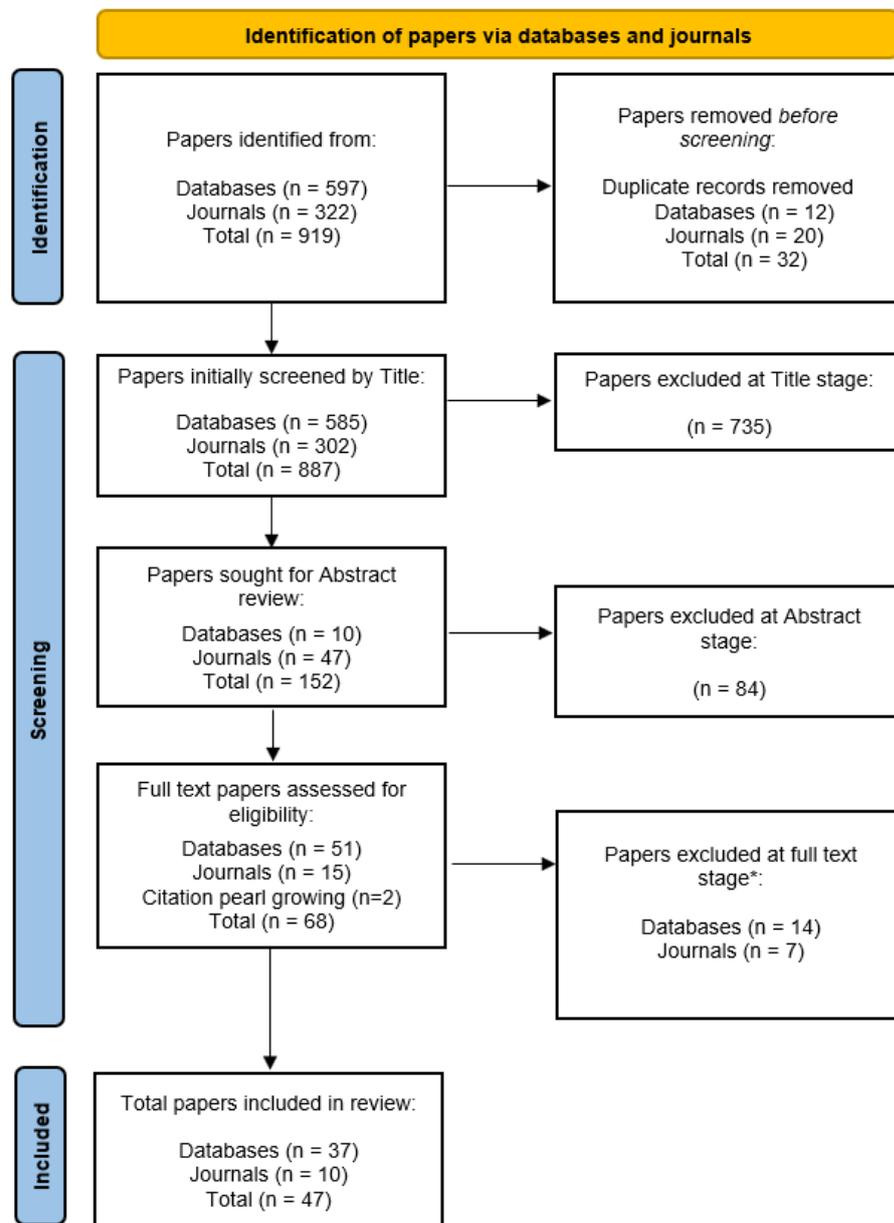
Studies were considered for inclusion if they were published papers in the English language from peer reviewed journals that provided either quantitative, qualitative, or mixed method original empirical data on TFL in sport coaching. It is widely acknowledged that Bass's (1985) work drew together the key elements of TFL into the accepted concept it is today (Arthur et al., 2015; Riemer, 2007). Therefore, it was decided only to include studies that fell within the date range of 1985 to the present year. The inclusion criteria also stipulated papers needed to be based on varied and independent populations, with samples not being distinguished by size, age, gender, competitive level, coaching level, coaching domain (participation or performance), or by the type of sport itself. Additionally, papers were also included if the individual identified as the leader was fulfilling a direct sport coaching (leader) – follower (athletes/participants) role (e.g., team or individual sport coaches, club or team captains, qualified/specialist physical education teachers, or volunteer exercise leaders). Equally, studies were also only included if they were conducted with field-based sample populations (as opposed to artificial coach (leader) – athlete/participant (follower) simulations), and they analysed mechanisms and/or outcomes which were relevant to TFL and sport coaching (Turnnidge et al., 2018). This

was to ensure that studies included were focused on authentic naturalistic contexts and practice of TFL within sport coaching (Nichol et al., 2019; Turnnidge et al., 2017). Studies were excluded if they were only published as abstracts, conference proceedings, book chapters, keynote speeches, reviews, position/editorial narrative, or presented as an unpublished academic thesis. This approach has been supported by previous reviews that have also excluded sources that do not collect original empirical data (Biddle et al., 2003; Goodger et al., 2007; Nicholls & Polman, 2007; Park et al., 2013; Rumbold et al., 2012; Sallis et al., 2000; Turnnidge et al. 2018). Finally, papers were also excluded if the targeted recipient of the leadership was identified as either a performance or athletic director to ensure the focus remained on the field-based, applied practice context(s) of sport coaching between the leader (coach) and their participants (followers).

#### **2.2.4 Sifting process for the review**

On completion of the search process, a comprehensive sifting process was conducted aligned to the PRISMA guidelines and took the form of a three-stage approach also recommended by previous systematic review authors (Jones, 2004; Nicholls & Polman, 2007; Rumbold et al., 2012). Reflecting the inclusion criteria for this systematic review, articles were initially sifted in stage 1 by title with 919 articles found through the electronic search, with 735 articles removed after reading the article titles. In stage 2, abstracts of the remaining 152 articles were read and a further 84 papers were excluded. Once the second stage was completed, full electronic copies of the 68 remaining articles were sourced. In stage 3, the full text of the remaining 68 articles was then read to assess the appropriateness for inclusion in the review, with a further 21 being excluded (see Appendix F for the excluded systematic review papers). More specifically, within the 21 articles excluded at the full paper stage, there was a mix of review/discussion papers or analysis/development of theoretical models which offer sound insight into the backdrop of TFL behaviour within sport coaching, but do not offer analysis of original empirical data (Arthur et al., 2017; Beauchamp et al., 2011; Park, et al., 2013; Rumbold et al., 2012; Turnnidge et al., 2016; Vella et al., 2010). For the full-text sifting stage the papers were independently screened by two researchers (Langevin et al., 2020) utilising a developed screening template with any challenges on eligibility of the papers to be included solved through discussion until agreement was achieved (Langan et al., 2013). This stage also integrated the process of citation pearl growing (Barnes et al., 2020; Molan et al., 2019) involving the search of the reference lists of the full-text papers already identified. This final collaborative process embeds further rigour into the sifting process as previously utilised by Tew et al. (2016), with an additional n=2 papers identified at this stage. Figure

2.0 details a full overview by stage of the PRISMA aligned sifting process (adapted from Page et al. 2021) which concluded with a total of 47 papers included within this systematic review (see Appendix B for the included papers reference list).



Reasons for papers excluded at the full text stage included: no empirical data, leadership and/or coaching focused did not fit inclusion criteria, other factors that did not meet the inclusion criteria (e.g., not English language)

Figure 2.0 PRIMSA 2020 flow diagram (Adapted from Page et al., 2021)

### 2.2.5 Extraction of data

The process for extraction of the data from the final selected studies (n=47) was adapted from existing reviews within the research domain of sport coaching and leadership

(Goodger et al., 2007; Nichol et al. 2019; Park et al., 2013; Sallis et al., 2000; Turnnidge et al., 2018). Utilising a detailed coding system in a Microsoft Excel spreadsheet developed for this purpose it enabled the standardisation of the data for further analysis. The extracted data included paper reference details, research paradigm/design/method, sample characteristics (i.e. gender, age), sample type and size, coaching/sport context (i.e. performance/education/participation, team/individual sport, and the specific sport), TFL and coaching measurement/instruments, study focus and analysis, and key results regarding the impact(s) of TFL on coaching. Drawing these data variables from the selected studies provided a foundation of evidence which was then assessed in detail and further discussions developed on current research, limitations, future research questions and direction.

### **2.2.6 Quality review**

The work of Downs and Black (1998) identified that it is feasible to utilise a checklist to assess the methodological quality of both randomised and non-randomised studies, providing a profile of a research study and identifying strengths and weaknesses of the methodological approach utilised. Therefore, each of the selected quantitative studies (n=41) was reviewed for methodological quality (Table 2.1) through application of an adapted systematic review quality assessment tool, with this approach having been used in prior TFL systematic reviews (Cummings at al., 2008; Cummings et al., 2010; Downs et al., 1998; Turnnidge et al., 2018). This quantitative quality assessment tool focussed on the rating of four elements of each study: research design, sampling, measurement, and statistical analysis. Comprising of eleven items a total of 12 points could be assigned to each study with ten items scored as either zero (not met, unable to determine, or not applicable) or one (met). A further item measuring leadership effects/outcomes scored as zero (not met), one (self-report) or two (observed). A total quality score was calculated for each study (n=41) ranging from low (0–4 points), to medium (5–8 points), or high (9–12 points). Whitemore and Knafl (2005, p.549) acknowledge that "...the notion and process of quality is complex and there is no gold standard for calculating quality scores." Underlining the thought that design of research broadly defines a difference in the criteria that denotes quality (Jadad et al., 1998; Whitemore et al., 2005), particularly when systematically reviewing an inclusive range of studies from across the wide spectrum of research paradigms (i.e., positivist, critical realist, pragmatist, constructivist etc). Therefore, as this systematic review also included qualitative studies, a separate quality assessment tool (Table 2.2) that has been previously used was adapted (Crawford, 2012; Laws et al., 2020; Yardley et al., 2000) to quality review the qualitative studies (n=6)

together and separately from the quantitative studies (n=41) ensuring the final papers included in this systematic procedure underwent quality review in two groups based on research design (Whittemore et al., 2005). The second quality assessment tool applied was divided into two sections with the first section focused on 'Evidence Level' using a scale of 1 through to 7 points allocated based on the following criteria:

- Score of 7 - Meta-analysis of multiple large sample or small sample randomised controlled studies, or meta-synthesis of qualitative studies with results that consistently support a specific action, intervention, or treatment.
- Score of 6 - Well-designed controlled studies, both randomized and nonrandomized, prospective, or retrospective studies, and integrative reviews with results that consistently support a specific action, intervention, or treatment.
- Score of 5 - Qualitative studies, descriptive or correlational studies, integrative reviews, systematic reviews, or randomized controlled trials with inconsistent results.
- Score of 4 - Peer-reviewed professional organizational standards, with clinical studies to support recommendations.
- Score of 3 - Theory-based evidence from expert opinion or multiple case reports, case studies, consensus of experts, and literature reviews
- Score of 2 - Manufacturer's recommendation; anecdotes.
- Score of 1 - Laws and regulations (local, state, federal; licensing boards, accreditation bodies, etc) (Crawford, 2012; Laws et al., 2020).

The second section of the quality scoring tool required documents to be rated based on four further criteria that were adapted also integrating Yardley's (2000) widely employed dilemmas in qualitative health research criteria which further supports quality review of good characteristics in qualitative research. The four adapted criteria were:

- Clearly sourced factual-information sensitive to context
- Clearly sourced and applied methodological commitment and rigour
- Representative of primary sources ensuring transparency and coherence
- Clearly explained impact and importance

(Adapted from Yardley, 2000)

A score of 1 is awarded if the criteria is met, and 0 if the criteria is not met, with a maximum score of 4 points possible for section 2. The scores for sections 1 and 2 are subsequently combined for a final total quality score with a higher score indicating a higher quality paper/document. For this quality review process of both the quantitative (n=41) and

qualitative (n=6) included papers, two researchers independently assessed each document utilising the quality assessment tools (Crawford, 2012; Cummings et al., 2008; Cummings et al., 2010; Downs et al., 1998; Langevin et al., 2020; Laws et al., 2020; Turnnidge et al., 2018), with any differences on quality scores solved through discussion until agreement was achieved (Langan et al., 2013).

Table 2.1 - Summary of quantitative quality assessment (41 included quantitative studies)

Criteria	No. of Studies		% of Studies	
	Yes	No	Yes	No
<b>Design:</b>				
Prospective studies	9	32	22.0%	78.0%
Used probability sampling	0	41	0.0%	100.0%
	0	0		
	0	0		
<b>Sample:</b>				
Appropriate/justified sample size	5	36	12.2%	87.8%
Sample drawn from more than one site	6	35	14.6%	85.4%
Anonymity protected	30	11	73.2%	26.8%
Response rate >60%	4	37	9.8%	90.2%
	0	0		
	0	0		
<b>Measurement:</b>				
Reliable measure of leadership	41	0	100.0%	0.0%
Valid measure of leadership	41	0	100.0%	0.0%
* Effects (outcomes) were observed rather than self reported	0	41	0.0%	100.0%
Theoretical model/framework used	41	0	100.0%	0.0%
	0	41		
	0	41		
<b>Statistical Analyses:</b>				
Correlations analysed when multiple effects studied	40	1	97.6%	2.4%
<b>Overall Study Validity Rating</b>		<b>Total No. of studies</b>		
HIGH 9-12	2	4.9%		
MEDIUM 5-8	39	95.1%		
LOW 0-4	0	0.0%		

\* This item scored 2 points, All others scored 1 point

Overall Study Validity Rating [key: 0-4=LO; 5-8=MED; 9-12=HI]

Adapted from Cummings et al. (2008); Cumming et al. (2010); Turnnidge et al. (2016).

Table 2.2 – Summary of qualitative quality assessment (6 included studies (n=5 qualitative & n=1 mixed methods), ticks indicate a condition was met, crosses indicate a condition was not met)

	Din (2015)	Macquet (2021)	Morgan (2016)	Newland (2015)	Smith (2017)	Vella (2013)
<b>Evidence Level</b>						
Meta-Analysis	x	x	x	x	x	x
Controlled Studies	x	x	x	x	x	x
Qualitative Studies	✓	✓	✓	✓	✓	✓
Organisational Standards	x	x	x	x	x	x
Theory-Based Evidence	x	x	x	x	x	x
Manufacturer's Recommendation	x	x	x	x	x	x
Laws & Regulation	x	x	x	x	x	x
<b>Total Score (Part 1)</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>
<b>Clarity &amp; Consistency</b>						
Clearly sourced factual information sensitive to context	✓	✓	✓	✓	✓	✓
Clearly sourced and applied methodological commitment and rigour	✓	✓	✓	✓	✓	✓
Representative of primary sources ensuring transparency and coherence	✓	✓	✓	✓	✓	✓
Clearly explained impact and importance	✓	✓	✓	✓	✓	✓
<b>Total Score (Part 2)</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>
<b>Overall Total Score</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>

Part 1 evidence level scoring: 7=meta-analysis, 6=controlled studies, 5=qualitative studies, 4=organisational standards, 3=theory based evidence, 2=manufacturer's recommendations, and 1=laws and regulations.

Part 2 clarity and consistency scoring: a score of 1 is given for each criteria met, upto a maximum score of 4.

Overall total score is the sum of part 1 evidence level and part 2 clarity & consistency.

Adapted from Laws et al. (2020); Whittemore et al. (2005); and Yardley (2000).

### **2.2.7 Analysis**

After the data from the papers were extracted and collated a descriptive analysis procedure (Boudreau et al., 2020; Cummings et al., 2010; Laws et al., 2020; Turnnidge et al., 2018) was employed guided by the concepts of narrative summary, content analysis, and thematic synthesis as existing processes that have informed previous systematic review protocols irrespective of methodological design (Dixon-Woods et al., 2008; Thomas & Harden, 2008). This specifically enabled the detailed examination of the included studies focusing on the applications of TFL within sport coaching and the wide range of variables within this context (Boudreau et al., 2020; Thomas et al., 2008). Through this process the full texts were read multiple times by the primary researcher and commonalities and patterns from across the studies were extracted and organised into descriptive themes. Themes were then compared to the research question to enable the establishing of wider analytical themes and broader discussion points identified which are discussed further (see section 2.3). This adapted process of analysis enabled the sorting of the applications of TFL within sport coaching into thematic categories that similar to previous systematic reviews in sport (Park et al., 2003) enabled: a) clear analysis of the research designs developed and adopted to date identifying future research opportunities; b) robust analysis of current sample characteristics (specifically populations and TFL/sport/coaching contexts) as a means of identifying trends and gaps across the current pool of published research and, c) identified the wide range of variables associated with TFL across sport coaching practice and areas for future/new research to support practice development across applied settings. As demonstrated across previous systematic reviews focused on sport and sport coaching science (Boudreau et al., 2020; Goodger et al., 2007; Park et al., 2013; Sallis et al., 2000; Turnnidge et al., 2019) this analysis approach has ultimately enabled the further discussion of common themes and emerging patterns across the included studies.

### **2.3 Results and discussion**

This chapter aimed to deliver a systematic review of TFL in sport coaching. Adding to the current youth sport development review paper (Turnnidge et al., 2017) by providing a comprehensive evaluation of all currently published papers focused on TFL in sport coaching irrespective of coaching context or performance level. In total 919 studies were identified as part of the initial search protocol, with 47 studies focusing on TFL within sport coaching meeting the final inclusion criteria established in the review protocol. Systematic reviews establish whether scientific findings are consistent in a research area and can be generalised across populations, applied as contextual moderators, and/or situational

moderators, or whether findings vary significantly across constructs (Biddle et al., 2003; Goodger et al., 2007; Mulrow, 1994; Nicholls et al., 2007; Park et al., 2013; Rumbold et al., 2012; Sallis et al., 2000; Turnnidge et al., 2018). The findings from this review process are presented and discussed, specifically focusing on publication frequency and scope, research design and method, leadership measurement instruments, research sample and coaching practice contexts, correlates of TFL, concluding with research impact and trends. To date, and to the knowledge of the researcher, no other systematic review on TFL within sport coaching (inclusive of all coaching contexts and performance levels) has been undertaken. Thus, the review offers opportunity to showcase a growing, yet still small, empirical research base to support future research and applied practice within the context of sport coaching and the further development of applied sport coaching practice.

### **2.3.1 Publication frequency and scope**

The current systematic review process searched for papers published from 1985 to 2021 (until September 2021), and due to the search returning no studies that met the review inclusion criteria for the first 15 years of this timeline these dates were grouped together (Table 2.3) for this element of the data analysis process. Publication dates for the studies ranged from 2001 to 2021, 87.2% (n=41) of the papers were published from 2013 onwards, with a peak of published outputs in 2021 when 21.3% (n=10) of the papers were published that year. This increased rate in publications across 2020 and into 2021 is unsurprising as it coincides with the global pandemic (COVID-19) challenging situation academics have been working within. It has been widely reported this unique event, with its global significance and impact, has equally been a stimulus for an influx of publications to peer reviewed journals as academics are restricted in terms of new data collection possibilities (Aviv-Reuven & Rosenfeld, 2021; Bramstedt, 2020; Else, 2020), and have used this period of global 'lockdown' to complete and submit studies that were already in progress. As a more general overview of publishing volume in this area of academic study, we have seen an average of 1.3 papers a year published on TFL in sport coaching since 1985. With twenty-two years (1985-2001 inclusive, 2002-2005 inclusive, 2007, 2008, 2012) realising no new publications added to the pool of studies in this specific area of research.

Table 2.3 - Year and quantity of publications

<b>Year of publication</b>	<b>Number of studies</b>	<b>% of Total Studies</b>
1985 to 2000	0	0.0%
2001	1	2.1%
2002	0	0.0%
2003	0	0.0%
2004	0	0.0%
2005	0	0.0%
2006	1	2.1%
2007	0	0.0%
2008	0	0.0%
2009	1	2.1%
2010	1	2.1%
2011	2	4.3%
2012	0	0.0%
2013	7	14.9%
2014	2	4.3%
2015	4	8.5%
2016	5	10.6%
2017	3	6.4%
2018	1	2.1%
2019	7	14.9%
2020	2	4.3%
2021	10	21.3%
<b>Total</b>	<b>47</b>	<b>100.0%</b>

The papers were published across a range of 28 peer reviewed academic journals (Table 2.4) with two of the journals accounting for 31.9% of the total publications, namely: International Journal of Sports Science & Coaching (IJSSC), and Journal of Applied Sport Psychology (JASP). The JASP published the most articles (n=9) which consisted of 100% quantitative research studies. The IJSSC offered the second highest number of publications (n=7) split across 71.4% (n=5) quantitative, 14.3% (n=1) qualitative studies and 14.3% (n=1) mixed methods studies. Between the two journals that produced the highest quantity of published outputs over the time-period of this review (1985-2021, 36 years), 87.5% (n=14) of these have been quantitative studies. This differs from the Griffo et al., (2019) review results that analysed the broader and more expansive area of sport coaching research and found a division of 49.0% quantitative studies, 43.8% qualitative studies, and 7.2% mixed methods studies, indicating a more even spread across the constructivist/positivist philosophical paradigms employed. Considering the geographical location of the lead author of each publication (Table 2.5), from a global perspective the publications span sixteen countries across four continents, with publications from Asia and North America each accounting for 29.8% (59.6% collectively and n=28 papers) of published outputs within this review. Within the 14 papers published in Asia, Malaysia and Taiwan have published 57.1% (n=4 Malaysia and n=4 Taiwan) of the total papers for this continent, with one lead author in Taiwan accounting for all the publications to date. Canada has produced 17.0% (n=8) of total papers through eight different lead authors,

offering the highest publication rate currently from one country. Europe (including France, Germany, Norway, Spain, Sweden, and United Kingdom) contributed 34.0% (n=16) published outputs, and finally Australasia with a further 6.4% (n=3) of total published papers. Within the final selected papers for this review (n=47) a total of 36 different lead authors are apparent, with 68.8% of the countries publishing work through the same lead author who between them have published 21.3% (Australia, n=3; Spain, n=3; and Taiwan, n=4) of the total papers included in this review.

Table 2.4 - Academic journals for published papers

<b>Journal Title</b>	<b>Number of studies</b>	<b>% of Total Studies</b>
International Journal of Sports Science & Coaching	1	2.1%
Journal of Sport Behavior	1	2.1%
Journal Sains Sukan & Pendidikan Jasmani	1	2.1%
World Applied Sciences Journal	1	2.1%
Applied Psychology	1	2.1%
Eurasia Journal of Mathematics, Science and Technology Education	1	2.1%
European Journal of Physical Education and Sport Science.	1	2.1%
Frontiers in Psychology	1	2.1%
Human Factors and Ergonomics in Manufacturing & Service Industries	1	2.1%
International Journal of Behavioural Medicine	1	2.1%
International journal of environmental research and public health	1	2.1%
International Journal of Humanities and Social Science	1	2.1%
International Journal of Sport Psychology	1	2.1%
International Journal of Sports Science & Coaching	6	12.8%
International Sport Coaching Journal	1	2.1%
Journal of Applied Sport Psychology	9	19.1%
Journal of Health Psychology	1	2.1%
Journal of Sport & Exercise Psychology	3	6.4%
Journal of sports sciences	1	2.1%
Malaysian Journal of Sport Science and Recreation	1	2.1%
Physical Education and Sport Pedagogy	1	2.1%
Psychology of Sport and Exercise	2	4.3%
Qualitative Research in Sport	1	2.1%
Sport Mont	1	2.1%
Sport, education and society	1	2.1%
The International Journal of Indian Psychology	1	2.1%
The Leadership Quarterly	1	2.1%
The Sport Psychologist	3	6.4%
Universal Journal of Educational Research	1	2.1%
	<b>47</b>	<b>100.0%</b>

Table 2.5 Geographical location of lead authors

<b>Lead Author Geographical Location</b>	<b>Number of Authors</b>	<b>Number of Papers</b>	<b>% of Total Papers</b>
Australia	1	3	6.4%
Canada	8	8	17.0%
China	1	1	2.1%
France	2	2	4.3%
Germany	2	3	6.4%
Iran	1	1	2.1%
Jordan	1	1	2.1%
Korea	2	2	4.3%
Malaysia	3	4	8.5%
Norway	1	1	2.1%
Spain	3	3	6.4%
Sweden	1	1	2.1%
Taiwan	1	4	8.5%
Turkey	1	1	2.1%
UK	5	6	12.8%
USA	3	6	12.8%
<b>Total</b>	<b>36</b>	<b>47</b>	<b>100.0%</b>

<b>Lead Author Continent</b>	<b>Number of Authors</b>	<b>Number of Papers</b>	<b>% of Total Papers</b>
Asia	10	14	29.8%
Australasia	1	3	6.4%
Europe	14	16	34.0%
North America	11	14	29.8%
<b>Total</b>	<b>36</b>	<b>47</b>	<b>100.0%</b>

Geographically, sample populations across the pool of published studies on TFL in sport coaching are spread across four continents, with publications from Asia and North America each accounting for 29.8% (59.6% collectively and n=28 papers). This finding has potential implications for both generalizability and for cross-cultural comparisons (Goodger et al., 2007), as Skinner and Engelberg (2018, p.179) identify “Important but complex research issues have emerged as sport continues to globalize and further embed itself in the social, cultural and economic fabric of society”. This is pertinent to consider, particularly when examining TFL behaviours (Bonsu & Twum-Danso, 2018; Cooper et al., 2020; Santamaría & Jean-Marie, 2014) and the impacts leadership approaches and styles can have on a myriad of social policy agendas: racism, sexism, economic equality, and inclusion across sport specifically (Cooper et al., 2020). As a result, there is scope for further development of research specifically across Europe and Australasia which already offer some well-developed sport coach education pathways that could be further examined within the context of TFL in sport coaching (Cassidy et al., 2015; Duffy, 2010). In addition, Bass (1997) discussed the need to continue to explore the impacts of TFL across varied, broad, and wide-ranging contexts and situations to further challenge the relationship to the leadership role. Developing sport coaching research in TFL across the global sporting landscape will allow this notion to be fully examined and deliver further diversification across the research samples drawn upon. An integral feature

of this is the desire to understand how universal the concept of TFL is, which has been argued by Yammarino and Dubinsky (1994) across their studies focused on boundary conditions. Specifically, the limits within which a theoretical concept is anticipated to hold true (Yammarino et al., 1994), be that at individual, group, organisation, or geographical levels. Identification and analysis of the boundary conditions within which TFL is validated as being significant across sport coaching is highly likely to vary across culturally different regional and national populations (Seippel, 2019; Yammarino et al., 1994). The need to evidence this discussion around the growing integration of transformational leadership in sport coaching is paramount to validating its application in the continued education of sport coaches and the development of international and national sport coaching educational frameworks, values, and practice ideals.

The return of only 47 articles from this review process relating to TFL in sport coaching illustrates that this field of study continues to be at its inception stage with clear room for further development of the range, depth, and frequency of published outputs. Particularly when this is compared to other areas of science research where, for example, in the field of biomedical research alone it was reported that over a million papers are received into the PubMed database every year (Landhuis, 2016). Rates of research publications continue to climb each year (Altbach & de Wit 2019), particularly in areas requiring high quality evidence associated with policy setting which garner a higher profile and broader readership (Department of Health & Social Care, 2021). Within this, the applied area of sport coaching firmly resides due to its connections to a vast array of health and lifestyle facets ensuring its stays firmly at the top of many policy agendas (Griffo et al., 2019; North et al., 2021). Reviewing the rate of publications, the data presented suggest that the appetite, and with this the momentum for developing research within this area of TFL and sport coaching, is continuing to increase. It also could be suggested that this, therefore, reinforces the relevance of this present systematic review and the overview it delivers providing clarity in relation to future directions for both researchers and coach practitioners within this domain of study.

### **2.3.2 Research design and method**

The philosophical approach underpinning the connections across TFL and sport coaching within each of the papers included in the current study (n=47) was not explicitly stated or discussed in all but one of the publications (Newland et al., 2015, who adopted the lens of relativist ontology, and the results therefore reflect an interpretive approach). Equally, the facets that specifically guided the design of the included studies was in each paper

related to previous and/or existing research which we acknowledge as accepted evidenced based practice for published academic work (Cushion et al., 2010; Garner et al., 2020; Kelloway et al., 2012). However, it is clear from analysing the research paradigms embedded across this pool of research studies 87.2% (n=41) of the papers were influenced by a positivist or post-positivist standpoint and deductive research procedures (Bazeley, 2017). Leaving a small minority of papers (12.8%, n=6) across the review specifically guided by constructivist/interpretivist thinking and associated inductive procedures (Jackson & Bazeley, 2019). Equally, none of the included studies explicitly stated a theoretical standpoint that resides within the acknowledged 'middle ground' of the philosophical continuum of pragmatism and/or critical realism (Bazley, 2018b; Saunders et al., 2015). The research onion model (Figure 2.1) developed by Saunders et al. (2007) depicts an approach through which researchers can refine the thought processes and decision-making procedures that underpin an academic evidence-based research study. Equally it defines the order in which this thinking and the associated processes should take place, with the accepted starting point being the philosophical standpoint of the study (Saunders et al., 2015). This is not explicitly addressed or discussed across any of the papers within this review which could suggest an area that could be further explored, discussed, and shared within published works to underline the importance and relevance of this stage of research thinking that informs the approach of studies from the onset (Kerry & Armour, 2000; Lyle & Cushion, 2016; Ronkainen et al., 2016; Ryba et al., 2020).

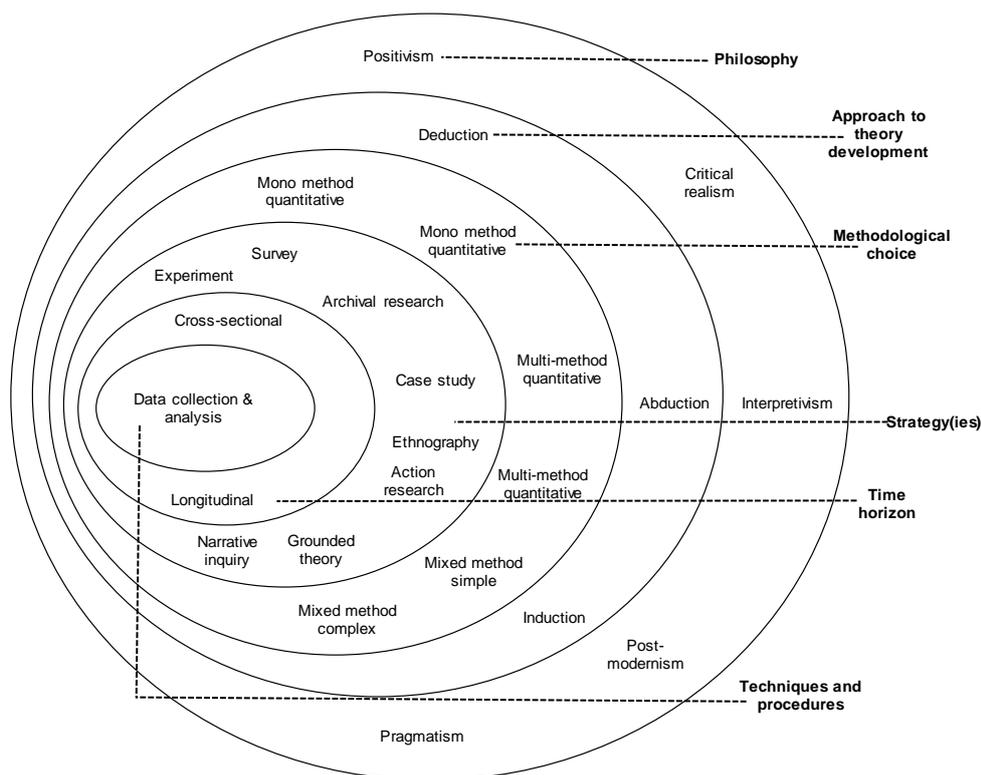


Figure 2.1 The research onion model (Melnikovas, 2018, p.33; adapted from Saunders et al., 2007)

Focusing further on the research design of the final 47 papers included in the current systematic review: 87.2% (n=41) were quantitative, 10.6% (n=5) were qualitative, and 2.1% (n=1) was a single mixed methods study (Table 2.6). Discussion amongst researchers from across the philosophical continuum continues with apparent ‘battle lines’ having been drawn (Bazeley, 2017) pitching quantitative (positivist) researchers against qualitative (constructivist/interpretivist) researchers with the assertion that one is of higher quality and/or relevance than the other. Positivist research studies are accepted and perceived as reporting the facts at a point in time utilising strong scientific statistical foundations and protocols that underpin reported outcomes (Petrovic et al., 2017). It is however important to appreciate the complexity of the context within which sport coaching takes place and the processes through which this occurs (Lyle, 2018a) as it is these facets that represent the human behaviour and lived experiences of the stakeholders within the sport coaching environment which are difficult to capture in specific and explicit detail through a positivist (statistical investigative) approach alone (Abraham et al., 2006; Gilbert & Trudel, 2004; Griffo et al., 2019). Within the current study 87.2% (n=41) of the included papers were conducted from the positivist viewpoint, both individually and collectively they deliver useful insight across multiple applications of TFL through investigation into a wide variety of sport coaching variables that include the areas of motivation, team cohesion, trust,

narcissism, emotional intelligence, competency, satisfaction, and coach/athlete relationships (Aghamohammadi et al., 2016; Álvarez et al., 2019; Arthur et al., 2011; Baird et al., 2020; Kao et al., 2019; Saybani et al., 2013; Vella et al., 2013b). Creating a high-quality pool of valuable evidence focusing on elements of sport coaching practice, relationships to TFL, the strength of those relationships, and how they are potentially mediated by variables and impact on TFL, perception of sport coaching, and athlete outcomes. Undoubtedly this work has clearly expanded the knowledge of TFL within sport coaching (Cushion, 2011; Griffo et al., 2019; Lyle, 2018) and continues to support the direction of future research work. However, this highly popular positivist stance can equally have the potential to limit the scope and depth to which such research probes the complexities of 'real-world' environments, contexts, and populations due to the statistical parameters within which it operates and exists (Bush et al., 2017; Hagger & McIntyre, 2006). In contrast, 10.6% (n=5) of papers within the current study adopted an interpretivist approach examining and viewing the 'real world' as socially constructed (Potrac et al., 2014). With researchers from this philosophical perspective in sport coaching highlighting its role in examining the complexities across and within the multiple contexts coaching practice takes place (Bowes & Jones, 2006; Trudel et al., 2014). Focusing on the current study, it is apparent from the five qualitative papers (Din et al., 2015; Macquet et al., 2021; Morgan et al., 2016; Newland et al., 2015; Smith et al., 2017) that they have each contributed to expanding collective understanding of lived experiences from multiple perspectives (coaches, team captains, athletes, physical education teachers) and from within a wide range of contexts (e.g. Olympic medal winners, team briefing, community-based sport, female athletes and coaches, team dynamics). Specifically, the qualitative processes integrated within these papers varied across the data collection, analysis, and reporting processes regarding the level of detail, and importantly the explanations offered to support the research method decisions. This has resulted in the need for qualitative researchers within this domain of study to invest further attention to articulating choices made across the qualitative research process offering (at points) much needed further transparency (Bringer et al., 2004; Burke, 2016; Creswell et al., 2020). Braun et al. (2021) argue researchers that select the qualitative route need to be aware of the "...family of methods" (p.39) qualitative procedures sit within to determine the best research design fit across sampling, data collection and analysis to ensure qualitative research moves beyond potentially simplified categorisation. But delivers robust, in-depth, and credible analysis of experiential narratives that have the potential to either stand alone as individual studies, or compliment, and possibly corroborating existing positivist research studies (Bazeley, 2018a; Creswell et al., 2017; Marshall et al., 2021). Additional, further scrutiny of qualitative research design and process concerning this domain of TFL in sport

coaching study equally offers the opportunity to represent this vital approach to scientific social evidence in a robust and meaningful way (Petrovic et al., 2017; Smith et al., 2016), expanding the currently thin spread of qualitative evidence focused on TFL within sport coaching.

The reality of the purported discussion regarding positivism versus interpretivism is potentially more simplistic, with such debates around research design and data outputs less to do with better or worse approaches. Arguably of greater relevance is the need for focusing on reflective and evaluative thinking aiming to apply the most appropriate framework for the research question posed (Anguera et al., 2018; Hussain et al., 2013; Ochieng, 2009). Within the current review only one mixed methods study is apparent that is somewhat limited in scope focusing on participant evaluation through qualitative and quantitative feedback of attendance at a single two-hour coach education session (Vella et al., 2013c). Although this was the intended purpose of this single mixed methods paper, it provides an interesting irony around the research paradigm debate as currently mixed methods approaches are seeing an exponential growth across the domain of sport research (Banwell et al., 2019; Buning, 2018; Solstad et al., 2018; Sorkkila et al., 2020; Van der Burg et al., 2020). Allowing for phenomena across sport to be viewed and examined from multiple standpoints potentially uncovering additional valuable data and insight that have not already been seen from a single philosophical perspective or research design (Gibson, 2016; Mertens et al., 2016). Further illustrating the importance and usefulness of articulating these foundation details within published works allowing for the transparent framing of the researchers thinking and subsequently adopted and developed research framework and processes (Anguera et al., 2017).

Table 2.6 - Study design of included review studies

Research Design	Number of Studies	% of Studies	Studies
Mixed Methods (multi method, case study)	1	2.1%	Vella et al. 2013c
Qualitative	5	10.6%	Din et al. 2015; Macquet et al. 2021; Morgan et al. 2016; Newland et al. 2015; Smith et al. 2017
Quantitative	12	25.5%	AlTahayneh et al. 2019; Bormann et al. 2016a; Bormann et al. 2016b; Charbonneau et al. 2001; Kao et al. 2021; Kao et al. 2019; Kassim et al. 2021b; Newland et al. 2020; Radzi et al. 2021; Rowold et al. 2006; Wang et al. 2017; Zhang et al. 2019
Quantitative (correlational)	16	34.0%	Arthur et al. 2011; Álvarez et al. 2019; Baird et al. 2020; Aghamohammadi et al. 2016; Callow et al. 2009; Erikstad et al. 2021; Gorgulu et al. 2019; Kao et al. 2016; Kao et al. 2017; Newland et al. 2019; Price et al. 2013; Price et al. 2011; Stenling et al. 2014; Saybani et al. 2013; You et al. 2021; Younghan et al. 2013.
Quantitative (cross sectional, correlational)	1	2.1%	Smith et al. 2013
Quantitative (cross-sectional)	4	8.5%	Vella et al. 2013b Vella; Bosselut et al. 2018; Cronin et al. 2015; López et al. 2021
Quantitative (prospective correlational)	1	2.1%	Bourne et al. 2015
Quantitative (prospective)	5	10.6%	Tucker et al. 2010; Beauchamp et al. 2014; Lawrason et al. 2019; Lefebvre et al. 2021; Mach et al. 2021.
Quantitative (prospective, longitudinal)	1	2.1%	2021a Kassim
Quantitative (quasi-experimental, longitudinal)	1	2.1%	2013a Vella
<b>Total</b>	<b>47</b>	<b>100%</b>	

Papers coded as 'Quantitative' if the specific design was not detailed in the study (correlational, cross-sectional, prospective etc.)

It is unsurprising then to note that within the current review the most frequently utilised research method across the papers were questionnaires 70.2% (n=33), with interviews accounting for a further 10.6% (n=5) studies, with eight different researched methods integrated in total across all the papers (Table 2.7). The approach adopted across the studies using questionnaires placed the focus on collecting data regarding athlete perceptions of coaches and/or coaching practice (e.g. AlTahayneh et al., 2019; Beauchamp et al., 2014; Erikstad et al., 2021; Radzi et al., 2021) and subsequently analysing relationships across environmental and/or contextual variables (e.g. task cohesion, team potency, coaching competency, and well-being). Collecting data utilising this approach does allow for relevant investigation across a wide range of connections between coaches, athletes, and applied practice but more often these data are collected at a single point and not the full timeframe of a sport/club season. Coaching practice, athlete outcomes, sport environments are variables within dynamic practice contexts that are constantly changing, around which applied practice adapts (North, 2017; Taylor & Garratt, 2010a). Therefore, a single time point data collection process can potentially have limitations in terms of offering a broader authentic understanding of TFL and sport coaching in 'real world' contexts. Within the current review 12.8% (n=6) of the studies adopted multiple methods of data collection which utilised combinations of: interviews and

questionnaires (n=1), questionnaires and player performance data (n=3), questionnaires and coach evaluation (n=1), questionnaires and player performance data and coach evaluation (n=1). This indicates that across the domain of TFL within sport coaching research an opportunity exists to further develop approaches around how researchers seek to answer research questions posed through development of multiple methods of data collection allowing for a wider, more varied evidence based on which significance, impact and conclusions can be ascertained (Ryba et al., 2020; Trudel et al., 2014). This could include the development of randomised controlled, experimental, or longitudinal studies from within the positivist philosophical viewpoint, or case studies, focus groups and wider use of observations could also be developed from across the interpretivist philosophical viewpoint. The overriding point regarding the choice of research method from the current review is the opportunity for researchers to develop wider ranging, comprehensive studies through developing clearly explained and shared philosophical thinking that informs research design, with a view to integrating multiple methods in relation to data collection and evidence creation. This then allows a more detailed examination and reporting of causality, generalisability, and transferability of results from the multiple complex applied perspectives and contexts of TFL within sport coaching (North, 2017; Ryba et al., 2020).

Table 2.7 - Data collection method adopted across the studies

Research Method	Number of Studies	% of Studies	Studies
Intervention	1	2.1%	Vella et al. 2013a
Interviews	5	10.6%	Din et al. 2015; Macquet et al. 2021; Morgan et al. 2016; Newland et al. 2015; Smith et al. 2017
Interviews & Questionnaires	1	2.1%	Vella et al. 2013c
Observation	2	4.3%	Lawrason et al. 2019; Lefebvre et al. 2021
Questionnaires	33	70.2%	Aghamohammadi et al. 2016; AlTahayneh et al. 2019; Álvarez et al. 2019; Arthur et al. 2011; Baird et al. 2020; Beauchamp et al. 2014; Bormann et al. 2016a; Bormann et al. 2016b; Bourne et al. 2015; Callow et al. 2009; Cronin et al. 2015; Erikstad et al. 2021; Gorgulu et al. 2019; Kao et al. 2021; Kao et al. 2019; Kao et al. 2017; Kao et al. 2016; Kassim et al. 2021a; Kassim et al. 2021b; López et al. 2021; Newland et al. 2020; Newland et al. 2019; Price et al. 2013; Price et al. 2011; Radzi et al. 2021; Rowold et al. 2006; Saybani et al. 2013; Smith et al. 2013; Stenling et al. 2014; Vella et al. 2013b; Wang et al. 2017; You et al. 2021; Younghan et al. 2013.
Questionnaires & player performance data	3	6.4%	Bosselut et al. 2018; Mach et al. 2021; Tucker et al. 2010.
Questionnaires & coach evaluation	1	2.1%	Zhang et al. 2019
Questionnaires, & player performance data, & coach evaluation	1	2.1%	Charbonneau et al. 2001
<b>Total</b>	<b>47</b>	<b>100%</b>	

Finally, regarding research method and design, of the 47 papers included it was also

determined that only 39.0% (n=16 quantitative studies) of the papers embedded a multi-level analysis approach, a low figure when considering athletes, coaches, and teachers are inherently embedded within a team or multi-relational environment illustrating the need for analysis of collective efficacy, and offering the opportunity for future research opportunities centred on this facet (Myers & Feltz, 2007). More broadly, studies captured in the systematic review utilised a range of data analysis processes which for the quantitative studies (n= 41) included: item scores and descriptive analysis for demographic data, tests of normality and heterogeneity of variance, means, standard deviations, and correlations for all data variables, structural equation modelling, confirmatory factor analysis, t ratios for comparison data, category mean scores with multivariate analysis, regression analysis to examine correlational relationship, analysis of covariance structures, single factor analysis and whole model analysis, and hierarchical regression analyses indicating a wide array of statistical approaches. For the qualitative studies (n=5) and the mixed method study (n=1) the data analysis processes included content analysis using qualitative data analysis software (NVivo), inductive and deductive data analysis strategies and data theming. This offers a narrow selection of qualitative data analysis procedures, potentially limiting the level of depth and meaning extracted from the data, highlighting the opportunity for qualitative researchers to further examine the design choices made to ensure the qualitative data collected is analysed utilising the most appropriate and effective process (Braun et al., 2021; Creswell et al., 2020; Petrovic et al., 2017) that reveals the extent of the meaning across the experiential narrative.

It is clear that the choices made by researchers from the onset of conducting studies focusing on TFL in sport coaching have wide ranging impacts in relation to the evidence that is presented to practitioners (Fullagar et al., 2019; North et al., 2021) and equally for informing future research directions. From the current review it can be acknowledged that researchers have an opportunity to embrace the variety of possible study designs available, as there are multiple valid and relevant research paths to answering research questions (Bazeley, 2018a; Burke, 2016; Potrac et al. 2014; Smith, 2010; Sparkes & Smith, 2013; Trudel et al., 2014) that have the potential to realise robust evidence that supports the deepening of knowledge, and application of this across sport coaching practice settings.

### **2.3.3 Leadership measurement instruments**

Over the past thirty years (from Bass, 1985 onwards) advancements have been made in the agreed definitions of TFL, and alongside this the development of valid measurement

instruments as tools (see Table 2.8) to guide research and standardise data (Arthur et al., 2017). Within the context of sport and sport coaching efforts have been made to adapt these tools to specifically address the research questions developed by researchers within this specialist domain allowing for sport specific contextualisation's to be integrated across TFL instruments (Su, 2018; Arthur et al., 2015; Beauchamp et al., 2010; Vella et al., 2012). To date, the studies presented in the current review predominately utilised the Differentiated Transformational Leadership Inventory (DTLI: Callow et al., 2009; Hardy et al., 2010) and various adaptations (translated versions) of this tool 28.8% (n=15), and the Multifactor Leadership Questionnaire and the various adaptations (translated versions) of this instrument (MLQ: Bass et al., 1995; MLQ-5X: Bass et al., 1997) across 26.9% (n=14) of the studies.

Table 2.8 - TFL instruments and measures integrated across the studies

TFL Measurement/Instrument	Research Method	Number of Studies	% of Studies
Transformational leadership behaviour questionnaire (TLB, Herold et al. 2008)	Quantitative	1	1.9%
Adapted quantitative questions from the transformational leadership Questionnaire (TTQ, Beauchamp et al. 2010)	Quantitative	1	1.9%
Adapted version of the Differentiated Transformational Leadership Inventory (DTLI, Hardy et al. 2010)	Quantitative	2	3.8%
Coach Leadership Assessment System (CLAS, Turnidge et al. 2019)	Quantitative	2	3.8%
Closed Likert Scale questions (Compiled by the researcher)	Quantitative	1	1.9%
Differentiated Transformational Leadership Inventory (DTLI, Hardy et al. 2010)	Quantitative	11	21.2%
Differentiated Transformational Leadership Inventory for Youth Sport (DTLI-YS, Vella et al. 2012)	Quantitative	2	3.8%
Global Transformational Leadership Scale (GTLS, Carless et al. 2000)	Quantitative	3	5.8%
Multifactor Leadership Questionnaire (MLQ-5X, Bass et al. 1997)	Quantitative	12	23.1%
Open ended qualitative questions via written narrative (Compiled by the researcher)	Qualitative	1	1.9%
Peer Sport Leadership Behaviour Inventory (PSLBI, Glenn et al. 1993; Glenn, 2006)	Quantitative	1	1.9%
Semi-structured interviews (Compiled by the researcher)	Qualitative	5	9.6%
Sport Leadership Behaviour Inventory (SLBI, Glenn et al. 1993)	Quantitative	1	1.9%
Transformational Leadership Inventory (TLI, Podsakoff et al. 1990)	Quantitative	3	5.8%
Transformational Teaching Questionnaire (TTQ, Beauchamp et al. 2010)	Quantitative	2	3.8%
Translated version (Arabic & Chinese) of the Multifactor Leadership Questionnaire (MLQ-5X, Al-Momani et al. 2007; Bass et al.1997)	Quantitative	2	3.8%
Translated version (Spanish) of the Differentiated Transformational Leadership Inventory for Youth Sport (DTLI-YS, Lopez et al. 2021; Lopez et al. 2017; Vella et al. 2012)	Quantitative	1	1.9%
Translated version (Swedish) of the transformational teaching questionnaire (TTQ, Beauchamp et al. 2010)	Quantitative	1	1.9%
<b>Total</b>		<b>52</b>	<b>100%</b>

Total is higher than the n=47 included papers from the review due to some studies utilising more than one instrument/measure of TFL

The MLQ-5X was the first TFL measurement tool to be developed (MLQ: Bass et al., 1995; MLQ-5X: Bass et al., 1997) and utilised across a broad array of contexts measuring the full range of behaviours associated with leadership which incorporated three elements of transformational leadership, specifically: individual consideration, intellectual stimulation,

and charisma (Bass et al., 1985; Bass et al., 1997; Bass et al., 2006). The MLQ-5X was presented and utilised as a global construct (Arthur et al., 2015) of transformational leadership, and this itself uncovered challenges related to factorial validity (specifying what the test measures and correspondence to theorised constructs) and discriminant validity (identifies measures within constructs that theoretically are not intended to be connected are in fact unconnected) (Ivashchenko et al., 2018) which led to the development of new measurement tools by researchers focusing on specific contexts of TFL. These included:

- Differentiated Transformational Leadership Questionnaire (DTLI; Hardy et al., 2010)
- Differentiated Transformational Leadership Inventory for Youth Sport (DTLI-YS, Vella et al., 2012)
- Transformational Teaching Questionnaire (TTQ; Beauchamp et al., 2010)
- Transformational Parenting Questionnaire (TPQ; Morton et al., 2011)

The DTLI in contrast was developed as a measure to be utilised in a specific context (the military) and combined the Transformational Leadership Questionnaire (TLI; Podsakoff et al., 1990) and the MLQ-5X (Bass et al., 1997). It is applied as a differentiated construct (Arthur et al. 2015) through the included 7 dimensions (sub scales) of: inspirational motivation, appropriate role model, fostering acceptance of group goals, individual consideration, intellectual stimulation, high performance expectations, and contingent reward. Callow et al. (2009) adopted the DTLI for use within a sport context and demonstrated its positive predictive and psychometric validity and from this point it has been widely embedded across TFL research in sport (Kassim et al., 2021a; Newland et al., 2020; Smith et al., 2013; Zhang et al., 2019). The exception to this was a study conducted by Vella et al. (2012) where a revised version of the DTLI for application within the specific context of youth sport was developed that removed the subscale relating to high performance expectations as this was a challenging fit (both practically and statistically) for the context of youth sport. The DTLI-YS has subsequently also been adopted into further studies within this context of TFL in sport (Lopez et al., 2021; Vella et al., 2013a; Vella et al., 2013b). Other leadership focused measurement tools adopted by the papers within the review included the: Coach Leadership Assessment System (CLAS, Turnnidge et al., 2019); Global Transformational Leadership Scale (GTLS, Carless et al., 2000); Peer Sport Leadership Behaviour Inventory (PSLBI, Glenn et al., 1993); Sport Leadership Behaviour Inventory (SLBI, Glenn et al., 1993); Transformational Leadership Inventory (TLI, Podsakoff et al., 1990). The use of these tools all adapted from the MLQ-

5X accounted for a further 28.8% of papers within the current review, employing individualised adaptations to acknowledge the specific context within which they were being applied (Bormann et al., 2016a; 2016b; Erikstad et al., 2021; Lefebvre et al., 2021; Price et al., 2011; Tucker et al., 2010). More specifically it is clear the use of self-report measures is the prominent feature across all the studies in this systematic review (n=47) irrespective of research design or method. Each of the studies required participants to self-report their perceptions (quantitative, Likert scales) or experiences (qualitative, semi structured interviews, or mixed methods, open ended questions) as opposed to these being observed, or indeed a combination of these approaches. Utilising the leadership measurement tools (DTLI, MLQ-5X, TTQ, TPQ, DTLI-YS, CLAS, GTLS, PSLBI, SLBI, TLI) dictates the self-report method of data collection allowing for simplicity in terms of the process and reach of collecting data, ease of rating responses and standardising results (Chan, 2010; Gorber et al., 2007). However, self-report data also has limitations in terms of restrictions around the depth of responses provided, the need for participants to provide a response even if the scale used does not fit them personally, and the potential for answering what participants believe the researchers wants to hear or in this context coaches want to hear (contextual and/or social bias) (Paulhus & Vazire. 2007) limiting the potential for individualising the measurement instrument and potentially leading to poor quality and inaccurate data (Gorber et al., 2007). Even though self-report data collection remains the only favoured method amongst TFL in the sport coaching studies within this review, the value of self-report data collection has yet to be challenged across sport research more broadly as it has been in other research domains (clinical, Pinheiro et al., 2018; education, Fredricks & McColskey, 2012; management, Speklé & Widener, 2018). It is pertinent to note at this stage that the current review has revealed only one experimental study design from Vella et al. (2013a) that utilised a multi method design (observation and self-report) to examine the prospective relationship between adolescents' perceptions of transformational leadership displayed by their school physical education teachers and their own physical activity behaviours, both with respect to within-class physical activity and leisure time physical activity. This study is evidently a critical example of an initial step forward in developing experimental intervention-based study designs that adopt multiple methods of data collection. Although, it is also important to note concerning this specific study that further development of the qualitative aspects of this research would additionally benefit the data collection, analysis and reporting regarding the level of detail offered, and its authentic applied importance and developmental application outside of potentially simplified categorisation of qualitative data (Braun et al., 2021; Marshal et al., 2021). Future studies focusing on TFL within sport coaching would benefit from continuing the development of this approach within their

study designs, as a multi-method experimental approach has the potential to offer additional detailed evidence to inform practice, further strengthening the vital connections across research and applied practice (Fullagar et al., 2019; North et al., 2021).

Finally, it is also important to identify across the studies included in this systematic review how transformational leadership was conceptualised by the researcher, with 61.5% utilising TFL measurements as a global construct where transformational leadership components are highly correlated and reinforce behaviours together as a single global construct (Arthur et al., 2015). With the remaining 38.5% embedding TFL as a differentiated construct where specific transformational leadership behaviours are selected and examined individually to assess the similarity or difference in the effect and/or outcome they may have (Arthur et al., 2015). Examining this further it would seem valid that the behavioural elements that are found within transformational leadership are accepted as being reciprocal in relation to how they fortify and sustain transformational leadership behaviours (global construct). Although this is consistent with wider theory on transformational leadership (Bass et al., 2003; Beauchamp et al., 2010) there are of course limitations that become evident when only embedding this global conceptualisation (see Figure 2.2). Studies undertaken by Podsakoff et al., (2003; 1990) have evidenced this shortcoming in the adoption of the global conceptualisation of transformational leadership indicating that each transformational leadership behaviour can impact outcomes differentially. Specifically considering the individual transformational leadership behaviours (inspirational motivation, role modelling, fostering of group goals, individual consideration, intellectual stimulation, high performance expectations, and contingent reward) it would seem a flawed assumption that they all have the same impact in every context (Arthur et al., 2015; Mills & Boardley, 2016).

	Charismatic Leadership	Inspirational Motivation	Vision	Idealized Influence (attributed)	Idealized Influence (behaviours)	Individualised consideration	Intellectual Stimulation	Appropriate Role Modelling	High Performance Indicators	Inspirational Communication	Supportive Leadership	Transactional Behaviours	Global or Differentiated
a Multi Factor Leadership Questionnaire (original)*	✓	✓				✓	✓					✓	G
b Multi Factor Leadership Questionnaire-5X*		✓		✓	✓	✓	✓					✓	G
c Transformational Leadership Inventory*		✓				✓	✓	✓	✓			✓	D
d Rafferty & Griffin*			✓			✓	✓			✓	✓	✓	D
e Differentiated Leadership Inventory		✓				✓	✓	✓	✓			✓	D
f Safety Specific Transformational Leadership Scale*		✓		✓	✓	✓	✓					✓	G
g Transformational Parenting Questionnaire*		✓		✓	✓	✓	✓					✓	G
h Transformational Teaching Questionnaire*		✓		✓	✓	✓	✓					✓	G

Sources: a Bass (1985); b Bass & Avolio (1994); c Podsakoff et al. (1990); d Rafferty & Griffin (2004); e Hardy et al. (2010) and Callow et al. (2009); f Banding et al. (2002); g Morton et al. (2011); h Beauchamp et al. (2010)

Figure 2.2 Summary of TFL behaviours and global/differentiated scales (Arthur & Lynn, 2016, p.191)

It is equally important to acknowledge that applying individual behaviours associated with

TFL across the multi-faceted environment of sport coaching adds additional layers of complexity across a dynamic setting with its many variables (Mills & Boardley, 2017). Theoretical grounds for adopting both global or differentiated conceptualisations of TFL exist (Arthur et al., 2015; Arthur et al., 2017; Mills et al., 2016; Turnnidge et al., 2011; Vella et al., 2012) and largely which route researchers take is dictated by the question posed through the research design and method. However, this is another area of opportunity regarding the specific details and explanations researchers offer when selecting how to measure TFL within the context of sport coaching. A way forward further endorsed by Antonakis et al. (2003) who equally suggest the limited narrative delivered by research focused on global constructs of leadership as a broad discipline will have a lesser impact than more detailed research feedback that embeds interventions targeting specific components of the theoretical leadership concept.

### 2.3.4 Research sample and coaching practice contexts

The size of the samples (see Table 2.9) utilised for the quantitative studies ranged from 8 participants to 2948 (M=337.56, SD=463.1), and the mean age of the sample groups was 22.58 years (SD=8.4). The gender split across the quantitative sample populations was 14.6% (n=6) for all male participants with a mean age of 35.41 years (SD=9.09) and 9.8% (n=4) all females with a mean age of 16.71 years (SD=1.25). Mixed gender sample populations were then found in 63.4% (n=26) of the quantitative studies with a mean age of 21.06 years (SD=6.19). A further 17.1% (n=7) of the quantitative studies did not state the age details and 12.2% (n=5) did not provide gender details relating to their sample populations.

Table 2.9 – Size of included study samples

Sample Size	Number of Studies	% of Studies
>1000	1	2.1%
500-999	5	10.6%
100-499	23	48.9%
0-99	13	27.7%
Mixed Samples reported:		
Players: 336 & Coaches: 30	1	
Players: 243 & Coaches: 18	1	
Players: 200 & Coaches: 22	1	10.6%
Athletes: 168 & Coaches: 16	1	
Athletes: 10 & Coaches: 12	1	
<b>Total</b>	<b>47</b>	<b>100%</b>

The size of the samples utilised for the qualitative studies ranged from 8 to 22 participants (M=11.80, SD=5.8), with the mean age of the sample groups ranging from 20 years to 45.50 years (M=30.72, SD=13.2). The gender split (see Table 2.10) across the qualitative sample populations was 20.00% (n=1) all females with a mean age of 20.00 years, no

qualitative studies utilised male only samples. Mixed gender sample populations were found in 40.00% (n=2) of the qualitative studies with a mean age of 45.5 years with only one of these studies reporting the age details of the participants. This left a further 40.00% (n=2) of the qualitative studies as not stating details regarding specific gender and/or age demographic details. The single mixed methods paper (multi method) utilised a sample of all males with a mean age of 40.67 years (see Table 2.11). This could potentially be a further limiting factor when analysing the contextual and situational correlates across TFL within sport coaching research, as Bass et al. (2006) suggests TFL theory is applicable to both genders across age groups. Indicating that researchers would benefit from analysing research data and outcomes by gender (Cooky, 2018), in addition to readily utilising mixed gender sample populations. Smith and Stewart (2010) argue that it is essential research conducted across sport needs to ensure it reflects the multi-faceted complexities that exist across the varying applied contexts within which sport takes place, and within this the broad range of populations that engage with a vast array of sporting activities on offer. It is therefore appropriate to acknowledge that a single 'best fit' methodology and sample population type that can fulfil the requirements of the diverse range of sport focused research does not exist (Hoerber & Shaw, 2017), underlining the importance of researchers needing to ensure their approach to sampling strategies is fully considered, with both non-probability and probability sampling equally considered. It is not necessarily always the most appropriate option to adopt convenience sampling as it can lead to potentially undermining of the generalisability of research outputs, creating possible bias across the wider pool of research evidence within a field of study (Jager et al., 2017).

Table 2.10 - Sample population gender split

<b>Gender</b>	<b>Number of Studies</b>	<b>% of Studies</b>
Female	5	10.6%
Male	7	14.9%
Mixed	28	59.6%
Not stated	7	14.9%
<b>Total</b>	<b>47</b>	<b>100%</b>

Table 2.11 – Sample population age

<b>Research Design</b>	<b>Mean Age (Yrs)</b>	<b>SD</b>	<b>No. of Studies</b>
Quantitative	22.58	8.40	41
Qualitative	30.72	13.2	5
Mixed Methods	40.67	0	1
<b>Total</b>	<b>23.69</b>	<b>9.27</b>	<b>47</b>

N.B. Mean age and standard deviation calculated for studies where age data was provided.  
n=7 quantitative studies and n=2 qualitative studies did not state age data

Of the 47 papers in this systematic review researchers have adopted nine different labels to describe the participants (and the perspectives offered) they engaged for the data collection process, of these nine groups 46.8% (n=22) of the studies were based on participants labelled as athletes. However, we also have similarly broad participant labels used across the remaining studies within the current review including players 12.8% (n=7), students 2.1% (n=1), adolescents 6.4% (n=3), in addition to a range of mixed participant labels used (players & coaches, athletes & coaches, players, parents & coaches). When reading the individual studies, researchers do generally offer clarity around who the participants are (age, gender) and where they are recruited from (playing environment/context, competitive level), but it is apparent there is a lack of coherence more broadly across how researchers select and use labels to describe their research participants and, therefore, the perspectives offered, creating confusion when reviewing the evidence base across a field of research. Therefore, for clarity of analysis within the current review the sample population labels have been paired down by age (>18 years Adults, 18 years and under Adolescents, Adolescents & Adults, Not Stated) and research design to provide further coherence across this analysis of the studies (n=47) within this review (see Table 2.12). From this we can then identify that across the quantitative studies, 53.7% (n=22) utilised sample groups of adults (>18 years), 24.4% (n=10) used adolescents (18 years and under), 14.6% (n=6) used mixed sample populations of adolescents and adults, and a further 7.3% (n=3) quantitative studies did not identify a label for their research participants. Similarly for the qualitative studies, 60.0% (n=3) of the studies used adults sample groups, and 40.0% (n=2) did not state a label for the sample group used, and no adolescents or mixed adolescent/adult sample groups were used across the qualitative studies. For the single mixed methods study, a sample of adults was also used, highlighting for the current review that sample populations of over 18-year-olds are the most widely utilised which is representative of the broader field of research across sport, sport coaching, and sport science (Arthur et al., 2017; Gilbert et

al., 2004; Smith, 2010). An important feature of sport participation in direct relation to age and ageing is the development of physical literacy (Keegan et al., 2019; Whitehead, 2013) that determines the physical, psychological, cognitive, and social development of individuals when engaged with sport. This concept would be of significant value for researchers to draw upon when making decisions on sampling to allow for additional clarity when reporting outcomes from both statistical and narrative analysis, providing relevant and clear underlying context. It is though also important to acknowledge that the participant perspectives reported across the included studies within the current review are a primary element of this field of sport coaching research, to allow for valid generalizability and avoiding bias (Jager et al., 2017). This is also to ensure both statistical and narrative data are authentically representative of the multi-stakeholder contexts sport coaching takes place across and within (Cooper et al., 2020). Similarly, within the field of research focusing on TFL in sport coaching understanding all stakeholder perspectives across the age range of these stakeholders would be highly valuable to capture further detailed data across the width and depth of this research domain.

Table 2.12 - Sample population labels by research design

Research Design	No. of Studies				Total
	Adults (>18yrs)	Adolescents (18yrs & under)	Adolescents & Adults	Not Stated	
Quantitative	22	10	6	3	41
Qualitative	3	0	0	2	5
Mixed Methods	1	0	0	0	1
<b>Total</b>	<b>26</b>	<b>10</b>	<b>6</b>	<b>5</b>	<b>47</b>
	<b>55.3%</b>	<b>21.3%</b>	<b>12.8%</b>	<b>10.6%</b>	<b>100.0%</b>

Continuing the focus on characteristics of the sample populations integrated across the studies within the current review, analysis of the type of sport the study populations focused on (see Table 2.13) revealed that 74.5% (n=35) were based on team sports, 14.9% (n=7) engaged a mixed sample of individual and team sports and 2.1% (n=1) used an individual sport for their sample population (Rowold, 2006).

Table 2.13 – Sample population by type of sport

Sport Type	Number of Studies	% of Studies
Individual: one sport in the sample	1	2.1%
Mixed Team: >1 sport in the sample, but all team sports	5	10.6%
Mixed: both individual and team sports in the sample	7	14.9%
Not stated	2	4.3%
Physical Education Lesson/s	2	4.3%
Team: one sport in the sample	30	63.8%
<b>Total</b>	<b>47</b>	<b>100%</b>

This highlights the opportunities that exist to further develop the type of sports that are adopted across TFL research within sport coaching, ensuring the differences across coaching behaviours and participation experience in team and individual sports is fully captured (Baker et al., 2003) and the associated perspectives analysed as such to identify potential relationships. Moen et al. (2014) conducted a study integrating eleven different (mainly winter) sports through probability sampling, and whereas the study does not suggest using only individual based sports as a limitation, the concluding summary does highlight elements of the coach-athlete relationship that indicate outputs from a closer, more personal relationship with the athletes that could potentially differ in a team environment. Additionally, Rowold's (2006) study focused on martial arts similarly identifies that a limiting factor of the study could be its implementation within a single sport setting, and further samples from a more diverse range of sports and sport contexts would be required to ensure validation of the results presented. It is widely acknowledged that TFL and the context it is employed within draws out varying levels of the differing behaviours across the seven sub-scales within this concept (Arthur et al., 2017; Siangchokyo et al., 2020; Turnnidge et al., 2018). Within sport coaching, such contexts are dynamic and are certainly dependant on multiple variables (participant demographics, sport type (team, individual), playing level, and experience of both the coaches and participants) that all shape the outcomes and experience (Lyle et al., 2016; Nichol et al., 2019; Santos et al., 2010). Integration of this range of contextual variables alongside TFL indicates that convenience samples of mixed sports are potentially offering limited insight across such a complex area of practice, whilst endeavouring to conduct research studies that are focused on specific sport and sport coaching contexts could enable the development of an improved quality of evidence more broadly within this field of study.

Focusing on the range of sports integrated across the included studies within the current review (see Table 2.14) a collated overview has been offered, although it was challenging to extract precise data due to many of the studies drawing on multiple sports within their population samples. The most prominent finding, if somewhat unsurprising due to its global popularity and profile, is the inclusion of football (soccer) as the sport played across

many of the sample populations, 29.3% (n=12) quantitative studies focused on football alone, and the single mixed methods study also used football as its sample characteristic. Furthermore, when analysing the studies within the current review that draw on a sample that integrated a range of sports it is clear to see football was also widely embedded and therefore across all the studies in this review (n=47) football was prevalent in 44.7% (n=21) studies. This use of football as the study focus is equally apparent across a wide range of sport research (Cope et al., 2016; Vaughan et al., 2021; Wright et al., 2014) supported by the dominance football enjoys across regional, national, and global sport participation rates (FIFA, 2020) so an expected finding within this review. Additionally, another sport more popular within this review was basketball which was utilised within 12.8% (n=6) of the quantitative studies, a number of sports were used once or twice across the studies, but a further 27.7% (n=10 quantitative and n=3 qualitative) studies used samples that permitted a wide range and mix of sports (e.g., canoe, swimming, water polo, judo, futsal, netball, lacrosse, softball, athletics, boxing), again further illustrating the use of probability convenience sampling across data collection within the included studies. This highlights further the previous discussion in this section regarding the context TFL within sport coaching is employed, and the dynamic contexts and variables across applied practice settings within sport that do impact in varying levels sport outcomes and experience for both participants and coaches (Lyle et al., 2016; Nichol et al., 2019; Santos et al., 2010). More specifically, this potentially indicates the use of samples that draw on a wide range and mix of sports possibly do not offer the best opportunity to generalise research findings within this field of study.

Table 2.14 - Type of sport from the included studies

Sport	No. of Studies			Total (n=47)	% of Total Studies
	Quantitative	Qualitative	Mixed Methods		
Football	12	0	1	13	27.7%
Mix of Sports	10	3	0	13	27.7%
Basketball	6	0	0	6	12.8%
Ice hockey	2	0	0	2	4.3%
PE Lesson/s	2	0	0	2	4.3%
Volleyball	2	0	0	2	4.3%
Frisbee	2	0	0	2	4.3%
Handball	1	0	0	1	2.1%
Karate	1	0	0	1	2.1%
Floorball	1	0	0	1	2.1%
Handball	1	0	0	1	2.1%
Cricket	0	1	0	1	2.1%
Not Stated	1	1	0	2	4.3%
<b>Total</b>	<b>41</b> <b>87.2%</b>	<b>5</b> <b>10.6%</b>	<b>1</b> <b>2.1%</b>		

It was also complex to draw out the competitive level characteristics (see Table 2.15 for the performance level and player environment) of the study sample populations due to the range of descriptions and labels researchers applied. However, it is clear that youth sport (<18 years) accounting for 25.5% (n=12) of studies and university level sport 23.4% (n=11) of studies contribute the highest quantity of studies in relation to competitive level. It is important to be clear that this playing level does not necessarily indicate the age of the sample participants in all cases within this review. For example, studies by Lawrason et al. (2019) and Lefebvre et al. (2021) each focused on youth football but used a sample of adult coaches' perspectives for the data collection process. Similarly, studies that indicate participation level sport (also known as grass roots or recreational sport) focused on a range of sports across a broader range of age groups (Rowold, 2006; Saybani et al., 2013; Vella et al., 2013c).

Table 2.15 – Performance level and player environment

Performance Level/Player Environment	Number of Studies	% of Studies
Elite	4	8.5%
Elite/Regional	1	2.1%
International, National & Regional	4	8.5%
International/ National/ University	1	2.1%
Mixed	5	10.6%
National	3	6.4%
Not stated	1	2.1%
Participation	4	8.5%
Regional (junior)	1	2.1%
University	11	23.4%
Youth	12	25.5%
<b>Total</b>	<b>47</b>	<b>100%</b>

The use of harder to reach performance level participants is apparent from this analysis as well, with only 10.6% (n=5) of researchers gaining access to the highest echelons of sport and utilising participants embedded within an elite sport context. Johansson and Fahlén (2017) observe that access to the top levels and environments of sport is more challenging which is reflected in the significant quantity of research available focusing on other levels of sport (youth, recreation) (Baird et al., 2020; Morgan et al., 2016; Tucker et al., 2010). With such challenging options around access to elite sport settings, it is interesting to observe within the current review 60.0% (n=3) of the qualitative studies utilised samples focused on elite sport (a research design that supports smaller sample sizes) indicating that this is potentially the most appropriate research process to adopt currently, particularly when seeking access harder to reach sample participants (Bazeley, 2018a; Braun & Clarke, 2013; Burke, 2016). Equally, utilising a qualitative research design allows for a deeper analysis of the collective narrative and the unpacking of the detail around perspectives and experiences coaches and athletes encounter (Din et al., 2015; Erikstad et al., 2021; Smith et al., 2017) across TFL behaviours in sport coaching. With the apparent challenges associated regarding access to elite samples, and the prevalence of quantitative research designs within this field of research currently, it is possibly a good point to further draw on the option of mixed methods research which allows for both deductive and inductive positions to be explored (Bazeley, 2018; Smith, 2010), offering a potential broader range of data for researchers to draw upon and utilise to support the development of both academic research and applied practice across TFL within sport coaching. Attempting to distil the performance level characteristics within this review has uncovered similar complexities highlighted through the previous discussions on how demographic (age, gender), sport type (team, individual), and sport played (football, basketball, etc.) features of the samples used across the studies potentially impacts on the application of the outcomes of this field of research across general, larger populations (Petrovic et al., 2017; Smith, 2010). It draws a light again across the use of probability

convenience sampling and although the ease through which this approach can be applied is equally acknowledged it can also cause researchers to overlook other methodological options, specifically the sampling gaps and needs across a domain of research. More broadly there is opportunity to add to the existing range of research that considers TFL within the context of sport coaching, from across all methodological perspectives (quantitative, qualitative, mixed methods), providing the potential opportunity to deliver a collective, rigorous depth of evidence. Enabled through more deliberate and conscious shaping of the sample populations used either by age, gender, sport type, sport played, and competition level would enhance our understanding and generalisability. This is important as each of these variables within sample populations have an integral role in how the transformational leadership role is experienced, perceived and the outputs that are generated (Bass, 1997). Ensuring the concept of transformational leadership is tested across clearly defined and diverse sample populations will provide further evidence of its impact in applied sport and sport coaching settings which can only serve to further enhance the quality of academic research and practice within this area of study.

### **2.3.5 Correlates of transformational leadership**

When reviewing correlates of TFL within sport coaching examined by the included studies (see Table 2.16) within the current review (n=47), three types of variables were identified as the central constructs integrated across the included papers: psychological (athlete n=38, coach n=12), situational (athlete n=27, coach n=8), and demographic (athlete n=4, coach n=1) which were identified as being applied across two participant groups either the coach or the athlete (which includes participant labels: athlete, adolescent, player). Adapted from Goodger et al. (2007) this process of identifying correlates of TFL focused on all correlates regardless of the number of independent samples used within the studies which is opposite to the recommendation applied by Sallis et al. (2000) where a minimum of three independent samples are recommended to identify correlates. However, by including all studies in this process of correlate identification, irrespective of independent samples used it allows for a full examination of all TFL correlates researchers are drawing on, rather than specific focus on levels of significance and study outcomes. This inclusive approach has also been adopted by existing reviews within sport and sport coaching research to develop the wider knowledge of current research directions (Langan et al., 2013; Nicholls et al., 2007; Park et al., 2013; Turnnidge et al., 2018). It is also important to acknowledge that many of the included studies analysed multiple correlates (see Table 2.16) within individual studies (Bourne et al., 2015; Charbonneau et al., 2001; Erikstad et al., 2021; Kassim et al., 2021a; Newland et al., 2020; Price et al., 2013; Zhang et al., 2019)

and in some cases this was across both of the identified participant groups (athletes and coaches, Bormann et al., 2016a, 2016b; Charbonneau et al., 2001; Dina et al., 2015; Kao et al., 2019; Tucker et al., 2010; Vella et al., 2013a; Zhang et al., 2019). Within the studies that integrated coaches (n=14) as the, or part of the participant group 71.4% (n=10) were quantitative research designs, 21.4% (n=3) were qualitative studies, and the single mixed methods paper also integrated coaches as participants. Regarding the studies (n=40) that focused on athletes as the, or part of the participant group 92.5% (n=37) adopted a quantitative design and the remaining 7.5% (n=3) were qualitative studies.

Table 2.16 - Correlates of transformational leadership: sample and variable type

Sample	Variable Type	No. of Studies	% of Studies
Athletes	Psychological	11	23.4%
Athletes	Situational	0	0.0%
Athletes	Demographic	0	0.0%
Athletes	Psychological & Situational	19	40.4%
Athletes	Psychological & Situational & Demographic	3	6.4%
Coaches	Psychological	4	8.5%
Coaches	Situational	0	0.0%
Coaches	Demographic	0	0.0%
Coaches	Psychological & Situational	2	4.3%
Coaches	Psychological & Situational & Demographic	1	2.1%
Athletes & Coaches	Psychological	2	4.3%
Athletes & Coaches	Situational	2	4.3%
Athletes & Coaches	Demographic	0	0.0%
Athletes & Coaches	Psychological & Situational	2	4.3%
Athletes & Coaches	Psychological & Situational & Demographic	1	2.1%
<b>Total</b>		<b>47</b>	<b>100%</b>

Psychological correlates included: emotions, team cohesion & climate, motivational, personality, environment, identity, self regulation, relationships, commitment, communication, well-being, role of significant others

Situational correlates included: roles, perceived success & performance, training, activity time, training, task

Demographic correlates included: age, experience, type of sport

Currently, the sport coaching TFL studies captured by this systematic review process suggest that TFL behaviours are positively related to positive outcomes and negatively related to negative outcomes, as Arthur et al. (2015) has also identified. The studies selected through the current review focused on a range of variables that were reported to be predicated by TFL behaviour such as: communication (Smith et al., 2013), physical activity levels (Beauchamp et al., 2011; Beauchamp et al., 2014; Bourne et al., 2015), athlete positive development (Vella et al., 2013b), citizenship (Lee et al., 2013), team cohesion and potency (AITahayneh et al., 2019; Baird et al., 2020; Bosselut et al., 2018; Callow et al., 2009; Kao et al., 2019), team and task outcomes (Alvarez et al., 2019; Newland et al., 2020; Price et al., 2011; Price et al., 2013), peer leadership (Crozier et al., 2013), team success (Vella et al., 2013b), performance level (Moen et al., 2012), player

development (Høigaard et al., 2008), sacrifice (Cronin et al., 2015), motivation and motivational climate (Charbonneau et al., 2001; Erikstad et al., 2021; Kao et al., 2017), athlete well-being (Stenling & Tafvelin, 2014), aggression (Tucker et al., 2010), competency (Kao et al., 2021), and coach-athlete relationship (Gorgulu, 2019; Lopez et al., 2021). When considering this wide range of variables researchers have examined in TFL across sport coaching, Yukl (1999) argued that although positive links can generally be made across transformational behaviour and effectiveness in leadership, not all the transformational behaviours will be relevant in every leadership situation. Therefore, rather than simply viewing correlations across two variables it is useful to also acknowledge where studies have identified the purpose and cause of the variables (Hoeber et al., 2017) which can be defined as antecedents (positive, negative or neutral existing conditions that are acknowledged) (Carroll & Allen, 2021), mediators (indications of the scale and/or direction of cause and effect across relationships) and moderators (indicating the strength of a relationship but not cause) (Wu & Zumbo, 2008). Although researchers across the studies (n=47) in the current review have offered some discussion regarding existing situational and demographic factors (generally in the limitations of the included papers), none of the studies focused specifically on antecedents in more explicit detail which from current sport research we understand do have the potential to impact on relationships across variables (Carroll et al., 2021; Rocchi & Pelletier, 2017; Zhang & Chelladurai, 2013). Equally, a small proportion 10.6% (n=5) of the studies identified explicitly moderators that impact on associations across variables by either strengthening, or weakening them. For example, the study conducted by Arthur et al., (2011) focused on athlete narcissism and identified that follower characteristics are relevant when examining coaching effectiveness and elements of athlete narcissism moderate this. Bormann et al. (2016a) identified that both coaches articulating visions and providing an appropriate role model had a moderating effect on individual performance, Callow et al. (2009) and Zhang et al. (2019) also indicate that performance level had a moderating effect on multiple variables. Whereas Kao (2019) highlights team trust as the moderator of coach TFL relationships and cohesion. The five studies drawn upon here have all demonstrated a moderating effect on a range of variables impacting on relevant outcomes within the context of TFL in sport coaching, the moderators were a combination of both contextual moderators (type of sport, global location, social and cultural factors) and situational moderators (competition level, performance, personality, and personal demographics) that both indicate important aspects across coaching practice and the role TFL has within this (Arthur et al., 2015).

Similarly, when considering the examination of mediators across the studies in the current review 34.0% (n=16) identify scale and/or direction of cause and effect across TFL in sport coaching relationships. Some examples of this include Charbonneau et al. (2001), who found intrinsic motivation was a mediator of the relationship between transformational leadership and sports performance, suggesting that TFL may enhance intrinsic interest in the task, and Tucker et al. (2010) reported in their short-term longitudinal study that less individual aggression was displayed by children in team sport situations through engagement with team-level coach TFL behaviour and team level aggression was the mediator of these variables. Stenling et al. (2014) identified the positive effect of TFL on athlete well-being was mediated by athletes' need satisfaction, and Younghan et al. (2013) reported that psychological empowerment mediated the association across coach TFL and organisational citizenship. A wide range of variables have been reported (see Table 2.17) as relationship mediators across TFL in sport coaching and it is positive to see these explicit details identified and discussed across the papers in the current review. However, the remaining 55.3% (n=26) of the studies did not explicitly report or discuss a cause-and-effect relationship within their collected data sets, opting to report correlations between variables. As Trudel et al. (2014) and Smith (2010) each highlight, researchers need to exercise caution when taking this option as interpretations can lack specificity and culminate in potentially inaccurate conclusions around causality (Aggarwal & Ranganathan, 2016).

Table 2.17 - Study variables reported as: antecedents, mediators, and moderators

Study Variables	Antecedent/Mediator/ Moderator	No. of Total Studies (n=47)	% of Total Studies (n=47)
Emotional Intelligence, Team/Group Cohesion Questionnaire, Team Potency, Game Scores, Motivational Climate, Self-regulation, Athlete Satisfaction, Coaching Competency, Personality, Coach-Athlete Relationship, Coaching Efficacy, Task & Ego Orientation, Youth Experience, Motivation, Group Environment, Collective Efficacy, Self-perception, Coaching Effectiveness, Organisation Culture	Not Stated	26	55.3%
Motivational Climate, Intrinsic Motivation, Physical Activity, Interracial Justice, Group Cohesion, Health Behaviour, Athlete Performance, Group Sacrifice, Task Cohesion, Group Environment, Coach-Athlete Relationship, Leader Inspired Effort, Coaching Competences, Athlete Satisfaction, Social and Antisocial Behaviour, Communication, Basic Needs, Well-being, Turnover Intention, Organisational Citizenship	Mediator	16	34.0%
	Antecedent	0	0.0%
Narcissism, Sport Orientation, Group Environment, Team Trust, Training Behaviours, Personality	Moderator	5	10.6%
<b>Total</b>		<b>47</b>	<b>100.0%</b>

It is apparent from the current review that a significant quantity of variables have been drawn into focus through the research studies on TFL across sport coaching, and it is not the intention of this review to examine these all individually. However, it is also relevant to highlight that to date there have been no studies that have focused on the potential negative effects of TFL within this context of sport coaching (e.g. over training, player/coach dominance, sport ethics, inequality). Yukl (1999) has suggested that athlete and coach burnout could also be a potentially negative outcome of early or over engagement emotionally with transformational leaders, indeed over dependence on a coach, team captain or mentors could also suggest possible negative experiences of TFL (Kark et al., 2003). From across the papers (n=47) included in this systematic review, evidence for positive links across TFL behaviours within sport coaching is wide and varied, across a broad range of both situational and contextual parameters. However, with the upsurge of research undertaken within this academic area of study over the past ten years (91.5% of papers published since 2011) it is important that researchers consider the conditions under which TFL within sport coaching contexts is examined. Avoiding the potential pitfall of generating a critical mass of research perpetually supporting TFL as only positively related to leadership effectiveness within sport coaching simply due to the limits researchers put in place across the variables under investigation (Arthur et al., 2017, 2015). Research studies focused on TFL in sport coaching must, therefore, ensure a balance is achieved across exploring the variables that generate positive links to transformational leadership behaviours and those that deliver applied evidence indicating relational cause and effect of the strengths of these connections irrespective of their impact (positive or negative).

### **2.3.6 Research impact and trends**

Finally, the impact of the included papers in the current study was assessed through extraction of citation counts from Elsevier's abstract and citation database Scopus which provides citation numbers for over thirty-five thousand peer reviewed journals dating from before 1985 (Elsevier Scopus, 2021) ensuring the included papers in the current review are available to examine using this tool. Citation counts for journal articles are widely utilised (Ioannidis et al., 2019) and are just one of the available range of metrics regularly drawn upon for evaluating the scope and reach of academic impact in addition to the quality of the publication within the context of its academic field (Bollen et al., 2009; Van Noorden, 2010). Equally, this broader range of available academic research metrics allows for continuous evaluation of sustained effect of published outputs enabling tracking of the article lead author, the journal published, impact over time, and the theoretical

domain that papers are situated within, culminating in a robust and consistent overview of journal articles' overall influence (Colquitt & Zapata-Phelan, 2007; Ioannidis et al., 2019). Table 2.18 details the citation counts for the included papers in the current study by publication year, also grouped by the journal the paper was published within allowing for a coherent overview of this academic impact measure. Interestingly, the citation counts reveal a current peak of counts in 2013 (25.6%, n=272) across multiple publications (n=7), and journals they were published within (n=5 different journals) with the paper from Vella et al (2013b) focusing on the unique contextual facets of youth sport coaching and TFL garnering the most citations in this insightful year for empirical outputs focused on TFL within sport coaching. Overall, the published studies with the most citations to date are unsurprisingly some of the earliest publications within this field of study with Charbonneau et al. (2001, n=156 citations) offering the first paper examining the effects of transformational leadership on sport performance mediated by intrinsic motivation, and Callow et al. (2009, n=132 citations) which was the first study to investigate the construct validity of the DTLI as a measurement tool for sport specifically in association with team cohesion and performance level. Combined, they currently command 37.5% of total citations across this field of study due to the novel aspects of these seminal studies within the field of TFL in sport coaching research (see Appendix C for Scopus citations by ranked order). Research impact is a useful metric that enables the demonstrable measurement of the contribution outputs deliver across an increasing number of both theoretical and practical areas of interest which are purported to include the areas of societal, economic, cultural, and environmental (ESRC, 2021; Evans, 2020). From the citations examined within the current study it provides clarity regarding the breadth, depth, and sustained rigour of the publications.

Table 2.18 Number of citations by year and journal

Year of publication	Number of studies	% Of total studies	Scopus number of citations	% Of total citations	Journals Published
1985 to 2000	0	0.0%	0	0.0%	
2001	1	2.1%	156	14.7%	Journal of Applied Sport Psychology (n=156)
2002	0	0.0%	0	0.0%	
2003	0	0.0%	0	0.0%	
2004	0	0.0%	0	0.0%	
2005	0	0.0%	0	0.0%	
2006	1	2.1%	92	8.7%	Journal of Applied Sport Psychology (n=92)
2007	0	0.0%	0	0.0%	
2008	0	0.0%	0	0.0%	
2009	1	2.1%	132	12.4%	Journal of Applied Sport Psychology (n=132)
2010	1	2.1%	41	3.9%	The Leadership Quarterly (n=41)
2011	2	4.3%	131	12.3%	Journal of Sport & Exercise Psychology (n=71), Journal of Applied Sport Psychology (n=60)
2012	0	0.0%	0	0.0%	
2013	7	14.9%	272	25.6%	Journal of Applied Sport Psychology (n=69), World Applied Sciences Journal (n=4), Psychology of Sport and Exercise (n=0), International Journal of Sports Science & Coaching (n=17), International Journal of Sports Science & Coaching (n=49), Physical Education and Sport Pedagogy (n=111), International Journal of Sports Science & Coaching (n=22)
2014	2	4.3%	58	5.5%	International Journal of Behavioural Medicine (n=12), Journal of Applied Sport Psychology (n=46)
2015	4	8.5%	64	6.0%	Journal of Health Psychology (n=11), Journal of Sport & Exercise Psychology (n=34), International Journal of Sports Science & Coaching (n=5), Qualitative Research in Sport (n=14)
2016	5	10.6%	57	5.4%	European Journal of Physical Education and Sport Science (n=0), Journal of Applied Sport Psychology (n=24), Sport, education and society (n=13), Journal of Sport & Exercise Psychology (n=13), Journal of Applied Sport Psychology (n=7)
2017	3	6.4%	35	3.3%	International Journal of Sport Psychology (n=5), The Sport Psychologist (n=21), Eurasia Journal of Mathematics, Science and Technology Education (n=9)
2018	1	2.1%	5	0.5%	International Journal of Sports Science & Coaching (n=5), International Journal of Humanities and Social Science (n=0), International journal of environmental research and public health (n=6), Universal Journal of Educational Research (n=0), Journal of sports sciences (n=4), The Sport Psychologist (n=0), International Sport Coaching Journal (n=0), The Sport Psychologist (n=3)
2019	7	14.9%	13	1.2%	Psychology of Sport and Exercise (n=1), Journal of Sport Behavior (n=0)
2020	2	4.3%	1	0.1%	Frontiers in Psychology, & International Journal of Sports Science & Coaching, & Applied Psychology, & Human Factors and Ergonomics in Manufacturing & Service Industries, & Journal Sains Sukan & Pendidikan Jasmani, Sport Mont, & Malaysian Journal of Sport Science and Recreation, & The International Journal of Indian Psychology (n=0), Journal of Applied Sport Psychology (n=5), International Journal of Sports Science & Coaching (n=1)
2021	10	21.3%	6	0.6%	
Total	47	100.0%	1063	100.0%	

It is of equal relevance to examine the impact of the journals the included papers across the current study have been published within by discipline, to further clarify the broader strength and depth the current pool of TFL within sport coaching research is realising (see Appendix D for Scopus and CiteScore data by journal). CiteScore is an additional impact metric utilised and embedded within Scopus to enable the consistent and sustained measurement of citation impact across peer-reviewed research published within serial titles (Elsevier Scopus, 2021). Specifically, these data provide details of the Scopus

subject area or areas the journal title is measured within, with the CiteScore rank and percentile for 2020 detailing the position of the journal within its defined subject area, in addition to the overall journal CiteScore 2020 (which is a calculation of citation counts across four years over number of documents for the same period which includes: peer reviewed research articles, review articles, conference proceedings, data papers, and book chapters), and the CiteTracker 2021 which is calculated the same way as CiteScore focusing on the current year updating each month (Elsevier Scopus, 2021). It is through reviewing a combination of these impact data that current articles within the review can be examined regarding the extent to which collectively the research outcomes from the studies are able to deliver generalisability, and transferability across the broader domain of sport coaching research. Current outputs included within this review were published within twenty eight different journals, across an array of subject areas (n=8; psychology, social science, health & medicine, business & management, mathematics, environmental science, multidisciplinary, and arts & humanities), and indicate a wide range of journal impact from the lowest CiteScore 2020 of 0.2 for the Universal Journal of Educational Research (subject area social sciences: education) to the highest of 13.2 realised by Leadership Quarterly (subject areas social sciences: sociology & political science, business management & accounting, and applied psychology), and also highlights the breadth and depth of the differing subject areas more broadly (M=4.25, SD=2.6). For the CiteTracker 2021 (current year) data the lowest score was 2.0 for the publication Sport Mont (subject area health professions: physical therapy, sports therapy, and rehabilitation, and business & management), and 15.2 for Leadership Quarterly (M=5.09, SD=3.2). Regarding the CiteScore, percentile data indicates the standing of the journal relative to the field it sits within a selection of journals are noted as being established in the top 10.0% of journals within their subject area (n=4; physical education and sport pedagogy, leadership quarterly, qualitative research in sport, sport, education and society, and applied psychology) with overall journal impact across the 28 journals within the sample demonstrating a generally robust picture (M=76.19, SD=20.4). Specifically for psychology focused journals (M=76.14, SD=13.6), for sport and psychology focused journals combined (M=63.00, SD=21.2), and interestingly also for sport focused journals (M=81.53, SD=16.4) which usually realises lower impact scores across impact metrics generally due to the relatively young and emergent nature of the discipline (Altbach & de Wit, 2019; Arthur et al., 2017).

Of further use when examining the impact of a research field is the analysis of papers collectively to examine trends regarding theoretical contribution from both theory building,

and theory testing perspectives which Colquitt and Zapata-Phelan (2007) present in their paper focused on theoretical contributions of empirical research. The maturation of a domain of study has been purported to be defined through an evident range of theoretical frameworks and concepts, coupled with robust empirical evidence that exemplifies broad scope, across a range of relevant hypothesis testing, and research question analysis (Seo et al., 2019; Swanson & Chermack, 2013). Within the domain of transformational leadership in sport coaching research it is apparent this field of study remains in its germinal period of growth over the past ten years, illustrated by the wide range of variables positively associated across transformational leadership and sport coaching, and equally the relative limited depth of outputs which could be cause to challenge repeatability, generalisability, and transferability of outcomes more broadly across this complex domain of practice. Colquitt et al. (2007) offer a robust taxonomy that supports the scoring of published empirical contributions across five sub-categories that relate to both theory building and testing, enabling the evaluation of the maturity, scope and depth of a research area as utilised by previous studies (Fink, 2013; Naia et al., 2015; Seo et al., 2019) to facilitate this positioning process of a research area. From across the taxonomy (see Figure 2.3) the coupled elements of theory testing, and building provide a twofold scale through which the strength of contribution across both of these components can be evaluated (Colquitt et al., 2007). Within this, five additional detailed classifications can be applied to further articulate the specific nature of the theoretical contribution within this taxonomy which include reporters (limited theory building and testing), testers (empirical articles with high theory testing and low theory building), qualifiers (empirical articles with an intermediate level of theory testing and low theory building), builders (high theory building with limited theory testing), and expanders (existing theory links with potentially high theory building and testing). According to Colquitt et al. (2007), these further labels are more generally grouped as realising a high contributory theoretical weighting (builders, testers, and expanders), and contrastingly lesser theoretical contributions (reports, and qualifiers), with all offering the potential to further a research domain regardless of theory building and testing levels.

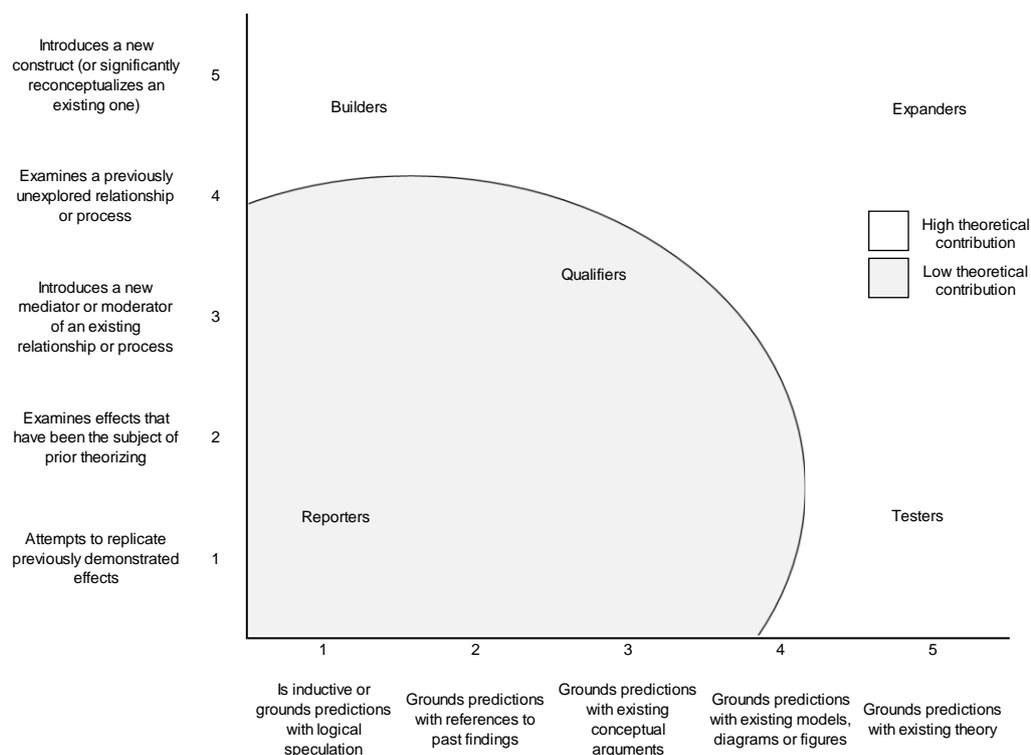


Figure 2.3 Taxonomy of theoretical contributions for empirical articles (Colquitt et al., 2007, p.1283)

Within the present review, the theory building, and testing taxonomy has been applied (see Appendix E for the full evaluation table of theory testing and building for transformational leadership in sport coaching papers) to support this final evaluative stage of the included studies (n=47), allowing grouping across the five subcategories of this model (see table 2.19). The evaluative data from this process indicate 66.0% (n=28) of the papers within the current review are proposed to be qualifiers that offer empirical evidence of theory testing, and equally offer theory building through examination of additional variables and contexts as the central focus of the research papers, each supporting the widening of constructive evidence-based knowledge within this domain. Additionally, 19.1% (n=9) of the papers were evaluated as being theory builders, which included outputs from the interpretivist researchers (Din et al., 2015; Macquet et al., 2021; Morgan et al., 2016; Newland et al., 2015; Smith et al., 2017; Vella et al., 2013c) across the current review identifying the limited variation of methodological designs employed. Specifically, through analysis of narrative data eliciting the uncovering, and application, of new theoretical constructs evidencing theory driven and applied meaning across discovered patterns, and relationships. The remaining papers evaluated were categorised as testers (n=5) due to the novel variables and theories drawn upon (Aghamohammadi et al., 2016; Arthur et al., 2011; Lawrason et al., 2019; Stenling et al.,

2014; Vella et al., 2013a), and expanders (n=5) which included all of the seminal papers attributed to uncovering theoretical links across existing frameworks (Callow et al., 2009; Charbonneau et al., 2001; Lefebvre et al., 2021; López et al. 2021; Vella et al., 2013c).

Table 2.19 Theory building and testing groups

Taxonomy subcategory	Number of studies	% of total studies
Reporters (limited theory building and testing),	0	0.0%
Testers (empirical articles with high theory testing and low theory building)	5	10.6%
Qualifiers (empirical articles with an intermediate level of theory testing and low theory building)	31	66.0%
Builders (high theory building with limited theory testing)	6	12.8%
Expanders (existing theory links with potentially high theory building and testing)	5	10.6%
	47	100.0%

Overall, this process of identifying the impact, profile, theoretical scope, and maturation of the existing research with the domain of TFL in sport coaching has provided a final valuable overview of current outputs, illustrating potential areas of future relevant research focus and development.

## 2.4 Excluded papers

It is useful when conducting a review of research across a specific field of study to also provide an insight into the papers that have fallen outside the scope of the inclusion criteria (see Appendix F for a reference list of excluded papers) so the full breadth and depth of peripheral research can also be acknowledged within the context of the current review (Nichol et al., 2019). Of the total papers (n=21) excluded 57.1% (n=12) of these studies were review or discussion papers (Table 2.20) focusing on facets of coaching practice and/or varying concepts of leadership theory, or secondary data from multiple sources. Additionally, the scope of the current review was to include papers that collected and examined original empirical data (irrespective of research design) and these papers equally did not fulfil that remit. Furthermore, it is also useful to highlight that 28.6% (n=8) of the excluded papers did base their investigation and subsequent analysis on original empirical data. However, the leadership or primary role in focus (teacher, manager, director) was not sport coaches and again not part of the criteria underpinning the current

review.

Table 2.20 - Details of excluded papers

Reason for Paper Exclusion	Empirical Data Collected	Number of Total Studies	% of Total Studies
Discussion Paper	No	4	19.0%
Not Focused on Coaches		4	19.0%
Not Transformational Leadership (other leadership concept)		2	9.5%
Review Paper		7	33.3%
Scenario Data Used		1	4.8%
Validating Instrument		3	14.3%
<b>Total</b>		<b>21</b>	<b>100%</b>

It is important to note that the excluded papers do individually offer valid insights across a range of peripheral theoretical (Arthur et al., 2017; Beauchamp et al., 2010; Chen, 2010; Din et al., 2013; Garner et al., 2020; Su, 2018; Vella et al., 2012) and applied (Crozier et al., 2013; Beauchamp et al., 2011; Høigaard et al., 2008; Kao et al., 2020; Laurent et al., 2007; Moen et al., 2014; Navin et al., 2020; Smith et al., 2019; Sullivan et al., 2012; Turnnidge et al., 2017; Vella et al., 2014; Wilson et al., 2012) facets around TFL within sport coaching, and therefore have been considered carefully within the widest possible context of sport leadership. This approach underpins the discussions drawn upon earlier in this review by underlining further the relevance of the complex contexts across which TFL in sport coaching occurs, and the multiple mechanisms and processes employed to achieve constructive outcomes for sport coaches within applied practice settings.

## 2.5 Limitations

The purpose of this review was to examine current research across TFL in sport coaching, and to the knowledge of the researcher this is the first systematic literature review that has been compiled relating to TFL in sport coaching inclusive of all coaching practice domains (elite, youth, participation) and irrespective of research designs (quantitative, qualitative, mixed methods) incorporating original empirical data. This has, therefore, permitted a degree of freedom in relation to the development of the inclusion/exclusion protocol, and it is accepted the review is not without its limitations.

Firstly, the use of electronic databases as the primary tool capturing relevant research studies has previously been raised by Goodger et al. (2007), drawing on concerns over

this process, specifically the use of keyword searches including the difficulty in avoiding potential sources of bias around publication sources, publication dates, publication language, and interpretations of theoretical concepts and practice contexts. It is, therefore, possible that some published studies may not have been identified by the search process and subsequently not included in the current review, and this should be considered when interpreting the review discussions presented. Similarly, although a universally accepted or used method for evaluating integrative reviews that incorporate grey literature sources (including conference proceedings, reports, policy, and technical literature, working papers) does not currently exist (Laws et al., 2020; Russell, 2005). It remains relevant to highlight that by excluding grey literature sources it could also limit the findings reported, biasing the review through only using published papers which generally report positive and significant findings (Turnnidge et al., 2018).

Secondly, it is also relevant to highlight the range of research designs utilised by the papers included in the current review are significantly reliant on cross-sectional studies, extracting and reporting analysis of data at specific, single time points. Therefore, when drawing on discussions across the review it is important to consider the publication dates of the included papers and the outcomes reported in relation to new studies that are continuing to be published. Related to this is the need to also appreciate papers have equally embedded self-report measurement tools when investigating both TFL elements and correlates of TFL. The accuracy of the data reported is, therefore, significantly reliant on the input provided by the research participants and limitations do exist. These are generally related to use of questionnaire scales and depth of participant responses provided, lack of option to withhold or not provide responses, and the possibility of participants providing responses potentially based on desired outcomes from coaches and/or sports/clubs more generally (Paulhus & Vazire, 2007). This wide use of self-report tools, therefore, has the potential to overlook the opportunity for individualised participant responses leading to inaccurate data that possibly inhibits generalisability (Gorber et al., 2007).

Thirdly, the current review was consciously developed around broad parameters that allowed for TFL within sport coaching to be drawn upon in its entirety, opening the field of study for a full examination of the width and depth of current research. It could therefore be valid for future reviews to now focus on specific elements of TFL across targeted domains of sport coaching (elite, youth, participation) as Turnnidge et al. (2018) have previously offered regarding TFL and youth sport. However, room clearly exists to extend this approach further to continue identifying individual TFL behaviours that are reported

as supporting the development of coaches in specific domains, providing further valuable insight and connections across academic research, and applied practice. Finally, although it is possible that papers and grey sources of information have been overlooked by this review due to the parameters of the search protocol in place, it is still important to note that the included studies offer a representative view of current research across TFL in sport coaching and the discussions offered deliver viable input for consideration.

## **2.6 Conclusion and future directions**

Research within the academic area of TFL in sport has gained momentum over the past ten years with over ninety percent of papers within this field of study having been published since 2011. This systematic review analysed and reported the current status of transformational leadership research within the context of sport coaching highlighting limitations which have equally uncovered opportunities for future research direction and focus. Outside of the review limitations, the current study has specifically suggested future research should also consider the use of a broader variety of research designs through the development of experimental/intervention studies, longitudinal studies, whilst also developing a wider qualitative and mixed methods evidence base offering balance across the statistical and narrative data available. Similarly, researchers could further enhance studies by identifying and selecting sample populations outside of those that have already been published. Focusing on thoroughly reasoned and targeted demographic (gender, age), situational (sport played and level, environment, sport type (individual or team)), and contextual (individual: roles, relationships, conditions and impacts, decision making) characteristics that widen the existing research boundaries within this field of research. Equally, further consideration could be focused on the range and purpose of TFL correlates investigated across research studies, with a view to shaping a deeper evidence base that investigates antecedents across TFL within sport coaching, factors that act as third variables (mediators, moderators, and cofounders both positive and negative) across TFL in sport coaching, applied through the differentiated TFL measurements and sub-scales.

This review has underlined the volume of effort that has been invested to unpack, digest, and evaluate the multifaceted domain of TFL across sport coaching research. By its very nature, sport coaching is a dynamic and complex practice setting within a single sport, drawing together the evidence base across many sports clearly adds to the understanding that identifying commonalities across current research in this field of study can potentially support development of coaching practice and enhance participant experience more

widely through effective pedagogic up-skilling and practical application of TFL behaviours. It is possible if this rise in interest and popularity within the area of TFL in sport coaching research continues, it could supersede the organisation psychology literature where it is already the most popular leadership theory in that domain (Arthur et al., 2015), further underlining the potential impact of TFL as a viable concept in the applied setting of sport coaching. Overall, the results from this review suggest that TFL within sport coaching has a positive influence across multiple contexts of applied practice influencing both sport coaches and their followers. The theoretical concept of TFL, therefore, continues to offer a relevant framework for further research focused on identifying additional evidence to support the professional development of sport coaches, it is hoped this review will assist as a useful resource to enable this future direction.

## **2.7 Researcher mixed methods reflexivity phase 1**

Initial reflexivity regarding phase 1 of the multistage exploratory sequential mixed methods approach concerned the refining of the central focus of attention from an applied perspective, theoretically, and practically regarding the potentially unwieldy parameters systematically reviewing existing areas of research can present. The apparent possibility of uncovering overwhelming quantities of existing research outputs was a clear cognitive premise that needed to be navigated. Achieving this through peer discussions, engagement with the wide range of guidance and advice tools available supporting studies of this nature, and internal processing and refining of the specific aspects of leadership and sport coaching the researcher felt a connection to. Both as a practising sport coach, but equally as an academic researcher wanting to construct a study that enabled the possible bridging of the researcher and practitioner divide. Essentially, and of course pragmatically what would be of interest, relevance, and of use theoretically, and practically. Analysis of the subsequent outcomes from the searching and sifting across the final research studies included, very quickly initiated deeper thoughts regarding how this could be utilised to create a platform for further research investigations, how would they best be constructed, and more seminally where would ultimate attention focus regarding the domain of transformational leadership in sport coaching. Answers to these thoughts were soon realised through immersive engagement with the data sources, with this active engagement providing a pathway for clarity regarding where openings existed to further knowledge within this field of study. Although a potentially daunting remit, it gradually became apparent that 'knowledge furthering' was a genuine possibility and instilled a sense of authenticity across this building stage of the MMR process. As a pragmatist, the potentially worst feeling would be the sense that research was being

created without a constructive application ultimately. Drawing the data analysis processes of phase 1 to a conclusion, it became clear during this process that a valid steppingstone from this foundational platform would be to explore experiential narratives of the main actors within this research setting, to focus on an individual sport, naturally leading to the coaches within a specific sport the researcher had previous knowledge of as a partial insider-outsider. Therefore, pragmatically taking the decision to develop an interpretivist study as part of the second phase of this MMR process felt highly appropriate, knowing that when we talk to experts, we very often learn something new. Even if that new element is less focused on technical or tactical facts, behavioural, relational, situational, and contextual facets were all deemed highly relevant when considering this alongside the outcomes from the included systematically reviewed studies in phase 1. Empowered to continue progressing the exploratory sequential MMR process the next phase was subsequently developed to build upon the initial findings, thoughts, and importantly theoretical and applied reflections from the systematic review in Chapter 1.

## **Chapter 3: Understanding behaviours and experiences that impact on leadership in sport coaching**

### **3.1 Introduction**

Providing an unequivocal definition of leadership is challenging to offer, in part due to the wealth of existing literature that exists on this primary underpinning (Dinibutun, 2020), but equally highlighting the scope of this single word that enables the capturing of how individuals, in essence interact with others behaviourally and relationally, across an array of settings (Magnusen et al., 2020). Block (2014, p.233) captures this well through acknowledging that leadership is a “super complex phenomenon” compounded by the continual development and application of leadership as an evolving aspect of human interaction deeply rooted in lived experiences (Buck, 2014; Jowett & Shanmugam, 2016). Within sport coaching acknowledgement of the role a sport coach fulfils regarding the preparation, development and support of participants physically, psychologically, and socially is readily present across the work of researchers and practitioners focused on this domain (Arthur et al., 2020; Côté et al., 2010; Cushion et al., 2010; North et al., 2021). Effectiveness of the coach in this role is a fundamental principle enabling the imparting of these skills to participants specifically through development and application of the knowledge a coach holds and shares, appraising of the resultant outcomes realised through enacting of coaching knowledge, and awareness of the applied settings within which coach and athlete interactions take place (Côté et al., 2009; Jowett, 2017; Turnnidge et al., 2020).

The influence a coach applies on the participants they work with has significant, wide ranging, and potentially lasting behavioural, relational, and social implications whether constructive or destructive (Horn, 2008; Potrac et al., 2020), equally drawing attention to the ethical and moral obligations sport coaches must also not only adhere to (Duffy, 2010; Sendjaya et al., 2016; Zhang et al., 2019), but authentically embed across their technical, tactical, and interpersonal exchanges with participants (Smoll et al., 1978; Turnnidge et al., 2018; Vella et al., 2013b). Based on these facets it is clear that a plethora of worthy examples of effective coaches are ever present across the landscape contemporary sport operates within, and equally across a wide range of individual sports (e.g., Patrick Mouratoglou and Serena Williams, Angela Cullen and Lewis Hamilton), and team sports (e.g., Jurgen Klopp and Liverpool FC, Lori Locust and the NFL Tampa Bay Buccaneers) presenting clear opportunity to set benchmarks of excellence across coaching practice and potential lasting legacies (Jowett & Shanmugam, 2016; Van Mullem & Brunner, 2013).

However, an absolute science assessing effectiveness of sport coaching is equally challenging to devise (Nash & Mallett, 2019), predominantly due to the endless variability of the multi-faceted micro contexts across which sport coaching takes place, in addition to the uncontrollable impactful array of factors present across the meso and macro environments that sport as an entity functions within (Hoye et al., 2018; Lara-Bercial et al., 2020).

Such complexities that seemingly constantly revolve around sport, and the role of the sport coach have been expanding at a rapid rate fuelled by wide ranging political, economic, environmental, and social agendas presenting an expansive set of responsibilities and demands to satisfy within this twenty-first century reality for both sport and sport coaches (Council of the European Union and the Representatives of Governments of Member States, 2017; Donaldson & Finch, 2012). Globally, the alarming trends in declining human physical activity levels and engagement with regular active routines regardless of the clearly associated positive health benefits does appear to be the current status quo, refusing to stem the proliferation of the preferred sedentary lifestyle (Sport England, 2021; WHO, 2021). Within the multi-faceted domains of physical activity, the role of a sport coach resides at its fulcrum as a potentially unenviable conduit through which largely disengaged, inactive populations are encouraged to participate in an ever-increasing choice of exercise and sporting activities (UKC, 2021; Westerbeek & Eime, 2021). Sport coaches assume essential responsibilities for development of physical, psychological, and social facets across participant engagement, coupled with the increasing demand for individualised experiences and outcomes across multidimensional applied settings (Lyle, 2020; Potrac et al., 2020) within which sport takes place. The expansive role of sport coaches within contemporary sport (Resende et al., 2021) is evident illustrating the significance of this profession and the desire for athletes engaged with coaches across exercise and sporting contexts to hold positive perceptions of coach effectiveness through their behaviours and relationships enabling enhancement of experience whilst ideally sustaining engagement and participation (Jones et al., 2011; North et al., 2021; UKC, 2021).

Within this demanding and complex domain of sport coaching practice the positive relational and behavioural elements of TFL possibly have a constructive function to fulfil, specifically regarding leadership behaviours clearly appropriate to the role of the sport coach (Cushion et al., 2010; Turnnidge et al., 2018). The global construct of TFL embeds the principal tenants of the congenial leader and follower coexistence developed and supported through appropriate leader behaviours and mutually relevant relationship

development that impresses positively upon this context benefitting all connected parties (Burns, 1978). From this initial conceptual development, Bass (1985) subsequently highlighted in further detail the intrinsic and extrinsic links across the four transformational leadership cornerstones (Intellectual stimulation, individual consideration, inspirational motivation, idealised influence) drawing on the need for an increased state of awareness and consciousness regarding the pathways through which goals are realised. Additionally, further underlining the adoption of a selfless approach by transformational leaders eclipsing personal interests to focus on collective efforts. Ultimately repositioning leader and follower needs and wants so they align allowing connectedness and supporting of the collaborative mission through ideally delivering more than was initially expected (Arthur et al., 2015; Bass, 1985). Transformational leadership within sport has been conceptualised and modelled more specifically regarding sport coaching through the development of the mediational model of leadership (Smoll et al., 1978; Smith & Smoll, 2007) and the multidimensional model of leadership (Chelladurai, 1993; 2007) which are equally regularly applied across research within this field of study (Arthur et al., 2017; Gilbert & Rangeon, 2011) to explain the interpersonal processes through which athlete outcomes are influenced and realised. As a growing area of research focus over the past 35 years transformational leadership across sport has previously been evidenced as linking to a wide range of variables including, intrinsic motivation (Charbonneau et al., 2001), sport coaches' effectiveness (Rowold, 2006), team cohesion (Callow et al., 2009), child aggression (Tucker et al., 2010), athlete narcissism (Arthur et al., 2011), team communication (Smith et al., 2013), coach-athlete relationship (López et al., 2021), youth sport (Turnnidge et al., 2018; Vella et al., 2013a), well-being (Stenling et al., 2013), and performance (Bormann et al., 2016a), demonstrating the breadth of evidence that is starting to accrue.

However, it is also important to acknowledge that currently this area of study is heavily dominated by statistical evidence based on cross sectional participant self-report data (87% of TFL in sport coaching papers between 1985-2021), as reported in Chapter 2. This clearly illustrates the need for the range of research designs to be extended to enable the development of a richer, more meaningful, and diverse range of corroborative evidence, whilst also illustrating the continual need for further depth in the field of study focusing on the multitude of contexts, array of relational factors, range of behavioural applications, and development needs across sport coaching practice that exist, and are yet to be investigated (Carvalho et al., 2020; Gilbert et al., 2004; Griffo et al., 2019; Magnusen et al., 2020; North et al., 2021). This point is clarified further still through realisation that currently only six qualitative published research outputs exist within this field of study (Din

et al., 2015; Macquet et al., 2021; Morgan et al., 2016; Newland et al., 2015; Smith et al., 2013; Vella et al., 2013c) delivering a range of narrative exploration of TFL in Olympic sport, highlighting the congruence across Olympic athletes and coaches regarding experiences of leadership (Din et al., 2015), coach briefing of athletes and the multifaceted nature of this team performance function (Macquet et al., 2021), untapped potential of TFL within community sport settings (Morgan et al., 2016), female athletes experiences of coach TFL behaviours (Newland et al., 2015), effective TFL within the context of elite athletes (Smith et al., 2013), and effective implementation of coach education (Vella et al., 2013c). It is, therefore, clear TFL is a potentially highly useful, and valid domain of study due to its explicit relevance to the multifaceted applied contexts within which sport coaches deliver their expertise, coupled with the responsiveness, and alignment across the psychological and social needs of followers, (Bass et al., 2006; Popper & Zakkai, 1994). Transformational leaders have the potential to exert further positive influence across this domain of practice and will likely achieve this through support of additional evidence underpinning its wide-ranging value across research and applied contexts of sport coaching (Arthur et al., 2016; Magnusson et al., 2020).

Existing research currently delivers a rudimentary overview of the types of TFL behaviours that have been demonstrated to link to coaches, athletes, and both coach and athletes together (Álvarez et al., 2019; Lawrason et al., 2019; Tucker et al., 2010). However, how coaches experience, acquire, and develop these TFL behaviours still offers the opportunity for further exploration by researchers, potentially supporting the unpacking of additional compelling, and persuasive real-world narrative offering additional valuable detailed knowledge across this domain of research focused on transformational leadership in sport coaching. Acknowledging the narrative perspective of coaches is a significant element of supporting depth of understanding whilst simultaneously adding to the breadth of knowledge regarding what coaches believe, experience, and place meaning on as possible transformational leaders (Bazeley, 2013; Braun et al., 2013; Bryman et al., 1996; Newland et al., 2015). The transference of TFL in sport coaching research into practice settings is rare to find across current published outputs and serves to potentially subvert the furthering of the field of study (Magnusen et al., 2020). Engaging with professionals within applied practice settings of sport coaching demonstrates transparency, and authentic commitment to real-world practice, opening up the possibility of collective development of conceptual models of practice, theoretical frameworks, and research designs (Carvalho et al., 2020; Lara-Bercial et al., 2020; Magnusen et al., 2020). Researcher direct access into the bespoke professional settings that sport coaches work within provides the ideal space to explore collectively a myriad of relational, behavioural,

and situational drivers of, and connection across coach practice and participant engagement that create significant complexity worthy of investigation (Griffo et al., 2019; Lyle, 2018; Newland et al., 2015; Potrac et al., 2020).

As outlined in Chapter 2, studies on TFL in sport coaching could be enhanced through identifying and selecting sample populations outside of those that have already been published. Most previous studies on TFL in sport coaching have looked at sample populations across football/soccer, basketball, and samples that combine a mix of sports. A sport that has not received individualised attention in the TFL literature to date is tennis which provides a novel population to explore concerning the role of TFL in applied coaching practice. Furthermore, Chapter 2 also identified that research on TFL in sport coaching should consider the use of a broader variety of research designs to further enrich the collective researcher evidence base to inform coaching practice, for example through development of qualitative and mixed methods evidence. Therefore, this study will explore tennis coaches' perceptions of coaching excellence, effectiveness, and leadership through potential connections across the role of the coach and their participants, within the specific contexts within which tennis is supported and delivered.

## **3.2 Method**

### **3.2.1 Research paradigm**

Applying appropriate decision making concerning the choice of research paradigm from the onset of a research process is a fundamental primary step supporting continuity across ontology, epistemology, and methodology (Kuhn, 1970; Scotland, 2012). In line with this, Figure 3.0 details the research process adopted for the current study. Equally, establishing clarity regarding the philosophical underpinnings of a research study elicits transparency across researcher philosophical assumptions delivers coherence across the theoretical and practical connections (Blaikie, 2019; Grix, 2002), and provides the opportunity to position the present study within the existing wider field of research focused on TFL in sport coaching (Callow et al., 2009; Charbonneau et al., 2001; Rowold, 2006; Vella et al., 2013b), and more specifically across the existing narrower range of TFL in sport coaching qualitative studies (Din et al., 2015; Macquet et al., 2021; Morgan et al., 2016; Newland et al., 2015; Smith et al., 2013; Vella 2013c). Within the complex, applied, multi-faceted settings within which sport coaching takes place, and the role of the sport coach is enacted, a compelling case for application of a pragmatic approach to research is apparent (Bachkirova et al., 2017; Lyle, 2020). Equally applicable across both positivistic (integration of specific statistical methods and protocols seeking absolute truth

through verified evidence and objective reporting), and interpretivist perspectives (draws on socially constructed assumptions of reality where truth is experiential and evolving, presented through subjective reporting) the core principle of pragmatism is centred on what is useful and works is, therefore, true (Bacon, 2012; Morgan, 2007; Potrac et al., 2014). This pragmatically also affirms that diverse experiences of reality and knowledge acquisition are of equal relevance, evaluatively drawing on the practicalities of values, beliefs, and experiences to successfully lead to appropriate action (Bachkirova, et al., 2017; Bazeley, 2019).

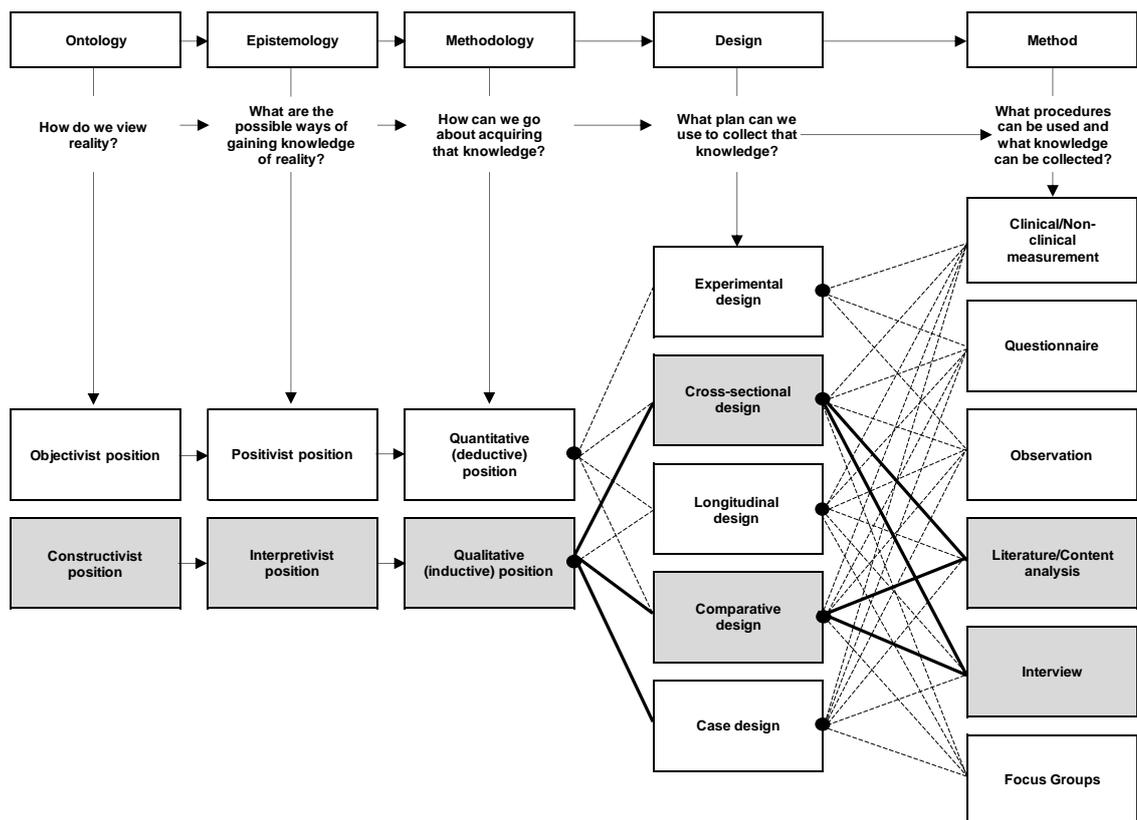


Figure 3.0 Study philosophical underpinning with the grey highlighted boxes and solid black lines indicating the research process for the current study (adapted from Hay, 2002; Smith, 2010)

The current study has adopted a constructivist pragmatic (qualitative inductive position and method) ontology that endorses the application of narrative focused data collection through which experiences of past, present, and current practice are reconstructed and shared by participants, supported through utilisation of reflexivity and subsequent interpretation facilitated by the researcher (Denzin, 2018; Lincoln et al., 2011; Newland et al., 2015). Through utilisation of inductive reasoning, analysis, and reflexivity, the current study delivers subjective reporting regarding the research questions posed (Braun et al., 2020; Sparkes et al., 2013), whilst equally illustrating pragmatically that truth is not

absolute but can be more efficacious, dynamic, and relative (Bazley, 2013, 2018; Smith et al., 2018; Tracy, 2010), acting as a potential catalyst for action (Lincoln et al., 2011). Findings, therefore, add to this domain of study through provision of qualitative empirical evidence to further support development of applied sport coaching practice both within tennis, and with the potential for transferability across the practice of sport coaches more broadly.

### **3.2.2 Participants**

The selection criteria for the present study focused on recruiting coaches from a specific single setting of applied sport coaching which was satisfied through recruitment of eighteen tennis coaches establishing the purposive sample. Participants were selected with the primary emphasis on their current coaching role within tennis, and equally their ability to provide personal and professional experiential responses to the tennis coaching questions posed within the data collection process of this study (Braun et al., 2006, 2013; Teddlie & Yu, 2007). The coaches within the selected sample had all previously attended, and engaged with continued professional learning (CPL) sessions connected to their development as tennis coaches, with a specific emphasis on their business skills to enhance professional development outside of their technical tennis skills. It is important to report transparently the prior connection between the researcher who had been a facilitator of these CPL sessions with a larger group of tennis coaches, from which the recruited participants for the current study volunteered to participate. With the study procedure fully adhering to both institutional and situational ethical procedures (Iannacone et al., 2022), this prior contact between researcher and participant also acknowledges the relational ethics present and the responsibility the researcher has beyond traditional 'virtue ethics' (Blee et al., 2011). Therefore, to navigate this element of the research process the researcher utilised the associated national governing body of the tennis coaches as the gatekeeper (Andoh-Arthur, 2019; Clark, 2011) to seek permission to approach the group of coaches regarding the study. Whilst equally acknowledging the co-constructed power dynamics (for both the researcher as the facilitator, and the participant through choices made regarding their responses) present (Ben-Ari et al., 2013) by putting in place an agreement with the participants to protect their anonymity and confidentiality across the data collection, analysis and reporting stages of the study. In addition to employing a continual, integrative reflective approach when engaging with the participants and study data to manage further potential researcher power dynamics, assumptions or bias across the interactions with the coaches (Baker et al., 2016; Reid et al., 2018).

The scale of the criterion-based sample (Collis & Hussey, 2013) was deemed viable due to the process of analysing the raw data once the interviews had taken place, which identified the point at which no apparent new themes were continuing to evolve from the interviews at the latter stages of the interviewing process in its entirety (Din et al., 2013; Fush & Ness, 2015; Guest et al., 2006).

The sample within the study covered an age range between 25 to 55 years with a mean age of 37.39 years (SD=10.27) and was a mixed gender sample that included four female (22.2%), and fourteen male (77.8%) coaches, which is reflective of the broader coaching workforce in tennis where nationally 23% of tennis coaches are currently female (Ward, 2021). More widely, the national picture of sport coaches generally represents an increased gender diversity, with a relatively even split across numbers of males (54%) and females (44%) that actively contribute to the national coaching workforce (UK Coaching, 2017). The qualification level of the participants within the current study ranged from across the spectrum of the Lawn Tennis Association (LTA) coaching qualification pathway (LTA level 3 n=3, 16.7%, LTA level 4 n=7, 38.9%, LTA level 5 n=8, 44.4%). Similarly, the challenges concerning gender difference are also apparent here and continue to reflect the national picture within tennis, with the LTA reporting that the proportion of female coaches declines as coaches progress upwards through the LTA coaching qualification pathways (LTA, 2021). Furthermore, participants sampled by the LTA all delivered tennis coaching within geographical locations across the UK facilitated within a broad range of tennis settings (club, university, regional and national performance), with access to a differing selection of tennis facilities (indoor private club, outdoor private club, outdoor local authority courts, university courts), and covered a wide range of applied experience as a tennis coach, indicating an average of 17.78 years (SD=10.42, Range 6-35 years) of professional practice.

Bass et al. (2006) indicates that TFL theory is applicable to both genders, across age groups, and has relevance within a wide range of applied settings. Nevertheless, it is still appropriate to acknowledge within the current study that the specific facets of gender, coaching qualification level, years of coaching experience, and setting within which the coaching occurs, each have the potential to limit the analysis process due to the blended nature of the sample. Researchers have argued that it is ideally more beneficial to analyse research data and outcomes by gender due to the potential variability in practice priorities different gender groups place on engagement with sporting activities (Cooky, 2018; Ratna et al., 2017). Equally important, however, is for research to incorporate experiences, beliefs, and values from a wide range of relevant experts, so that the true extent of the

complexities that exist across the varying applied contexts within which sport takes place are also represented (Smith & Stewart, 2010). It is clear, therefore, that an ideal 'best fit' sample population is challenging to define when examining a diverse range of experiences and contexts within sport (Hoeber & Shaw, 2017), underlining the need for researchers to offer transparency when reporting the recruitment and sampling process to ensure that research findings can be viewed with a clear understanding of the source of the input to support authentic contextualisation (Jager et al., 2017) regarding applied sport coaching practice.

### **3.2.3 Procedure**

This study was approved by the Faculty of Health and Life Sciences Ethics Committee at Northumbria University. Following completion of the required institution ethical approval process, potential participants for the study were contacted individually via email, face to face conversation, or by telephone, and were invited to engage in a personal interview. Each potential participant that volunteered to take part provided written, informed consent prior to taking part in the interview, which took place either face to face (n=5) or by telephone (n=13), with all participants assured of confidentiality with their anonymity protected and assured they could end participation in the study at any time should they wish to do so without reason provided. Specifically, participant anonymity was protected through utilisation of pseudonyms across the data storage, transcription, and reporting stages of the research process (within the current study pseudonyms employed included P001, P002, P003 through to P018). This enabled the neutralising of the precise source of narrative data, whilst protecting the identities of the sample group of participants and ensuring that the rectitude quality of the data was sustained (Smith & Sparkes, 2016; Saunders et al., 2015). Additionally, to further support participant anonymity a comprehensive process of member checking (Candela, 2019; Birt et al., 2016; Lincoln et al., 1986) of the resultant experiential narrative data collected was undertaken as an integral element of the credibility and trustworthiness procedures embedded across this qualitative research procedure, which is discussed in further detail within section 3.2.5 of this chapter.

As previously employed across the small number of qualitative design research studies focused on TFL in sport coaching at this time (Din et al., 2015; Macquet et al., 2021; Morgan et al., 2016; Newland et al., 2015; Smith et al., 2013), semi-structured interviews were conducted to access participants' unique perceptions of excellence, effectiveness and leadership across the specific contexts that tennis is supported and delivered. A pilot study was implemented (see Appendix G for a copy of the pilot study interview schedule)

involving two interviews to test the openness and space facilitated within the interview process, allowing reflexivity of the natural flow and subjectivity of the responses provided in both the face-to-face interview context and the telephone interview context, supporting the opportunity for further preparation and refinement of the narrative collection tool prior to commencing engagement with the wider sample group (Marshall et al., 2021; Oppenheim, 2000; Sampson, 2004). From engagement with this qualitative piloting process across the two audio recorded interviews, which lasted between 41 and 52 minutes, further minor amendments relating to contextual clarity of eleven of the original nineteen questions across the interview schedule were actioned. This process of proactive refinement through engagement in a rigorous qualitative pilot process supported the improved coherence and quality of the interview schedule and enabled the further orientation of the data collection process, whilst equally preventing the wasting of participant time – an important interpersonal factor that needs to be taken into consideration within research studies employing this design (Sampson, 2004; Smith, 2010; Williams-McBean, 2019).

The interview schedule (see Appendix H for a copy of the main study interview schedule) for the main study (post pilot study) was developed through review of existing qualitative studies focusing on TFL in sport coaching (Banack et al., 2012; Din et al., 2015; Morgan et al., 2016; Newland et al., 2015), and from drawing on wider qualitative studies across research in sport coaching (Callary et al., 2015; White & Bennie, 2015), alongside broader investigation regarding best practice across qualitative research design (Bazeley 2013; Burke, 2016; Cassidy, 2016; Smith, 2010) to ensure a high quality and robust development of the primary data collection tool. The interview was subsequently developed and formed the basis through which the experiences of coaching and coaches were focused upon, in addition to narrative regarding possible participant perceptions of coaches, with each facet enabling the building of an authentic picture of the realities within which tennis coaches exist. Development of interview questions across four sections occurred (tennis career overview, excellence in tennis coaching, coach education in tennis, coaching organisation outputs) throughout which no explicit reference or explanation of the concept of TFL was included to avoid any potential leading or influencing of the participants (Bazeley 2013; Williams-McBean, 2019) during this process. Interview questions were developed to connect across the practice of coaching in tennis more generally, allowing participants the room to take the conversation where they naturally wanted to, with appropriate general follow up prompts used (e.g., Could you explain that a little more for me? Can you describe that further for me? Do you have any specific examples of that?) by the interviewer for further clarity as needed (Marshall et al., 2021; Sampson, 2004; Smith, 2010).

As the basis of the current study was formed regarding specific interest in understanding coach behaviours and experiences that impact on leadership in sport coaching, questions were crafted to focus on experiences and perceptions directly connected to the role of the coach in this context (e.g. Could you think of the best tennis coach you have had, watched and or worked with and tell me about them? Could you tell me what your understanding is of the term leadership within the context of tennis coaching?). In addition to presenting tennis specific references and situations where leadership could or would be drawn upon by a coach (e.g. What is your understanding of the differences between the club and performance tennis coach education pathways? Could you tell me what your understanding is of the current tennis strategy?) and, therefore, subsequently could be linked to the detailed constructs of TFL behaviours within the “everyday worlds” (Marshall et al., 2021, p.2) tennis coaches exist within, interviews were further supported through the reflexive process, and additionally during the subsequent analysis process for the present study.

#### **3.2.4 Data Analysis**

In order to develop a detailed, rigorous, and credible understanding of leadership within the context of tennis coaching an iterative reflexive thematic analysis method was developed (see Figure 3.1) and implemented drawing on the principles and guidelines detailed across current qualitative research, specifically drawing on input from Bazeley (2013) and the work of Braun et al. (2006, 2016, 2019, 2020, 2021), allowing for analytic engagement with the qualitative data, alongside theoretical flexibility and practical reflexivity. Current qualitative studies focused on TFL within sport coaching have applied more general thematic coding processes (as opposed to specifically reflexive thematic analysis), underlining the appropriateness of adopting this method when analysing qualitative data sets with participants from across the expansive domain of applied sport coaching practice (Din et al., 2015; Macquet et al., 2021; Morgan et al., 2016; Newland et al., 2015). As discussed by Din et al. (2015) the fundamental aim and use of an interpretive analysis processes is to support the uncovering of themes from raw data and take appropriate steps to allow possible connections to broader situational contexts of practice and existing theoretical knowledge to occur (Lincoln, 1995; Smith et al., 2018).

From across the range of qualitative analytical approaches that support the examination of eliciting meaning, and patterns across meaning, from qualitative data sets, both theoretically informed frameworks (grounded theory, interpretive phenomenological theory, discourse analysis), and atheoretical (thematic analysis, content analysis) approaches exist and offer a choice primarily based on the research question posed (Braun et al.,

2021), and the underlying philosophical positioning of the research study. More specifically, within the family of thematic analysis methods (Braun et al., 2019; coding reliability approach, reflexive approach, codebook approach) further choices remain regarding the analytical approach employed, underpinning research values, and theoretical notions in focus (Braun et al., 2021). What is clear is from across the range of qualitative analysis approaches that can be employed, no one best or ideal method exists (Bazeley, 2013; Braun et al., 2016; Creswell et al., 2020). Selection and implementation of the analysis technique employed is, therefore, highly aligned to not only the research question in focus, but equally to researcher values and their perspicacity across theoretical and practice assumptions (Braun et al., 2019). The specific qualitative analytical process for the present study is illustrated in Figure 3.1 detailing the comprehensive approach developed and implemented.

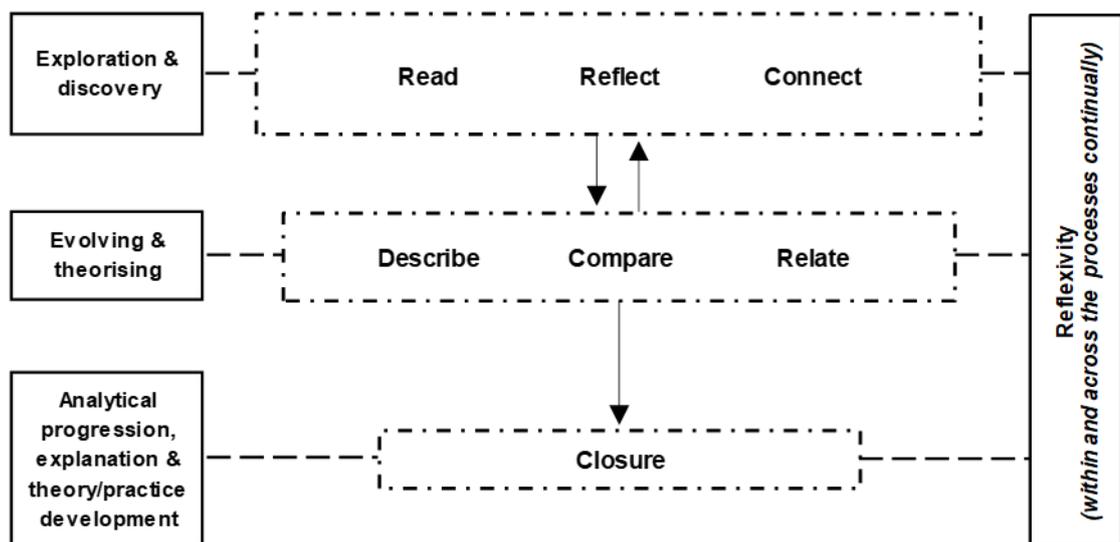


Figure 3.1 Qualitative data analysis processes (adapted from Bazeley, 2013, p. 101, 223, 325, and Braun et al., 2006, 2019)

Within the current study, after removal of the pilot study scripts (n=2), the initial stage of inductive analysis with the verbatim transcribed interview data (354 double line spaced pages of 12 point typed text) centred on the reading of the remaining interview transcripts (n=16) to refresh the researchers mind regarding the recorded conversations with participants (which lasted between 30 and 60 minutes), whilst also allowing for initial reflexivity on the broader nature, meaning, and initial thoughts of the dialogue allowing the absorbing of the narrative on a holistic level without forcing the analysis process at its inception (Bazeley, 2013; Coombs et al., 2018; Creswell & Báez, 2020; Shelton & Flint, 2019). Further to this, the primary decision-making process of data coding was undertaken which focused on extracting a meaningful narrative of the participants'

dialogue from the raw data, whilst ensuring a distinct clarity of focus on the principal elements of the research question throughout (Creswell et al., 2020; Elliott, 2018). Therefore, to support this a process of initial open coding was implemented across all of the interview transcripts through use of labels to represent overarching patterns and connections across the participant discussions. This approach in qualitative coding has been referred to as “lumping” (Bernard, 2017; Braun et al., 2020; Saldaña, 2021), underlining the initial more general remit of this stage of raw data coding. Similarly, the further refinement of the coding process realised the “splitting” (Bernard, 2017; Elliott, 2018) of the transcripts allowing the honing and comparing of finer details and enabling the assembly and drawing together of initial themes.

The present study utilised qualitative analysis software (QSR NVivo 12) to support the coding of raw data into nodes, and subsequently into hierarchical themes through this recursive data analysis process, with the created nodes storing direct links to excerpts of text from the transcripts and subsequently through into the subthemes and overarching themes (Bazeley & Jackson, 2011). Reflexive journaling took place through each stage of the data collection and analysis processes within the qualitative analysis software (QSR NVivo 12) through using the memo facility supporting the capturing of semantic (explicit) and latent (implicit) thoughts and ideas as they were apparent (Braun et al., 2021; Bringer et al., 2004). This ultimately proved to be an equally vital element of the data analysis process, enabling the comparison across common threads as they developed within the raw data, relating to theoretical concepts, and applied practice contexts supporting the final thematic output (Bazeley et al., 2011; Bazeley, 2013). Similarly, additional functionality of the qualitative analysis software (QSR NVivo 12) enabled the development and recording of classifications (specific details concerning the sources of the data to allow analysis of cases and attributes represented by demographic, educational, geographical, clinical, and organisation data), use of coding stripes through the coding process (colour coded bars applied to the source data indicating node links allowing a visual overview of the coding process), and review of word frequency during the initial stages of the data familiarisation and exploration process (extracted from the source data to indicate visually levels of word recurrence). Integration of these qualitative software functions, alongside the multi-stage coding and reflexive process combined to provide a platform through which raw data, codes, and resultant hierarchical themes deliver a representation of the realities and knowledge experienced by the tennis coaches that participated in the current study. This ultimately supported the development of pertinent discussion, whilst adding to the existing research within this field of study more broadly.

### **3.2.5 Credibility and trustworthiness**

Demonstrating the credibility, trustworthiness, and overall quality of research is multifarious and elicits a range of academic practice, and researcher positionality (Braun & Clarke, 2006, 2020; Lincoln & Guba, 1986; Sparkes & Smith, 2009, 2013; Yardley, 2000), inevitably fuelling complex debate regarding the heterogeneous aspects possible through development of interpretivist qualitative research. However, as Bourdieu (1987) states, it is through application of researcher resources, social positioning, and predisposition within a field of study or practice that supports the realisation of effective qualitative viewpoints. Specifically, through drawing on resources as individualised capital that can be acknowledged, accessed, and constructively applied across multi-faceted, capricious cultural settings through which functions of practice, structural hierarchies, dimensions of habitus and relationships can appropriately be explored (Bourdieu, 1987; Burke, 2016; Kerr & Strum, 2019). As Dwyer and Buckle (2009) posit, it is overly simplistic to label the researcher as either an insider or outsider due to the dynamic and interchangeable epistemological and ontological underpinnings of interpretivist research. Rather, they offer a compelling alternative for a tertiary space where qualitative researchers reside, arguing that they are neither completely the same as, nor entirely different from, study participants, simply facilitating the process through application of capital as appropriate and relevant to the context in focus (Coombs & Osborne, 2018; Fletcher, 2014; Kerr et al., 2019). Therefore, with these complex facets of qualitative research in mind, the current study embedded a blend of further trustworthiness procedures with clearly aligned relevance to the present research study across the context of TFL within sport coaching, an approach previously utilised by Newland et al. (2015) in the interpretivist examination of female athletes' and their connection to TFL.

The trustworthiness procedures integrated within this study, alongside the structured reflexive thematic analysis process adapted from the principles and guidelines proposed by Bazley (2013) and Braun and Clarke (2006, 2019, 2021), included: rapport building, data saturation, member checking, critical friends, and reflexive journaling (Candela, 2019; Kerr et al., 2019; Lincoln et al., 1986; Newland et al., 2015; Saunders et al., 2015). Through adopting these additional strategies it was not the intent of the current study to posit that this has enabled the delivery of absolute truth in the current context. The overarching aim of this study and associated trustworthiness processes are to ensure a transparent presentation of the ethical and authentic interpretation of the narratives collected from the tennis coaches, capturing real world experiences and views that may have the potential to offer transferable insight across tennis coaching practice, and across sport coaching more broadly (Newland et al., 2015; Sparkes et al., 2009; Yardley, 2000).

Specifically, within the context of this study, the past experiences of the interviewer as a lifelong self-confessed sport enthusiast both as a participant, and in adult life additionally as a coach specialising in athletics (middle/long-distance running, and the strength & conditioning preparation of runners), provided a relevant platform through which to build rapport with the participants.

It is also important to acknowledge the active role the researcher has previously held developing and delivering continued professional learning sessions connected to coach development and coach pedagogic pathways with the sport national governing body the coaches interviewed within the study are professionally connected to. Equally, through this prior relationship, it enabled the utilising of a contact at the national governing body as the gatekeeper within this research study as a context relevant mediator (Andoh-Arthur, 2019) which, in this instance, supported the further distinguishing of the professional identity and roles fulfilled by both the researcher (interviewer) and participants (tennis coaches) during the data collection process (Clark, 2011). Through a combination of the researcher's experience of sport and working within the context of tennis, it proved to be highly effective when engaging with the coaches, drawing on this social capital (Bourdieu, 1987) specifically concerning a mutual knowledge of the sport governance structures, sport specific phrases and jargon, and familiarity with the wider domain of sport within which tennis is positioned enabled the establishing of a comfortable interview setting for the participant. For example, when experiences by interviewees were shared regarding growing up through childhood and adolescent years, the interviewer was able to converse with the participants utilising language applicable to curriculum physical education within the UK, and the challenges of performance sport for children. Similarly, when discussions focused on the wider understanding of the complexities the coaching role garners within this context in comparison to the broader domain of sport coaching across various other sports, the interviewer was able to articulate prompts drawing on language again applicable to these sport specific settings (Polkinghorne, 2005). This more generally supported the natural flow of the conversations taking place enabling the settling of the participants during the interview process and supporting the building of rapport.

The coach interviews continued until the richness (quality) and thickness (quantity) of the data (Denzin, 2018; Fush et al., 2015) was sufficient to conclude that data saturation had been achieved within the specific context of the present study. This was, in part, due to no new themes becoming apparent across the interviews at the latter stage of the process, and equally due to the exploratory narrative collection process aligning to the paradigmatic assumptions asserted through the presented details of the research design for the current

study (Braun et al., 2021; Fush & Ness, 2015; Newland et al., 2015). As part of the embedded blend of further trustworthiness procedures, an additional process of member checking was also integrated (Lincoln et al., 1986) to examine and maintain the methodological robustness of the study at this critical stage of the enquiry, whilst also allowing further reflexive space and time for the study participants (Birt et al., 2016; Candela, 2019). This involved providing the participants interviewed in the study a copy of the transcribed interview audio recording and requesting they read through and evaluate the accuracy of the transcript, and more broadly consider how the transcript interprets the resultant audio recording from the interview process (Candela, 2019). This member checking process allowed for the securing of the participants voice through validating the accuracy of the narratives shared regarding the experiences drawn upon through the course of the interview, and that they would be represented in a true, fair, and consistent manner during the following analysis procedure (Birt et al., 2016; Candela, 2019; Lincoln et al., 1986). From the completed member checking process, no interviewees altered their transcripts.

In parallel with the member checking process, two qualitative experts were called upon to further review the interview audio, transcripts, and the subsequent themes elicited from the participant data extending the range and balance of experience during this primary reflexive process (Bazeley, 2013; Norris, 1997; Sparkes et al., 2009). By widening the group of social science researchers reviewing the resultant data set, and thematic process it supported engagement in challenging, supportive dialogue ensuring possible predispositions were considered, enabling the development of the sensitive, and appropriate overall outcomes presented in the current study (Newland et al., 2015; Norris, 1997). Additionally, across both the interview and the thematic analysis processes the interviewer also developed a self-reflexive journal that allowed for further consideration of potential bias through possible application, and integration of personal beliefs, values, and experiences (Braun et al., 2019; Hibbert, 2021).

The reflexive trail created allowed for a further expansive, and potent investigation that supported the calibration of the final narrative outcomes, due to increased awareness and attentiveness to the potential of these naturally occurring facets of cultural and social capital (Barrett et al., 2020; Bourdieu, 1986; Moore, 2007). Finally, it is also equally relevant to emphasise that, during all stages of the current research process employed, the interviewer consciously ensured their over-arching self-identity was that of a partial outsider-insider expert (Coombs & Osborne, 2018; Kerr et al., 2019; Fletcher, 2014), positioned clearly in this setting as a social science researcher authentically interested in

the lived experiences of the coaches interviewed.

### **3.3 Results and Discussion**

Through working with the qualitative research data, three overarching themes supported by ten sub-themes from across the sixteen interviews and the subsequent reflexive thematic analysis were developed (see Appendix I for the complete reflexive thematic analysis map of the hierarchical themes) to encapsulate the experiential meaning from the narrative. These were: coaching context (with five sub themes of performance tennis, club tennis, coach development, playing tennis, and tennis resources), satisfaction (with three sub themes of professionalism, desire & energy, and relatedness), and focus (with two sub themes of attentiveness, and transcendence). As is consistent with a comprehensive reflexive thematic analysis processes, overarching themes and subthemes were compiled through both semantic (explicit) interpretation of the tennis coaches' input, whilst broader links to theoretical concepts have been drawn upon through latent (implicit) interpretation of the subsequent themes (Bazeley, 2013; Braun et al., 2021). Specifically, the latent underpinning across the theme of coaching context fitting predominantly with the conceptualisation of TFL and the integral four pillars of this concept (Bass, 1985; Burns, 1978; individual consideration, idealised influence, inspirational motivation, and intellectual consideration), and further the specific constructs of the differentiated transformational leadership inventory (Callow et al., 2009; Hardy et al., 2010; fostering acceptance of group goals, high performance expectations, appropriate role model, contingent reward, individual consideration, inspirational motivation, and intellectual stimulation).

The theme of satisfaction is proposed to have a latent connection to self-determination theory more broadly and the specific constructs embedded within the basic needs concept (Ryan et al., 2017; relatedness, competence, and autonomy). With the final overarching theme of focus demonstrating an apparent attachment to the central tenants of mindfulness as a concept (Brown et al., 2003; attentiveness, awareness, openness, and acceptance). It is also proposed that the concept of TFL, and the specific differentiated constructs within this theory, provide further latent meaning within the overarching themes of satisfaction and focus, in addition to coaching context as identified, illustrating the pervasiveness of this leadership approach within the current study focusing on experiences directly related to applied sport coaching practice within tennis. This was equally demonstrated by the coach's narrative, which frequently identified the explicit nature of the tennis coach's role being that of a transformational leader, with exerts from

the narrative data stating:

*“So, there is a lot of leadership... It’s mainly on the court, in terms of being a good leader, and rotating forecourts and standing on the balcony and making sure all the coaches are doing the right things. “Make sure you’re on it with that player. Make sure that player’s doing that. Can you make sure of that player when they do this?” They have to lead coaches and players on the court...” (P004)*

*“But, you know, thinking about it, leadership is so key in any role where you’re managing people. And I don’t think coaching is any exception of that. I... Everyone here leads a... Leads a team of people. But... Who’s in a managerial role. Have they ever had training for it? I don’t know. It’s almost like, for me, it’s like a personality characteristic more than anything else.” (P005)*

*“I think that leadership is particularly my role now. So, as a Level 5 coach and with a team of four other coaches, I have to lead with those guys and set a good example and we have regular meetings and I try and, sort of, put across my beliefs and my, sort of, philosophy and behaviours, across to them, because they are working for me and representing my coaching business and I want us to “make sure that we deliver the same.” (P006)*

*“So, if they can’t lead, they kind of get burnt a little bit. So that they, from step one, I think you actually have to have a good understanding of how to lead.” (P009)*

*“And then it’s about, you know, recruiting, training, working with the team, and empowering the team to go and... You know, go, and deliver that. But also, then getting out there and leading by example.” (P016)*

From across these initial extracts of the coach narrative it presents experiential evidence of leadership permeating every facet of the coaching role, be that on court, off court, starting out in a tennis coaching career, having reached the very highest tennis coaching qualification level, or indeed multiple years of tennis coaching experience. Representation of the primary facets of TFL and the constructs of the DTLI are equally apparent across each of the coach narratives, drawing on appropriate role modelling, inspirational motivation, intellectual stimulation and, more broadly, the significant relevance of the coach (leader) and follower (players or other coaches) behaviours utilised to form mutually beneficial connectedness through individual consideration, and idealised influence (Arthur et al., 2017; Arthur et al., 2020; Bass, 1985; Jowett et al., 2019). The narrative input within the current study also provides a rich and varied picture of the applied settings across which tennis coaches are delivering within their role with athletes, alongside other coaches, and through engagement in professional development, with the distinct common thread pulling these elements together being the visibility of leadership across the coach’s role. Through application of participant pseudonyms and drawing on further extracts from the tennis coach narratives the overarching themes detailed are explored more deeply across the ensuing discussions.

### 3.3.1 Coaching contexts

It has been well established across existing research focused on sport coaching more broadly that the contexts (see Figure 3.2) across which the role of the sport coach takes places are broad in their scope, vary in their depth both technically and tactically, and equally present a wide range of multiple societal, relational, behavioural and resource centred challenges (Council of the European Union and the Representatives of Governments of Member States, 2017; North et al., 2021; UK Coaching, 2021). The expansiveness of the coaching contexts across which tennis coaches deliver their role is further underlined from the coaches' narratives:

*“But actually, we know now that the majority of people maybe don't even play in a club. They play recreationally. Or in park environments. So, we are making sure that our content reflects the skills that the coaches need to work in a park venue, as opposed to a club. Because you need very different skills to work in a park than you would do in a traditional members club.” (P003)*

*“...and got me experience in different environments for tennis. From [Company] to more of a community setting in [Location] town centre. I spent a few years with them really learning my trade” (P009)*

*“So, it's all about shaping and creating the environment.” (P016)*

From this it can be observed that to offer general assumptions regarding a sport is clearly flawed, specificity of context is paramount (Lyle, 2020) demonstrated by each of the coaches within the current study who are all from a single sport (tennis) and all acknowledge the array of choice that participants have when choosing to engage in tennis, particularly when compared to the multitude of competing sport and exercise options available. Alongside the specific skills that tennis coaches themselves require, to not only be able to demonstrate the technical competence to deliver within these varied tennis spaces (clubs, parks, educational settings, high performance centres) across a choice of court surfaces (hard, clay, grass, indoor courts), but equally to ensure they are equipped with the contextually relevant coach leadership skills; no less valid skills that will also support development of themselves, their tennis participants, their business, whilst contributing to the wider strategic direction and mission of tennis nationally (Griffo et al., 2019; Kolman et al., 2019; Lyle & Cushion, 2017).

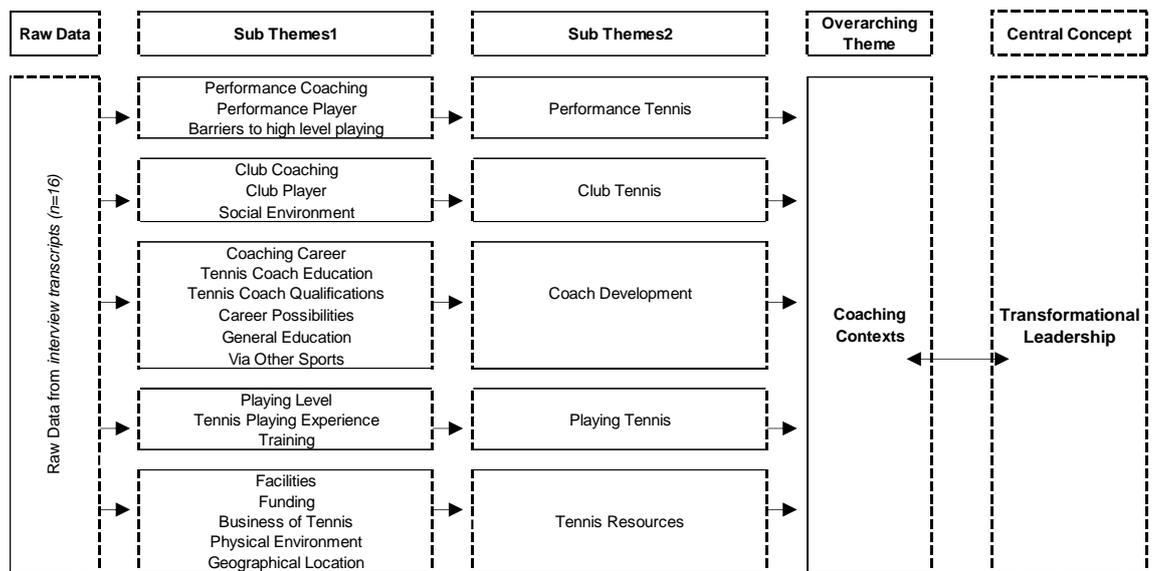


Figure 3.2 Study reflexive thematic analysis map of hierarchical themes for coaching contexts

Further to this, tennis has two distinct domains across which participants can engage with the sport, and coaches can support their development either as a performance player, or a club player. They are distinct in nature, pathway, and purpose drawing on specific experience and skills to garner the optimum outcome and experience, reinforced by participant P005 who states “...*the pathways recognise the different context in which a coach works*”. Specifically, regarding the performance environment within tennis, this relies significantly on the sharpness of focus, and dedication of both the player and the coach coexisting together, striving to achieve at the highest levels across demanding settings, against career odds that are incredibly challenging to overcome (Kolman et al., 2019; Šlosar et al, 2019; Thelwell et al., 2017) - facets explained well through the coaches’ narrative:

*“So, when we’re looking at potential high-performance players, you’ve got to look at it through that lens. Where you’re absolutely focused on the performance characteristics.” (P002)*

*“Essentially the performance coach education pathway is really about coaches that have made a decision that they want to work in high-performance. They want to work with players. They want to be player-centred, coach-driven and they want to plan the development of that player.... and that means very deep and detailed into the performance factors, mental, physical, technical and tactical.” (P004)*

*“Performance players would probably be more likely to smash their racquet in frustration because the pressure is higher. They expect a lot more from themselves than the development player that’s coming to just enjoy the sport... (P006)*

*“The thing I, sort of, find my mind going to more in performance is that understanding of how to be in a particular situation. It’s about being able to adapt*

*your style in the right environment, and plus what's needed in that situation. And that's... So, I think that's what's really crucial in terms of the performance side. Because if that's... For me, performance is that part of leadership which is about... You know, it's really about creating the environment to bring the best out of others.” (P016)*

The delimitation of coaching practice into distinct domains of practice has been asserted across sport coaching research, with elite sport centred on high performance expectations, achievement of these, and commitment to the intervening continual preparation cycles between competitions supported by an ever-increasing selection of coach and athlete practices existing within contemporary elite sport (Lara-Bercial & Mallett, 2016; Lyle et al., 2017; North, 2017). As Allen & Muir (2020) discuss such diversity within this domain of coaching practice presents challenges across direct (athlete preparation and competition performance) elements of the role, indirect (planning, managing, and knowledge development) facets of the role, and more general administrative and media (funding, documenting, stakeholder relations) activities that all require the attention of the coach within this context of performance sport (Lyle et al., 2017; Rynne et al., 2016). Similarly, in the study focused on Olympic medal winning coaches (Din et al., 2015) researchers captured the essence of the multifaceted, highly demanding role of the performance sport coach by labelling them the “decisive conductor” (Din et al., 2015, p.593) illustrating the dynamic, focal role required, whilst further demonstrating the applicability of these elements within the performance pathway present in tennis and experienced by the coaches in the current study. Comparatively, the club tennis environment does, however, display some similarities to the performance domain, the essence of the sport and exercise opportunity offered here is openly focused on delivery of appropriate needs and wants from tennis experiences connected to age, playing, and individualised goals. This is further underlined by the coaches’ narrative:

*“The participation side, I think, differs totally. Because it comes back to, again, fun, inspired, enjoyment. Probably you get fit from doing so. But actually, you can teach people to be competent and they can go to the club on a Saturday morning, and they can have a good game.” (P002)*

*“Working with the committee, working with the tennis manager, working with the community, working with disability tennis – all the different products that are available – tennis foundation, the schools, running the coaching programme at the club, involving competition into that side... So, it's a much broader pathway for coaches.” (P004)*

*“...the [club] coach pathway is someone who's going to go into being a head coach or managing a centre. You know, it's really kind of knowing the theory behind marketing projects, finance, running a cost-effective programme.” (P010)*

*“Whereas you've got the club coach who's looking at making... The players they're*

*looking at it for is, sort of, a life sport. And it's sort of more the techniques to be able to play the game for a longer period of time.” (P012)*

Across the domain of participation sport, within which club tennis resides, the focus on player engagement still stems from the need to deliver appropriately constructed sessions, that are relevant to the participation group providing the rate of progression desired by individuals, whilst ensuring a keen overview of the business functions (human resources, finance, marketing, planning, and leadership) of the tennis club are all functioning as required. An apparent exhaustive breadth of responsibilities equally bestowed upon the role of the club tennis coach, and similarly reflected by UK Coaching (UKC) who detail the need for broader acceptance of the “benefits it [coaching] brings to society and individuals” (UKC, 2021). Additionally, multiple researchers continue to underline the breadth of scope and focus regarding challenges and opportunities apparent across the participation domain of coaching more generally that relate to physical education (Wang et al., 2017; Wilkinson et al., 2013), youth sport (Turnnidge et al., 2018; Vella et al., 2013b), health (Bourne et al., 2015; White et al., 2021), economic development (Gratton et al., 2012; Kumar et al., 2018), social policy (Cassidy et al., 2016; Cushion, 2010), and inclusion (Cushion et al., 2020; Townsend, et al., 2021). Within the current study this is simply and effectively summed up by participant P013 when they stated “...*club participation is all about just getting people involved and active.*” Providing an insightful window into the perception club tennis coaches have of themselves, a potential disposition to under-play the enormity of the reach and impact they wield passionately through their distinct and boundless investment in the specific context of a tennis club. This is further reflected by this exert from the coach narrative, which is equally representative of the collective feeling across the group of tennis coaches within the present study:

*“So, it just naturally evolved into more hours. And then, I loved it. I loved it. I love being outdoors. I love working with people. I love coaching children. I thought it was a wonderful thing to say you were able to help children develop skills, in a great sport that I loved. So, it was always going to be tennis. It was always going to be....” (P004)*

This deeply rooted extrinsic motivation and self-determination (Ryan et al., 2017) to tennis is clearly apparent across both the performance and club tennis pathways and reflects the landscape of research focused on sport coaching and the commitment required to initiated, implement, and sustain excellence across coaching practice within varying applied settings and the demands they assert from the coach (Gillham & Mullem, 2020; Horn, 2008; Santi et al., 2014). Evidently, tennis coaches within the current study perceive the evolution of their connectedness to tennis as a self-determined vocation, which as Lepisto

& Pratt (2017) acknowledge is often aligned to personal storytelling (Ronkainen et al., 2020) coupled with an intrinsic calling towards a career that provides meaning (Dik & Shimizu, 2019). Within the current study personal attachment to tennis was predominately initiated through childhood access to tennis participation. Many of the coaches interviewed happily recounting personal stories relating to the experiences of first picking up a tennis racquet, or stepping on court for the first time, or the associated positive feeling of playing, as depicted here from the narratives:

*“I started playing tennis when I was nine years old. I used to live opposite a tennis club... I played a lot of other sports as well, but... But it [tennis] was quite a nice environment locally. There was quite a lot of children that lived in the area, that were at my school, that sort of went to this club, so it was quite a good social place to be. And then... Yeah, that was just the sport then I chose, and I continued to play to...” (P006)*

*“Yeah, I mean, when I was three years old my parents, sort of, threw me out into the garden with a tennis racquet and a tennis ball. And I pretty much caught the bug. And have been playing, sort of, ever since.” (P013)*

*“I started out as a tennis player as a young... I didn’t come into the sport as young as some children do now. I probably started playing tennis around about 8 or 9. In a local park with my brothers – as many did. And obviously loved playing in the long summer evenings on a rather shoddy grass court with my brothers. And then around about 10, 11 started to play a bit more. Playing a bit at school. And then probably got the bug playing around about 13. Joined a club, started playing a lot. Started having some coaching around 14, 15...” (P015)*

Aside from the inherent health benefits of regular involvement with sport and physical activity (WHO, 2021), exercise within the context of contemporary society has a significantly broader role to fulfil in addition to childhood, and physical development. Specifically, regarding social integration, personal maturation, and pedagogic development, particularly relating to the current wider policy agendas levelled at sport nationally, and globally (Donaldson et al., 2012; Morgan et al., 2020; Robertson et al., 2019). Equally, existing research clearly sets out that by simply participating during childhood and adolescent years in sport, it is not pre-determined that engagement with sport will be sustained (Côté et al., 2010; Turnnidge et al., 2018). Also underpinned by the contributions from participating tennis coaches in the present study:

*“Yeah, I think the quality of the coaching... has a massive impact on people who are playing tennis.” (P003)*

*“There’s a stat that I recently heard... ninety percent of children don’t make it past their third tournament. So, if they are having a bad experience that is impacting on sustainable participation.” (P004)*

Moreover, it is more probable that the coach and the behaviours they exhibit garner a

more potent opportunity to realise a positive developmental experience across younger populations (Duda et al., 2017; Kimiecik et al., 2020). This is additionally represented in the mediational model of leadership (MMoL; Smith & Smoll, 1989), where meaning was established as having the potential to mediate the connection across coaching behaviours and the experiences of participants, further indicating the resonance through which approaches to coaching practice can determine sporting experience, and sustained adherence from childhood and adolescent years (Bloom et al., 2020; Côté et al., 2009; Lefebvre et al., 2021; Newland et al., 2019), and additionally underpinned by coach P018 who states, *“tennis coaches have to work even harder to gain the respect, you know, of the people”*. This aligns with the realisation that positive participant experience and sustained engagement is the role of the coach as the prominent actor ensuring relevant, varied, and engaging sessions are expedited through drawing on their array of professional skills (Corsby et al., 2020; Ronkainen, et al., 2020). The value of investing in professional coach development and educational activities was equally drawn upon across each of the coach interviews within the present study, highlighted by the following excerpts:

*“What that means is that we need to actually make coaching education really relevant to our coaching workforce. So, the areas and the clubs they work in, we need to give them resources, training, up-skilling... To these people, to be better coaches.” (P004)*

*“But I said to [Name] and [Name] on the master’s course “What do we do after this?” Because you get to the top level... And I don’t want that complacency. I want to keep learning. I want to keep improving and developing.” (P007)*

*“You do your senior coach, and you specialise in performance or club. And the qualification and the training that you get, and the education, is more tailored to the area that you’re going to be working in. Which makes total sense.” (P015)*

Within the context of tennis, coaches are predominately self-employed with currently over 80% (LTA, 2020) assuming this employment status, possibly offering a further illustrative contextual facet underlining the potential importance of tennis coach engagement with continual professional development due to its direct alignment to career development and earning potential. The potential reality and pressure of which is illustrated clearly through the following coach narrative:

*“Because, you know, it’s... For a lot of coaches, you know, it’s quite a tough way to make a living sometimes. You know, especially if they’re coaching outside, and so I think the... Sometimes it’ll just come down to the... You know, “I’ve got to make a living. Just getting by with whatever I can do.” (P011)*

Additionally, within the specific context of tennis, the national governing body (NGB) offer

a coach accreditation scheme, which is not compulsory, but is considered to be of further benefit to the coaches who receive a quality mark of approval from the NGB that is recognised across the domain of tennis (LTA, 2021) both by participants and organisations. The relevance and intention of the coach's connection to this scheme is underlined through the following coach narrative:

*“As a group of [Name] tennis coaches... actually making sure and trying to get that connection with coaches when they become accredited with us. They join the accreditation scheme – they're actually becoming part of something...” (P016)*

More broadly, the topic of coach development within the current study elicited coach experiences of their specific trajectory through the coach qualifications process (LTA levels: 1 assistant, 2 instructor, 3 tennis coach qualification, 4 senior club or performance coach, 5 master club or performance coach), particularly the differences between coaching levels one and two, and the subsequent career options offered at levels four and five. Equally, the intrinsic links across coach development, qualifications, and career direction was heavily discussed across the coach interviews, uncovering both semantic and latent meanings as the following passages indicate:

*“And in tennis I believe that the challenge for us is that tennis coaching is a profession in itself.” (P002)*

*“And I often don't think people realise quite how hard it is to work in performance. And in terms of a career and earning a livelihood from it, it's often harder to earn money in performance, than it is become a club coach or a head coach.” (P003)*

*“So as soon as I became a Level 3, I got my first full-time job as a tennis coach. And then, within six months of that, was a head coach at a small club.” (P010)*

*“So, I started coaching when I was 17 years old at school in [Country], helping my coaches out with lunchtime sessions. And then I graduated from school at 18, and decided I wanted a career in coaching.” (P013)*

Dedication to professional upskilling is seemingly central to the external presence and profile that tennis coaches feel bound to present, with current research detailing the formal, non-formal, and informal settings this takes place across (Nelson et al., 2006). Debate however exists across the inherent usefulness and value of formal coach upskilling due to its potential to garner inauthentic learning (Avner et al., 2017; Cassidy et al., 2016; Townsend et al., 2017), as opposed to the evidenced value of peer supported experiences within contextually relevant applied settings (Corsby et al., 2020; Lyle, 2020; Nelson et al., 2013). Further illustrated by the narrative provided by participant P016 *“If we're to improve coaches, if we're to improve the standard of coaching, we've actually got to work with them”*. Research focused within this area of coach development has more recently further

underlined the value of establishing communities of practice that harness the contextualisation of upskilling with specific input from coaches as peers within this developmental process (Bertram et al, 2017; Garner et al., 2017). Allowing the close alignment of coaches to their professional needs and the strategic outcomes of the sport more generally, this further highlights the TFL facet of authentic connection to the determined mission collectively (Avolio et al., 2005; Bass et al., 2006). Awareness of available resources, coach connection to the strategic direction, and the challenges and reality of the sport more generally, were drawn upon across the coach narratives as a feature of their experiences in the current study:

*“...we’ve put together regional plans of how we can support coaches through the regions. We now have coaching leads who... A coaching lead from each regional team, whose role is to work with us and then work with the coaches in their area.” (P003)*

*“I think, to grow participation, you’ve got to have sustainability and to have sustainability you’ve got to have facilities that players can use all year round. You know, we’ve got hard courts that are slippery on the frost. You’ve got clay courts that get soggy and wet in the rain, and you’ve got grass courts that are only open half the year. So... Have we got sustainability there?” (P007)*

*“So, understanding from head coaches that... Don’t put all your competitions in June and July – spread them out throughout the year. So, by linking with the strategy of [Name] it, that’s what we’re trying to do now and we’re trying to get the festivals really early, and just spread out. So, it’s more year-round.” (P009)*

*“...cutting the funding, whether it’s a decision or whether there just... There is just less funding – it’s not always such a bad thing. It makes people say, “Right, well, there’s a bit of an edge to this now. We have to make this sustainable.” And the way we’re going to do this is making... You know, having a wider range of products.” (P018)*

From the coach narratives it was apparent that the demands of their role places significant responsibility on the shoulders of the individual coach in relation to their personal employment needs, their wants as a tennis coach delivering locally to their participants within their specific settings, whilst still retaining connection to the landscape of tennis as a widespread sport contributing to its successes. Across the contributory narratives within the overarching theme of coaching contexts the global and differentiated constructs of TFL theory are apparent, with tennis coaches illustrating the high value placed upon inspirational motivation fuelled by personal story telling that generates personal meaning (Dik & Shimizu, 2019; Ronkainen et al., 2020), the acute relevance of intellectual stimulation through engagement with formal and informal coach development, learning and upskilling (Nelson et al., 2006; Trudel et al., 2020), in addition to the individual considerations required across the varying coach settings, levels and business challenges

they navigate specific to tennis (Griffo et al., 2019; Lyle, 2020; North, 2017). This almost inherent altruistic nature of the tennis coach appears to be a prerequisite vernacular within the present study, representing the authenticity through which common acceptance and of individual coach commitment actually combines to deliver a collective reality of TFL skills and behaviours on a holistic level supporting the mission of tennis. Therefore, it would appear appropriate for future research centred on the relevance of differing coaching contexts to be developed, focused on fully recognising the explicit and implicit factors at-play across the multi-layered, complex contexts of sport and sport coaching.

### **3.3.2 Satisfaction**

The landscape within which sport coaches undertake their role as an essential conduit to delivering satisfaction (see Figure 3.3) is evidently augmented through fulfilment of professional requirements, behavioural needs, and relational connections (Côté et al., 2009; Potrac et al., 2020; Ryan et al., 2017). Current research offers extensive examination of these facets across a range of sport coaching research that has included specific focus on education (Garner et al., 2020; Trudel et al., 2020), motivation (Jowett et al., 2017; Wilson et al., 2012), leadership (Callow et al., 2009; Laurent et al., 2007; Smith et al., 2019), team culture (Cruickshank et al., 2014; You, 2021), and coach athlete relationship (Davis et al., 2018; Jowett et al., 2019), representing the psychological capacities coaches develop and instil across their practice (Côté et al., 2007; Ryan et al., 2020; Stenling et al., 2014; Younghan et al., 2013). The professional, behavioural, and relational elements embedded within the role of a tennis coach are equally represented with clarity through the following initial excerpts from across the coaches' narrative within the overarching theme of satisfaction in the present study:

*"We... have a purpose, and that is to enrich people's lives through tennis, and out of that there are four values – teamwork, integrity, passion and excellence. Which is something which is now fed through everything that we do." (P003)*

*"The way you present yourself to your players and to your broader coaching team. And, you know, even members of the club, etc. You know, you need to be, sort of, respected as a leader. Someone who is in a sort of, position of authority." (P015)*

*"Trying to help them to be good coaches, but really constantly making sure we're always focusing on their ability to deliver great on-court coaching experiences for players. So, again it constantly trying to bring it back to their... Yeah, to the participant as much as we can." (P016)*

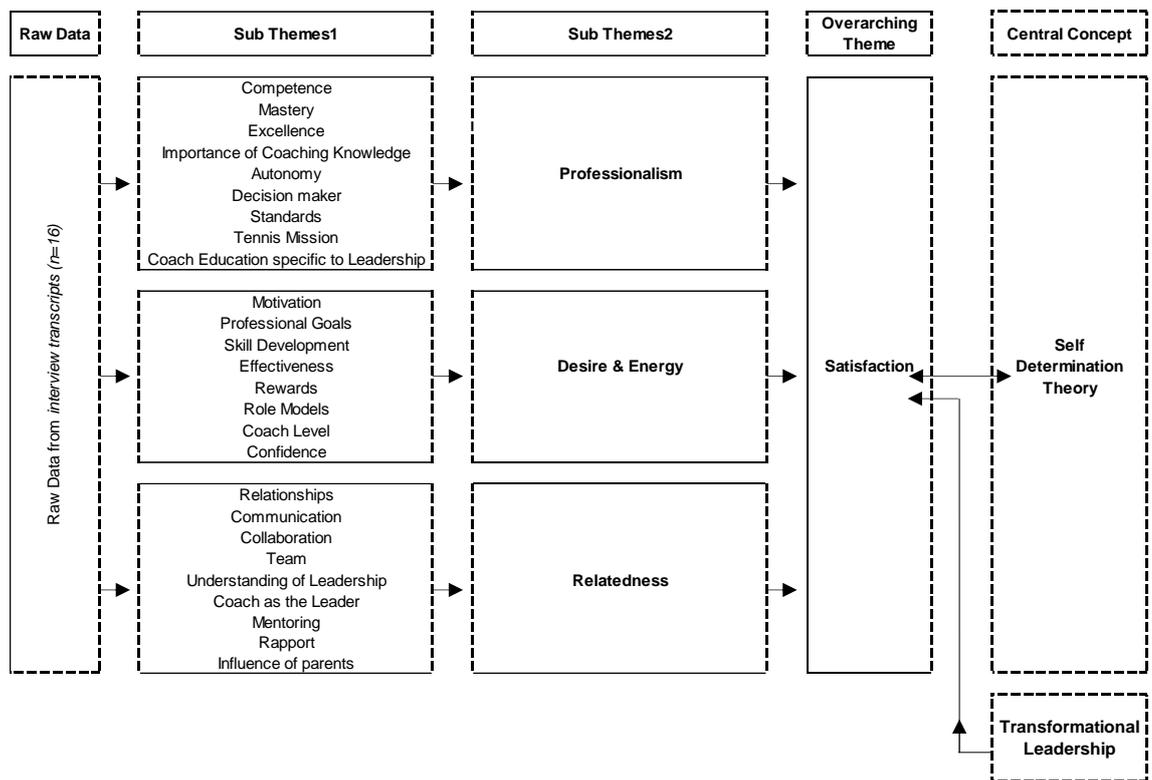


Figure 3.3 Study reflexive thematic analysis map of hierarchical themes for satisfaction

The professional integrity through which sport coaches exhibit veritable credibility across the scope of their role is an attribute that has resonance across sport more broadly at all levels (Din et al., 2015; Mills & Boardley, 2016), underlining the possible broader ramifications of a coaching workforce not appropriately representing values and beliefs both as coaches, but equally as reputational quality ambassadors (Palanski & Yammarino, 2009). Cassidy et al. (2016) identified perceptions and impressions of the coach by the range of stakeholders they interact with as having the potential to laud or disrupt coaches themselves, and their practice across the applied settings they are embedded within. Indeed, Potrac et al. (2020) go further through identifying the potential limiting implications if coaches are solely focused on the detail of scientific, technical, and tactical activities and knowledge, as opposed to enacting appropriately pitched actions and responses as situations demand drawing on social connection, behaviours, and relationships with others (Cassidy et al., 2016; Potrac et al., 2020; Turnnidge et al., 2018). Awareness of these principles connected to professional standards, coaching excellence, and mastery are similarly exhibited across the coach narrative within the current study:

*“My coaches are required to get there at least 15 minutes before a session. So... I’m always there, with plenty of time. And... And by sort of having... By setting up early, it’s a lot more professional. You’ve got everything that you need already in court. You haven’t got to leave the court... soon as your clients or kids arrive, then you’re ready to go. And I think that’s really important – to lead like that.” (P006)*

*“If you lead from the front, you’re the first one in there. You’re the first one to clean up the courts. You’re the one that shows people what you want [Break] you’ve got to be early. If you want them to work hard, you’ve got to work hard. So, it’s really about putting yourself in their shoes in, sort of, the coaching aspect, and going “This is what I want you to do” and leading them that route.” (P007)*

*“One of the first things, I think, would be the reliability. Not letting people down. So, it’s somebody that’s always going to be there. That’s always willing to put themselves out a little bit more.” (P011)*

*“To make them [participants] say, “I want to be coming back to tennis. Instead of doing other stuff, and “I want to be doing more of tennis.” (P015)*

Across the domains of organisational psychology, TFL theory and its integral constructs have been drawn upon by researchers with specific reference to the ethical and morally sound judgement and approach that is required (Burns, 1978; Politis 2002) from effective leaders, often realised through connections to competence (Politis, 2002; Santos et al., 2015; Saybani et al., 2013). Further underpinned by the input from participant P016 when they stated:

*“They [the coach] should be at a level where they’ve got that broad... Sort of broad range of competence which means they can... They can sort of step into any... situation they might be required to.” (P016)*

Within psychological research, the meta-theory of self-determination theory (SDT) is positioned as a broader theoretical framework compiled from six mini theories (cognitive evaluation theory, organismic integration theory, causality orientations theory, goal contents theory, relationships motivation theory, and basic psychological needs theory) that constitute this principal concept (Ryan et al., 2017; Standage et al., 2020; Standage et al., 2019). The central essence of SDT focuses on motivation supporting the innate need for growth and adaptability of individuals, with exposure to varied social contexts having the potential to support, disrupt, or indeed prevent opportunities for development (Ryan et al., 2017). The central facets of basic psychological needs theory within SDT draws on competence (enacting effective actions), autonomy (ownership and control over actions and functions), and relatedness (reciprocal connections and caring) as specific elements to be satisfied in order for individuals to experience harmony, and potential fulfilment regarding psychological needs and optimal functioning (Deci et al., 2000). Currently, literature across self-determination theory more generally has focused on a wide array of diverse contexts that include business organisations, pedagogic settings, well-being of populations, and clinical interventions (Deci et al., 2017; Orsini et al., 2015; Phillips et al., 2020; Tang et al., 2020), each encompassing analysis of both the intrinsic and extrinsic motivation facets of the self-determination theoretical framework (Ryan et

al., 2019). Specifically within sport, researchers have equally developed a depth of evidence underpinned by SDT across pertinent areas of practice that have included physical education, physical activity, exercise behaviour, and sport coaching (Morbée, et al., 2020; Ntoumanis et al., 2021; Rodrigues et al., 2018; Vasconcellos et al., 2020). This continues to extend and enhance the rich application, and development, of largely autonomous motivational behaviours that support refinements across applied sport practice, offering the potential to positively impact both athlete and coach outcomes (Ryan et al., 2019; Standage et al., 2020).

Within the current study, all of the tennis coaches at points offered detailed narrative focused on competence, knowledge, and examples of autonomy as key facets across their contexts of applied practice. More specifically, it was evident that extrinsically exhibiting high levels of confidence and knowledge, particularly on court with players and other coaches, was fundamental to executing their role to the high professional standards they each strive to adhere to, whilst also securing an autonomous foundation across their applied practice settings, specifically:

*“Supporting coaches more as well and trying to give them the tools and the knowledge that’s required to deliver best practise. If the experience is better at the clubs and we can keep players at clubs for longer.” (P006)*

*“And it might be a shared vision, it might be a vision that comes from the tennis player... But you’ve got to be accountable, and they’ve got to be accountable all the time so that you’re driving that vision all the way through.” (P007)*

*“But I think it’s very important to have, you know, quite high... Highly qualified coaches, because that’s going to hopefully, you know, increase participation rates, and attract new people to the sport and get people playing more often and over a longer period of time. So, I think it’s very important.” (P013)*

*“But a skilled coach needs to be able to understand what they want. Understand what the coach wants, and then compromise and find ways and agreement to make sure that the programme works.” (P014)*

*“Having a thirst for knowledge, as well, I think is important...” (P015)*

Identifying reliable predictors of competence, performance, and commitment through examination of the motivational drivers of basic needs has been examined across the domain of sport research (Standage et al., 2019). Specifically, regarding sport coaching, Stenling et al. (2014) focused on perceptions of sport coaches’ TFL behaviours indicating that satisfaction was positively associated with TFL, whilst also determining satisfaction as a mediator between coach TFL behaviours and athlete well-being. Specificity of application of knowledge was also highlighted across the coach narratives particularly by

participant P012 who contributed *“They would have a great knowledge [of]... the area of tennis they’re working in. So, if it was disability tennis, their knowledge would be very specific...”*. Integral within the satisfaction of basic needs are the relationships that evolve through social engagement, connections, and interaction in sport, with coaches or peers (Felton, et al., 2021; Standage et al., 2019). Within the present study this is illustrated distinctly through the narrative of participant P002 when they state:

*“I think the whole aspect of passion, energy, communication and getting people active, to me, is... I guess probably at any level is more than 50%. Because that’s where you’re creating a relationship. It’s where you’re building rapport. It’s where you’re exciting people, it’s where you’re inspiring people. And that, in my mind, is very much the role of the coach.” (P002)*

As a primary feature of basic need satisfaction within the context of SDT, relatedness underpins individuals’ social interactions and the impact of extending concern and care for others, through development of appropriate communication to ultimately enact relationships (Deci et al., 2000). The present study offered opportunity for the tennis coaches to illustrate the importance they placed on this facet, specifically relating to communication with commentary from all of the coaches explicitly emphasising the cause and effect of communication across this context of tennis coach practice:

*“You need to communicate with your players to get them to do what you want and motivate them and to keep them disciplined. You need to communicate with parents, because as I said they need buy in. Yeah. It’s just across the board, yeah.” (P005)*

*“Good communicator. He’d make things quite easy. Didn’t sort of over-complicate things. And... Yeah, always sort of... The sessions were really... Really interesting.” (P006)*

*“I think, obviously, good communications. Clear... I think a lot of people waffle on; probably like I am now... Through various things... But if you can get a clear message over quite quickly... And it sinks in.” (P007)*

*“I think they would have really good communication skills... With anyone, because they could change how they talk to, sort of, the different age ranges... they would always have time at the end of the session to actually talk to their player or group of players...” (P012)*

Similarly, within the present study the concept of relatedness also captured the importance of the coach as the leader within tennis coaching, predominately across the coach narratives from the perspective of relational dynamics and the far-reaching implications they have both personally, and professionally in this sport setting (Gruno et al., 2018). The importance of which in this context of tennis is exhibited well by participant P010 when they contributed *“With regards to coaching... and leadership, I mean, I’ve found that,*

*yeah, you do need [to be] a natural leader...*” As a widely researched domain of coaching practice, leadership allows the examination of the essential platform from which sport coaches are able to share knowledge through appropriate behavioural and relational skills, drawing on these experiences to foster mutually useful connections with their participants supporting the delivery of outcomes (Cushion et al., 2010; North et al., 2021; Turnnidge et al., 2020). The coaches in the current study when asked specifically about the aspect of leadership within their role all acknowledged its relevance, and total alignment to their ability to realise the multiple complex facets of their role as tennis coaches, irrespective of the coaching pathway (club or performance) they had committed to:

*“A good coach would have several different caps. They will have a... You know, a 3-year-old kind of cap. You know, you have to get into their, kind of, mind-set. And you’d have, you know, a 6-year-old performance player. You know, you’d have a fully-grown adult performance player kind of mind-set. You have... You know, a 65-year-old man who just wants to get a little bit better. You know, you need to be able to adapt to this things so... You know, with regard to leadership [Break] of delivering the same lesson effectively.” (P010)*

*“I think leadership in one of the things would be to make sure that your open, honest and transparent with your player and parent from the start...” (P011)*

*“The leadership side of it... you pick that up when you’re out there coaching, and you have to do it. You have to... You have to lead a session. You have to be in charge of a session. You have to be quick to respond to changing circumstances and things like that.” (P014)*

*“You’re running a coaching programme, you’re managing coaches. It’s basically like running a business. So, 100% leadership role.” (P017)*

In addition to these excerpts from the narratives, it was equally apparent that again all of the coaches also observed that their presence as a leader, and almost their comfortableness with assuming an overt leadership role clearly developed into a more natural disposition the higher progression up the coaching qualification pathway was realised, coupled with the growing number of years’ of applied practice experience they were gaining, with the expectations they placed on themselves as the leaders clearly illustrated by participant P002 in this sharply focused narrative:

*“Good leaders will empower people. They empower people, which is one of the things... When I think of good leaders, to me, it’s someone that empowers great ideas. I always like those three questions that a good leader will ask. What do you do? What could you do? And what stops you from doing it? And I think good leaders do that.” (P002)*

Within the constructs of the DTLI the elements of high-performance expectations and fostering of groups goals exist (Callow et al., 2009; Hardy et al., 2010), and it was from these viewpoints that the tennis coaches in the current study were regaling experiences

of their leadership role, and their effectiveness in achieving collective outcomes appropriate to the setting within which they were coaching was distinctly targeted across the narratives (Álvarez et al., 2019; Rowold, 2006; You, 2021). This underlined the TFL connection between the coach, the practice context, and their followers (Arthur et al., 2015; Bass et al., 2006) within the overarching theme of satisfaction. Whilst equally its further relevance across the sub theme of relatedness distinctly emphasising the range and depth of influence that can be attributed to the theoretical framework of TFL across the dynamic settings of tennis coaching. Finally, motivation as a principal theme across the role of the tennis coach was also apparent as a central feature of the coach's behavioural approach and relational development, emphasised specially by participant P005 when they stated, *"So it's [tennis coaching] all about motivation, team cohesion, setting goals..."*. Within the current study motivation is represented through the coach narrative by the sub theme labels as desire and energy, reflecting the spirit and vitality exhibited when the coaches were relaying experiences connected to motivation, goals, effectiveness, and rewards. In the majority of instances across the coach narratives these motivational elements appeared to assume the function of motivational fuel at all stages along the tennis coaches career pathway:

*"...coaches are at making sessions enjoyable, progressive, realistic, making them a combination of the technical, tactical and the competitive side of the game, giving appropriate competition, giving children great lessons. That they feel they're improving. Giving them rewards for getting better at it." (P004)*

*"Just obsessed with the game, obsessed with the sport, obsessed with tennis." (P017)*

*"You know, people as members of a club or members in a park, I think understanding what motivates the player is a key thing. So having a programme and developing a programme that offers a number of... A wide variety of things for people to hang their hat on. So having that..." (P018)*

Motivation is a fundamental principle of the forces at play when action is initiated, and highly relevant within the domain of sport where Ryan et al. (2017) have equally drawn on the facets of direction, ebullience, control, and tenacity as critical components of effective motivational behaviours being realised. The premise that motivation comes from within holds some partial truth, but this is at its most effective when harnessed in parallel with extrinsic motivators (Standage & Ryan, 2012) particularly in sport the delivery of identifiable drivers regarding engagement in sport and exercise settings (Álvarez et al., 2019; Arthur et al., 2011; Beauchamp et al., 2014). The attraction and usefulness of role models across sport, whether as a participant, spectator, or practitioner can offer allure as enticing extrinsic motivators (Bosma et al., 2012; Meier, 2015; Mutter & Pawlowski, 2014),

whilst equally underlining the fundamental motivational foundations from which SDT stems (Ryan et al., 2017). Clearly permeating coach confidence, effectiveness, and practice as a potent influence (Lockwood & Kunda, 1997; Standage et al., 2020) as illustrated by all of the coaches in the present study, who exhibited clear joy and engagement when asked to consider their personal experiences and the impact of excellent tennis coaches (role models) in relation to their own coaching practice:

*“[Name] has been a huge influence on me in recent times. Again, primarily, not necessarily because of what she knows, actually, it’s how she does things... and learnt so much from her around just doing what you think is right, not what you think people expect you to do.” (P002)*

*“Because she started me off. And the best thing about her is her enthusiasm and her love for the sport. That really transitions in me and reflects my coaching. The way she is – like, she’s... You never see her not smiling. She always engages with the kids – it doesn’t matter what level they’re at.” (P009)*

*“I can remember when I was on my [Name] as a rookie 19-year-old, and my tutors on that course were [Name]... and I just wanted to be like them. I wanted to be a tennis coach because I looked up to them and I thought they were very cool” (P015)*

*“It’s more his characteristics. He’s... He’s calm, he’s confident. He’s likeable. The team respect him. So, it would be those characteristics. He makes decisions... He makes difficult decisions...” (P017)*

The coach narratives from across the subtheme of satisfaction offered a range of valuable, authentic insight into the powerful professional, behavioural, and relational elements both encompassing and embedded within the tennis coaching role. It was evident that all of the coaches felt deeply invested in upholding the professional standards and quality of delivery regarded as foundational principles of the reality tennis coaches exist and operate within actively. With distinct links to the basic psychological need constructs of autonomy, and competence highly apparent (Deci et al., 2000). Further connections across the constructs of transformational leadership theory were also evident, specifically intellectual stimulation and idealised influence through narrative connections to integrity, knowledge, and the enacting of appropriate professional standards (Standage et al., 2019).

Similarly, it was clear through acceptance of the relational facets of their role that significant emphasis is placed on the ability to develop effective approaches to communication, collaboration, and leadership across multiple, and multi-faceted settings. Further highlighting potential association with basic psychological needs through the construct of relatedness (Cassidy et al., 2016; Potrac et al., 2020; Turnidge et al., 2018), and across TFL theory through the principle of individual consideration exhibited through the range of narratives offered and the veracity through which these were implored.

Appropriately, it was further evident the tennis coaches in the current study harness a natural disposition for high levels of motivation through not only traditional goal setting, but more broadly through inspiration drawn from role models and the behavioural development opportunities presented through engagement with them. As a central tenant of SDT, further connections were clear through the explicit narratives focused on these distinct motivational drivers (Ryan et al., 2017; Standage et al., 2012), whilst further links to TFL theory were also apparent. Specifically, across fostering of group goals, inspirational motivation, contingent rewards, and appropriate role modelling, each drawn upon with exuberance by all of the coaches reinforcing their deep relevance and expansive impact (Borman et al., 2016; Callow et al., 2009; Macquet et al., 2021). It would appear, therefore, that satisfaction of coaches' basic psychological needs in direct relation to TFL behaviours offers further opportunity for researchers within the field of study to establish additional examination of this theoretical interaction across additional settings supporting the broadening and deepening of knowledge across this domain of applied sport coaching practice.

### **3.3.3 Focus**

The forms through which focus is assumed and represented across the role of the sport coach are both extrinsic, and intrinsic in their application, and more generally connected to the wider domain of the sport sciences and the leverage attention applies to development and learning of both motor and cognitive skills (Lawrence et al., 2011; Van der Fels et al., 2015; Wulf, 2007; Wulf & Prinz, 2001). However, within the context of the current study, the overarching theme of focus (see Figure 3.4) is more specifically drawing on and highlighting a collection of activities that combine to illustrate the applied coaching praxis of focus related actions underpinned by the theoretical domains of positive psychology, cognitive neuroscience, and cognitive psychology (Kabat-Zinn, 1994; Langer, 2009; Lomas et al., 2014). Specifically, within this where the principles of paying attention to detail, coupled with the value of attentiveness (Kemp, 2016; Lawrence et al., 2011) are positioned. In addition to the wide-ranging developmental opportunities engagement with reflexivity, affirming of coaching philosophy, and harnessing of values offer (Cushion, 2018; Lyle, 2018; Trudel et al., 2006). With research on this collection of focus-orientated activities defining elements of coaching expertise (Cassidy et al., 2009; Nash & Sproule, 2011), effectiveness (Côté et al., 2009), philosophy (Hochstetler, 2018), and the continual learning pathway of the sport coach (Cassidy et al., 2009; Cushion et al., 2003) more broadly. Each of these facets also highlight the socially constructed, intangible core components that sport coaches routinely seek to refine whilst striving to subsequently

enhance applied practice (Tinning, 2010, 2021; Trudel et al., 2006).

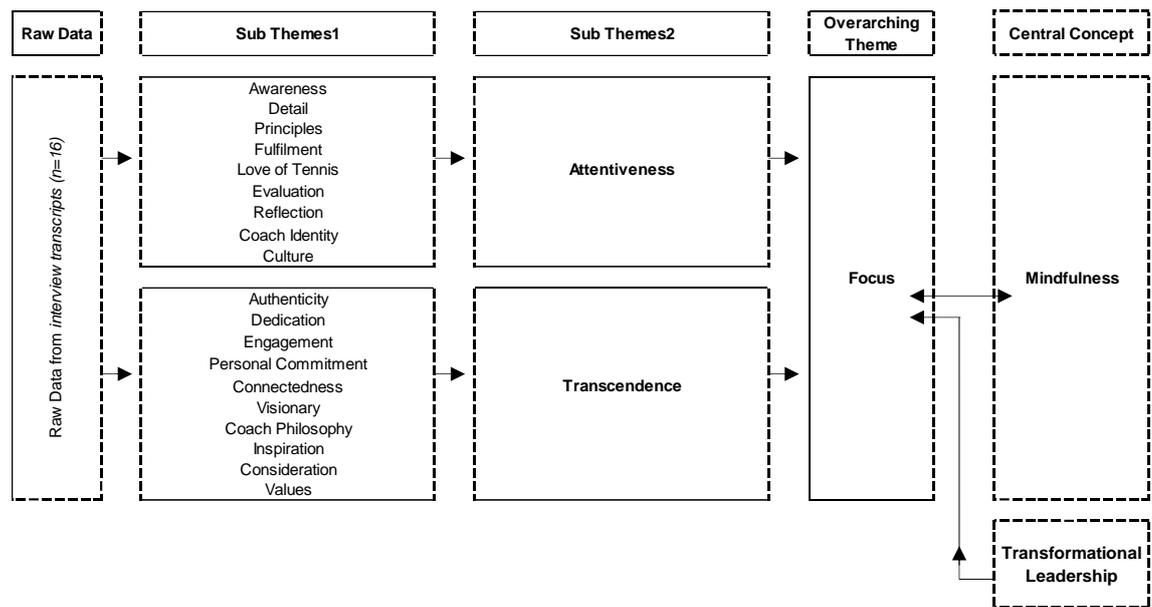


Figure 3.4 Study reflexive thematic analysis map of hierarchical themes for focus

Exerts from the coach narrative within the sub theme of attentiveness illustrate the relevance of reflexivity, awareness, and detail within this setting of sport coaching practice in present study:

*“And at the [Organisation] qualification we talked about communication and leadership; I remember. And, yeah, it raises your awareness. And if you know what a good leader is and the skills that underpin good leadership, for sure having awareness is the first step to being able to implement it.” (P005)*

*“So, I would say that, certainly from a coaching perspective, it’s always been about learning from people and being as open and reflective as the people that you work with.” (P002)*

*“I mean, there’s lots of details and annual planning... The conversation skills and tests are much, much more detailed in the high-performance side... So, there’s lots of specific details that are different.” (P004)*

*“But it’s that... It’s awareness of... Awareness of standards. And awareness of... of... Awareness of standards of the game.” (P016)*

Reflexivity across the role of sport coaches is widely accepted as a fundamental process embedded within the applied practice of coaches (Dixon et al., 2016; Longshore & Sachs, 2015), regardless of the difficulties that exist framing the translation, application, and structures this practice specifically entails (Cropley et al., 2012; Huntley et al., 2014). However, acceptance of the ability to reflect, evaluate, and pay attention to detail in coaching practice has potential value, irrespective of how it is accomplished and was

regularly drawn on by the tennis coaches as established practice within the present study, underlined by participant P002 when they stated “...*what you experience in the challenging of yourself as a reflection... As a reflective practitioner.*” More broadly engagement in reflexive practices is linked to self-awareness and it is this facet of positive psychology within sport that has drawn specific connections to both cognitive neuroscience and cognitive psychology, where awareness represents one of the central tenants of the theoretical concept of mindfulness, alongside the principles of attentiveness, openness, and acceptance (Kabat-Zinn, 1994; Kemp, 2016; Langer, 1989; Van de Braam & Aherne, 2016).

Within contemporary society, mindfulness has elicited ample attention across multiple professional domains purportedly delivering solutions to an array of seemingly deep rooted and compelling commercial, clinical, and societal challenges (Purser, 2019). Through its application of both conscious individual and relational engagement with the present moment (awareness), and recognition of evolving situations (acceptance), mindfulness theory offers potential opportunity to define the optimal mindset (Brown & Ryan, 2003, 2004; Kroon et al., 2017; Quaglia et al., 2015; Roychowdhury et al., 2021) that could offer further support to sport coaches within their complex, and often hectic domains of practice. A further principal facet of mindfulness is the transcendence it facilitates from awareness through to acceptance, which can manifest as deeply held values that inform our everyday thoughts, actions, and consciousness, irrespective of exposure to specific practice or tuition (Brown et al., 2003, 2004). To date, literature across mindfulness theory has captured a broad selection of applications and contexts that include workplace functioning, clinical settings, childhood education; ecological sustainability behaviours, and leader development (David et al., 2011; Good et al., 2016; Thiermann et al., 2021; Urrila, 2021; Xenner et al., 2014), illustrating the wide-ranging relevance of mindfulness theory. Specifically concerning sport and sport coaching, researchers have also analysed mindfulness theory and identified connections and uses related to athlete performance, exercise motivation, athlete burnout, up-skilling sport coaches, and athlete flow interventions (Birrer, et al., 2012; Donald et al., 2020; Goddard et al., 2021; Li et al., 2019; Longshore et al., 2015). Published research integrating mindfulness theory continues to grow exponentially, with outputs focused more generally on the positive impacts mindfulness interventions have the potential to garner across applied practice contexts, and targeted populations of interest (Baminiwatta et al., 2021; Roychowdhury et al., 2021)

Within the present study coach narratives clearly echoed this through stating “...*tennis*

*has been my life.*" (P002), and *"The hardcore passion of it [tennis]."* (P007). Across all of the coach narratives this openness to sharing experiences of deeply rooted connectedness, values, and beliefs relating to tennis was abundantly evident. Coaches were brimming over with awareness of their emotional transcendent links to tennis, what it represented to them, and how this awareness and acceptance supported their continual dedication, values, and engagement to authentically participate in this setting both professionally, and personally. Illustrated in the following excerpts from the coach narratives:

*"And then, I loved it. I loved it. I love being outdoors. I love working with people. I love coaching children."* (P004)

*"But I just... I love... I love tennis from the coaching side. And how it can offer so much to so many different people."* (P009)

*"And then, there's some of the kids that I've kind of spoken to on the programme who just live and die for tennis. They absolutely love it. You know, there's... I was speaking to a parent who said "Yeah. She's, like, 8 years old and she sleeps with her tennis racquet." Just mad for it!"* (P010)

*"I always loved tennis. I loved Wimbledon. I would be hitting the ball out of the back garden all summer."* (P014)

*"I just watched Wimbledon. I watched Wimbledon, [Names], and just wanted to get out in the park and play. And I think my dad played a little bit. And... And that was it, really. I fell in love with it myself. And played and played and played. And went down to the local club as often as possible."* (P018)

This cognitive connection to oneself is equally a foundational principle embedded within TFL theory where effective transformational leaders are deemed to require, and draw upon higher levels of awareness, transcend self-interest, and advocate adaptability of needs and wants to realise unanimity between the leader and their followers (Bass, 1985; Burns, 1978; Arthur et al., 2015). Links to the TFL constructs of idealised influence and individual consideration were equally apparent through the coach narratives centred on awareness, reflexivity, and coaches' consideration of their identity through their love of tennis. Similarly, the TFL constructs of inspirational motivation, and appropriate role modelling were highlighted through the transcendent narratives depicting high levels of personal commitment through their values, and coach philosophy. Specifically, from the presented coach narratives and discussions across the sub theme of focus it would appear appropriate to acknowledge the potential influencing scope of mindfulness as a concept within the context of sport coaching and TFL. This indicates that possibilities exist to extend research within this domain of study, supporting the furthering of how this new facet of cognitive psychology can be appropriately utilised to develop both theoretical and applied perspectives, and sport coaching praxis.

### **3.4 Limitations**

The present study delivers a fresh examination of leadership behaviours and experiences of sport coaches within the boundaries of a specifically selected sport expanding the depth and range of this field of study through additional empirical contributions. Nonetheless, it is also essential to provide a transparent synopsis of the limitations that are evident within this study that could not be addressed at this point. Specifically, it is important to recognise the interpretive essence of the present study through researcher active engagement with the raw data, enabling the portraying of sub themes, overarching themes, and broader connections to theoretical concepts (Braun et al., 2006, 2019; Bazeley, 2013). During this process conscious effort was applied to underpin credibility and trustworthiness eliciting appropriate and transparent rigour through embedding strategies to support this (Saunders, 2015; Sparkes et al., 2013; Yardley, 2000), including rapport building, data saturation, member checking, critical friends, and reflexive journaling (Candela, 2019; Kerr et al., 2019; Lincoln et al., 1986; Newland et al., 2015). These approaches combined to deliver an academically robust ethical approach that supported an accurate, fair, and legitimate translation of the coaches' experiences of their context of praxis, satisfaction within their role, and the cognitive activities related to focus. It is also important to recognise that the coaches utilised as the sample population were, to the best of the researcher's ability, representative of the wider coaching workforce within the context of tennis (LTA, 2021; Ward, 2021). However, all of the coaches within the sample population had achieved a level three tennis coaching qualification or above which meant coaches from tennis qualification levels one and two were not included within the study. This has the potential to limit the overview of the full landscape of experiences regarding tennis coaches' experiences of practice contexts, satisfaction, and focus linked to this level of tennis coach qualification. Whilst equally presents the opportunity for further research to consciously recruit sample populations that include this level of qualified tennis coach as well. Additionally, the coaches within the study also fulfil their roles across varying applied contexts within which the sport of tennis provides participation opportunities, which the study has explicitly discussed as one of the overarching themes (coaching contexts). However, this could also have been a potential limiting element through under-, or over-, representation of coaches from specific practice domains, the current study did not consciously look to recruit coaches in equal numbers from every practice domain of coaching so recollections, and collective recollections of applied practice could potentially be impacted in the narrative data. Equally, even though data in the current study were collected until saturation was realised, and the scale of the sample population was aligned to existing qualitative studies within the domain of TFL in sport

coaching practice, the researcher also acknowledges this could potentially further hinder the wider transferability of the conclusions drawn across broader sport and sport coaching contexts of practice. Progressing future research studies that offset the limitations outlined would, therefore, enable the development of further foundations of study, across this multifaceted and complex field of research alongside the overarching themes of coaching context, satisfaction, and focus that have been presented.

### **3.5 Conclusion and future directions**

Preliminary connections across experiential coach narratives and the theoretical concepts of TFL theory (Bass, 1985; Burns, 1978), self-determination theory and within this framework more specifically the mini theory of basic psychological needs (Ryan et al., 2017), and the cognitive psychology perspectives of mindfulness theory (Brown et al., 2003; Langer, 2009) have been offered through the present study. Currently, research focusing on leadership in sport coaching offers a wide variety of insights across leader relational and behavioural facets (Cushion et al., 2010; Magnusen et al., 2020; Potrac et al., 2020) through the lens of a range of leadership paradigms (Arthur et al., 2020; Dinibutun, 2020). With researcher activity focused on the concept of TFL in sport coaching realising exponential growth across the past ten years, centred on an array of variables and settings that include communication, youth sport, physical education, well-being, performance, and team cohesion (Arthur et al., 2011; Cronin et al., 2015; Lefebvre et al., 2021; López et al., 2021; Smith et al., 2013; Stenling, et al., 2013; Vella et al., 2013a). Across this exponential body of work, a clear commonality of research design exists, with only five studies utilising a qualitative methodological approach, accounting for under thirteen percent of total publications within the area of study. The present study, therefore, offers detailed insight across a novel setting of sport coaching practice, furthering the scope of research within this field, whilst equally contributing to the depth of meaning through interpretation of coach experiential narratives.

The initial overarching theme of coaching context offered additional examination of the heterogeneous environments within which tennis coaches apply their role (Kolman, et al., 2019; Lyle et al., 2016), indicating specifically the differences that are apparent across the domains of performance and club coaching, experiences of the coach qualification pathways, whilst equally capturing the exhaustive array of expansive responsibility tennis coaches assume (Cushion et al., 2010; Trudel et al., 2006). Positive involvement within these multi-layered and complex contexts of practice is evidently supported through experiences relating to the coaches' initial introductions to the sport, coupled with the

unmitigated desire to carve out a fulfilling and meaningful career for themselves (Din et al., 2019; Gillham et al., 2020; Lepisto et al., 2017; Ronkainen et al., 2020), and the participants they work alongside (Din et al., 2015; UKC, 2021). Differences across the contexts within which sport coaches deliver their practice is not essentially a new research discovery, examination of the range of societal, relational, behavioural and resource centred challenges sport coaches balance is already widely acknowledged (CEU, 2017; North et al., 2021; UK Coaching, 2021). However, the current study exposes the explicit context of this sport, and the specific ramifications these facets have on tennis coaches applied practice. Identifying uniqueness across its layers of delivery, coach development needs, and participant wants within defined resource parameters. Within this field of study convenience sampling approaches are heavily utilised and relied upon (Carvalho et al., 2020; Griffo et al., 2019; North et al., 2021), which has provided the growth in breadth of current research in this domain, but opportunity exists to focus on adding to the depth of specific knowledge across sport coaching contexts which this study exemplifies. It is through specificity of focus, examination of detail, targeting a variety of methodological designs researchers across leadership in sport coaching study will continue to build a richer overview of patterns, associations, and connections (Griffo et al., 2019; Lyle, 2020; North et al., 2021; Turnnidge et al., 2018) that reflect the true reality of these multifaceted applied practice settings.

Additionally, the framework of self-determination theory and the mini theory of basic psychological needs was highlighted through a latent connection to the overarching theme of satisfaction, capturing the professional requirements, behavioural aspects, and relational needs (Côté et al., 2009; Potrac et al., 2020; Ryan et al., 2017) through the experiential narrative of the tennis coaches. Specifically, within the present study subthemes that supported the importance of coach autonomy through professionalism and integrity were drawn upon (Din et al., 2015; Mills et al., 2016) and underpinned the drive by the coaches to exhibit competence, mastery, and excellence across their practice (Cassidy et al., 2016; Politis, 2002; Santos et al., 2015; Saybani et al., 2013). Specifically, through application of relevant knowledge they consciously sort to accumulate, enabling the delivery of optimal experiences for their participants as a principal tenant of their basic psychological needs (Deci et al., 2000). Similarly, the distinct relevance of relatedness was captured as a subtheme exposing the significant dependence that tennis coaches apply regarding effective communication, inspiration drawn from role models, and relationship development, each of which explicitly connected to their role as a leader which is, by definition and nature, distinctly relational (Arthur et al., 2016; Jowett et al., 2019; Turnnidge et al., 2020). Across the breadth of existing research focused on sport

coaching, the importance of relational development is paramount (Jowett, 2017), offering fundamental foundations to facilitate wider functions expected of the coach as a leader in the domain of sport (Arthur et al., 2020). Within the current study the tennis coaches were each abundantly clear that leadership was a natural facet of their role and within this, relationship development was an integral facet. Equally, all of the coaches found it challenging to articulate the specific behaviours through which their leadership in this domain of tennis coaching was realised. Potentially indicating the need for specifically targeted peer supported coach development within contextually relevant applied settings, through inception of both formal and informal communities of practice (Culver & Trudel, 2008; Stoszowski & Collins 2014). Offering the further possibility to enable a collective sense of understanding regarding relevant leader behaviours and the effectiveness through which they can be deployed, whilst also generating a collaborative leadership approach through evolving relationships across the tennis coaching workforce (Corsby et al., 2020; Lyle, 2020).

Finally, the wide-ranging theoretical domains of positive psychology, cognitive neuroscience, and cognitive psychology (Donaldson et al., 2011; Kabat-Zinn, 1994; Lomas et al., 2016; Langer, 2009) were also drawn upon through further latent connectivity to the overarching theme of focus, representing a collection of focus related activities apparent across the applied coaching praxis of tennis. The identifiable facets of awareness and acceptance as central tenants of mindfulness theory (Brown et al., 2003; Kabat-Zinn, 1994; Langer, 1989; Longshore et al., 2015) enabled the drawing together of reflexivity, paying attention to detail, acceptance, and transcendence as principal elements articulated across the coach narratives, fundamental to effective tennis coach practice, and personal fulfilment (Kemp, 2016; Kroon et al., 2017; Van de Braam et al., 2016). Deeply rooted connectedness by each of the tennis coaches was demonstrated through vivid contributions illustrating the all-encompassing journey through tennis they had willingly committed to, supported by their values, coach philosophy, and dedication to mastery of their craft within this specific setting of sport (Cushion et al., 2010; Lyle, 2018; Potrac et al., 2020; Vella et al., 2014). Through linking these seemingly disjoint components of attentiveness and transcendence under the broader umbrella term of focus, it has highlighted the distinct importance of the socially constructed, intangible core components that sport coaches routinely seek to refine whilst striving to subsequently enhance applied practice (Tinning, 2010, 2021; Trudel et al., 2006), offering mindfulness as an appropriate theoretical underpinning. More generally across the presented overarching themes compiled from active analysis of the coach narratives, the conceptual global framework (Bass, 1985; Burns, 1978) and differentiated constructs (Callow et al.,

2009; Hardy et al., 2010) of TFL were evident throughout (coaching contexts, satisfaction, and focus), specifically indicated through examples of inspirational motivation (storytelling and meaning), intellectual stimulation (knowledge and coach development), appropriate role modelling (relational and behavioural connections), and individual consideration (professional needs and transcendence of oneself). Each of which demonstrated the ability of the tennis coaches to exhibit confidence, vision, self-awareness, actualisation, and a collaborative approach to delivering defined outcomes, which are equally the widely recognised behaviour traits of a transformational leader (Arthur et al., 2016; Bass et al., 2006).

Within the current study, it was apparent that the tennis coaches fulfil this essential research defined criteria, and elicit collective commitment from their followers through connections across their beliefs and values (Grecic & Grundy, 2016; Turnnidge et al., 2020). Links to, and adaptations of, theory are difficult to evaluate unless the specific practice settings of coaches are defined (Lyle, 2020). In the present study, it is through exploration of naturalistic tennis coaching settings (Potrac et al., 2020; Nichol et al., 2019) that connections and alignments to TFL theory have been possible. Therefore, the present study establishes the potential for researchers to examine mindfulness theory as new theoretical framework, alongside further analysis of basic psychological needs, and their direct connections to transformational leadership in sport coaching. More generally, pursuing this pathway of future study will equally enable the deeper development and application of new theoretical knowledge, uncovering potential transferability of this to support continued development of praxis across both the field of tennis coaching, as well as across the broader domains of sport coaching applied practice holistically.

### **3.6 Researcher mixed methods reflexivity phase 2**

Continued reflexive engagement between phases 1 and 2 supported the targeted refinement of how Chapter 3 could build upon the thorough, and detailed examination Chapter 2 had provided regarding existing empirical published outputs focused on TFL in sport coaching. Initially the thought of making the apparent 'switch' from a positivistic approach to a new constructivist lens may, on the surface, have appeared to be a juxtaposition in itself with the widely held premise, particularly in sport and sport coaching research, that these polar opposite approaches to research should never meet. However, due to the researcher's previous experience with development and implementation of qualitative research design studies, this was less of a sharp change of reality, and certainly more of a return to a familiar 'old friend'. This, in itself, is a good indicator of why MMR

holds such an appeal overall. Interestingly, much of the reflexive process at this point focused on the time it was taking to action each of the tasks that needed to be put into place before the actual data collection process of Chapter 3 could be initiated. Full engagement with the appropriate institutional ethical procedures enabled further minor refinements from the reviewers' suggestions, and equally interaction with the national governing body as the gatekeeper to securing permissible access to the coaches for interview also culminated in a positive supportive outcome. Throughout the process of this second study the researcher was conscious of their previous contact with the coaches that made up the sample for the interviews, and of course the potential for the power dynamic to cause challenges. However, further discussion with the supervisory team, and wider reading regarding qualitative research ethics uncovered a wealth of evidence to support the positive facets of utilising prior contacts within research, providing that institutional, situational, and relational ethics are all fully considered. Reflecting on this specific situation, the relational ethics revolved around the power dynamics between the researcher and the coach. However, it was apparent that power, and within this control, exists across both sides of the relationship within qualitative research. Openness regarding the research process through articulating the commitment of the researcher to the involvement of the participant enabled the establishing of a balanced and mutually agreeable pathway through the study recruitment, data collection and reporting stages of the research process. Whilst equally providing an enlightening learning experience for the researcher concerning the development of this section of the MMR process, further underlining the importance and impact of transparency, and appropriate ethical approaches and behaviors across research more generally. Furthermore, plenty of conscious thought was focused on the desire for a representative sample for Chapter 3, wanting to ensure this was reflective of the broader demographic of the tennis coaching workforce. But equally keeping at the forefront of this study the outcomes from the analysis in Chapter 2 where specificity of sampling was drawn upon prominently, so the mindset was certainly to satisfy that facet here.

More generally, working through the interview process with the eighteen tennis coaches was a thoroughly enjoyable, immersive, and enlightening experience from a researcher perspective. Reconnecting with tennis coaches that had previously engaged with the professional development sessions delivered for the national governing body over the preceding years was a delight. Their willingness to volunteer and become involved in the second research study was terrific, particularly their desire to contribute because the study was about them, and the sport they are all each clearly committed to. As time continued to pass by the interview process although somewhat protracted as it spanned a Christmas

and new year vacation period, culminated successfully and, importantly, the process of analysis with the experiential coach narrative had already commence in earnest. The considerable task of not only transcribing the coach narratives, but equally the responsibility for appropriately representing their valuable input fairly was paramount. Assuming the role of a research custodian almost, knowing that the value in this qualitative second phase was in respecting the qualitative data reflexively, employing further journaling, electronic memo use, and note taking to support this expansive stage. Of paramount importance as the interview process was occurring, thoughts regarding the possibly next stage of building upon the existing studies within the MMR approach were rearing.

It was clear the findings from Chapter 2 had certainly converged to deeply influence the direction, development, and context of Chapter 3. However, the next phase of the MMR was initially less clear, but through application of pragmatic cognition it was evident the answer lay in engaging with the other primary actors in this sporting context, the participants. Logically it felt clear to have built a solid foundation of theoretical knowledge in Chapter 2, to then speak with the coaches, in Chapter 3, and to follow this up with the other vital half of this dyadic relationship in Chapter 4. So, the thought processes continued, akin to a plate spinner as part of an old school circus show, Chapter 2 was spinning and informing Chapter 3, which was building on Chapter 2 whilst the data between these two studies was also converging. With the plate for Chapter 4 starting to spin, enabling inception of the next phase of building in the MMR process focused on TFL in sport coaching. With a feeling of clarity to continue with the trajectory of the MMR journey that had been committed to, the energy to uncover potential associations across the patterns from Chapter 3 established the next coherent steppingstone into Chapter 4 of this research process.

## **Chapter 4: Examining association between coach transformational leadership behaviours with athlete basic needs satisfaction and mindfulness**

### **4.1 Introduction**

The relational and behavioural processes through which athletes engage with a sport coach provides a sound platform to support the realisation of a myriad of both physical (strength, endurance, and body composition) and psychological (self-esteem, motivation, and autonomy) outcomes (Arthur et al., 2020; Jowett, 2017; Nuzzo, 2020; Resende et al., 2021). Equally, these processes have the further capacity of supporting sustained athlete participation and engagement with exercise and sport when considered alongside the demographic facets and situational contexts sport coaching occurs within (Nichol et al., 2019). Lyle (2020) underlines this further suggesting the use of the broad term sport coaching potentially undermines depth of understanding regarding the complexities of the sport coach's role. Encouraging examination focused on specificity and detail regarding the broader contemporary demands across sport that can be satisfied by this complex role to support improved physical activity, participation, and sustained engagement (Carvalho et al., 2020; North et al., 2021; Westerbeek & Eime, 2021). Within the dynamic setting of sport, it is the sport coach that assumes the role of the leader, charged with development of the associated leadership behaviours necessary for a sport coach to facilitate effective interactions and processes between themselves and their athletes with the purpose of fulfilling agreed outcomes together (Cushion et al., 2010; Horn, 2008; Turnnidge et al., 2020). It is evident that leadership behaviours adopted and exhibited by sport coaches are seminal to the success of the athletes they work alongside (Arthur et al., 2020; Côté et al., 2010; Vella et al., 2010), offering the potential to instil lasting impacts and identifying the sport coach as a primary influential conduit within the constantly evolving environment of sport and exercise (Arthur et al., 2020; Gomes, 2020).

As discussed in earlier chapters, transformational leadership is a global construct that encapsulates the concept of the behavioural and relational impacts and associations across leaders and their followers (Burns, 1978), and through harmony of these facets the creation of a positive, and highly productive context within which this leadership approach can be applied (Bass, 1985). Leaders that exhibit TFL behaviours are deemed to be confident visionaries, with an abundance of awareness coupled with a solution driven positive collaborative approach alongside their followers, focused on achieving successful outcomes together (Arthur et al., 2016; Bass et al., 2006). Through the initial work of Zacharatos et al. (2000) connecting TFL with the domain of sport through study focused

on parents within sport, the interest in the association between TFL and sport is growing into an evolving body of research evidence supporting the relevance and potential potency of this leadership concept as a foundational element of sport coaching practice across a range of variables and contexts (Carvalho et al., 2020; Magnusson et al., 2020; North et al., 2021; Turnnidge et al., 2018).

Currently conceptualisations of TFL within sport have been modelled to encapsulate the multi-faceted essence of sport and the role of the sport coach within this domain, with the mediational model of leadership (Smith & Smoll, 2007; Smoll et al., 1978) and the multidimensional model of leadership (Chelladurai, 1993, 2007) as the most regularly applied across research outputs (Arthur et al., 2017; Gilbert & Rangeon, 2011). From this, TFL across sport has been evidenced as linking to intrinsic motivation (Charbonneau et al., 2001), sport coaches' effectiveness (Rowold, 2006), team cohesion (Callow et al., 2009), child aggression (Tucker et al., 2010), athlete narcissism (Arthur et al., 2011), team communication (Smith et al., 2013), female athletes (Newland et al., 2015), coach-athlete relationship (López et al., 2021), youth sport (Turnnidge et al., 2018; Vella et al., 2013a), well-being (Stenling et al., 2013), and performance (Bormann et al., 2016a), underling the width of the domain of study whilst also highlighting the opportunities that exist for further extending the depth of studies across the multiple contexts sport takes place. At the core of the theoretical concept of TFL is the focus on enhancement of the leader's role to stimulate connections through employing motivational techniques in direct relation to the willingness of their followers to perform and deliver agreed outcomes (Arthur et al., 2017; Horn et al., 2011; Turnnidge et al., 2020). Transformational leadership manifests itself through the leader transcending personal needs, to the needs of the strategic vision by elevating the self-worth of followers, instilling a sense of collective purpose, and belonging, where all needs are morally and ethically fulfilled (Bass et al., 2003). It is clear, therefore, that a primary emotional behavioural trait of a transformational leader is the ability to satisfy follower needs (Bass 1985; Stenling et al, 2013), indicating the significance of need satisfaction across the coach-athlete dyadic relationship with its purported potential to enhance motivation, develop effective functioning, and realise improved well-being (Deci et al., 2000; Popper, 2005; Standage et al., 2020).

The importance and relevance of motivation is simple to identify when related to sport and physical activity with its underlying principle centred on what instils people to act (Standage & Ryan, 2020). Specifically, Ryan & Deci (2017) identify energising, direction, regulation, and persistence in behaviour as the key facets of this principle behavioural concept all equally identifiable within the domain of sport. The ability to motivate oneself,

or others resides at the very centre of physical and sporting activities (Álvarez et al., 2019; Arthur et al., 2011; Beauchamp et al., 2014) with both internal and external motivational drivers fuelling this engagement targeting a range of outcomes (Standage & Ryan, 2012). Self-determination theory (SDT) stems from the broader landscape of psychological motivation, personality, and emotional theory combining to establish the specific motivational factors that initiate behaviours across a variety of contexts (Ryan et al., 2017). As a meta-theory of the wider domain of psychological research, the basis of SDT revolves around the coaction of human activities and the social context within which they occur, with the success or failure of these two elements harmoniously coexisting determining the opportunity for human engagement and psychological development (Deci et al., 2000; Standage et al., 2020).

Self-determination theory is the developed and accepted broader descriptor for the six mini theories attributed within this expansive theoretical concept, specifically detailed as: cognitive evaluation theory, organismic integration theory, causality orientations theory, goal contents theory, relationships motivation theory, and basic psychological needs theory (Ryan et al., 2017; Standage et al., 2019; Standage et al., 2020), with each underpinned by the three facets of autonomy (facilitation of self-governance, choice, and purpose), competence (effectiveness of actions and choices), and relatedness (caring and connectedness to and with others). Standage et al. (2019) identify that it is through this range of basic need motivational drivers that researchers have endeavoured to identify reliable predictors of performance, behaviour, commitment, and well-being across exercise and sport domains. Specifically, current research across the domain of sport has identified a number of positive associations across basic needs satisfaction, evidencing links to optimal participant functioning (Adie et al., 2008), athlete flow (Schüler & Brandstätter, 2013), well-being (Stenling et al., 2014), exercise motivation (Sylvester et al., 2018), commitment (Pulido et al., 2018), and youth sport coaching (Reynders et al., 2019). Equally, research across the domain of sport has also identified negative associations across basic needs satisfaction, specifically related to burnout (Perreault et al., 2007), and diminished functioning (Bartholomew et al., 2011). Overall, satisfaction of athlete's basic psychological needs through their engagement with sport coaches across the varying coaching environments exercise and sporting activities take place within have the opportunity to realise both improvements and diminishing effects in relation to the three principal tenants of this mini concept (Deci et al., 2000; Standage et al., 2020; relatedness, competence, autonomy). It is clear that need satisfaction is a principal facet of the broader motivational factors that are at play when considering the interactions across coaches, their athletes, and the contexts within which these take place (Álvarez et

al., 2019; Beauchamp et al., 2014), and are a further significant element attributed to the role of a sport coach having the potential to also determine sustained engagement, and the quality of the athlete experience (Arthur et al., 2011; Pulido et al., 2018; Stenling et al., 2014).

From the initial conceptualisation of TFL theory by Burns' (1978), Bass (1985) subsequently developed a further summary of the connected elements within the theoretical concept of TFL that clarified and supported development of the wider understanding of the prominent features that constitute transformational leadership behaviours. Integral within this are the principles facets of effective transformational leaders raising levels of awareness and consciousness, transcending personal self-interest, and adapting levels of need and wants, each with the purpose of generating appropriate balance and harmony across the leader, their followers, and the context within which they are operating together (Arthur et al., 2015; Bass, 1985). Parallels across the language adopted by Bass (1985) can similarly be drawn upon concerning the central cognitive neuroscience, and cognitive psychology tenants of mindfulness, with Kabat-Zinn (1994) and Langer (1989) notable figures within this domain also drawing on the need for attentiveness, awareness, openness, and acceptance as the necessary mindset for optimal mindfulness.

Mindfulness is underpinned by conscious and active engagement with defined practice through the two accepted components of the concept (a. awareness and attention of the present moment and experience, b. acceptance of organic and evolving experiences) as defined by researchers within the field of study (Garner & Moore, 2020; Kabat-Zinn, 1994; Kroon et al., 2017; Langer, 1989; Quaglia et al., 2014). A further defining component of mindfulness is the equal ability to review both micro and macro environments, without over analysis or procrastination about speculative past or future scenarios (Brown & Ryan, 2003) ensuring a present consciousness both individual and relationally (Roychowdhury et al., 2021). Through this non-judgemental approach, those that adopt and instil mindful practice and approaches have the potential to negate less constructive emotions and feelings, enabling them to manage vulnerabilities associated with failure, conflict, low self-esteem, and status creating balanced and effective action focused on positive cognition and acceptance of outcomes (Brown et al., 2003; Garner et al., 2020).

Structured and sustained meditative practice also provides a well-established and recognised pathway within the concept of mindfulness for individuals to harness the ability to embrace experiences, and feelings as opposed to controlling or forcing change

(Gardener & Moore, 2012). Illustrating the evolution that has taken place across cognitive-behavioural therapy, and importantly underlines the capacity of mindful practice as a trainable skill or approach to life more broadly (Gardener et al., 2020). The mindfulness acceptance commitment (MAC) model is the most widely utilised tool supporting such training focused on constructive advancement of psychological health and well-being through its seven components (Moore, 2007; psychoeducation, mindfulness, values identification & values driven, cognitive & emotional acceptance, behavioural commitment, skill consolidation & poise, and skill maintenance). Similarly, tools that support the measurement of mindfulness have also evolved. Specifically, questionnaires that allow participants to self-report perceptions of their disposition for accepting, non-judgemental, or reactionary behaviour alongside their ability to remain in the present moment creating awareness (Gardener et al., 2020) have been developed and validated. The Freiburg mindfulness inventory (FMI; Buchheld et al., 2001), and the mindful attention awareness scale (MAAS; Brown et al., 2003) are two of the more prominent tools utilised by researchers offering opportunity to evidence the principles of mindfulness across a range of contexts and populations.

To date research across the domain of mindfulness in sport has been an evolving area of focus, with a number of positive associations evidencing links within this applied context across elite sport (Gustafsson, & Lundqvist, 2016), emotion regulation (Josefsson et al., 2019), performance (Bernier et al., 2009), female athletes (Baltzell & Akhtar, 2014), and mental health (White et al., 2021). From this range of research outcomes, it is also clear that mindfulness within the multifaceted environment of sport has a constructive role to fulfil in relation to supporting athlete enhancement of performance and well-being (Bernier et al., 2009; Stenling et al., 2014; White et al., 2021), but equally presents the opportunity to further explore this phenomena in relation to the role of the sport coach, enabling the widening scope of research across this seminal facet of cognitive neuroscience and cognitive psychology (Kabat-Zinn, 1994; Langer, 1989) and contemplative practice (Varela et al., 1992).

#### **4.2 The present study**

Current research studies reveal multiple positive associations between TFL behaviours and the needs of athletes, across both physical and psychological levels (Baird, 2020; Din et al., 2015; Erikstad et al., 2021; Mach et al., 2021; Newland et al., 2019). Furthermore, research also demonstrates the connections across effective coach athlete relationship and TFL behaviours exhibited by coaches and the influential potential these hold in

relation to applied practice (Arthur et al., 2019; Gorgulu, 2019; Jowett et al., 2019). More specifically, the interplay across athletes' perception of the coach's role relating to the psychological needs of competence, relatedness, and autonomy (Stenling et al., 2013) as an integral element of the composite role the coach fulfils. Through examination of SDT it can also be recognised that satisfying basic psychological needs supports the optimisation of health and wellness (Deci et al., 2000) fuelling increased motivation, and personal functioning (Standage et al., 2020). Athletes that garner a positive perception of the relationship quality between themselves and their coach are likely to base this on personal experience aligned with expectations, development of trust and respect, and mutual commitment through cooperation and reciprocal responsiveness (Davis et al., 2018; Felton et al., 2021; Horn, 2008; Jowett et al., 2019). Development of mutually beneficial and aligned relationships is a key tenant of TFL theory, with the behaviours that sport coaches exhibit integrated within their practice environments with their athletes. Seminal work by Bass (1985) further highlighted level of awareness, consciousness, and transcending self-interest as pertinent underlying facets of the conceptualisation of TFL, drawing on Maslow's hierarchy as the indicator for realigning and expanding reciprocal needs from the perspective of the coach (leader) and the follower (athlete) (Arthur et al., 2015; Bass et al., 2006). Therefore, drawing on the empirical and theoretical outcomes from Chapters 1 and 2 this study will further investigate TFL through the dyadic relationships between tennis coaches and their athletes to identify and inform possible behavioural, relational, and contextual impacts within this domain of sport. Specifically, this study hypothesizes:

- H1: That there is a positive correlation between athletes' perception of coach TFL behaviours with athlete satisfaction, and athlete mindfulness
- H2: That there will be one or more of the TFL subscales that are more positively associated with athlete satisfaction than the remaining subscales
- H3: That there will be one or more of the TFL subscales that are more positively associated with athlete mindfulness than the remaining subscales
- H4: Mindfulness will mediate the link between athletes' perception of coach TFL behaviours and athlete satisfaction

## **4.3 Method**

### **4.3.1 Research paradigm**

Selection of the most appropriate research paradigm is the critical initial stage of a research process providing coherence across the three primary characteristics of,

ontology, epistemology, and methodology (Kuhn, 1962; see Figure 4.0). Through identifying these foundational elements it enables transparency regarding the philosophical foundations across the research process adopted for the current study whilst equally providing clarity across the relational components of the study to be focused on, cohesion across theoretical discussions and connections to social phenomena, and equally provides the platform for the current study to acknowledge its position alongside existing research outputs across the domain of transformational leadership in sport coaching study (Grix, 2002).

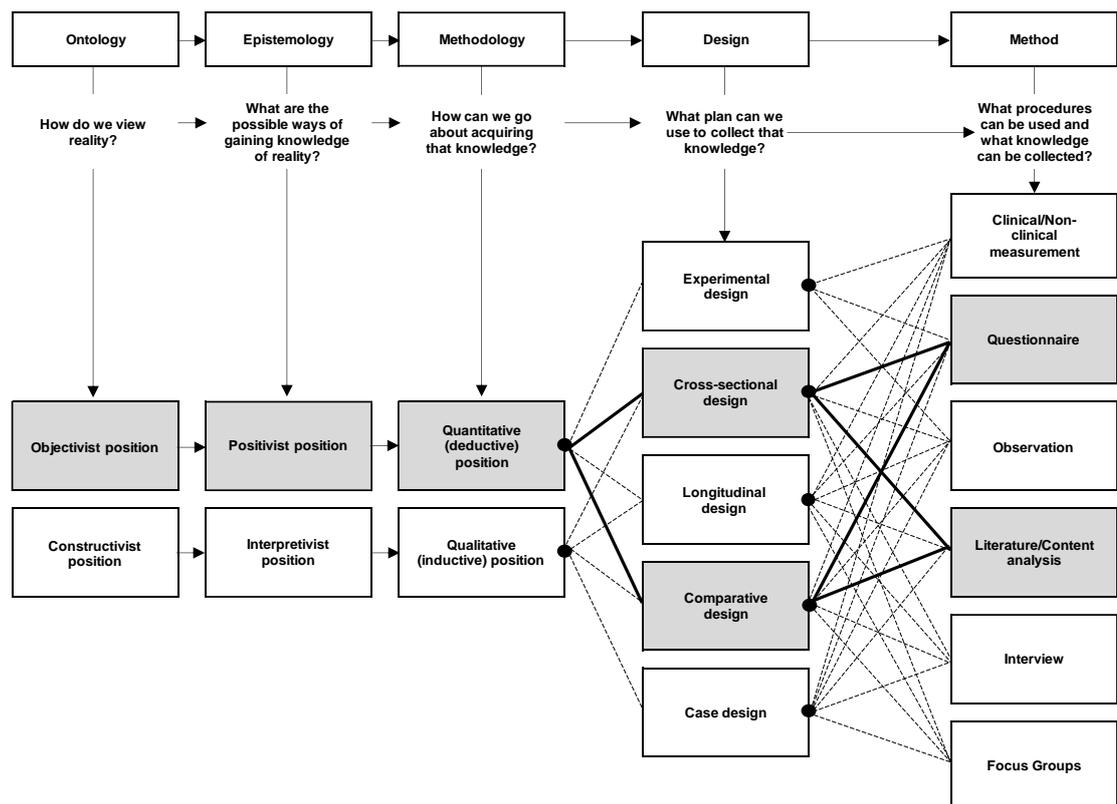


Figure 4.0 Study philosophical underpinning with the grey highlighted boxes and solid black lines indicating the research process for the current study (adapted from Hay, 2002; Smith, 2010)

The current study has adopted a positivist (quantitative deductive position and method) approach that endorses the integration of specific statistical protocols to support study of the social reality within which tennis coaches are perceived by their athletes to be transformational leaders, and within this reality the possible association athlete satisfaction and mindfulness has on the application of their tennis coaching role, and the athlete experience. Through utilisation of deductive reasoning and analysis of developed statistical evidence the current study delivers objective reporting regarding the research questions posed (Wilding, 2019). Adding to this domain of study whilst also providing

empirical evidence to further support development of applied sport coaching practice both within tennis, and generally across sport coaching practice more broadly.

### 4.3.2 Participants

A sample of 1120 athletes from across tennis were specifically sampled to initially be included in the study, resulting in a response rate of 40.7% (n=456). Thirty-four participants were subsequently removed from the study due to incomplete information across the returned questionnaires which culminated in a final sample of 422 tennis athletes participating in the current study (37.7% response rate). The final mixed gender athlete sample (female = 48.8%, n=206; male = 51.2, n=216) from across the United Kingdom (mean age = 40.06, SD = 14.69 years, range 18-80 years), all play tennis (mean years playing = 18.59 years, SD = 12.91 years, range 0.5-65 years), and included a range of tennis playing levels (participation/club = 82.2%, n=347; university = 2.1%, n=9; county/regional/national = 13.0%, n=55; international = 2.6%, n=11). Additionally, the athletes in the current study also indicated the gender of their coaches (female = 9.7%, n=41; male = 88.6, n=374; not stated 1.6%, n=7), with the average hours a week spent with their coach being 2.03 hours (SD = 2.32, range 0.5-20 hours), and the average total years the athletes in the study had been working with their tennis coach was 4.22 years (SD = 4.01, range 0.5-27 years). The criteria for participation in the current study included athletes who actively play tennis (at least once a week), who have played tennis regularly (for at least six months), currently work with a tennis coach, and currently play tennis in the UK. Figure 4.1 below details the additional contextual demographic data from the athletes in the current study.

	Coach Gender			
	Male	Female	Other	Total
n	374	41	7	422
%	88.6%	9.7%	1.7%	

	Participation Level			
	Participation/ Club	County/Regional/ National	University	International
n	347	55	9	11
%	82.2%	13.0%	2.1%	2.6%

	M	SD
Athlete Hours per Week Playing Tennis	6.05	6.36
Athlete Hours per Week Working with Tennis Coach	2.03	2.32
Athlete Years Playing Tennis	18.59	12.91
Athlete Years Working with Tennis Coach	4.22	4.01

Figure 4.1 Athlete participation and coach demographic data

### **4.3.3 Measurements**

#### **4.3.3.1 Transformational leadership**

The Differentiated Transformational Leadership Inventory (DTLI, Callow et al., 2009; Hardy et al., 2010) for sport was utilised to analyse athletes' perception of their tennis coaches' TFL behaviours within their tennis playing context. The DTLI consists of twenty-seven items across seven subscales so that TFL behaviours can be assessed at both global (complete construct) and differentiated levels (subscales). Across the seven subscales within the DTLI, six are focused on transformational elements of leadership: intellectual stimulation (four items (questions 1, 9, 11 and 22) e.g., "Tries to help us to work out how to solve problems"), individual consideration (four items (questions 1, 4, 12 and 16) e.g., "Considers that I have different strengths and abilities from others"), inspirational motivation (four items (questions 3, 5, 7, and 19) e.g., "Talks enthusiastically about what needs to be accomplished"), fostering acceptance of group goals (three items (questions 13, 15, and 24) e.g., "Gets the players/team to work together for the same goal"), appropriate role model (four items (questions 17, 21, 25, and 26) e.g., "Is a good role model for me to follow"), and high performance expectations (four items (questions 14, 18, 23, and 29) e.g., "Always expects us to do our best"), with the final subscale focused on a transactional leadership element: contingent reward (four items (questions 6, 8, 10, and 27) e.g., "Praises players when they show improvement"). For all twenty-seven items across the seven subscales of the DTLI, the response scale range was: 1 (Not at all), 2 (Once in a while), 3 (Sometimes), 4 (Fairly often), and 5 (all of the time), with the wording on some items slightly altered to fit the context of tennis (e.g., "Treats each team member as an individual" was changed to "Treats each player/team member as an individual") enabling participants to contextually relate to all items across the tool. Additionally, participants were also instructed to provide their responses specifically in relation to their tennis coach and to consider how the statements posed across the DTLI questionnaire matches the behaviour of their coach. Previous research conducted by Smith et al. (2013) and Arthur et al. (2011) has demonstrated the validity and reliability of the DTLI for sport. In order to confirm the internal consistency of the DTLI within the current study's specific population, Cronbach's alpha ( $\alpha$ ) was calculated for each of the subscales, as well as for the global DTLI scale and these are presented in section 4.4 of the current chapter.

#### **4.3.3.2 Perceived satisfaction**

Tennis players' perception of satisfaction level was measured utilising the basic needs satisfaction in sport scale (BNSSS; Ng et al., 2011) through its three psychological

constructs within the tool: competence, relatedness, and autonomy. The need for competence was measured using five items (questions 6, 11, 12, 14, and 17; e.g., “I have the ability to perform well in my sport”), and similarly the need for relatedness was also measured across five items (questions 1, 7, 10, 18, and 19; e.g., “I have close relationships with people in my sport”). Within the BNSSS the construct of autonomy is presented as three subscales: internal perceived locus of causality (IPLOC; three items (questions 2, 15, and 16) e.g., “In my sport, I really have a sense of wanting to be there”), volition (three items (questions 3, 5, and 8) e.g., “I feel I participate in my sport willingly”), and perceived choice (four items (questions 4, 9, 13, and 20) e.g., “In my sport, I have a say in how things are done”). For the total twenty items across the five subscales of the BNSSS the response scale range was: 1 (Not true at all), 2 (Very slightly true), 3 (Slightly true), 4 (Somewhat true), 5 (Mostly true), 6 (True), and 7 (Very true). Research conducted by Bean et al. (2021), Stenling and Tafvelin (2014), Curran et al. (2013), and Ng et al. (2011) has demonstrated the validity and reliability of the BNSSS. In order to confirm the internal consistency of the BNSSS within the current study’s specific population, Cronbach’s alpha ( $\alpha$ s) was calculated for each of the subscales, as well as for the global BNSSS scale and these are presented in section 4.4 of the current chapter.

#### **4.3.3.3 Attention and awareness**

The attention and awareness levels of the athletes working with the tennis coaches was measured through use of the mindful attention awareness scale (MAAS; Brown & Ryan, 2003) and its unidimensional structure (one scale) across a single line of responses. As a central tenant of cognitive neuroscience, and cognitive psychology (Garner et al., 2020) the MAAS was developed to measure respondents’ proclivity for paying attention to, and having a sensitive awareness of, what is happening in the present (Brown et al., 2003; Kroon et al., 2017), with items across the scale focusing on cognitive, emotional, physical, interpersonal, and general domains (Brown et al. 2003; e.g. “I could be experiencing some emotion and not be conscious of it until some-time later”, and “I find myself doing things without paying attention”, and “I find myself listening to someone with one ear, doing something else at the same time”). The MAAS was validated across two initial studies focused on psychological well-being (Brown et al., 2003), and cancer populations (Carlson & Brown, 2005). Subsequently the MAAS has now also been utilised across a range of additional contexts (Diaz, 2018; Kersemaekers et al., 2018; King & Haar, 2017), and has also been integrated across both non-clinical populations and populations that have received no prior training in mindfulness, attention, or awareness pedagogic practice (Lundqvist et al., 2018; MacKillop & Anderson, 2007). Across the fifteen items of the

MAAS (which are all reverse coded Brown et al., 2003) the response scale range was: 6 (Almost never), 5 (Very infrequently), 4 (Somewhat infrequently), 3 (Somewhat frequently), 2 (Very frequently), and 1 (Almost always), with higher scores indicating higher mindfulness, attention, and awareness experiences. Research conducted by Ari et al. (2020), Hoja and Jansen (2019), and Moen et al. (2015) has demonstrated the validity and reliability of the MAAS in sport. In order to confirm the internal consistency of the MAAS within the current study's specific population, Cronbach's alpha ( $\alpha$ ) was calculated for this scale, and this is presented in section 4.4 of the current chapter.

#### **4.3.4 Procedure**

After obtaining institutional ethical approval, tennis coaches were approached via e-mail, telephone, or personally to explain the nature and purpose of the current study so permission to collect data from tennis athletes could be obtained, and agreement concerning the implementation of coaches as the gatekeepers in this process (Andoh-Arthur, 2019; Clark, 2011). Deployment of gatekeepers within social science research is realised as an essential facet of participant recruitment, enabling a bridge between researchers and prospective participants (Clark, 2011). Additionally, this approach supports structured, effectual and prudent avenues of access (Andoh-Arthur, 2019), whilst ensuring ethical and moral accountability remains intact through the recruitment, consent, and participant engagement stages (Harriss et al., 2019). The coaches (gatekeepers) were briefed concerning the confidentiality, anonymity, and withdraw procedures of the study prior to engaging with participant recruitment. Additionally, prospective participants were further informed of the confidentiality and anonymity procedures of the current study, and details provided regarding the opportunity to withdraw from the study at any point in time without giving a reason (see Appendix J). Participants who then expressed interest to take part in the study were asked to sign informed consent, and following this complete the questionnaire at a time that was convenient to them. The questionnaire was available to complete both as a hard copy or as a digital online version for ease of access and completion for the participants.

#### **4.3.5 Data analysis**

Descriptive statistics including means (M), standard deviations (SD), Welch's t-test (t), one-way analysis of variance (ANOVA), and Cronbach's alpha coefficients ( $\alpha$ ) were calculated utilising IBM SPSS statistics 27. The Welch t-test allowed for the comparing of the variance in means across the two independent groups within the data concerning the gender of the athletes. Additionally, the one-way ANOVA supported the comparison of the

variance across the means for the three independent groups of coach gender, and the four independent groups of playing environment. The study data were also analysed for normal distribution across the symmetry (skewness) and spread (kurtosis) utilising histograms and the quantile-quantile (QQ) plots (Field, 2017; Kwak & Park, 2019). Drawing on central limit theorem minor deviation in normality of data are not considered problematic for samples greater than 100 (Mishra et al., 2019; Ross, 2017). Therefore, the data sub-groups with small samples ( $n < 100$ ) from the present study were further analysed using a Kolmogorov-Smirnov test ( $p < 0.05$ ) to examine the distribution of these data, and all returned non-significant results (coach gender, male and other, playing environment, university and international) for all three measures (DTLI, BNSSS, MAAS) within the current study. *Post hoc analysis* was undertaken utilising the Tukey Kramer test to identify where specific mean differences across the pairwise groups were apparent (Driscoll, 1996). This was further supported through calculation of effect sizes for the pairwise differences utilising Hedges'  $g$  which accommodates groups with both small and differing sample sizes through integration of the pooled weighted standard deviations applied in the formula (Ellis, 2010; Hedges, 1981; Rosenthal, 1991). The Hedges'  $g$  effect size parameters applied within the present study followed the reported measures from Cohen (1988, 1992) to support interpretation of the meaningfulness across the calculated outcomes (small effect  $g = 0.2$ , medium effect  $g = 0.5$ , large effect  $g = 0.8$ ), in addition to referring to existing studies focused on transformational leadership in sport coaching, and sport psychology for statistical and applied comparisons (Durlak, 2009; Ong et al., 2021; Turnnidge et al., 2020; Zanatta et al., 2018)

Although previous research (Arthur et al., 2011; Smith et al., 2013) has supported the validity and reliability of the Differentiated Transformational Leadership Inventory for Sport the current study calculated Cronbach alpha coefficients ( $\alpha$ s) to measure the internal consistency of the current data sample as Likert scale questions were utilised across the data collection process. With this use of latent variables more challenging to measure the Cronbach alpha ( $\alpha$ s) allowed for the examination of how closely related the variables are as a group of data. Further to this process, the hypothesised associations were then tested through calculating Pearson correlation coefficients ( $r$ ) to measure the strength of the linear relationships between the questionnaire variables (DTLI, BNSSS, MAAS), with the 1-tailed test employed as the current study was testing for positive relationships across the variables (Field, 2017; medium relationship:  $r$  value between 0.3 and 0.49, or a small relationship:  $r$  value between 0.1 and 0.29). The collected ordinal data in the current study is based on responses to Likert scale questions which would usually assume the use of non-parametric statistical tests, which in this instance would be the Spearman rank-order

correlation coefficient ( $\rho$ ). However, employing the principles of the central limit theorem (Ross, 2017) and the concept of population distribution, which states that as the size of sample data sets expand, the mean distribution across random variables will follow a normal distribution (Kwak & Kim, 2017, Mishra et al., 2019) the assumption can then be made to utilise parametric statistical tests with Likert scale data across samples  $>n=30$  (Riffenburgh, 2013). Therefore, prior to running the ( $r$ ) calculations, pre-tests (histogram and QQ plot analysis) were also utilised to check the data variables for normality across their distribution and to also ensure a linear relationship was present. The statistical relationships tested for the current study are detailed in Figures 4.2 and 4.3 below.

Across the study, the seven subscales of the DTLI are referred to using the following abbreviations: TFL – transformational leadership (global score), IS - intellectual stimulation, IC - individual consideration, IM - inspirational motivation, FGG - fostering acceptance of group goals, RM - appropriate role model, HPE - high performance expectations, and CR - contingent reward. For the five subscales of the BNSSS the following abbreviations are also used across the current study: BNSSS – basic needs satisfaction in sport scale (global score), COMP – competence, REL – relatedness, A-IPLOC - autonomy internal perceived locus of causality, A-V, autonomy volition, A-PC – autonomy perceived choice, and A-COMB as the combined autonomy scale (A-IPLOC, A-V, and A-PC).

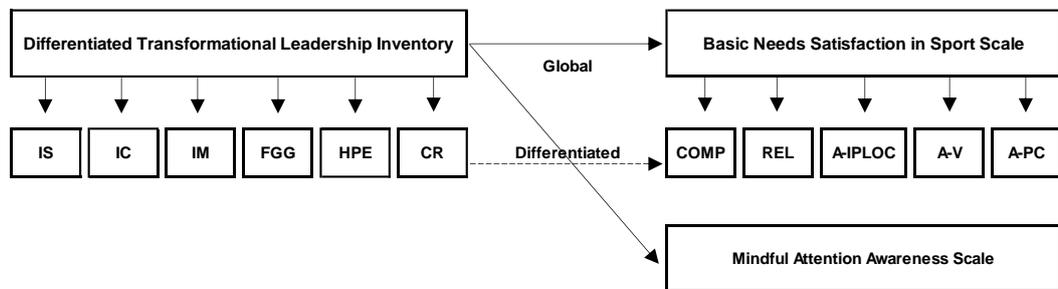


Figure 4.2 Statistical relationships tested in stage 1: H1, H2, and H3

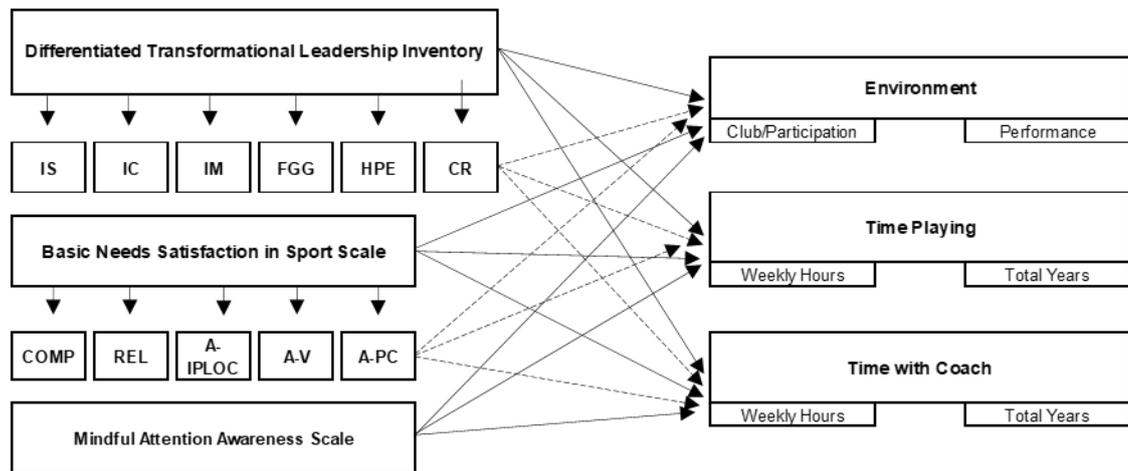
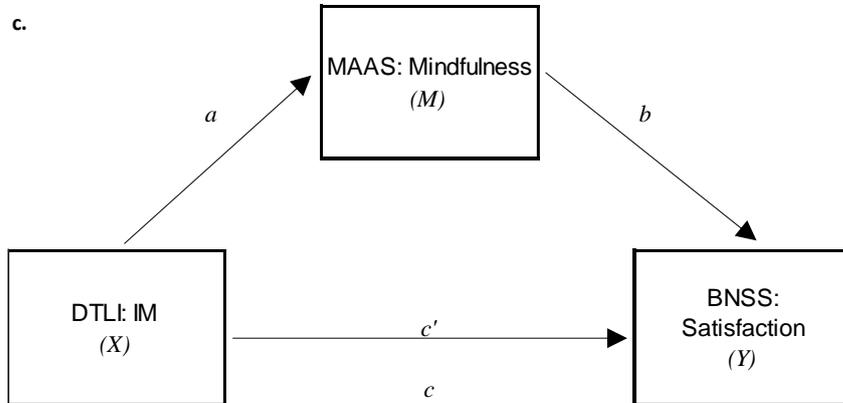
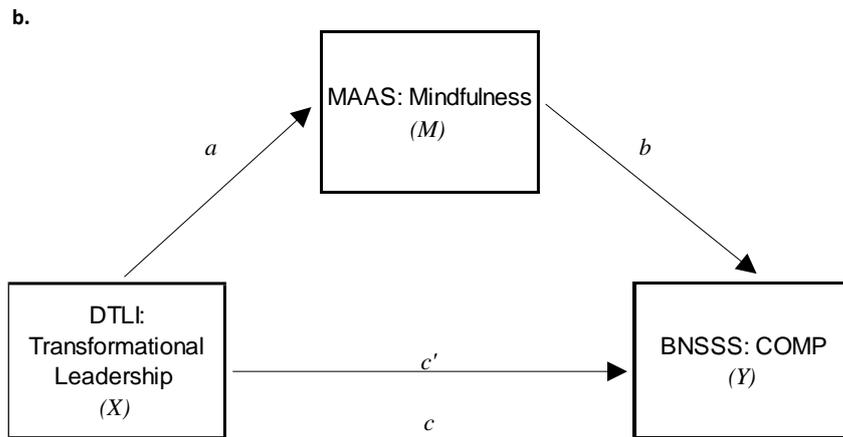
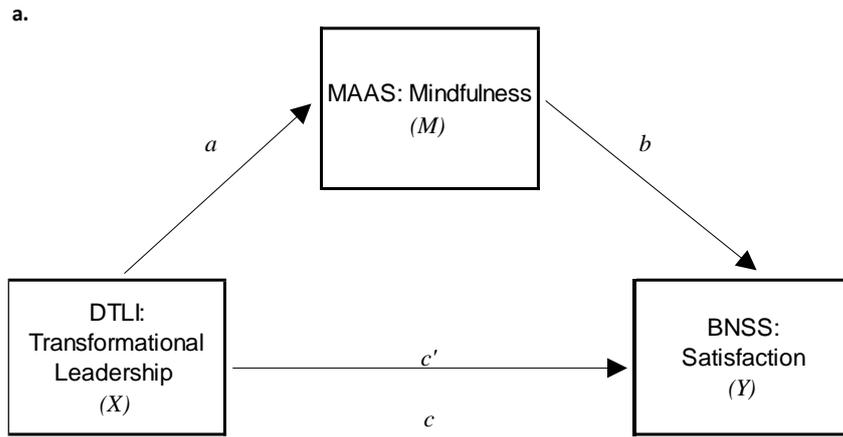


Figure 4.3 Statistical relationships tested in stage 2: H1, H2, and H3

Additionally, the present study also analysed a simple mediation model utilising version 4.0 of the PROCESS macro (Hayes, 2021) within IBM SPSS 27. This statistical analysis was undertaken to specifically examine the causal system in which the antecedent X variable is proposed to influence the outcome variable Y through a single mediating variable M (Hayes, 2022; Mackinnon, 2011; Wu & Zumbo, 2008) across the data set. Through application of the Baron & Kenny (1986) regression equation principles, the current study analysed the mediational effect of mindfulness (M), on the independent variable of transformational leadership (X), and the dependant variable of satisfaction (Y). Examining the data through use of third variables (mediator) enables a deeper analysis of the underlying causal explanations of the processes and interactions between variables (Hayes, 2022), whilst equally allowing for the results of this mediation statistical test to establish the platform from which development of subsequent intervention studies in applied settings can additionally be explored (Hayes, 2012). Prior to running the mediation, data were tested for linearity and homoscedasticity assumptions using the multiple regression standardised predicted and residual values to ensure the data respect multiple regression assumptions (Mackinnon, 2011). Models of the mediated relationships tested for the current study are detailed in Figure 4.4 below.



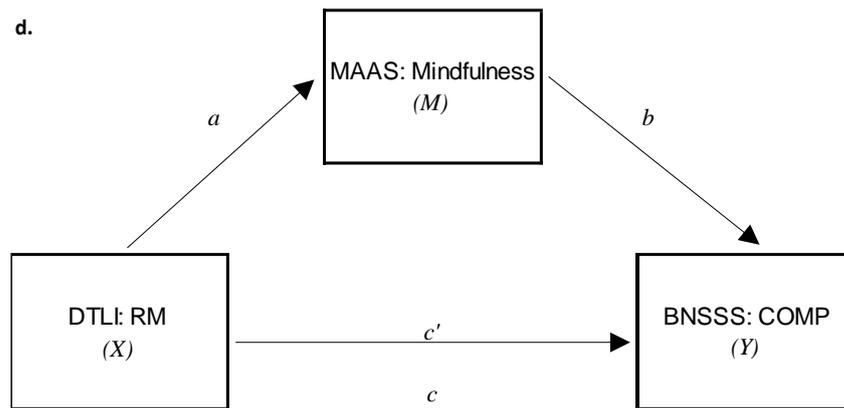


Figure 4.4 Models of the mediated relationships to be tested

#### 4.4 Results

Initially, all returned questionnaires were analysed for missing response data which revealed a low percentage (7.46%, n=34 questionnaires) of missing data from the returned questionnaire sample (n=456), these incomplete questionnaires were therefore removed from the final sample (n=422) of analysed questionnaires.

Cronbach's alpha coefficients ( $\alpha$ ) for all of the DTLI subscales were calculated to assess for internal consistency, the scores were: intellectual stimulation ( $\alpha=0.82$ ), individual consideration ( $\alpha=0.79$ ), inspirational motivation ( $\alpha=0.83$ ), contingent reward ( $\alpha=0.82$ ), fostering acceptance of group goals ( $\alpha=0.75$ ), appropriate role modelling ( $\alpha=0.84$ ), and high-performance expectations ( $\alpha=0.75$ ). The Cronbach alpha coefficients ( $\alpha$ ) for the global DTLI scale was  $\alpha=0.95$ , and from the resultant data all of the DTLI scales at both global and differentiated levels had high reliabilities, with all Cronbach's  $\alpha>0.70$ . Additionally, Cronbach's alpha coefficients for all of the BNSSS subscales were also calculated to assess for internal consistency, the scores were: competence ( $\alpha=0.71$ ), relatedness ( $\alpha=0.82$ ), autonomy internal perceived locus of causality ( $\alpha=0.76$ ), autonomy volition ( $\alpha=0.69$ ), and autonomy perceived choice ( $\alpha=0.41$ ). From the resultant data some of the BNSSS subscales at the differentiated level had high reliabilities (relatedness, autonomy internal perceived locus of causality, competence), with a further subscale (autonomy volition) containing an item (item 2) that was the only item across the global BNSSS scale worded negatively. As required by the Cronbach alpha ( $\alpha$ ) statistical protocol this item was reverse coded to avoid a negative alpha coefficient score, this resulted in a final  $\alpha$  score -0.01 below the required  $\alpha>0.70$ . The final BNSSS subscale of autonomy perceived choice resulted in an alpha score  $<0.70$  ( $\alpha=0.41$ ), this subscale contains items that question participants regarding decision making, actions, and choice so potentially

leading to responses on either end of the scale in the context of tennis players which is an individual sport, also indicated by the high standard deviations for item 1 (SD=2.90) and for item 4 (SD=3.61) within this subscale, a finding also realised by Reeve et al. (2003) in their study utilising this tool. However, by combining the three subscales of autonomy (IPLOC, volition, and perceived choice, Ng et al., 2011; Stenling et al., 2014) the alpha score increases to  $>0.50$  ( $\alpha=0.64$ ) improving the internal consistency and indicating improved reliability (Pallant, 2020). The Cronbach alpha coefficients ( $\alpha$ s) for the global BNSSS scale was  $>0.70$  ( $\alpha=0.82$ ) indicating a high reliability. Finally, Cronbach's alpha coefficients ( $\alpha$ s) for the MAAS scale was also calculated to assess for internal consistency, with the resultant score was  $>0.70$  ( $\alpha =0.82$ ) indicating a high reliability. The reliability statistics for the DTLI, BNSSS, and the MAAS are presented in Table 4.0

Table 4.0 – Cronbach's alpha coefficients ( $\alpha$ s) for the differentiated transformational leadership inventory (DTLI), the basic needs satisfaction in sport scale (BNSSS), and the mindful attention awareness scale (MAAS)

<b>Measure</b>	<b><math>\alpha</math></b>	
DTLI	0.95	
IS	0.82	
IC	0.79	
IM	0.83	
CR	0.82	
FGG	0.75	
RM	0.84	
HPE	0.75	
BNSSS	0.82	
REL	0.82	
A-IPLOC	0.76	
A-V	0.69	<i>A-V item 2 reverse coded</i>
A-PC	0.41	
COMP	0.71	
MAAS	0.82	
BNSSS - Autonomy combined: A-IPLOC, A-V, A-PC	0.64	<i>A-V item 2 reverse coded</i>

Table 4.1 details the means (M), and standard deviations (SD) for each of the study variables at the global level of the constructs (DTLI, BNSSS, and MAAS), with descriptive statistics also provided by athlete gender, coach gender, and playing environment. Table 4.2 offers the same statistics but focused on the combined autonomy construct (A-COMB: A-IPLOC, A-V, and A-PC) of the BNSSS, with Table 4.3 detailing the means (Ms), and

standard deviations (SDs) for each of the subscales across the DTLI and the BNSSS.

Table 4.1 – Global mean (M) and standard deviation (SD) for the differentiated transformational leadership inventory (DTLI), the basic needs satisfaction in sport scale (BNSSS), and the mindful attention awareness scale (MAAS), with athlete gender and coaching/playing environment

Global	Total Sample		Athlete Gender				Coach Gender						Environment							
			Female		Male		Female		Male		Other		Participation/Club		University		County/Regional/National		International	
n	422		206		216		41		374		7		347		9		55		11	
DTLI	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
	4.11	0.83	4.15	0.81	4.07	0.84	3.89	0.87	4.13	0.82	4.32	0.90	4.11	0.82	4.10	0.81	4.15	0.85	4.07	1.07
BNSSS	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
	5.52	1.25	5.49	1.25	5.54	1.25	5.48	1.29	5.52	1.25	5.73	1.43	5.45	1.26	5.63	1.08	5.88	1.14	5.71	1.42
MAAS	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
	4.10	1.22	4.08	1.24	4.12	1.20	4.15	1.22	4.10	1.22	4.05	1.29	4.09	1.22	4.10	1.28	4.16	1.21	4.18	1.34

Table 4.2 – Mean (M) and standard deviation (SD) for the combined autonomy (A-COMB) items (A-IPLOC, A-V, A-PC) from the basic needs satisfaction in sport scale (BNSSS), with athlete gender and coaching/playing environment

Global	Total Sample		Athlete Gender				Coach Gender						Environment							
			Female		Male		Female		Male		Other		Participation/Club		University		County/Regional/National		International	
n	422		206		216		41		374		7		347		9		55		11	
BNSSS	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
	5.72	1.24	5.70	1.24	5.54	1.25	5.65	1.23	5.72	1.24	5.84	1.42	5.04	1.25	5.69	1.17	5.94	1.14	5.99	1.18
Total autonomy combined (A-IPLOC, A-V, A-PC)																				

Table 4.3 – Mean (M) and standard deviation (SD) for each subscale of the differentiated transformational leadership inventory (DTLI), the basic needs satisfaction in sport scale (BNSSS), with athlete gender and coaching/playing environment

Subscales	Total Sample		Athlete Gender				Coach Gender						Environment							
			Female		Male		Female		Male		Other		Participation/Club		University		County/Regional/National		International	
n	422		206		216		41		374		7		347		9		55		11	
DTLI	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
IS	4.00	0.82	4.09	0.79	3.91	0.84	3.72	0.87	4.03	0.81	3.86	0.89	4.02	0.80	3.72	1.00	3.97	0.89	3.82	1.02
IC	4.18	0.80	4.20	0.80	4.15	0.80	4.04	0.81	4.19	0.80	4.25	0.89	4.17	0.79	4.28	0.74	4.24	0.78	4.02	1.17
IM	4.18	0.79	4.21	0.78	4.14	0.80	3.90	0.83	4.20	0.78	4.32	1.02	4.17	0.79	4.28	0.51	4.18	0.79	4.32	0.93
CR	4.24	0.76	4.28	0.75	4.19	0.77	4.07	0.80	4.25	0.76	4.36	0.83	4.23	0.76	4.31	0.67	4.25	0.75	4.27	0.85
FGG	4.10	0.84	4.19	0.81	4.02	0.86	3.93	0.86	4.12	0.84	4.14	0.91	4.11	0.81	4.19	0.92	4.10	0.91	3.85	1.23
RM	4.14	0.85	4.19	0.79	4.08	0.90	3.84	0.93	4.17	0.83	4.11	0.92	4.14	0.84	4.11	0.75	4.17	0.86	3.95	1.20
HPE	3.95	0.89	3.91	0.91	3.99	0.88	3.72	0.92	3.97	0.89	4.32	0.82	3.91	0.87	3.86	0.90	4.14	0.94	4.23	1.03
BNSSS	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
REL	5.47	1.17	5.53	1.14	5.41	1.17	5.60	1.06	5.45	1.18	5.74	1.38	5.45	1.13	5.84	0.71	5.71	1.23	4.71	1.79
A-IPLOC	5.74	1.06	5.75	1.04	5.73	1.06	5.59	1.01	5.76	1.06	5.81	1.29	5.70	1.07	5.81	0.83	5.91	1.02	6.21	0.89
A-V	6.28	1.01	6.33	0.90	6.23	1.01	6.23	0.94	6.29	1.00	6.24	1.51	6.28	0.97	6.33	0.96	6.25	1.17	6.36	1.29
A-PC	5.27	1.34	5.18	1.36	5.36	1.34	5.26	1.41	5.27	1.33	5.57	1.43	5.19	1.36	5.11	1.26	5.73	1.16	5.55	1.17
COMP	5.16	1.29	5.03	1.27	5.29	1.29	5.03	1.50	5.17	1.25	5.49	1.50	5.00	1.28	5.29	1.14	5.94	1.03	6.16	0.83

Note: DTLI – differentiated transformational leadership inventory, IS - intellectual stimulation, IC - individual consideration,

IM - inspirational motivation, CR - contingent reward, FGG - fostering acceptance of group goals, RM - appropriate role model, and HPE - high performance expectations, BNSSS – basic needs satisfaction in sport scale, REL – relatedness, A-IPLC - autonomy internal perceived locus of causality, A-V, autonomy volition, A-PC – autonomy perceived choice, and COMP – competence.

The descriptive statistics offer some further insight across the sample population responses regarding the views of tennis athletes on their tennis coach, and indications of the prevalence of these views are suggested across the data set. Specifically, the mean for the subscales of the DTLI reveal that contingent reward was above the midpoint of the response scale and was the highest average score for the total sample population (M=4.24, SD=0.76), both athlete genders (female M=4.28, SD=0.75; male M=4.19, SD=0.77), for the identified coach gender (female M=4.07, SD=0.80; male M=4.25, SD=0.76), and for all player environments (participation/club M=4.23, SD=0.76; university M=4.31, SD=0.67; county/regional/national M=4.25, SD=0.75) with the exception of the international environment subgroup which scored DTLI inspirational motivation as the highest mean score (M=4.32, SD=0.93).

To further support the analysis of the DTLI descriptive statistical data, the Welch's t-test was calculated to compare and examine the variance in DTLI means across the two independent groups concerning the gender of the athletes, this delivered a statistically non-significant result ( $t(419)=1.00$ ,  $p=0.32$ ), with a small effect size (Hedges'  $g=0.10$ ). Additionally, the one-way ANOVA was also calculated to compare variance across the DTLI means for the four independent groups of playing environment which was also non-significant ( $F(3, 418)=0.14$ ,  $p=0.939$ ). The one-way ANOVA was also calculated for the three independent groups of coach gender which revealed a significant main effect ( $F(2, 419)=4.01$ ,  $p=0.019$ ). *Post hoc* analysis to determine the pairwise differences between each of the coach gender groups for DTLI was undertaken utilising the Tukey Kramer test which revealed a significant difference between the coach female and male groups ( $p=0.014$ , 95% C.I.=[-0.45, -0.40]) with a small to medium effect size (Hedges'  $g=0.46$ ). Indicating a meaningful difference for the present study for those athletes with a female coach, on average perceiving their coach less positively concerning TFL behaviours than those with a male coach. However, no significant or meaningful differences were observed between the coach female and other groups ( $p=0.341$ , 95% C.I.=[-0.82, 0.21]) with a small effect size (Hedges'  $g=0.20$ ), and the male coach and other groups ( $p=0.954$ , 95% C.I.=[-0.54, 0.42]) with a very small effect size (Hedges'  $g=0.11$ ).

In relation to athlete gender, differences occur across the lowest mean responses with females indicating high performance expectations (M=3.91, SD=0.91) and males indicating intellectual stimulation (M=3.91, SD=0.84) illustrating that the current sample of

athletes view the TFL behaviours of their coach differently. Further supported across the identified coach gender findings with those athletes working with female coaches indicating intellectual stimulation ( $M=3.72$ ,  $SD=0.87$ ) and high-performance expectations ( $M=3.72$ ,  $SD=0.92$ ) as the lowest mean responses, and for those working with male coaches high performance expectations ( $M=3.97$ ,  $SD=0.89$ ) was found to be the lowest mean reflecting some further alignment across the athlete and coach gender outcomes. Reviewing the player environments, unsurprisingly the participation/club players indicate high performance expectations as their lowest mean ( $M=3.91$ ,  $SD=0.87$ ) response illustrating the possible difference in focus regarding player engagement with tennis across applied contexts. The remaining three playing environments (university:  $M=3.72$ ,  $SD=1.00$ ; county/regional/national:  $M=3.97$ ,  $SD=0.89$ ; and international:  $M=3.82$ ,  $SD=1.02$ ) all scored intellectual stimulation as their lowest mean response potentially indicating differing motivations for tennis engagement in these playing contexts from across the current sample of athletes.

The responses for the BNSSS subscales from the total sample population ( $M=5.16$ ,  $SD=1.29$ ), for both genders (female  $M=5.03$ ,  $SD=1.27$ ; male  $M=5.29$ ,  $SD=1.29$ ), and for two of the playing environments (participation/club:  $M=5.00$ ,  $SD=1.28$ , university:  $M=5.29$ ,  $SD=1.14$ ) scored competence as the lowest mean indicating this subscale of the BNSSS satisfaction construct on a global level was potentially the lowest satisfaction priority from the athletes across these data sub-sets. In contrast, the BNSSS autonomy volition subscale was scored as the highest mean across the total sample population ( $M=6.28$ ,  $SD=1.01$ ), for both genders (female  $M=6.33$ ,  $SD=0.90$ ; male  $M=6.23$ ,  $SD=1.10$ ), for all playing environments (participation/club playing environment  $M=6.28$ ,  $SD=0.97$ , university  $M=6.33$ ,  $SD=0.96$ ; county/regional/national  $M=6.25$ ,  $SD=1.17$ , international  $M=6.36$ ,  $SD=1.29$ ) suggesting the athletes within these data sub-sets perceive their own actions, and control over these, as a recognisable element of their engagement with tennis.

To further support the analysis of the BNSSS descriptive statistical data the Welch's t-test was calculated across the two independent groups concerning the gender of the athletes, this delivered a statistically non-significant result ( $t(419)=-0.41$ ,  $p=0.68$ ), with a very small effect size (Hedges'  $g=0.04$ ). The one-way ANOVA results for the BNSSS three independent groups across coach gender was also non-significant ( $F(2, 419)=0.34$ ,  $p=0.711$ ). However, the results of the BNSSS one-way ANOVA across the four independent groups for playing environment indicated a significant main effect ( $F(3, 418)=6.17$ ,  $p=0.0004$ ). Further *post hoc* analysis to determine the difference between the BNSSS playing environment groups was also undertaken utilising the Tukey Kramer test

which revealed a significant difference between the participation/club and county/regional/national playing environments ( $p=0.001$ , 95% C.I.=[-0.70, -0.17]), with a medium effect size (Hedges'  $g=0.60$ ). Indicating a meaningful difference for the present study for those athletes playing tennis in a participation/club environment on average, perceiving their satisfaction as lower across the BNSSS than those playing tennis in a county/regional/national environment. However, no significant differences were observed between the participation/club and university groups ( $p=0.881$ , 95% C.I.=[-0.80, 0.45]) with a small effect size (Hedges'  $g=0.25$ ), the participation/club and international groups ( $p=0.623$ , 95% C.I.=[-0.83, 0.30]) with a small effect size (Hedges'  $g=0.37$ ), the university and county/regional/national groups ( $p=0.756$ , 95% C.I.=[-0.99, 0.41]) with a small effect size (Hedges'  $g=0.38$ ), the university and international groups ( $p=0.993$ , 95% C.I.=[-0.92, 0.75]) with a very small effect size (Hedges'  $g=0.19$ ), and finally for this test the county/regional/national and international groups ( $p=0.892$ , 95% C.I.=[-0.44, 0.78]) with a small effect size (Hedges'  $g=0.25$ ).

For the MAAS scale all responses across each subgroup from the sample population were above the midpoint of the response scale suggesting moderate recognition of this function across the athletes within the sample population. Additionally, for both the Welch t-test ( $t(417)=-0.34$ ,  $p=0.74$ ) with a very small effect size (Hedges'  $g=0.03$ ) for athlete gender, the one-way ANOVA for coach gender ( $F(2, 419)=0.11$ ,  $p=0.895$ ) and the one-way ANOVA for playing environment ( $F(3, 418)=0.19$ ,  $p=0.902$ ) for the MAAS each delivered non-significant results.

The Pearson correlation coefficients ( $r$ ) were calculated to test the hypothesised associations. Table 4.4 provides the correlation matrix of all subscales of the measures utilised within the current study (DTLI, BNSSS, and MAAS). All of the correlations ( $r$ ) were significant in the predicted positive direction indicating either a medium relationship or small relationship. The DTLI revealed positive medium correlations across the BNSSS subscales of: REL ( $r=0.46$ ,  $p<0.01$ ), A-IPLOC ( $r=0.48$ ,  $p<0.01$ ), A-V( $r=0.37$ ,  $p<0.01$ ), A-COMB( $r=0.40$ ,  $p<0.01$ ), and demonstrated small correlations across the BNSSS subscales of A-PC ( $r=0.24$ ,  $p<0.01$ ), and COMP ( $r=0.21$ ,  $p<0.01$ ). Additionally, a small correlation ( $r$ ) between the DTLI and the MAAS single scale ( $r=0.23$ ,  $p<0.01$ ) was also revealed. The BNSSS indicated medium positive correlations across all of the DTLI subscales, and the MAAS revealed small positive correlations across all of the DTLI and BNSSS subscales, with Table 4.5 illustrating these results. When ranking is applied (highest to lowest) to the correlations ( $r$ ) across the BNSSS and the DTLI subscales IM ( $r=0.40$ ,  $p<0.01$ ) indicated the strongest correlation and HPE ( $r=0.30$ ,  $p<0.01$ ) as the lowest,

with all correlations showing a medium positive correlation irrespective of rank order. Similarly, ranking the MAAS scale (highest to lowest) correlations (r) to the DTLI subscales illustrates RM (r=0.27, p<0.01) as the highest correlation, and IS (r=0.11, p<0.01) as the lowest, again with all correlations showing a small correlation irrespective of rank order. Table 4.6 details the rank order effect of the BNSSS and MAAS to the DTLI subscales. Additionally, when examining the BNSSS subscale of COMP to the DTLI subscales it reveals a small positive significant correlation across all DTLI scales, with IS (r=0.20) showing the highest correlation, and HPE (r=0.23, p<0.01) as the lowest. When applying the correlation from the BNSSS A-COMB subscale to the DTLI subscales this reveals five of the DTLI subscales (IS, IC, IM, CR, and RM) having a positive medium correlation, with FGG (r=0.28, p<0.01) and HPE (r=0.26, p<0.01) realising a small positive correlation to this subscale of the BNSSS. The correlations for this analysis are detailed in Table 4.7 below.

Table 4.4 – Correlation matrix for all DTLI, BNSSS subscales, and the MAAS single scale

	DTLI	IS	IC	IM	CR	FGG	RM	HPE	BNSSS	AUT COMB	REL	A-IPLOC	A-V	A-PC	COMP	MAAS
DTLI	1															
IS	0.82**	1														
IC	0.83**	0.70**	1													
IM	0.88**	0.67**	0.72**	1												
CR	0.84**	0.670**	0.68**	0.76**	1											
FGG	0.76**	0.56**	0.55**	0.61**	0.57**	1										
RM	0.86**	0.66**	0.68**	0.72**	0.71**	0.63**	1									
HPE	0.68**	0.42**	0.42**	0.54**	0.39**	0.47**	0.49**	1								
BNSSS	0.43**	0.36**	0.36**	0.40**	0.37**	0.34**	0.34**	0.30**	1							
AUT COMB	0.40**	0.34**	0.33**	0.37**	0.37**	0.28**	0.34**	0.26**	0.90**	1						
REL	0.46**	0.35**	0.40**	0.37**	0.39**	0.46**	0.40**	0.26**	0.75**	0.56**	1					
A-IPLOC	0.48**	0.40**	0.40**	0.44**	0.46**	0.36**	0.45**	0.25**	0.75**	0.74**	0.59**	1				
A-V	0.37**	0.27**	0.29**	0.31**	0.36**	0.25**	0.39**	0.20**	0.47**	0.53**	0.30**	0.56**	1			
A-PC	0.24**	0.21**	0.20**	0.23**	0.21**	0.17**	0.17**	0.19**	0.78**	0.91**	0.43**	0.43**	0.21**	1		
COMP	0.21**	0.20**	0.16**	0.23**	0.14**	0.13**	0.11**	0.23**	0.77**	0.51**	0.41**	0.47**	0.25**	0.43**	1	
MAAS	0.23**	0.11*	0.19**	0.18**	0.26**	0.22**	0.27**	0.12**	0.15**	0.17**	0.19**	0.23**	0.25**	0.06**	0.01**	1

\*\* . Correlation is significant at the 0.01 level (1-tailed).

\* . Correlation is significant at the 0.05 level (1-tailed).

Note: DTLI – differentiated transformational leadership inventory, IS - intellectual stimulation, IC - individual consideration, IM - inspirational motivation, CR - contingent reward, FGG - fostering acceptance of group goals, RM - appropriate role model, and HPE - high performance expectations, BNSSS – basic needs satisfaction in sport scale, REL – relatedness, A-IPLOC - autonomy internal perceived locus of causality, A-V, autonomy volition, A-PC – autonomy perceived choice, and COMP – competence. MAAS – mindful attention awareness scale.

Table 4.5 – Pearson's r correlations for all DTLI subscales with athlete satisfaction (BNSSS) and mindfulness (MAAS)

	BNSSS	MAAS
DTLI	0.43**	0.23**
IS	0.36**	0.11*
IC	0.36**	0.19**
IM	0.40**	0.18**
CR	0.37**	0.26**
FGG	0.34**	0.22**
RM	0.34**	0.27**
HPE	0.30**	0.12**

\*\*p <0.01 \*p <0.05

Table 4.6 – Pearson's r correlations ranked for all DTLI subscales with athlete satisfaction (BNSSS) and mindfulness (MAAS)

BNSS	Ranked Highest to Lowest	MAAS	Ranked Highest to Lowest
IM	0.40**	RM	0.27**
CR	0.37**	CR	0.26**
IS	0.36**	FGG	0.22**
IC	0.36**	IC	0.19**
RM	0.34**	IM	0.18**
FGG	0.34**	HPE	0.12**
HPE	0.30**	IS	0.11*

\*\*p <0.01 \*p <0.05

\*\*p <0.01 \*p <0.05

Table 4.7 – Pearson's r correlations for all DTLI subscales with athlete competence and combined athlete autonomy

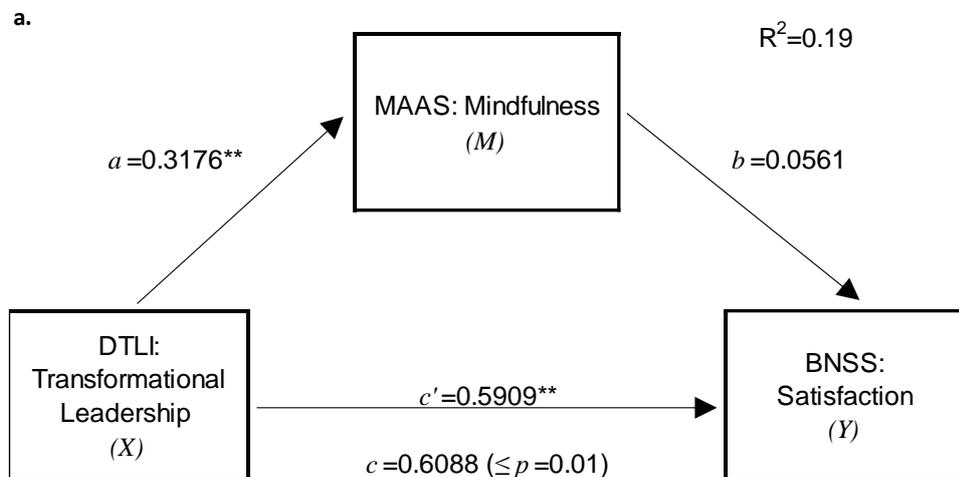
	BNSSS COMPETENCE	AUTONOMY COMBINED (A-IPLOC, A-V, A-PC)
DTLI	0.21**	0.40**
IS	0.20**	0.34**
IC	0.16**	0.33**
IM	0.23**	0.37**
CR	0.14**	0.37**
FGG	0.13**	0.28**
RM	0.11*	0.34**
HPE	0.23**	0.26**

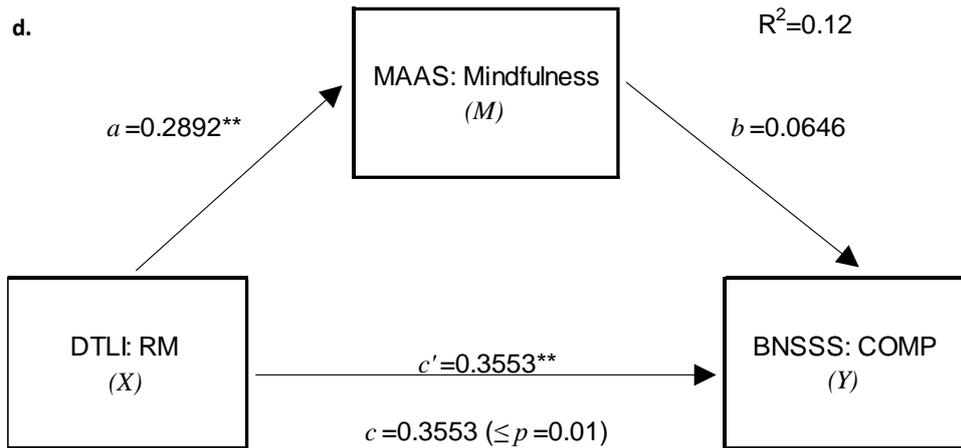
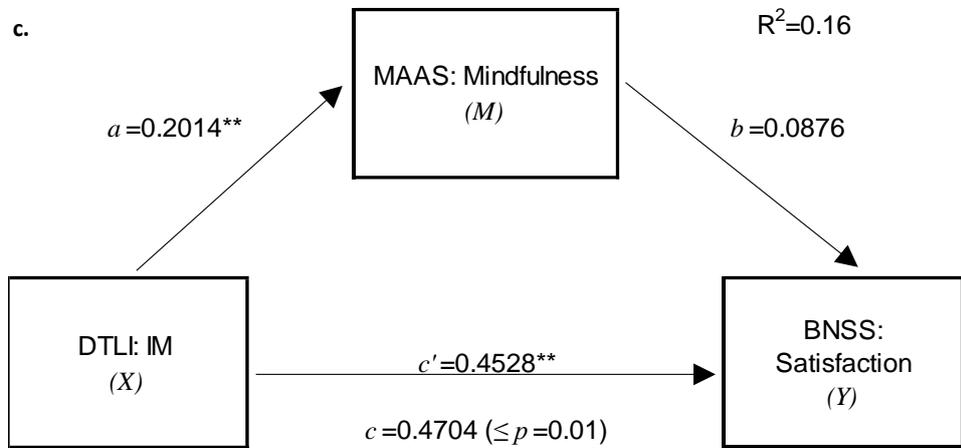
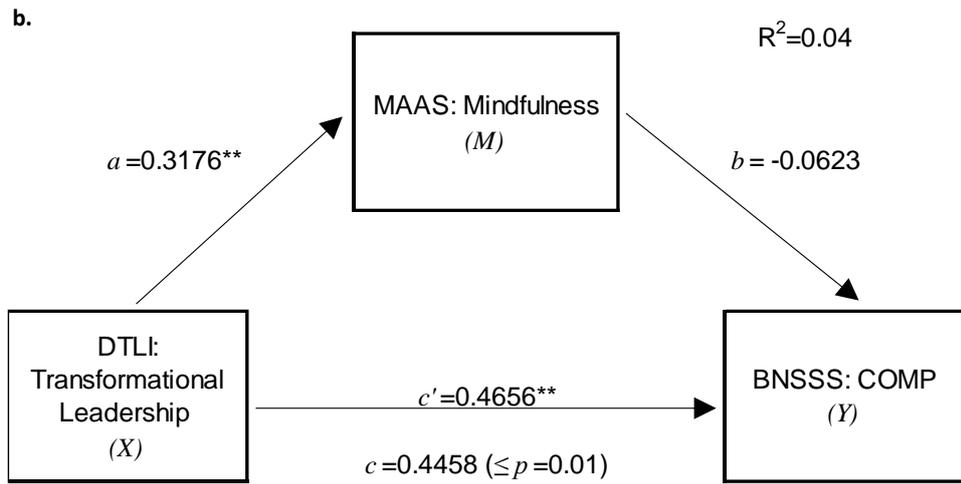
\*\*p <0.01 \*p <0.05

Note: DTLI – differentiated transformational leadership inventory, IS - intellectual stimulation, IC - individual consideration, IM - inspirational motivation, CR - contingent reward, FGG - fostering acceptance of group goals, RM - appropriate role model, and HPE - high performance expectations, BNSSS – basic needs satisfaction in sport scale, A-IPLOC - autonomy internal perceived locus of causality, A-V, autonomy volition, and A-PC – autonomy perceived choice.

Results from a simple mediation analysis with TFL (DTLI) as the independent variable (X), athletes' satisfaction (BNSSS) as the dependant variable (Y), and mindfulness (MAAS) as the mediator variable (M) indicated TFL was not indirectly related to athlete satisfaction

through its mediated relationship with mindfulness. The 95% bias-corrected confidence interval based on 5,000 bootstrap samples indicated that the indirect effect (IE) for this mediation model tested (a.) was not statistically significant (IE=0.178, 95% C.I.= -0.0101, 0.0504) as zero falls within the upper and lower confidence intervals. This result was duplicated for each of the remaining mediation models tested (models b, c, and d) with the IE of mindfulness (MAAS) between TFL (DTLI) and competence (BNSSS) also not statistically significant (model b, IE=0.198, 95% C.I.= -0.0726, 0.0286). The IE of mindfulness (MAAS) between IM (DTLI) and satisfaction (BNSSS) was also not statistically significant (model c, IE=0.176, 95% C.I.= -0.0005, 0.00407), and for the final mediation tested between RM (DTLI) and COMP (BNSSS) the IE of mindfulness (MAAS, model d, IE=0.0187, 95% C.I.= -0.0089, 0.0487) was not statistically significant. Further examination of the direct effect (DE) of TFL (DTLI) on mindfulness (MAAS; the (X) to (M) relationships) show for all models tested statistically significant results, equally this outcome also applies to the DE between TFL (DTLI) and satisfaction (BNSSS) across each of the mediation models. The results for the simple mediations models tested are detailed in Figure 4.5 below, with the  $R^2$  effect-size measures also provided to support additional assessment of the magnitude of the mediated variance across the simple mediation models (Fairchild et al., 2009).





Note: DTLI – differentiated transformational leadership inventory, IS - intellectual stimulation, IC - individual consideration, IM - inspirational motivation, CR - contingent reward, FGG - fostering acceptance of group goals, RM - appropriate role model, and HPE - high performance expectations, BNSSS – basic needs satisfaction in sport scale, REL – relatedness, A-IPLOC - autonomy internal perceived locus of causality, A-V, autonomy volition, A-PC – autonomy perceived choice, and COMP – competence. MAAS – mindful attention awareness scale.

Figure 4.5 Tested mediated models - a. Mindfulness as a mediator of the relationship between athlete perception of coach transformational leadership and athlete satisfaction (global), b. Mindfulness as a mediator of the relationship between athlete perception of coach transformational leadership and athlete competence, c. Mindfulness as a mediator of the relationships between athlete perception of DTLI (IM) and athlete satisfaction (global), d. Mindfulness as a mediator of the relationships between athlete perception of DTLI (IS) and athlete competence.

#### **4.5 Discussion**

As an initial overview, the main findings of this study disclose that both tennis athlete satisfaction and tennis athlete mindfulness significantly correlated with their perceptions of their tennis coach's transformational leadership behaviours, with a medium positive correlation seen for athlete satisfaction, but only a small positive correlation for athlete mindfulness. Specifically, through application of correlation ranking the DTLI subscale of inspirational motivation was the strongest correlation concerning athlete perceptions of coach TFL behaviours and athlete satisfaction (medium positive correlation). Similarly, when applying correlation ranking the DTLI subscale of appropriate role modelling was the highest correlation regarding athlete perception of coach TFL behaviours and athlete mindfulness (small positive correlation). Data analysis also revealed a significant pairwise difference between the male and female coach groups for the DTLI with a small to medium effect size, and between the participation/club and county/regional/national playing environments for the BNSSS with a medium effect size. Both of these pairwise differences indicated effect sizes that could have a potentially meaningful impact across these specific sub-groups, and possibly across the study data more broadly. Additionally, it was determined that mindfulness did not reveal a significant indirect effect with respect to mediating the perception of tennis coach TFL behaviours and tennis athlete satisfaction. With the same outcome for the indirect effect across mediating perception of coach TFL behaviours with competence, mediating the DTLI subscale of inspirational motivation with the BNSSS subscale of satisfaction, and finally mediating the DTLI subscale of appropriate role modelling with the BNSSS subscale of competence. However, the mediation analysis did report a significant direct effect between tennis coach TFL behaviours and mindfulness, and a further significant direct effect between tennis athlete satisfaction and mindfulness within the present study.

The purpose of the present study was to examine TFL behaviours through the dyadic relationship that exists between tennis coaches and their athletes with the central focus placed on identifying potential behavioural, relational, and contextual impacts of these facets within this domain of sport. Specifically, the study drew on the theory of TFL from implementation of the differentiated leadership inventory (DTLI, Callow et al., 2009; Hardy

et al., 2010), self-determination theory (SDT, Ryan et al., 2017) through integration of the basic need satisfaction in sport scale (BNSSS, Ng et al., 2011), and further with application of cognitive neuroscience and cognitive psychology theory through application of the mindful attention awareness scale (MAAS, Brown et al., 2003). Although the identification of positive associations across sport coaches' TFL behaviours and athletes' perception of sport coaches practice has been previously discussed within the fields of psychology, leadership, and applied sport practice literature (Álvarez et al., 2019; Arthur et al., 2011; Bourne et al., 2015; Newland et al., 2020), opportunity remains to add to the depth of this research area through development of studies that incorporate specifically targeted sample populations through examination of both existing and new variables that have the potential to impact on distinct and unambiguous coaching contexts of practice, and the athlete experience within these contexts (Carvalho et al., 2020; Gorber et al., 2007; Lyle, 2020; North et al., 2021). Specifically in the present study, through analysis of the established theoretical concepts of TFL, self-determination, and mindfulness, combined with existing empirical findings from current published works across this field research and earlier in this thesis, four hypotheses were developed to form the fundamental aspects for further analysis in this study: H1) the athletes would perceive their coaches' TFL behaviours as positive having a supplementary positive impact on their satisfaction and disposition for mindfulness; and within this association H2) some of the TFL subscales would be identified as highly positively associated with athlete satisfaction, then similarly: H3) some of the TFL subscales would be identified as highly positively associated with athlete mindfulness, and finally; H4) mindfulness would demonstrate a mediated indirect connection between coach TFL behaviours and athlete satisfaction.

The first hypothesis from the current study was supported, demonstrated by the high mean values and positive correlations exhibited across the athlete data suggesting that athlete perception of coach TFL behaviours is associated with both their satisfaction, and their disposition for mindfulness. The findings specifically regarding the positive association across coach TFL behaviours and athlete basic need satisfaction is also in line with the study by Stenling et al. (2014) that examined the association of satisfaction across teenage floorball athletes uncovering satisfaction as positively associated with TFL, whilst also determining satisfaction as a mediator between coach TFL behaviours and athlete well-being. The findings from Stenling et al. (2014) coupled with the current study, are, at present, the only two studies that have integrated the BNSSS into research as the measure to investigate athlete satisfaction directly related to coach TFL behaviours. With results from both studies reinforcing this association across differing coaching and athlete contexts, adding to the depth of research regarding this particular, and highly relevant

facet of the coach and athlete relationship (Felton et al., 2021; Jowett et al., 2017). However the current study also identified a meaningful difference across athlete perception of coach TFL behaviours based on coach gender, specifically if their coach was female, athletes on average perceived their coach TFL behaviours less positively than those with a male coach. Schull and Kihl (2019) highlight a critical mass of factors that include, sport knowledge, level of sport playing experience, disposition for empathy, prior coaching experience, and ability to apply discipline that combine to create an imbalanced perception and set of opportunities for females to fully thrive in parity with their male counterparts as leaders within the domain of sport coaching. Additionally, these accepted facets of human capital within the context of sport have the potential to elicit differing impacts on females and males when fulfilling sport coaching roles as discussed by Cunningham and Sagas (2002). Concerning tennis coaching specifically, it is acknowledged that the tennis coaching workforce is significantly (77%) dominated by male coaches currently (Ward, 2021), which is disproportionate to the national landscape of sport coaching across the UK where females fulfilling sport coaching roles has an improved representation (44%) across all sports (UK Coaching, 2017) more generally. It is unsurprising then to have realised this outcome for the present study concerning differing athlete perception of female and male coaches in tennis, with associated challenges of equal gender opportunities continuing to evolve across applied practice contexts (Reade et al., 2009; Riemer & Toon, 2001; Schull et al., 2019). Regarding TFL theory, it is clearly acknowledged the pertinence this concept garners, irrespective of gender (Bass et al., 2006), with the current study further underlining the potential benefit of analysing TFL research data by gender to capture evident variability (Cooky, 2018; Ratna et al., 2017). Of similar importance, is to ensure playing level is also fully examined (participation/club, university, county/regional/national, international) so all applied complexities athletes base their perception of coach TFL behaviours on are captured in their authentic, and contextual entirety (Hoeber & Shaw, 2017; Jager et al., 2017; Lyle, 2020; Smith & Stewart, 2010).

Additionally from the current study, the BNSSS subscale of autonomy volition (A-V) resonated most significantly with the athletes as being particularly pertinent, with its premise centred on athlete perception of their actions and the extent to which they have control over these (Deci et al., 2000). This indicated for the group of tennis athletes within the present study, autonomy directly related to personal decision making and control as a primary focus when determining athlete autonomy, satisfaction more broadly, and perception of their coaches TFL behaviours within the context of tennis. As tennis is a sport that is predominantly played individually (i.e. one player versus another player), this

is perhaps unsurprising to acknowledge – the playing experience within tennis is determined by the judgements and decisions made by individuals whilst on court, in the moment (Kolman et al., 2019; Raab et al., 2019; Van de Braam et al., 2016) further reinforcing the relevance, and importance of the need for this causal autonomous approach to be a particularly honed psychological skill to support positive tennis outcomes and athlete experience (Raab et al., 2019; Van de Braam et al., 2016). This also highlights the further value of researchers specifically targeting sample populations across defined areas of sport, so clear delimiters can be examined across sport specific populations, technical and tactical variables, and situational parameters (Carvalho et al., 2020; North et al., 2021).

Within the current study, the DTLI subscale of contingent reward (CR) was also found to be the highest mean within this athlete data set, posing at first review a potentially interesting dichotomy regarding the connections across athlete causal autonomy (intrinsic) and contingent reward (extrinsic) across this domain of sport. Within the DTLI, the subscale of contingent reward (CR) is the only transactional leadership component and focuses on leaders rewarding their followers after achieving determined outcomes or in the context of sport, levels of skill or performance (Callow et al., 2009; Yammarino et al., 1997). Within this, rewards can be both tangible, reenforcing the transactional nature of this TFL behaviour, or intangible (e.g. positive feedback to the athlete) as a psychological approach to reward, acknowledged as transformational rewarding (Antonakis et al., 2003; Bass et al., 2006). The extrinsic motivational aspect of contingent reward from the DTLI links to the broader theoretical domain of sport psychology through self-determination theory as an inherent facet of this framework (Deci & Ryan, 2020). With intrinsic motivation underpinning the autonomous human actions that are seemingly natural to oneself due to their inexorable links to personal belief, interest, and satisfaction (Ryan et al., 2003), positioning extrinsic motivation in contrast to this internal motivational state. From the perspective of SDT, extrinsic motivation is discussed through its four subcategories of external regulation (rules requiring compliance leading to reward or punishment), introjection (ego centred approval), identification (focus of self and status), and integration (conforming amalgamation and regulation), each of which diminish in autonomy (from fully external, to somewhat external, through to somewhat internal, culminating in fully internal) across the broader scope of the SDT taxonomy of motivation (Chatzisarantis et al., 2003; Deci et al., 2020). Examination of motivational variables across TFL research in sport coaching have previously identified such connections exist, initially through Charbonneau et al. (2001) who evidenced the TFL behaviours of coaches and athlete performance can be mediated by athlete intrinsic motivation, subsequently to Price et al. (2013) who

demonstrated the links across peer and coach TFL behaviours and intrinsic motivation, and most recently to Álvarez et al. (2019) who reported the positive enhancement of task climate, athlete effort, and satisfaction through perception of coach TFL behaviours. It is through the examination of athlete perception of coach TFL behaviours that the wide-ranging impact of both athlete intrinsic and extrinsic motivation can be acknowledged as a prominent variable through which coach TFL behaviours can be studied (Arthur et al., 2011; Beauchamp et al., 2014; Charbonneau, 2001; Erikstad et al., 2021). The complexities of athlete motivation are apparent through closer examination of the levels through which SDT offers theoretical explanation of the principal interactions, and environments (Turnnidge et al., 2020; Vella et al., 2013b) within which variable motivational states are optimal for both athletes and their coaches (Standage et al., 2020). It is through examining the multi-dimensional boundaries of athlete motivation across a range of sport and sport coaching contexts that the role of the sport coach will continue to be further empowered through such specifically focused evidence supporting confident adaptation of their coaching practice and providing constructive pathways to further support athlete satisfaction more broadly (Lyle, 2020; Potrac et al., 2020; Ryan et al., 2017; Standage et al., 2019).

The second hypothesis of the current study indicated moderate to low associations would be seen across each of the subscales (intellectual stimulation, individual consideration, inspirational motivation, fostering acceptance of group goals, appropriate role modelling, high performance expectations, and contingent reward) of the DTLI (Callow et al., 2009; Hardy et al., 2010), and across the subscales (competence, relatedness, autonomy: internal perceived locus of causality (IPLOC), volition, and perceived choice) of the BNSSS (Ng et al., 2011), and finally across the unidimensional MAAS (Brown et al., 2003). When the subscale correlations were ranked (highest to lowest) in relation to athlete perception of coach TFL behaviours (DTLI) and athlete satisfaction (BNSSS), inspirational motivation (IM) was reported as the strongest correlation, and high-performance expectations (HPE) indicated as the lowest. The DTLI subscale of high-performance goals was considered to have the smallest positive correlation across athlete satisfaction and perception of coach TFL behaviours. Within the role of a leader that exhibits TFL behaviours, high performance expectations specifically refers to both the leader and their follower's ability, or disposition for instilling excellence across their interactions, and wider extrinsic actions focused on collaboratively achieving the determined goal (Arthur et al., 2015; Podsakoff et al., 1990). For the context of the present study this low correlational outcome could potentially be related to the predominant proportion (82.2%, n=347 athletes) of athletes within the sample population engaging in tennis across the

participation/club environment, where the player focus is more generally connected to personal exercise needs, social interaction, and incremental skill development (Kolman et al., 2019).

Within the broader area of TFL in sport coaching Vella et al. (2012) utilised a revised version of the DTLI for application within the specific context of youth sport. The specific development of this revised DTLI removed the subscale relating to high performance expectations due to its challenging fit (both practically and statistically) within the context of youth sport. Subsequently the differentiated leadership inventory for youth sport (DTLI-YS) was validated and has been adopted into further studies within this context of TFL in sport coaching research (Lopez et al., 2021; Vella et al., 2013a; Vella et al., 2013b) demonstrating further potential fit issues of this DTLI subscale within differing sport coach and athlete contexts. It is relevant to also draw on existing empirical studies across the domain of research focused on TFL in sport coaching that have illustrated valid associations across high performance expectations is in relation to a range of variables that include team cohesion (Callow et al., 2009), intra-team communication (Smith et al., 2013), and athlete effort (Arthur et al., 2011). Overall, a valid case could be presented to explore refining the labelling of the HPE subscale to accommodate sport coaching contextual relevance in future studies embedding the DTLI measurement of TFL. The highest ranking of the DTLI subscale of inspirational motivation by the athletes in the present study provides further indication of the far-reaching importance of motivation again within the context of tennis (Standage et al., 2020). Specifically within transformational leadership theory, inspirational motivation is one of the core facets referenced as the “4 I’s” (Bass, 1985; Bass et al., 1993; Turnnidge et al., 2020) alongside intellectual stimulation (empowering followers to adopt and develop a growth mindset), individualised consideration (fostering of positive relationships valuing all contributions, encouraging creativity, and nurturing followers individually through appropriately tailored mentoring), and idealised influence (leader dedication to followers, resulting in follower respect and trust of the leader with ethical and morally appropriate behaviour exhibited across both parties). With inspirational motivation underlining the expected high standards of the leader by their followers, whilst equally demonstrating leader connectedness to future direction through exhibiting their innate ability to impart the wider vision so followers feel valued as part of the drive to achieve collectively (Arthur & Lynn, 2016; Bass et al., 2000; Bass et al., 2003). Sport coaches that are deemed to be, or labelled as, inspirational leaders are often held in high regard with players, teams, and sport governing bodies often referencing these coaches as role models with the capacity

to imprint lasting legacies (Figgins et al., 2016). To inspire requires the initiation of a motivational condition aligned to an individual's needs, which is equally central to fuelling action to realise these needs (Figgins et al., 2019; Thrash et al., 2014). Regardless of playing environment motivation to engage in sport and exercise is evidently supported by a range of motivational factors (Jones et al., 2011; Standage et al., 2020). However, the humanistic nature of inspirational sport coaches is a palpable draw to entice participants to not only initiate engagement (Figgins et al., 2019; Nichol et al., 2019; Smith et al., 2018). But through conscious, and continuous building of trust between coaches and athletes, adapted to compliment situational and contextual facets, the potential of sustained development and engagement is equally possible (Felton et al., 2021; Potrac et al., 2020).

The third hypothesis for the current study indicated a positive low association across each of the DTLI (Callow et al., 2009; Hardy et al., 2010), subscales (intellectual stimulation, individual consideration, inspirational motivation, fostering acceptance of group goals, appropriate role modelling, high performance expectations, and contingent reward), and also low correlation with the unidimensional MAAS (Brown & Ryan, 2003). When the subscale correlations were ranked (highest to lowest) in relation to athlete perception of coach TFL behaviours (DTLI) and athlete disposition for mindfulness (MAAS), appropriate role modelling (RM) was reported as the strongest correlation, and intellectual stimulation (IS) indicated as the lowest. It is potentially highly appropriate that intellectual stimulation was revealed as the lowest correlation to TFL behaviours considering the central premise of mindfulness emphasises the need for a receptive mind state, open to inaction and simply being in the present moment (Brown et al., 2003; Deci et al., 2000). This can be considered as the inverse mindset to the conscious cognitive processing humans naturally adopt to support filtering of thoughts, beliefs, memories and decisions (Brown et al., 2003), also being evidenced as the unconscious mind with its capacity to drive continuous subliminal processing and thoughts irrespective of whether they are required (Bargh & Morsella, 2008). Langer (1989) labels this continual cognitive stimuli fuelling relentless processing of thoughts 'mindlessness' which has far reaching potential consequences that can inhibit authentic open mindedness as humans unconsciously select the cognitive path of least resistance, or the usual routine and habits when thinking or being (Langer, 1992). Within TFL, intellectual stimulation is focused on the leader presenting appropriate challenges to followers that stimulates action to develop solutions, and a collective way forward to achieve the agreed goal (Podsakoff et al., 1990). Usually, this occurs through drawing on past challenges and experiences, contradicting the essence of mindfulness with its focus on being present, and largely endorses the narrative regarding the human unconscious mind (Bargh et al., 2008; Langer, 1992). In the context of the current study

this was, therefore, an unsurprising outcome in relation to coach TFL behaviour and athlete mindfulness, and further underlines the central tenants of mindfulness and is an outcome from the current study pertinent for future researchers to be aware of concerning the theoretical and applied contexts around which this is likely to have been dictated. Regarding appropriate role modelling, which realised the strongest correlation within the current study, this is possibly one of the simplest to relate to when considering the role of a leader in general and it is not only specifically relevant to those that demonstrate TFL behaviours, with the identification and acceptance of leaders who are deemed to be appropriate role models is apparent across the theoretical development of leadership paradigms more broadly (Allen, 2011; Bolden et al., 2003; Buck, 2014; Dinibutun, 2020). Reflecting on past and present high-profile individuals that hold leadership roles would doubtless lead to a long list of notable and worthy candidates to be included. Each with the potential of evoking specific thoughts and imagery attributed to effective role models (Lockwood & Kunda, 1997), across a varied set of applied contexts, be that political, religious, creative, scientific, business or, within the context of the present study, sport and sport coaching (Bosma et al., 2012; Meier, 2015; Mutter & Pawlowski, 2014).

Podsakoff et al. (1990) highlights within the context of TFL behaviour appropriate role modelling is centred on visual demonstration by the leader of example setting through extrinsic actions and words, aligned with internal thoughts and the utilisation of these facets to positively impact on both followers and the determined strategic vision. Further review of appropriate role models within sport regarding mindfulness, and practice of mindfulness has been increasing in presence across contemporary media over the past fifty years through an evolutionary process from its eastern Buddhist philosophical roots, into western psychotherapy, and contemplative practices (Nehring & Frawley, 2020). Now residing as a staple self-help component of the wider well-being agenda across mainstream popular culture (Walsh, 2016), it can also be cause for divisive narrative and polarising views regarding its apparent liberal free-thinking appeal, and its growth commercially (Berthon & Pitt, 2019; Walsh, 2016). Specifically within tennis, high profile exponents of the positive impact of mindfulness, and contemplative practice include the men's current world number one player Novak Djokovic who has adopted mindfulness as a core element of his approach to his tennis career including meditative practice (Van de Braam et al., 2016; Djokovic, 2013), additionally Stefanos Tsitsipas also a top ten men's player over ten years younger than Djokovic also endorses the value of mindfulness within his approach to tennis illustrating the multi-generational appeal of mindful practice for elite athletes. More generally, other high profile tennis players have also commented on the need to switch off, temper over-analysis of matches, and integrate meditative processes

within their routines, including Serena Williams, Johanna Konta, and Andy Murray. Murray (2013) openly shared that it was his coach at the time, Ivan Lendl, that enabled him to discontent from negative self-talk on court and allow himself to stay focused on the present moment regardless of how the last point had played out for him (Murray, 2013) illustrating the range of uses mindfulness through the awareness and acceptance facets of this concept has when practically employed at the highest level of sport.

Concerning the fourth hypothesis it was speculated that mindfulness would mediate the link across athlete perception of coach TFL behaviours (DTLI, Callow et al., 2009; Hardy et al., 2010), and athlete satisfaction (BNSSS, Ng et al., 2011). The mediational analysis findings revealed that athlete disposition for mindfulness does not mediate the association between athlete perception of coach TFL behaviours (intellectual stimulation, individual consideration, inspirational motivation, fostering acceptance of group goals, appropriate role modelling, high performance expectations, and contingent reward) and athlete satisfaction (relatedness, competence, autonomy). From the findings it would suggest that mindfulness does not fulfil a conduit role through which the transferring of athlete perception of coach TFL behaviours impacts on their satisfaction. However, this finding was the result of the indirect (mediated) effect through mindfulness, with the results for the direct effect between athlete perception of coach TFL behaviours and mindfulness being significant, and the direct effect between athlete satisfaction and mindfulness also significant. These direct effects indicate, through athlete self-report on their disposition for mindfulness utilising the MAAS (Brown et al., 2003), that positive associations are present across both perception of coach TFL behaviours and athlete satisfaction. This indicates that mindfulness is a new variable of significance that can be added to the domain of TFL in sport coaching research. To the authors knowledge this is the first study that has tested and highlighted this connection across coach TFL behaviours and athlete disposition for mindfulness and provides a platform for future studies to further investigate the relevance and application of athlete mindfulness within differing sports, athlete populations, and TFL sport coaching contexts. It is clear that mindfulness, and how sport coaches develop mindfulness, within the multifaceted context of sport has a potentially widening constructive role to fulfil in relation to athlete experience, enhancement of performance and more generally adding to the wider well-being agenda (Bernier et al., 2009; Stenling et al., 2014; White et al., 2021). Equally, opportunity to further examine the phenomena that is mindfulness focused on the role of the sport coach as a transformational leader specifically exists, potentially widening the scope of current research and knowledge regarding effect on practice settings across this seminal facet of cognitive psychology.

## **4.6 Limitations**

The current study delivers novel findings that offer further examination of TFL in sport coaching from the perspective of the coaches' athletes within the parameters of a specifically targeted sport, adding to the depth of available evidence within this evolving domain of research more generally. However, as with all research undertaken it is important to offer transparent overview of the limitations that are apparent within this study that could not be addressed at this stage. Specifically, the hypotheses developed and investigated were connected to the narrative outcomes of a previous qualitative study as part of a broader mixed methods collection of three studies examining TFL within sport coaching. Due to this, it may have limited the further exploration of athlete data collected and the possibility of unearthing further associations across athlete perceptions of coach TFL behaviours, connected to the subscales of athlete basic needs satisfaction and the unidimensional measure of mindfulness. This approach was consciously employed to avoid the contested practice of data fishing post setting of the hypothesis examined, ensuring an appropriate researcher degree of freedom was adhered to (Simmons et al., 2011). Additionally, the present study consciously selected a specific sport as the context for the data collection to support the furthering of research depth across the field of research focused on TFL in sport coaching (Griffo et al., 2019; Magnusen et al., 2020; North et al., 2021). With this in mind the results from the data and conclusions drawn are contextually specific, and generalisations offered are suggestions at this point and would require further data collection to underpin their relevance and validity across differing sample populations, in addition to a range of sport and exercise contexts. Equally, it is important to also indicate that although the sample size for this study was healthy, supporting the selected statistical protocols appropriately, scaling up of the sample would also allow for further examination of the strength and effect of the associations presented currently. It is also pertinent to acknowledge that application of the MAAS instrument (Ng et al., 2011) utilised to measure athlete disposition for mindfulness and the utility of this in relation to athlete perception of coach transformational leadership behaviours, to the researchers knowledge, has not previously been deployed within sport coaching research in this way. Therefore, it is appropriate to indicate that any future research studies integrating the MAAS measurement tool should also ensure attention is focused on examining the construct validity of the instrument to demonstrate further its application in this setting, from both research and applied practice perspectives. Finally, the sample population for the current study focused on athlete perception so therefore offered analysis of this context from a single stakeholder perspective. Future studies could also look to collect data from coaches within the participation and club environment, and from

the more expansive athlete support team (which could include technical coaches, strength and conditioning coaches, nutritionists, physiotherapists, and psychologists) from a performance sport perspective, supporting a holistic investigation of all stakeholders within sport and exercise settings. In addition to analysis of the connections between coaches and athletes in these defined applied practice settings further supporting broader examination and evidencing of the potential strength, effect, and reciprocal nature of associations uncovered across a highly relevant range of contexts. Developing research that counters these limitations would therefore provide the platform for future, relevant research centred on TFL behaviours of the sport coach. Enabling the highlighting of connections and implications across athlete perception of the coach, alongside satisfaction and disposition for mindfulness across a broader array of sport and exercise applied practice.

#### **4.7 Conclusion**

The outcomes from the present research study further supported (in addition to the experiential narrative in Chapter 3) the positive association between coach TFL behaviours and athlete satisfaction within the context of tennis, whilst also aligning with the findings from the study undertaken by Stenling et al. (2014) through integration of the basic need satisfaction in sport scale (Ng et al., 2011). Specifically, within this study the DTLI subscales of inspirational motivation and appropriate role modelling revealed the strongest association to tennis athlete perceptions of their tennis coaches TFL behaviours with their own satisfaction, and their disposition for mindfulness (Brown et al., 2003, attention and awareness). Furthermore, it was also revealed that athlete perception of coach TFL behaviours were differentiated by the gender of their coach, and the tennis playing environment within which they were participating. Supporting current wider research findings, and discussion concerning the development of female coaching opportunities (Cooky, 2018; Schull et al., 2019), and the importance of coaching experience appropriately complimenting athlete playing environments (Carvalho et al., 2020; Lyle, 2020; North et al., 2021). Athlete experience is central to the role of a coach, underpinned by the sporting context and situational factors at play (Arthur et al., 2020; Davis et al, 2018; Vella et al., 2013b), of which there are a vast array, illustrating the multifaceted complexities apparent across the role that a sport coach fulfils (Cassidy et al., 2016; Potrac et al., 2020). This further underlines the need for specificity of context across research within this domain of study to enable authentic connection, transference of theory, and integration of relevant research outcomes that combine to support the development of sport coaches across clearly targeted practice settings (Jones et al., 2011;

Lyle, 2020). Additionally, the current study has detailed prefatory support for the role of mindfulness theoretically and practically within the context of tennis coach TFL behaviours, and tennis athlete satisfaction. Further investigation of coach TFL behaviours and mindfulness within an extended range of sports, athlete populations, and sport coaching contexts is encouraged across this field of study. Allowing for a scopious examination of the theoretical and applied significance more widely, and deeply to further the understanding of this specific area of research. Findings from the current study indicate fresh opportunities for development of research within this domain of sport psychology leadership from both theoretical and practical perspectives, supporting connectedness across research and the expansive domain of applied sport coaching and transformational leadership.

#### **4.8 Future directions**

Athlete perception of coach TFL behaviours has been examined in relation to an expanding range of variables increasing the breadth of associations identified (Álvarez et al., 2019; Arthur et al., 2011; Bourne et al., 2015; Newland et al., 2020), whilst also potentially limiting the depth to which current research outputs can be applied more broadly across the multi-faceted domain in which sport coaches fulfil their role (Cassidy et al., 2016; Lyle, 2020; Potrac et al., 2020). It could, therefore, be of benefit for future studies to focus on the development of work that considers the selection of specifically targeted sample populations and associated coaching and sport situational and contextual factors in direct relation to outputs that already exist within this domain of research. Enabling the development of complementary studies that contribute to the deeper examination of TFL in sport coaching variables and contexts (Jones et al., 2011; Lyle, 2018), supporting strong application of generalisability of the presented evidence to underpin development of coach practice and athlete experience and engagement (Gorber et al., 2007). Additionally, whereas positivistic quantitative deductive research approaches deliver a useful range of statistically data driven evidence, the traditional cross-sectional focus of these studies can limit their applicability across the range of contexts within which sport coaches' practice takes place (North et al., 2021). Therefore, it would be appropriate for future research to consider a wider range of methodologies specifically concerning the development of constructivist philosophical underpinnings. Allowing for the inductive examination of narratives from the array of relationships (e.g. parents, team members, governing bodies, sport scientists, and medical professionals) sport coaches facilitate as integral facets of their role (Griffo et al., 2019; Potrac et al., 2020). Similarly, both intervention-based studies, and longitudinal studies would doubtless add further to the

rigour, impact, and profile of this domain of research (Arthur et al., 2020; Carvalho et al., 2020; Gilbert et al., 2004; Magnusen et al., 2020). Opportunity also exists to examine further the concept of mindfulness connected to TFL behaviours of coaches, from the perspectives of coach development and up-skilling in this area (Corsby et al., 2020; Gardener et al., 2020), and from analysis of mindful practices employed by sport coaches to support themselves (White et al., 2021). Also, how it is deployed to support athletes and the range of TFL behaviours that are at-play within this coach-athlete, mindfulness dynamic. Furthermore, when considering athlete perceptions of sport coaches they engage with, associations across coaching effectiveness could also be examined further in direct relation to TFL behaviours, athlete satisfaction, and importantly the mindfulness facets of attentiveness and awareness (Horn, 2008; Kroon et al., 2017), having the potential to offer a cohesive analysis of the complex dynamics at work. Researchers within the field of TFL in sport coaching research have already directed attention to the domain of youth sport coaching (Turnnidge et al., 2018; Vella et al., 2013a) specifically focusing on the interactions, and structures present within this applied environment which, therefore, presents a further opening to examine TFL alongside mindfulness in the developmental context of adolescent sport. Finally, the domain of elite sport has previously been acknowledged as a domain where limited research exists regarding coach TFL behaviours and connections to elite athletes (Arthur et al., 2020; Griffo et al., 2019; North et al., 2021). This high-profile domain of sport would equally provide an additional valuable context (Gustafsson et al., 2016) within which examination of the sport coaches' role across these variables (TFL, basic needs, mindfulness), could be investigated, and relevant novel research evidence offered.

#### **4.9 Researcher mixed methods reflexivity phase 1 and 2**

Moving into what would be the final study phase of the current MMR process felt equally motivating, and yet somewhat similar to still being in the centre of a marathon striving to achieve a personal best time which is tantalisingly close but could equally fade away as a missed opportunity through one ill-judged decision. A good analogy to sum up the process of MMR in this instance, as it is focused on sport and holds a relevant appropriateness, whilst highlighting the trepidation garnered by the 'switching' stages between studies in this instance. It was apparent that to build upon the valuable experiential insights that the tennis coaches had provided in Chapter 3, whilst equally keeping at the fore the recommendations from Chapter 2, Chapter 4 had a lot of precursory variables to acknowledge and potentially satisfy. Equally, reflecting on how full and representative engagement with the vast population of tennis participants would be

possible presented an initial insurmountable challenge to determine how this would be possible. Pragmatically, the solution resided with further engagement of the tennis coaches as the gatekeepers to accessing the participants they had access to across the varied applied settings. The scale of the sample was a significant element of the study requiring vast reading, thought, and reflection to unravel this contentious aspect. Subsequent additional consultation and debate with academic peers provided a useful steer, but it was surprisingly apparent that variability in how to ultimately define a non-parametric quantitative sample is hazy at best across research methods theory. Drawing on the knowledge from studies 1 and 2 the researcher was highly conscious that the collected data needed to be a coherent steppingstone in the chain of theoretical application and knowledge development. The integration of new theories into this study was a challenge, as it likely should be when taking new and uncharted steps with theoretical frameworks. The complexity of converging the outcomes from the initial two studies clearly highlighted the need for full reflexive engagement at this stage, with the ramifications of not getting this final element pitched appropriately having the capacity to undermine the preceding work that had already been enacted successfully. Wasting of time from the perspective of the researcher, and the coaches engaged in Chapter 3 was simply not an option from the pragmatic perspective of efficiency and seeking meaning and evidence to support further action. The process of data analysis was appropriately pitched to extract the answers to the hypothesis sets, which were again reflective of the progress made within the MMR process at that point. The culmination of the final study in the MMR process for this thesis felt like an important milestone, particularly as it was clear the statistical outcomes from Chapter 4 complimented the narrative findings from Chapter 3 and offered resolution to some of the identified research opportunities from Chapter 2. At this point it felt like a full circle had been drawn, highlighting the usefulness of the MMR sequential multistage design, as a pragmatist knowing where you are, what you have completed, and what you have yet to deliver feels reassuring to constantly know and reflect upon. It is, though, equally apparent that a further phase 4 could offer additional opportunity to extend this MMR process. Focusing on nested coach and athlete data through longitudinal engagement with tested, developed, and appropriately pitched intervention-based studies. The reflexive process seemingly never ends it would appear; it may be that the end of this MMR process has been achieved. However, thinking, progressing, and identifying further opportunities to continue building and converging to create a compelling case to support theoretical knowledge and positively impact applied practice offers a tempting avenue of researcher continuation.

## **Chapter 5**

The final chapter in this thesis write up provides an integrative discussion of the general findings arising from each of the research chapters (Chapters 2, 3, and 4) concluding the multistage exploratory sequential mixed methods design the thesis has employed as the philosophical, and theoretical foundation from which the research studies have been realised. This chapter also draws on the research objectives detailed in Chapter 1 through critical discussion regarding the central theoretical and applied implications of the systematic review (study 1), qualitative experiential narrative (study 2), and quantitative statistical data (study 3) gathered to enable the convergence of rigorous mixed methods evidence-based research. Further supported through development of the four-phase transformational leadership pathway for tennis coaches that equally presents a novel integrative conceptual model drawing both theoretical and applied components of the current MMR approach together. Original contributions and general implications have also been offered through integration of the adapted theory testing and building taxonomy allowing for the positioning of the current thesis within the broader domain of transformational leadership in sport coaching research, whilst equally illustrating the pragmatic coherence across the mixed methods approach. The limitations of the research studies undertaken are equally discussed further alongside existing research from across the domain of TFL within sport coaching. Enabling additional theoretical and practical clarity regarding the positioning of the studies within this thesis, and those currently published from across the field of study. Importantly, this final chapter also offers concluding reflections regarding the researchers' positionality further supporting philosophical transparency and authenticity through reflexivity, drawing on the initial commentary offered at the inception of this research process in Chapter 1, and continually through the subsequent studies. Finally, suggestions for future research directions are also explored through considered discussions drawn from the three research studies which provides a coherent platform to conclude the research process from across the employed multistage exploratory sequential mixed methods enquiry.

### **5.1 Introduction**

The relevance, utility, and impactful potential of a leadership role has been widely acknowledged across philosophical debate (Allen, 2011; Cushner, 2018; Khan, 2018; Liu, 2017; Sendjaya, et al., 2016; Tamiolaki 2018), whilst equally evidenced through scholarly research to support coherent knowledge regarding this expansive topic (Bolden et al., 2003; Buck, 2014; Dinibutun, 2020; Zaccaro & Klimoski, 2002). From classical writers illustrating the generational manifestation and perceptions of leadership, through to

contemporary scholars' development of formalised paradigms of leadership, and into present times, where acceptance of leadership as an essential, central tenant of effective applied practice across multiple settings (Aaldering et al., 2020; Arthur et al., 2020; Branson et al., 2016; Fischer, 2016; Giolito et al., 2015; Lee et al., 2018) underlining the potency through which the role of a leader can be utilised as a persuasive behavioural, relational, and situational conduit (Alvesson et al., 2019; Anderson et al., 2017; Cushion et al., 2010; Lyle, 2018a; Röthlin et al., 2016). It is clear from this burgeoning area of leadership literature that the observation offered by Block (2014, p.233) holds much resonance through stating "It is difficult to establish a universal explanation of leadership, as it is a complex, subjective journey that entails first-person perspectives." Drawing on the individualistic human experiential core facets of leadership provides a distinct connection to the specific theoretical concept of transformational leadership, with its principal foundations established on mutually conducive values, behaviours, and relatedness across the leader and their followers (Bass, 1985; Burns, 1978). Through building upon preceding paradigms of leadership that have extolled the compelling virtues of leader characteristics, power dynamics, context, functionality, and integral perks (Bolden et al., 2003; Bratton, 2020; Buch et al., 2016; Daft, 2018; Peretomode, 2012; Santos et al., 2015). Transformational leadership integrates these elements into a combined, widely accepted new-genre face of relevant contemporary leadership (Anderson et al., 2017; Dinibutun, 2020; Lyons et al., 2014; Mathews et al., 2016). Specifically, the four global constructs (Bass, 1985, idealised influence, inspirational motivation, intellectual stimulation, and individual consideration), in addition to the more recently validated seven differentiated constructs (Callow et al., 2009; Hardy et al., 2010, fostering acceptance of group goals, high performance expectations, appropriate role modelling, contingent rewards, intellectual stimulation, individual consideration, inspirational motivation) of TFL offer the behavioural parameters through which developmental support can be realised for those that assume an expansive, and complex leadership role within contemporary applied settings (Arthur et al., 2016; Hardy et al., 2010; McArdle et al., 2002; Smith et al., 1995). The multifaceted applied contexts that the sport coach operates within provides the complex behavioural, relational, and situational components (Côté et al., 2010; Cushion et al., 2010; Lyle et al., 2020; Nichol et al., 2019; Potrac et al., 2020) that effective TFL behaviours have the capacity, if applied appropriately, to realise coach leader effectiveness (Arthur et al., 2020; Turnnidge et al., 2018) from the perspectives of the multiple stakeholders that sport coaches must interact with (Avolio et al., 1995; Newland et al., 2015; Zacharatos et al., 2000). Therefore, the current thesis has presented a detailed MMR process through development of an effective

multistage exploratory sequential mixed methods approach that delivers a coherent set of mutually relevant studies focused on TFL in tennis sport coaching, offering further building and testing (Colquitt et al., 2007; Kelle, 2015) of theoretical frameworks and concepts to support the reported findings.

An important, integral component of this MMR approach is the continuous reflexive process (Cain et al., 2019; Hesse-Biber & Johnson, 2013) through the building and converging stages enabling the integration of study outcomes into compelling evidence-based discussion (Creswell, 2011; Kelle, 2015). Integration within the MMR process is equally a distinctly primary feature of this methodological approach, without which the research process has the potential to meander, lose its central purpose, and ultimately the robust underpinning necessary to deliver continual clarity of focus (Bazeley, 2018a; Creswell, 2014). Bazeley and Kemp (2012) emphasise the inherent defining value of the MMR integration process by suggesting it as being the deoxyribonucleic acid (DNA) of mixed methods leaving little room for doubt regarding the imperative facet that integration delivers across authentic MMR. The present thesis in Chapter 1 offered clarity from the onset concerning the desired aims of the MMR process, capturing the central purpose of the defined exploration of TFL within sport coaching across the targeted applied practice setting of tennis. Specifically, the objectives of the thesis were to:

- a) Further explain and better understand the research domain of TFL in sport coaching through systematically identifying the emerging behavioural, relational, contextual, and empirical themes that currently exist, and the implications of these on current knowledge and future research (Chapters 1, 2 and 5).
- b) Explore experiences of tennis coaches as TFL figures through examining the potential connections between the role of the coach and the specific constructs and context within which tennis is supported and delivered (Chapters 3 and 4).
- c) Investigate TFL through the dyadic relationships between tennis coaches and their athletes to identify and inform possible behavioural, relational, and contextual impacts (Chapters 3 and 4).
- d) Examine the existing praxis of the constructs that form the conceptualisation of TFL in sport from the outcomes of the research studies specifically within the context of the tennis coaching role (Chapters 2 and 5)

Each of these aims have been satisfied through the identified chapters across the presented thesis, and more pertinently, collectively across the development of the

integrative MMR process. Specifically, the outcomes from the MMR studies are captured, and presented in the following conceptual model (see Figure 5.0) offering a targeted illustration of the original research and applied contributions realised. This four-phase model encapsulates the co-existing outcomes, and their associated complexities both theoretically and practically across coach development and the relationships tennis coaches have alongside their athletes at all levels of the sport (performance and club). Further demonstrating the influences present across the array of contextual aspects of tennis, individual tennis coach and athlete characteristics, tennis coach and athlete outcomes, culminating in choices focused on commitment and continuation in tennis. Drawing together the theoretical outcomes of the current MMR studies within this original conceptual model provides a platform to align the integral applied practice elements of transformational leadership across sport coaching in tennis, and these are further integratively discussed in detail through the following sections of this concluding chapter.

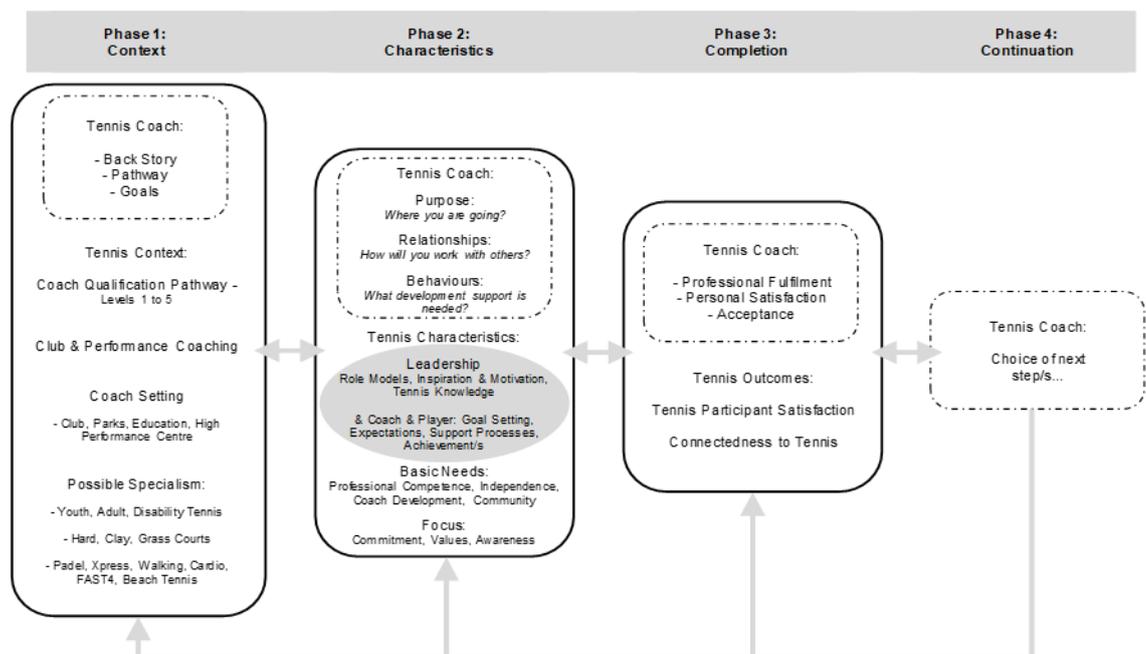


Figure 5.0 Four-phase transformational leadership pathway for tennis coaches (author developed)

## 5.2 Integrative summary of research findings

### 5.2.1 Contextual praxis of transformational leadership

The highly regarded, and widely acknowledged and applied multidimensional model of leadership (MML) for sport developed by Chelladurai (1978) identified the relevance of

TFL within this broader illustration of the possible generic setting within which coaches and athletes engage (Arthur et al., 2017; Gilbert & Rangeon, 2011). Through the development of this seminal model, the distinct, multifaceted complexities that are abound regarding the situational, relational, and behavioural facets across the structures and processes the role of a sport coach is challenged to execute are clearly apparent. With the MML depicting the pathways through which effectiveness of the coaching role, the coach athlete relationship, and the coach as a transformational leader each contribute to the realisation of athlete satisfaction, and performance outcomes (Cotterill & Fransen, 2021; Riemer, 2007), supported through the development of the accompanying leadership scale for sport (LLS, Chelladurai & Saleh, 1980) measurement tool. It was through the subsequent revision of the MML to include TFL as an explicit component to underpin the expansive change and effect processes coaches and athletes implement collaboratively (Chelladurai, 2007) that recent debate has arisen focused on its accuracy regarding the depiction of where and how TFL fits within the role of the sport coach. Equally, how this behavioural aspect interacts with the central actors across the associated situational, relational, and behavioural elements at-play within the domain of sport (Arthur et al., 2020; Jowett et al., 2019). Specifically, Arthur et al. (2020) have offered commentary suggesting refinements to the antecedent location of TFL in the MML, the need for a range of behaviours associated with TFL to be embedded explicitly, and amendments to the current behavioural, relational, and situational components of the MML (antecedents, mediators, moderators, and cofounders).

Across the current mixed methods research (MMR) process implemented through the present thesis, the principal component of contextual relevance has arisen (see Figure 5.0) from identification in the systematic review data from Chapter 2, where evidence illustrates the lack of specificity regarding sample populations and the potential impact this can have on authentic transferability, and generalisability of empirical outcomes (Arthur et al., 2017; Jager et al., 2017; Siangchokyoo et al., 2020; Turnnidge et al., 2018). Underlined further across existing TFL in sport coaching studies indicating a prevalence regarding the age of the coach across sample populations ( $M=23.69$  years old,  $SD=9.27$ ), the labelling of the participants in studies as athletes ( $n=22$  of the included 47 studies, 46.8%), the integration of team sports ( $n=35$  studies of the included 47 studies, 74.5%), and the significant proportion of studies either drawing on football or an array of multiple sports ( $n=26$  of the 47 included studies, 55.4%) as the sample population. Similarly, across Chapter 3, the implication of coaching context was clear across the experiential coach narrative highlighted by participant P002 when they stated, "*The participation side,*

*I think, differs totally...*”, and further exemplified by participant P004 “...*performance coach education pathway... means very deep and detailed...*”. Equally participant P016 captures this need for specificity more broadly through the following assertion regarding tennis and tennis coaches “...*it’s all about shaping and creating the environment... to bring out the best of others.*” Additionally, Chapter 4 offered clear acknowledgement of the implications of contextual specificity through identifying the lowest score for participant and club tennis regarding the TFL subscale of HPE (M=3.91, SD=0.87) and the differing outcome for the remaining tennis player environments scoring IS as the lowest (university M=3.72, SD=1.00; county/regional/national M=3.97, SD=0.89; and international M=3.82, SD=1.02).

Furthermore, the challenges that remain regarding the essential void between conducted research, study findings, and how they connect to applied sport coaching settings and more pertinently, if they are relevant and can actually be logically applied to support both coach and participant development, performance, and experience (Cooper et al., 2020; Garner et al., 2020; Hoerber et al., 2017; Lefebvre et al., 2016; Smith et al., 2010). Lyle (2018a, 2018b, 2020) has consistently drawn upon the critical importance of the terminology utilised across sport coaching research to ensure both the social spaces, and the sport context are individually acknowledged, and appropriately examined (Cushion et al., 2017). Careful, and appropriate attention across sport coaching research regarding the labels applied to indicate context, and content enable coherence regarding the multiple settings across which sport takes place, the array of participants this involves, the scope of purpose for engagement in sport, and the orientation of the outcomes from this engagement which are wide and varied across sport (Carvalho et al., 2020; Lyle, 2018a; Magnusen et al., 2020; North et al., 2021). The developed four phase TFL pathway for tennis coaches (see Figure 5.0) has attempted to alleviate this lack of clarity through the present MMR process and presents a contextually relevant model of TFL focused on tennis, tennis coaches and participants through harnessing the findings from across the exploratory studies. Specifically, TFL has been placed at the very heart of the model indicating the central feature this assumes in activating and supporting the essential TFL behaviours that deliver effective and positive coaching practice, and participant experience (Arthur et al., 2020; Turnnidge et al., 2018). Additionally, the initial phase offered (phase 1 context) indicates the importance of establishing the coach and sport contextual facets from the onset, with the subsequent phases (phase 2 characteristics, phase 3 completion, and phase 4 continuation) offering building, converging, and integration opportunities akin to an effective MMR approach (Bazeley, 2013; Creswell,

2011). The articulation of the labels applied for the contextual facets have been drawn upon from Chapters 2 and 3, with the TFL, basic needs, and mindfulness behavioural relational components embedded from all three studies, that equally deliver explicit relevance and applicability within the varied situations of tennis. Importantly the four-phase model demonstrates the pathways (forward and backward) through which tennis coaches engage with both their professional and personal progressive journey as drawn from the coach narratives in Chapter 3, whilst equally leading to the complementary satisfaction of outcomes for both the leader (coach) and the follower (participant) in the third phase as an essential outcome of effective transformational leadership (Arthur et al., 2015; Bass, 1985). The four-phase model culminates through placing the coach at the centre of this concluding stage, concerning choices available regarding the ensuing steps they pursue indicating the possible usefulness of this phased pathway model within tennis coach education and learning settings centred on the leadership facets of their role (Bertram et al, 2017; Garner & Hill, 2017; Garner et al., 2020; Sullivan et al., 2012).

Avner et al. (2017) offer further consideration regarding the challenges that exist concerning the changeable environments within which coach learning occurs, and the imperative need to transparently frame what precisely constitutes effective coaching in these settings to enable delivery of authentic coach learning. Often the formalising of educational opportunities for sport coaches more generally can be inhibited through inferior execution of homogenised content creating limits, and ineffectualness with respect to integration across contextually applied coach practice (Cushion et al., 2010; Garner et al., 2020; Nelson et al., 2013, 2006; Paquette & Trudel, 2018a, 2018b). As Corsby et al. (2020) also importantly observe, evidence to support this apparent evangelical approach to "...competency-based assessment" (p.27) as eliciting the missing link across formal coach accreditation, and coach competency is yet to be offered. In contrast, opportunity for peer-orientated led learning through evolving communities of practice across naturalistic applied coaching contexts offers a potentially more engaging, and self-sustaining approach (Allison et al., 2014; ; Bertram et al, 2017; Nichol et al., 2019; Garner & Hill, 2017). Garner et al. (2020) equally suggest that through utilising models of leadership and their guiding principles as indicative delivery within coach learning, this allows for the removal of barriers and boundaries that are often realised through standardised structures of educational delivery (Collins et al., 2016; Côté & Gilbert, 2009; Turnnidge et al., 2017). Whilst also supporting the promotion of coach freedom of expression, innovation, and creativity regarding how they apply, adapt, and develop their leadership knowledge, and subsequent behaviours to inform effective contextually

appropriate participant-centred coaching practices (Avner et al., 2017; Garner & Hill, 2017), again underlining TFL behaviours that are equally apparent within this applied experiential environment. Through drawing on the guiding principles of the MML (Chelladurai, 2007), integration of the differentiated constructs of TFL through refinement of how they are articulated for tennis coaches (Callow et al., 2009), and establishing basic needs and mindfulness as principal components (see Section 5.2.2 for further discussion) of effective coach TFL (Brown et al., 2003; Ng et al., 2011; Popper et al., 1994; Stenling et al., 2014), the developed model illustrates coherent integration of the theoretical, and applied findings from the current MMR. Additionally, it offers further novel interpretations of these facets to support coach development from a naturalistic perspective, and expand the wider field of study focused on TFL in sport coaching regarding theoretical approach and practical enactment.

### **5.2.2 Application of basic psychological needs and mindfulness**

Through examination of the complex, multi-layered, dyadic relationship that exists between the tennis coach and their participants (Davis et al., 2018; Felton et al., 2021; Gorgulu, 2019; Jowett et al., 2019; López et al., 2021; Vella et al., 2013b), the current mixed methods research (MMR) process has enabled the highlighting across each of the studies of self-determination theory (SDT) with specific focus on the mini theory of basic psychological needs (Deci et al; 2000; Ryan et al., 2017) as an integral connected facet to support effective TFL behaviours in tennis coaching. From a holistic perspective, the framework of SDT centres on elements that expedite or disrupt intrinsic and extrinsic motivation to support individualistic advancement with respect to psychological verdure (Deci et al. 2000, 2020). Purporting to capitalise on individuals innate motivational disposition for personal growth, openness to new knowledge, and exposure to appropriately nurturing circumstances (Ryan et al., 2017; Standage et al., 2019). Importantly, it is this underlying connection to motivation that creates such deep resonance across the domain of sport, capturing the essence of outcome orientated physical and cognitive behaviour (Arthur et al., 2011; Álvarez et al., 2019; Beauchamp et al., 2014; Standage et al., 2020). With satisfaction of the identified basic psychological needs of autonomy (self-governance, choice, and purpose), competence (effective actions and choices), and relatedness (caring and connectedness) having been depicted as dependable predictors across a range of existing applied sport practice, including commitment, well-being, and youth sport coaching (Pulido et al., 2018; Reynders et al., 2019; Stenling et al., 2014). More specifically within the context of TFL in sport coaching Chapter 2 within the present MMR process highlighted a minority of papers (n=3 of the

included 47 papers, 6.38%) had incorporated either autonomy or competence as a basic need variable (Kao et al., 2016; Price et al., 2011; Stenling et al., 2014), with a further small number of papers (n=3 of the included 47 papers, 6.38%) embedding satisfaction more generally as the focus (Álvarez et al., 2019; Erikstad et al., 2021; Saybani et al., 2013). Of further relevance when examining the findings from the current MMR process, Chapter 3 offered a range of experiential narrative focused on basic needs that underpinned the subthemes of professionalism (competence, autonomy), desire & energy (motivation), and relatedness (relationships, leadership) that demonstrated the interwoven characteristics of satisfaction across these foundational individual elements to support tennis coach TFL behaviours. Specifically drawn upon by participant P015 when they stated their need for competence was driven by “...a thirst for knowledge... I think is important”, explored by participant P004 through commenting on their primary motivational driver as being “...obsessed with tennis.”, and discussed by P002 through recollection of the importance of relatedness “...you’re creating a relationship... where you’re building rapport.”, and similarly by participant P011 “...open, honest and transparent with your player and parent...”, and finally underlined by participant P017 when they reflect on relatedness concerning the leadership facets of their coaching role “So, 100% leadership role.” Capturing the experiences of tennis coaches relating to basic needs offers insightful, and potent empirical evidence that illustrates in this tennis coaching context the distinct inter-play across their effectiveness as a coach, and their fulfilment as a transformational leader. Equally, Chapter 4 offers further targeted insight across basic needs concerning tennis athletes’ perceptions of their coaches TFL behaviours through application of the basic need satisfaction survey for sport (Ng et al., 2011), indicating that both autonomy (A-V M=6.28, SD=1.01), and relatedness (M=5.47, SD=1.17) were realised as the highest scores for both genders across the population sample, and for the participation/club environment. With differences apparent across the two performance focused domains (county/regional/national, and international) realising autonomy volition (A-V M=6.25, SD=1.17 and M=6.36, SD=1.29), and competence (M=5.94, SD=1.03 and M=6.16, SD=0.83) as the highest scores. Equally, positive correlations across all of the TFL and BNSSS ( $r=0.43$ ,  $p<0.01$ ) subscales were also evident with the strongest association across basic needs and inspirational motivation, underlining the clear links across the empirical evidence presented through Chapters 3 and 4. Currently, only one study focused on TFL in sport coaching has examined the core facets of basic needs through deployment of the BNSSS (Stenling et al., 2014). This study investigated the association of basic need satisfaction across teenage floorball athletes, equally revealing a positive association with TFL, whilst also determining satisfaction as a mediator between coach TFL behaviours and athlete well-being.

Embedded deeply within the foundational roots of TFL as a concept are the principles of the leader pursuing the satisfaction of “higher needs...” (Burns, 1978, p.4) to garner commitment with followers generating mutually beneficial collaboration and outcomes. More specifically Bass and Riggio (2006) indicate assimilations across TFL and basic needs through connecting inspirational motivation to autonomy, intellectual stimulation to competence, and individualised consideration to relatedness, further explicitly underlining the connections across these theoretical frameworks. Which are equally presented across the evidence from the current MMR process, supported through the assertions drawn upon illustrating associations across tennis applied practice, and positioned within phase 2 of the developed four-phase transformational leadership pathway for tennis coaches (see Figure 5.0).

Additionally, Chapters 3 and 4 offered evidence to position the cognitive psychology theoretical framework of mindfulness (Brown et al., 2003) as a possible integral facet associated with tennis coach TFL. As the satisfaction of basic needs appear to be intrinsically linked to specific differentiated constructs of TFL, the current MMR process also asserts mindfulness demonstrates evident tangible links with potential to effect applied practice. Specifically within Chapter 2, no prior research, either empirical or otherwise, had explored TFL and connections across mindfulness, with Stenling et al. (2014) focusing on the well-being of athletes more holistically as a concept. The theoretical framework of mindfulness, comprising of apparent contrasting applied practice viewpoints from across positive psychology, cognitive neuroscience, and cognitive psychology (Donaldson, et al., 2011; Kabat-Zinn, 1994; Langer, 2009; Lomas, et al., 2014), offers further explanation concerning the socially constructed settings that sport coaching takes place across and the effects that engagement with these cognitive practices can elicit. Within the current MMR process, the overarching theme of focus was evident through the semantic (explicit) reflexive analysis of the tennis coach narratives in Chapter 3 that resulted in the subthemes of attentiveness and transcendence, supporting the latent (implicit) connection to the theoretical concept of mindfulness. Principal components of mindfulness-related activity were drawn upon by participant P005 when they *stated* “...it raises your awareness.”, further through participant P002 explaining their mindset “...as open and reflexive...”, across to this contribution from participant P009 exemplifying acceptance stating “...I love tennis from the coaching side.”, and finally with participant P007 explaining their all-encompassing connection, awareness and acceptance by vocalising “*The hardcore passion of it [tennis]...*” Importantly, through implementation of the mindfulness attention awareness scale (MAAS, Brown et al., 2003)

in Chapter 4, the association across tennis participants' disposition for mindfulness and perception of coach TFL behaviours were realised statistically. With the unidimensional scale of the MAAS revealing moderate recognition of mindfulness for tennis athletes through a small positive correlation ( $r=0.23$ ,  $p<0.01$ ) to the DTLI with RM ( $r=0.27$ ,  $p<0.01$ ) eliciting the strongest correlation across the differentiated constructs. Furthermore, when examined as a potential mediator of athlete perception of coach TFL behaviours and satisfaction of their own basic needs, this was not shown to garner a positive indirect effect ( $IE=0.178$ , 95% C.I.=  $-0.0101$ ,  $0.0504$ ). However, further evidence supported a direct effect between TFL and mindfulness, and across basic needs with mindfulness. These empirical outcomes further support the narrative empirical findings from Chapter 3 which equally uncovered semantic and latent connections between TFL and mindfulness indicting the potential value of further examination of this theoretical concept. The core components of mindfulness are centred around the cognitive psychological practices of awareness and acceptance (Garner et al., 2020; Kabat-Zinn, 1994; Kroon, et al., 2017; Quaglia et al., 2015; Langer, 2009), through focus on the present, to realise positive personal harmony, and from a traditional interpretation equally through a relational rather than introspective approach (Roychowdhury et al., 2021). Integral to the conceptualisation of TFL are the core elements of the leader moving away from individualistic notions by transcending self-interest to foster acceptance of shared values across their followers, through adapting needs to collectively achieve the desired outcome (Arthur et al., 2015; Bass, 1985). Complementary parallels across the concept of TFL and mindfulness have been further evidenced through a wide range of studies connecting sport performance, mental health, and emotion regulation to mindfulness (Bernier et al., 2009; Josefsson et al., 2019; White et al., 2021), with possible further assimilations presented across the current MMR process (IC, IM, IS to awareness, and RM, FGG, HPE, CR to acceptance) as reflected widely across the reflexive thematic analysis findings from Chapter 3, and the statistical outcomes from Chapter 4. These initial findings concerning the connecting of coach TFL behaviours and mindfulness have supported the positioning of these facets of mindfulness within phase 2 of the developed four-phase TFL pathway for tennis coaches (see Figure 5.0) as evidenced by the integral facets supporting tennis coach TFL development. More broadly, it is equally evident that opportunities to further this area of study exist, offering the potential development of additional theoretical and applied knowledge across the domain of transformational leadership in sport coaching.

Overall, the presented integrative discussions drawing on the findings from across the multistage exploratory sequential mixed methods process highlight that distinct

challenges remain regarding the apparent between conducted research, the findings presented in this thesis, how they connect to applied sport coaching settings and, more pertinently, if they are relevant and can be logically applied to support both coach and participant development, performance, and experience (Cooper et al., 2020; Garner et al., 2020; Hoeber et al., 2017; Lefebvre et al., 2016; Smith et al., 2010). The evidenced integrated outcomes offered in this thesis are the result of the robust reflexive MMR approach that sought to establish clarity across the existing domain of TFL in sport coaching research enabling the identifying of relevant future research and development of new knowledge, which has been achieved through Chapter 2, subsequently supported in Chapters 3 and 4, and across the final integrative discussions presented in this chapter. Additionally, the current thesis sought to examine the experiences of tennis coaches and connections across the global and differentiated construct of TFL, specifically within their applied practice setting, which was delivered in Chapter 3. Furthermore, investigation of the dyadic relationship between coaches and tennis participants perceptions of behaviour, relationships, contexts, and their associated impacts was realised through Chapter 4, that built upon the outcomes from the preceding two chapters. Finally, the present MMR process endeavoured to offer detailed examination of the praxis of TFL across tennis through application of the evidenced outcomes from across the three exploratory studies, with the developed four-phase TFL pathway for tennis coaches' model (see Figure 5.0) encapsulating the contextually relevant concluding stage. Through delivery of these components the initial objectives established in Chapter 1 of this thesis have been realised, underlining the effective implementation of the developed MMR approach also offered in Chapter 1. More broadly, the findings from the MMR process offer coherent building, convergence, and integration (Bazeley, 2013; Colquitt et al., 2007; Creswell, 2011) supporting the presented evidenced associations across existing transformational leadership in sport coaching research, experiences of tennis coaches, perceptions of tennis athletes, and the contextual relevant application of these mutually reinforced outcomes. Transformational leadership as a concept has the potential to support the development of applied coaching practice across a range of relevant, and impactful variables (Arthur et al., 2020; Turnnidge et al., 2018; Vella et al., 2013b) as a highly potent agent eliciting action through satisfaction of basic needs (Ryan et al., 2017; Stenling et al., 2014), and development of collaborative awareness and acceptance (Bass, 1985; Brown et al., 2003) by the leader and their followers. Through contextually relevant application of the differentiated constructs of TFL (Callow et al., 2009) it is possible that this theoretical concept has further scope to underpin authentic coach development enabling the alignment of coaches (leader) and their participants (followers) to realise the achievement of desired expectations and goals collaboratively through professional and

personal collective development.

### **5.3 Original contributions and general implications**

When considering the original contributions and general implications of the current thesis it would appear useful to further draw upon the concept of theory building and theory testing as presented in the developed taxonomy of theoretical contributions for empirical articles (Colquitt et al., 2007) in Chapter 2. This taxonomy provides the opportunity to score research across five specific sub-categories that cover reporters (limited theory building and testing), testers (empirical articles with high theory testing and low theory building), qualifiers (empirical articles with an intermediate level of theory testing and low theory building), builders (high theory building with limited theory testing), and expanders (existing theory links with potentially high theory building and testing). These sub-categories underpin the primary themes of theory building and theory testing that form the twofold scale (see Figure 5.1) to enable coherence across the scoring process, as has been applied in previous studies (Fink, 2013; Naia et al., 2015; Seo et al., 2019). Specifically, in exploratory MMR designs the application of the theory testing and theory building approach supports the convergence of outcomes through the sequential stages offering theoretical direction (studies 1 and 2) that is subsequently tested through quantitative methods (study 3), as has been the case in the current thesis. Equally this approach can offer positive opportunities if reversed (statistical data establishing direction of qualitative interpretation), illustrating the clear value in examining the testing and building phases across MMR research (Kelle, 2015), in parallel with ensuring the converging and subsequent integration of the sequential study outcomes are equally examined as part of this process (Bazeley, 2018; Creswell, 2014). For application in the present thesis the scales are applied with specific focus on the three studies presented across Chapters 2, 3, and 4, whilst equally scoring and positioning the completed multistage exploratory sequential MMR as a fully integrated research project.

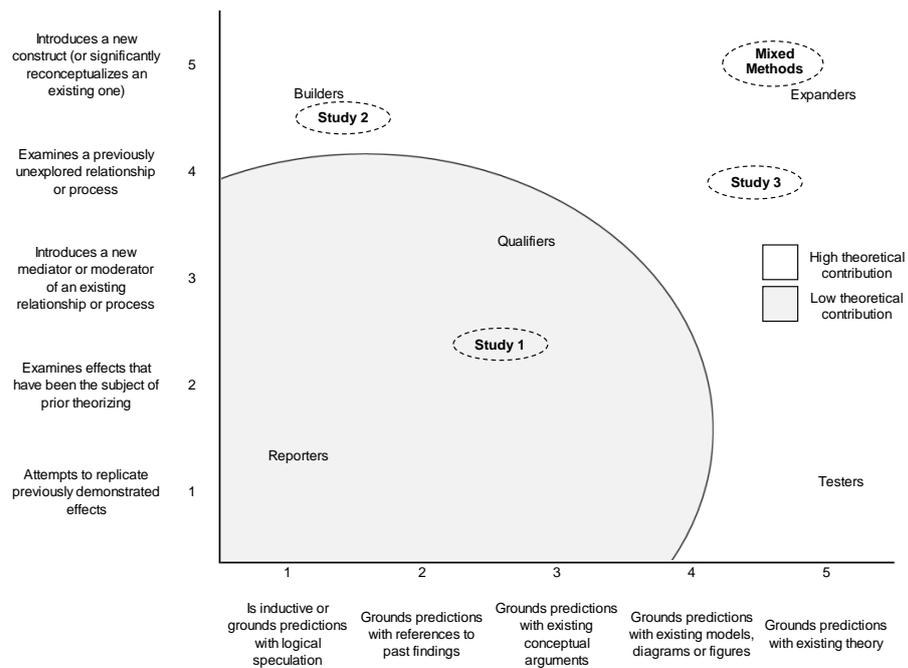


Figure 5.1 Adapted taxonomy of theoretical contributions for mixed methods thesis research (Colquitt et al., 2007, p.1283)

It is clear from the scoring and positioning of the research components across the current thesis that the varying theoretical and methodological elements have enabled the realising of distinct original contributions within the domain of TFL in sport coaching research. Specifically, Chapter 2 (MMR phase 1) delivers the first analytical systematic review specifically focused on TFL in sport coaching through the targeted inclusion criteria employed. Equally, this review does not delimitate the search by applied context, enabling the delivery of a full overview of all research within this field of study, underlining the differentiation from previous published reviews by Turnnidge et al. (2018) focused on the narrower setting of TFL in youth sport coaching specifically, and more broadly North et al. (2021) and Griffo et al. (2019) who each focused on sport coaching research as a whole domain (as opposed to just facets of sport coaching leadership). From the perspective of theory building and theory testing, Chapter 2 is scored as a reporter study, unsurprisingly offering limited theory building and testing, which is expected of systematic reviews of this nature. However, the chapter clearly still represents an original contribution regarding the analytical processes undertaken to extract, consider, and discuss the existing research evidence across the forty-seven papers uncovered. Similarly, highly useful patterns of study design, trends in theory application and limitations concerning application of findings within applied settings offer fundamental areas of debate for the research community within this field of study. Although in essence Chapter 2 was scored as a reporter, through

application of the taxonomy of theoretical contributions for empirical articles (Colquitt et al., 2007), it also partially resides in the qualifier area of scoring (intermediate level of theory testing and lower theory building). The application of this theoretical concept to evaluate the maturation, scope and depth of the current papers within an area of study (Seo et al., 2019; Swanson & Chermack, 2013) ultimately provided a novel application of this theory, and an original overview of the entire domain of TFL in sport coaching. Alongside the specific facets of the studies that fall within these parameters supporting the considered, and constructive, future directions of research.

From the perspective of Chapter 3 (MMR phase 2), this was scored as a builder piece of research with findings revealing high theory building through focus on the global and differentiated constructs of transformational leadership (Callow et al., 2009; Hardy et al., 2010), the uncovering of specific connections to self-determination theory with distinct attention centred on the satisfaction of basic psychological needs (Ryan et al., 2017: relatedness, competence, and autonomy), and the exposing of possible links to awareness and acceptance as central tenants of mindfulness theory (Brown et al., 2003: cognitive neuroscience, and cognitive psychology). The building of theory within this chapter was evidenced through the detailed reflexive thematic analysis procedures implemented (Braun et al., 2019, 2021) drawing the experiential coach narratives into fair, and representative overarching themes (coaching context, satisfaction, and focus) that elicited latent meaning across the identified theoretical concepts. Regarding originality, this is the first occasion a study focussing on TFL in sport coaching has drawn upon mindfulness theory as a potentially associated behavioural variable, offering a novel application of this concept whilst outlining its applicability more poignantly as a potential mechanism to support peer orientated coach development, and learning across appropriately socially constructed settings (Corsby et al., 2020; Culver et al., 2008; Lyle, 2020; Stoszkowski et al., 2014). Equally this has been the first study to draw on the psychological basic needs of the sport coach through the philosophical lens of interpretivism. Previously, this has been examined through a single, cross sectional, self-report study on athletes' perceptions of TFL on well-being (Stenling et al., 2014), further illustrating the original theory building of this thesis from both philosophical and theoretical perspectives through the specific findings relating to the importance placed on coach knowledge (competence), and the high value placed on the impacts of the coach as a leader (relatedness). Similarly, the latent connection to specific constructs of TFL were highlighted (individual consideration, idealised influence, intellectual stimulation, inspirational motivation, and appropriate role modelling) offering a further novel

connection across theory and practice within this specific context of tennis coaching which has not previously been occurred. It is also important to acknowledge facets of the study design that have equally contributed originality outside of theory building. Specifically, the first application of reflexive thematic analysis, and an adapted original conceptual model of the iterative reflexive thematic analysis process utilised grounded on the principles and guidelines from Bazeley (2013) and Braun et al. (2006, 2016, 2019, 2020, 2021, see Figure 5.2).

Chapter 4 delivered statistical examination of tennis athletes' perceptions of coach TFL behaviours, and the associations across athlete basic psychological needs, and disposition for mindfulness. Scored as a tester study within the context of the adapted taxonomy, the investigation offered high theory testing through application of the differentiated TFL inventory (DTLI, Callow et al., 2009), the basic needs for satisfaction in sport scale (BNSSS, Ng et al., 2011), and the mindfulness attention awareness scale (MAAS, Brown et al., 2003) measurement tools that have never previously been applied in this combination before, and within the context of this sport. Equally, as Chapter 3 offers, building of theory through exposing latent meaning and connections to mindfulness theory through the coach experiential narratives, this is the first occasion the MAAS (Brown et al., 2003) has been deployed within this domain of study offering a novel element to a cross-sectional study. Implementation of these relevant measurement tools subsequently led to the uncovering of associations across specific constructs of TFL (inspirational motivation, appropriate role modelling, and intellectual stimulation) that supported the findings from Chapter 3, which equally is the first time such explicit evidence building has taken place within this field of study. Furthermore, through the inaugural application of the MAAS to test for association between coach TFL behaviours and mindfulness disposition in athletes, this uncovered a small direct positive effect, providing an evidenced-based, original foundation for further examination of this phenomena across the applied setting of transformational leadership in sport coaching research and practice.

It is also highly relevant to draw upon the multistage exploratory sequential mixed methods research design as a single entity research project, reflecting the development, building, convergence, and integration process across this complex MMR project. Scored as an expander within the boundaries of the adapted taxonomy, evidently supported by the combined impacts of the theory building, and theory testing across the three sequential studies. Although a single MMR study does exist (Vella et al., 2013c) within the field of TFL in sport coaching research, it is limited in scope through its focus on participant

evaluation of attendance at a single two-hour coach education session. With both qualitative and quantitative feedback gathered which was utilised as the data set for content and statistical analysis, which equally was the intended purpose of this relevant study. Therefore, the current thesis is certainly the first study that has developed and employed a specifically constructed multistage exploratory sequential mixed methods design within this research area. Offering a clear and authentic application of a MMR approach, supported by engagement with an original continuous reflexive process realised through adaptation of the Creswell (2011) exploratory MMR model. A conceptual adaptation that formalised the adoption, and adherence to this novel reflexive process delivering an essential reflexive space to work through the developing, implementing, building, converging, and integrative stages of the whole MMR process. The integrative discussion equally underlines the original contributions of the studies developed through the facets already highlighted in this section, but equally identifies the coherence through which the building and converging stages of the MMR have enabled both theoretical and applied novel contributions to evolve (Bazeley, 2018; Colquitt et al., 2007; Creswell, 2014; Kelle, 2015). Importantly, throughout the MMR the sample population selected for the studies was consciously selected from a specific, and single domain of sport (tennis), initially because it answers the call from Chapter 2 where only 2.1% (n=1 of the 47 included studies) of existing research in TFL in sport coaching have integrated a single sport as the sample population, and equally because tennis as a sport had never been embedded previously within this field of study. Whilst this equally provided coherence across the MMR through clarity of applied context and underpinned the originality of potential theoretical and applied findings. Secondly, due to the previously discussed researcher self-identity as a partial outsider-insider expert within this sport (Coombs & Osborne, 2018; Fletcher, 2014; Kerr et al., 2019), and thirdly this focus was also applied in direct response to the outcomes from Chapter 2. With almost a third of current studies focused on TFL in sport coaching having utilised a multi-sport population or having integrated football (a further third of current studies) as the sampled sport, further highlighting the need for novel, targeted sampling to evidence support for potential transferability, generalisability, and application of research outcomes.

Finally, more generally the possible applied implications of the contextually specific four-phase transformational leadership pathway for tennis coaches model (author developed, see Figure 5.0), developed from the outcomes of the current MMR studies, whilst equally drawing on the existing principles from the multi-dimensional model of transformational leadership (Chelladurai, 2007), which has been offered in the introductory section of this

chapter. This original model captures the situational, behavioural, and relational characteristics targeted specifically within this domain of sport coaching practice (tennis) offering further building and application of existing theoretical concepts (Colquitt et al., 2007; Kelle, 2015). Whilst also indicating the authentic usefulness of this contextually relevant model across coach education settings, qualification development pathways, and across communities of coach practice (Bertram et al, 2017; Garner & Hill, 2017; Garner et al., 2020; Sullivan et al., 2012) specifically focused on the tennis coach in a leadership role. Furthermore, capturing the theoretical outcomes alongside the application of these practically within this original model offers the opportunity to identify the wider strategic usefulness of the current thesis for governing bodies of sport, specifically considering the development of coach education pathways and learning contexts, alignment of coach behaviours to targeted athlete populations to support sustained participation, and potentially offering guidance regarding evidence-informed decision making more broadly across tennis governing bodies of sport and wider national sport policy setting agencies (Avner et al., 2017; Paquette et al., 2018b; Piggott et al., 2020; Raab et al., 2019). Similarly, the proposed development of the differentiated constructs of the DTLI (Callow et al., 2009; Hardy et al., 2010) regarding the potential tangible benefits of adapting labels and language used to support specificity of context as exemplified in this thesis with the tennis coaches in Chapter 3, and across the integrated discussion (in section 5.2, and Figure 5.0). This has never been examined or suggested before as a direct result of exploratory MMR and poses an important novel question outside of existing research concerns regarding authentic transferability and application of essentially academic theoretical language within applied sport coaching settings (Jones et al., 2011; Lyle, 2020).

Positioning the original and novel contributions from the current thesis within the wider existing domain of study focused on TFL in sport coaching has been supported through application of the adapted taxonomy of theoretical contributions for mixed methods thesis research (Colquitt et al., 2007) enabling the pragmatic scoring and reporting of these essential conclusions. Furthermore, original contributions have also been realised through publication of academic papers drawing on expertise developed concerning research design and methodology through the present thesis process (Harden et al., 2019; Laws et al., 2019; Laws et al., 2020a; Laws et al., 2020b; Laws et al., 2020c; Winnard et al., 2021), and research presentations at national and international conferences (British Psychological Society: Sport Exercise Psychology Conference, 2015; International Conference on Mindfulness, 2018; The Canadian Association for

Leisure Studies, 2019) each successfully progressing through the associated, and required robust peer review processes (see section v. for the publications arising from this thesis). Equally, it is hoped that through outlining the theoretical building and testing, alongside the broader applied implications of the current thesis, coherence across the MMR process has been demonstrated, in addition to pragmatic clarity regarding the transference of the research findings into contextually appropriate actions for both researchers, and tennis coaches.

#### **5.4 Limitations**

The primary purpose of the current thesis was threefold, enabling the examination of existing research across TFL in sport coaching, analysis of the experiences and behaviours impacting on the role of the sport coach as a leader, and investigation of the athlete informed perceptions of TFL coupled with satisfaction of basic needs and mindfulness. Through application of a multistage exploratory sequential mixed methods design the concurrent research process has delivered a range of relevant, and novel theoretical and applied findings to support the continuing development of this field of research focused on TFL in sport coaching. However, as is appropriate with all research undertaken, it is also important to deliver transparency regarding potential unambiguous limitations apparent across the thesis that could not be addressed at this stage (Price & Murnan, 2004; Ross & Zaidi, 2019). Specifically, facets of the research design that have the potential to cause bias across the three studies included the implementation of electronic databases using key word searches and sifting protocols (Goodger et al., 2007), the omission of grey literature due to the inclusion criteria focused on empirical peer reviewed papers (Laws et al., 2019, 2020b; Russell, 2005), the first application of the MAAS instrument (Ng et al., 2011) within this practice context with suggested need for further analysis of the construct validity of the instrument to establish its theoretical and applied application, and the population sampling representative of tennis coaches qualified to a specific level. Furthermore, it is also useful to underline the source of the experiential narratives, and quantitative responses relied on input from a single sport (tennis) and from individual stakeholder perspectives for both Chapter 3 (tennis coach), and for Chapter 4 (tennis athlete) and this should be considered when reviewing the findings offered to support the recommended theoretical connections, and practice applications (Griffo et al., 2019; Magnusen et al., 2020; North et al., 2021). Regarding the analysis of interpretive data, this is a true and fair representation of the experiential narratives from Chapter 3 and was supported through rigorous credibility and trustworthiness procedures (Sparkes et al., 2013; Yardley, 2000). Similarly, to avoid the dimly viewed practice of statistical data fishing

(Simmons et al., 2011) the hypotheses for Chapter 4 were established concurrently as Chapter 3 was in motion and were, therefore, not added to as the analysis process commenced across this quantitative data set. As has previously been highlighted expansively in the precursive chapters, the present thesis embedded a defined scope focused on the full examination of TFL in sport coaching theoretically in Chapter 2, applying specific delimitations regarding the applied practice setting subsequently analysed across Chapters 3 and 4. This allowed for an initial wide net to be utilised, capturing the full extent of current research activities within this domain. More specifically, the constructs of TFL, associated variables, and the sport coaching contexts that existing researcher effort had been concentrated upon. However, by focusing on a specific context of sport this has the potential to deliver narrow application of the findings offered more generally which is a final consideration offered. Further robust appraisal of the details regarding the research design elements, thesis scope, and contextual facets drawn upon, are provided within the preceding chapters for each of the studies undertaken. It is, however, also important to highlight the potential limitations outlined have occurred due to the range of ethical, theoretical, and pragmatic decisions undertaken by the researcher as an integral feature of the multistage exploratory sequential mixed methods design, applied to support appropriate navigation across a complex field of study, and domain of applied practice (Bachkirova et al., 2017; Bacon, 2012; Lyle, 2018; Morgan, 2007). Equally, it is also appropriate to concede developing future research that balances the limitations offered here would also enable the furthering of broader knowledge across research focused on TFL in sport coaching.

### **5.5 Future directions**

Through continual engagement with a defined reflexive process, convergence, and integration of study findings, through to completion of the current multistage exploratory sequential mixed methods thesis, it is apparent that opportunities exist to further knowledge within the domain of research focused on TFL in sport coaching. Currently within this field of study, six interpretivist centred research publications have been realised over the previous nine years offering a variable application of qualitative methodology, and subsequent findings across team briefings (Macquet et al., 2021), community sport (Morgan et al., 2016), elite athletes (Smith et al., 2017), female athletes (Newland et al., 2015), and Olympic coaching (Din et al., 2015). The final study within this is an exploratory case study employing combined mixed method data collection examining feedback of a single coach education session (Vella et al., 2013c), offering an initial research output embedding an underutilised research approach within this field of study. As presented in

Chapter 1 of this thesis, the multistage exploratory sequential mixed methods design (Creswell, 2014; Turner et al., 2017) was integrated (see Appendix A) as the research pathway through which the established aims and objectives would be fulfilled through this iterative process (Bazeley, 2019; Creswell, 2011). Equally, the further adaptation of this exploratory mixed methods model also allowed for the explicit integration of a continuous reflexive process as a fundamental underpinning (Bazeley, 2018; Cain et al., 2019; Lazard et al., 2020) supporting researcher adaptability, development of theoretical and contextual meaning, and importantly points to connect, build, and converge the findings through an authentic integrative approach (Clark, 2019; Fetter et al., 2013; Headley et al., 2020). Focusing on future opportunities to develop the current thesis, a refreshed iteration of this methodological process has been developed (see Figure 5.2 and Appendix K) to offer explicit indication of where the specific extension of this research journey could progress to.

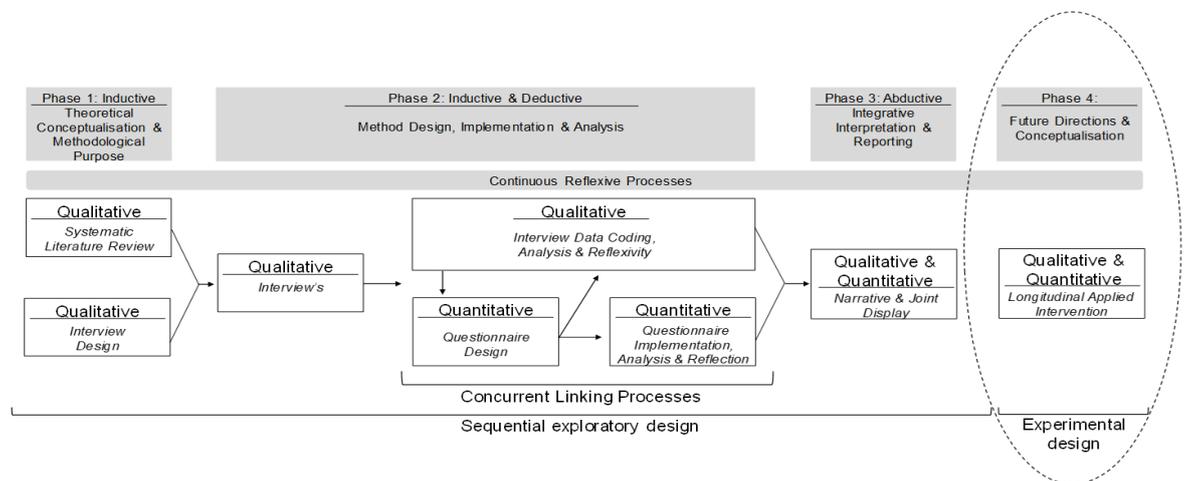


Figure 5.2 Adapted future direction of the current thesis multistage exploratory sequential mixed methods design (adapted from Turner et al., 2017; Creswell, 2014)

It is well documented across sport coaching literature more broadly that a swathe of predominant cross-sectional self-report mixed sample studies accentuate the clear lack of intervention based, and longitudinal focused, studies offering bridged connections across researchers and practitioners within their contextually relevant applied settings (Carvalho et al., 2020; Gilbert et al., 2004; Griffo et al., 2019; Magnusen et al., 2020; North et al., 2021). The development of studies of this nature are challenging to compile, present difficulties in participant retention, and ultimately have the potential to lose theoretical and contextual momentum as they progress (Ployhart & Vandenberg, 2010). However, as previously presented in the thesis the self-identity of the researcher as a partial outsider-insider expert (Coombs & Osborne, 2018; Fletcher, 2014; Kerr & Sturm, 2019) offers a possible optimal platform to develop such harder to deliver research outputs

through existing researcher and tennis connectedness. Specifically in this instance, the pragmatic next stage (phase 4) would be to explore coach and athlete nested experiences within the applied setting, supporting exploration of specific TFL behaviours that have arisen as prominent across the current thesis (Callow et al., 2009; Hardy et al., 2010: inspirational motivation, appropriate role modelling, and intellectual stimulation) in context from the perspectives of tennis coaches and their athletes. Equally, the opportunity to further investigate the satisfaction of basic psychological needs across this dyadic relationship targeting the facets of autonomy, relatedness, and competence (Ryan et al., 2017; Standage et al., 2019) within the socially constructed applied environment the coach and athlete collaborate across. Similarly, the further exploration of the apparent presence of awareness and acceptance within the concept of mindfulness theory (Brown et al., 2003), and the potential for constructive examination of inter-play and application of these facets between the central actors in this tennis coaching context of the leader and follower dynamic (Arthur et al., 2016; Potrac et al., 2020, Turnnidge et al., 2018).

Aside from extending the research pathway for the current thesis, additional opportunity to investigate further research openings indicated across the concluded studies clearly exists. Specifically, these initially centre on the transparency through which philosophical underpinnings of research are developed and communicated, regardless of ontological, epistemological, and methodological preferences (Bazeley, 2019; Hall, 2013; Tashakkori et al., 2020), through published outputs providing explicit guidance to the wider research community regarding the thinking, doing, and disseminating processes inherent within academic research (Bazeley, 2018; Bernard, 2017; Blaikie et al., 2019; Braun et al., 2013; Smith, 2010) focused on the applied practice of TFL within sport coaching. Within this, application of a wider range of research designs (experimental, intervention, longitudinal, qualitative, mixed methods), and further consideration regarding the population sampling (specificity of demographics, situational and contextual characteristics) to negate the overreliance on convenience sampling of multiple sports that inhibit clarity and coherence of findings and their application within specific practice settings (Carvalho et al., 2020; Griffo et al., 2019; North et al., 2021). Focus on samples that explore the individualistic characteristics of elite sport would distinctly add to this field of study (Arthur et al., 2020; Griffo et al., 2019; Gustafsson et al., 2016). Additionally, the capturing of targeted coach behaviour and coaching process evidence examining the effectiveness of a coach directly related to their sport naturalistic context of practice (elite, participation, club, community, education, older age groups), the stakeholders and peers they engage with (parents, team members, governing bodies, sport scientists, and medical professionals), and scrutiny of specific coach development, learning, and experience (CEU, 2017; Kroon et al., 2017;

Horn, 2008; Longshore et al., 2015; Nichol et al., 2019; Potrac et al., 2020, UK Coaching, 2021) would also offer further targeted, valuable avenues to explore. This pointed depth of focus and detail has the potential to underpin organisational, regional and national approaches across tennis coach development and education, providing opportunity to satisfy wider strategic governing body, coach and athlete goals across tennis more generally through credible evidenced-informed decisions (Collins et al., 2016; Raab et al., 2019).

Additionally, the range of variables (antecedents, mediators, moderators, and cofounders) continues to grow in breadth across the current community of TFL in sport coaching researchers, but opportunity clearly exists for these principles of specificity regarding sampling and sport context to also be applied to further deepen existing knowledge, creating contextually relevant applied input (Cassidy et al., 2016; Lyle, 2020; Potrac et al., 2020) through repeated investigation of these variables albeit across a range of sport coaching settings. Space also exists for researchers to further examine the relational dynamics at play between the coach as the leader, and their athletes as followers (Jowett et al., 2019), more specifically focusing on the existing knowledge of TFL behaviours and how these are contextual and articulated across differing settings of coach and athlete engagement. Exploring the global and differentiated constructs of TFL (Bass, 1985: inspirational motivation, intellectual stimulation, idealised influence, and individual consideration), and the DTLI (Callow et al., 2009: fostering acceptance of group goals, high performance expectations, appropriate role modelling, contingent reward, intellectual stimulation, inspirational motivation, and individual consideration) through adaptability of the theoretical language utilised so they become contextually relevant, relatable, and essentially of practical use across applied coaching settings. Delivering additional possibilities to develop a highly useful collaborative understanding of transformational leadership as an effective approach to further supporting mutually impactful, collaborative coach (leader) and athlete (follower) relationships (Corsby et al., 2020; Culver & Trudel, 2008; Lyle, 2020 Stoszkowski & Collins 2014). Whilst equally providing the platform to widen the examination of coaches' behaviours across targeted situations (performance and club tennis), alongside populations with specifically identified characteristics (children, adolescents, adults, defined age groups and genders, geographical location and facility type/access), and the wide-ranging potential impacts of these across coach development and education (Avner et al., 2017; Paquette et al., 2018b; Sullivan et al., 2012; Turnnidge et al., 2017). With the broadening knowledge across these applied practice facets having the potential to constructively influence governing body strategic direction, investment and

sustain increasingly challenging participant outcomes (Kumar et al., 2018; Piggott et al., 2020; UKC, 2017).

Finally, broader opportunity to examine mindfulness theory directly connected to TFL behaviours of the sport coach is an area that has been presented by the current thesis as novel, applicable in this applied context, and ready for further examination as a potential behavioural and relational approach concerning how this could be developed with support from appropriately pitched coach development and learning in this area (Corsby et al., 2020; Gardener et al., 2020; White et al., 2021). The current section has outlined a range of research opportunities that have arisen from the present thesis and offers further justification, and clarity regarding the future, coherent development of research within the field of study focused on TFL in sport coaching. Encouraging researchers active within this field of study to invest particular attention to all facets of research design before deployment, to support the impact and profile of published outputs that have the genuine potential to enact constructive theoretical and practical developmental change and maturation across the multifaceted applied settings of TFL in sport coaching research.

## **5.6 Reflection of researcher positionality**

From commencing the part-time doctoral process, it is with new insight both theoretically, and practically the researcher is able to offer some closing reflexive commentary to conclude this multistage exploratory sequential mixed methods research process. It can be confidently stated from the start of this section that the positioning of the researcher as a naturally disposed pragmatist has provided a logically grounded array of guiding principles that have successfully enabled the navigating of complexities associated with MMR. As Howard Becker (2008) likens his affinity for MMR as naturally occurring for him as breathing, it is with the same predisposition that the pragmatic approach has been readily applied through this doctoral process. Through multiple theoretical lenses the role of the tennis coach has been explored and enabled application of TFL theory (Bass, 1985; Burn, 1978), self-determination theory and within this the mini theory of basic needs satisfaction (Ryan et al., 2017), and the constructs of awareness and acceptance within mindfulness theory (Brown et al., 2003; Kabat-Zinn, 1994; Langer, 2009) offering further expanding of, and initiation of new knowledge across theory and applied practice. To absorb the enormity of the range of tasks, the investment in time, and the continuous focus on this project feels not wholly possible at this moment, unquestionably the commitment to the reflexive process continuously through the MMR approach (Bazeley, 2018; Cain et al., 2019; Hesse-Biber et al., 2013) has been invaluable. Providing a

staging area for deeper thinking, idea generation, highlighting the need for adaptability at points, whilst also granting permission at points to just stay still and not 'do' anything rather than forcing the process (Bazeley, 2018). It must also be added here as a poignant reflection, that for a pragmatist with a self-confessed attachment to all facets of the wide-ranging dynamic domain of sport, it is rather challenging to actually ever 'do' nothing. Importantly, the MMR approach has equally supported the dissemination of the research process and subsequent study findings as part of the MMR journey. Initially through engagement at the British Psychological Society: Sport Exercise Psychology Conference (BPS-DSEP) with the Chapter 2 protocol and outcomes, in addition to presenting the process and outcome of Chapter 3 at the Canadian Association for Leisure Studies (CALS), through to disseminating the outputs from Chapter 4 at the International Conference on Mindfulness (ICM). It is interesting to acknowledge the subject focus of the conferences that undertook peer review of the three studies were each supportive of their inclusion across the research domains of sport and exercise psychology, leisure studies, and mindfulness (cognitive neuroscience and cognitive psychology). A range of dissemination domains that are equally reflective of the theoretical underpinnings of the MMR process as a whole which is satisfying to reflect upon. Equally, feedback through the associated peer review, and from the audiences at these events has been highly positive, particularly regarding the research design, and the pragmatic approach that enabled the demonstration of sound theoretical and practically relevant steppingstones of research building, converging, and integration (Creswell et al., 2011; Fetters et al., 2013).

Through this external engagement professional research networks have also developed, opening up opportunity to support and engage with new areas of research that are seeking to utilise the methodological skills developed through the course of the MMR. Specifically, this has been realised through research publications that have integrated and applied the methodology developed for Chapters 2 and 3 within the context of strength and conditioning coaches, and the published review of literature regarding astronaut exercise constraints, equally illustrating the diverse application and relevance of the research designs applied in the current thesis. Furthermore, the researcher has also been invited and commenced work as an integrated member of a research lab focused on aerospace medicine and spaceflight as part of a team of experts securing external funding (UK Space Agency) to take part in global space agency-sponsored microgravity research campaigns (European Space Agency (ESA), National Aeronautics and Space Administration (NASA)) to develop research within this specialised domain, opening up the integration and utilisation of the MMR approach and individual study designs within this fascinating

domain.

Reflecting on the transformative position that the researcher finds themselves in now, in comparison to the start of this lengthy part time doctoral process, is certainly both professionally enlightening and satisfying. The process has been suitably challenging cognitively, professionally, and of course personally as would be expected over this number of years. Many changes have been negotiated, and from this current concluding perspective it is clear that many more high points can be extracted and reflected on from across this process. Of course, at times the relentless energy that needs to be applied to ensure momentum is maintained can be significant. However, pragmatically reflecting, it is the conscious choices that were made by the researcher to fully commit to seeing this process through that illustrates the fundamental reason why the endpoint is being realised. It is with some relief no doubt, but of course with more satisfaction that the arrival destination has been achieved in this doctoral process. It signifies the starting point of a new journey forward, harnessing the skills developed, the knowledge realised, and acceptance that the expanse that is academic research offers many rich and varied future opportunities.

## **5.7 Thesis conclusion**

This chapter has presented concluding discussions focused on the philosophical, methodological and theoretical parameters of the thesis, positioning the evidenced outcomes regarding TFL within sport coaching alongside the existing range of published outputs and applied settings within which coaching practice occurs. Furthermore, this has enabled the demonstration of how the present multistage exploratory sequential mixed methods collection of studies have realised novel contributions regarding application of further theoretical frameworks and concepts, supporting the development of new knowledge, and possibly refinements of sport coaching practice. Specifically, within the domain of tennis coaching, but equally the wider transferability, generalisability, and application of the empirical findings across the many varied settings within which applied sport coaching practice is enacted more broadly. In addition, the final chapter endeavours to capture the practical implications of the MMR process through drawing together the theoretical and applied implications from the evidence presented, illustrated by the original conceptual model (see Figure 5.0) offered. Developed as the four-phase TFL pathway for tennis coaches, this model delivers a cohesive representation of the complexities apparent across tennis coach development and the relationships tennis coaches have alongside their athletes at all levels of the sport, shaping their behaviours and coaching

processes. Furthermore, the model also identifies the potential application the thesis outcomes could offer across development of coaches' behaviours within targeted situations, across specific populations, alongside implications across coach education, and the wider impact concerning the associated governing bodies of sport.

Examination of specifically focused contexts of sport coaching has continued to be regularly called upon by researchers and practitioners alike so the apparent vacuum between theory and practice can be bridged. Enabling a constructive coexistence across development of theoretical knowledge that offers authentic support for relevant and aligned development of practice which this thesis has delivered concerning the behavioural, relational, and professional boundaries at-play across the scope of the sport coaching role. Additionally, the final chapter has also further outlined the principal opportunities that exist regarding future directions of research within this area of TFL in sport coaching, underlining distinctly that the central focus should now predominantly centre on depth of knowledge development, as opposed to continuous expansion of the breadth of knowledge which has the capacity to limit the maturation, profile, and impact of this applied field of study. Pertinent research questions remain regarding specificity of context and the multi-faceted complexities this elicits, further targeted examination of need satisfaction directly connected to the sport coach, and an openness to exploration of the potential impact awareness and acceptance as the central tenants of mindfulness theory could have across applied sport coaching practice. Furthermore, analysis focused on the differentiate constructs of TFL theory would equally garner new insight, particularly when viewed within specifically targeted populations through examination of inhibiting elements that potentially undermine the connecting of this highly relevant theoretical concept to development of leadership behaviours for the sport coach across practice settings. Similarly, the thesis offers the collation of the apparent limitations that have been recognised during the multistage exploratory sequential mixed methods processes, shared openly intending to equally further support researchers as they continue to shape future research contributions. Importantly this final chapter has also concluded the essential reflexive journey the researcher has engaged with across the research process as an integral facet of the mixed methods design, which has supported the pragmatic approach through adaptability of study development and design, clarity of focus through each implementation phase, and delivery of coherence across the studies. This culminates in an authentic integrative representation of the phenomena within this thesis through offering new contributions to a growing field of study, with the potential to equally equip sport coaches with contextually relevant professional, and personal development opportunities to support the continual refinement of their craft of applied coaching practice.

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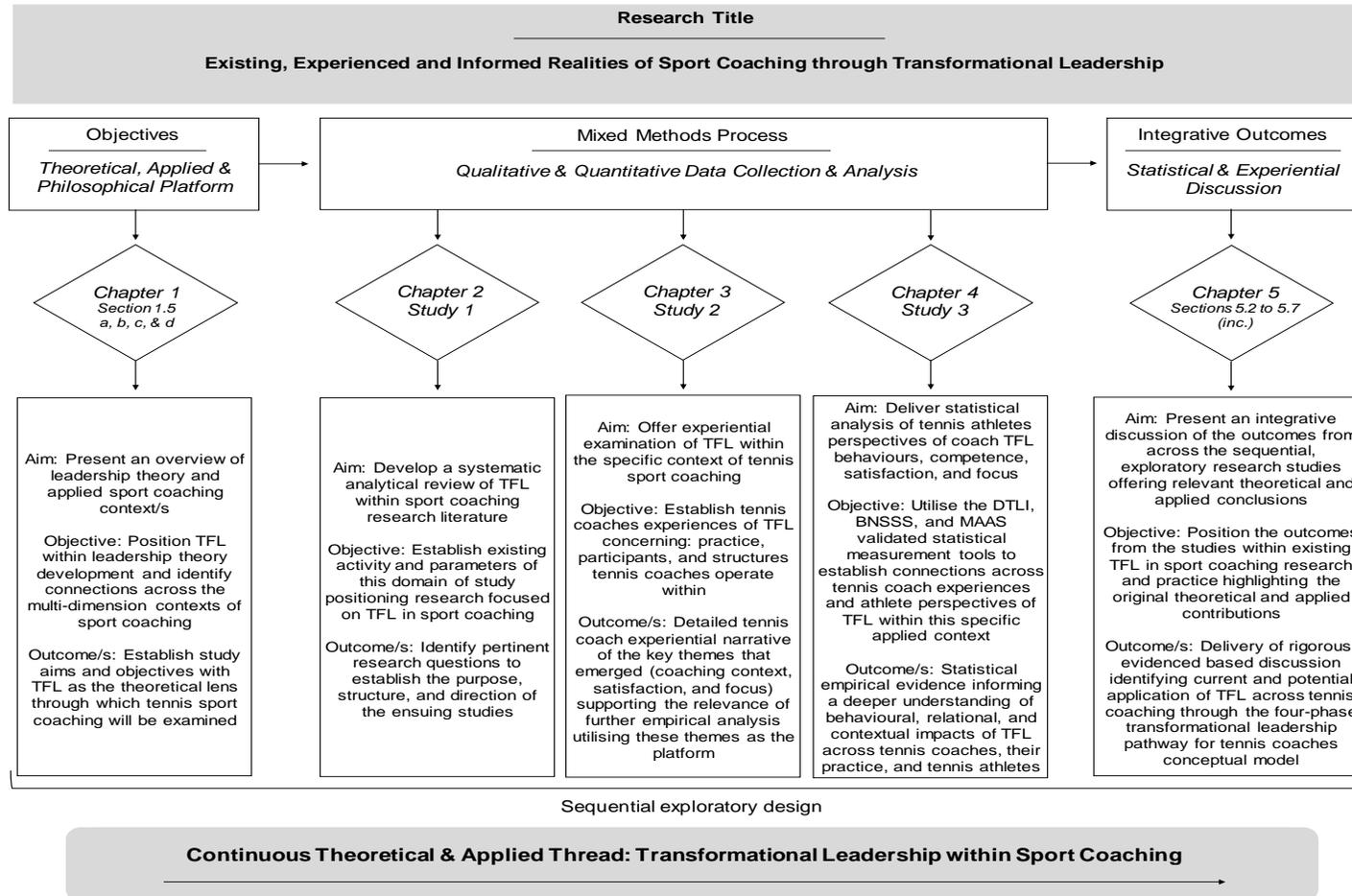
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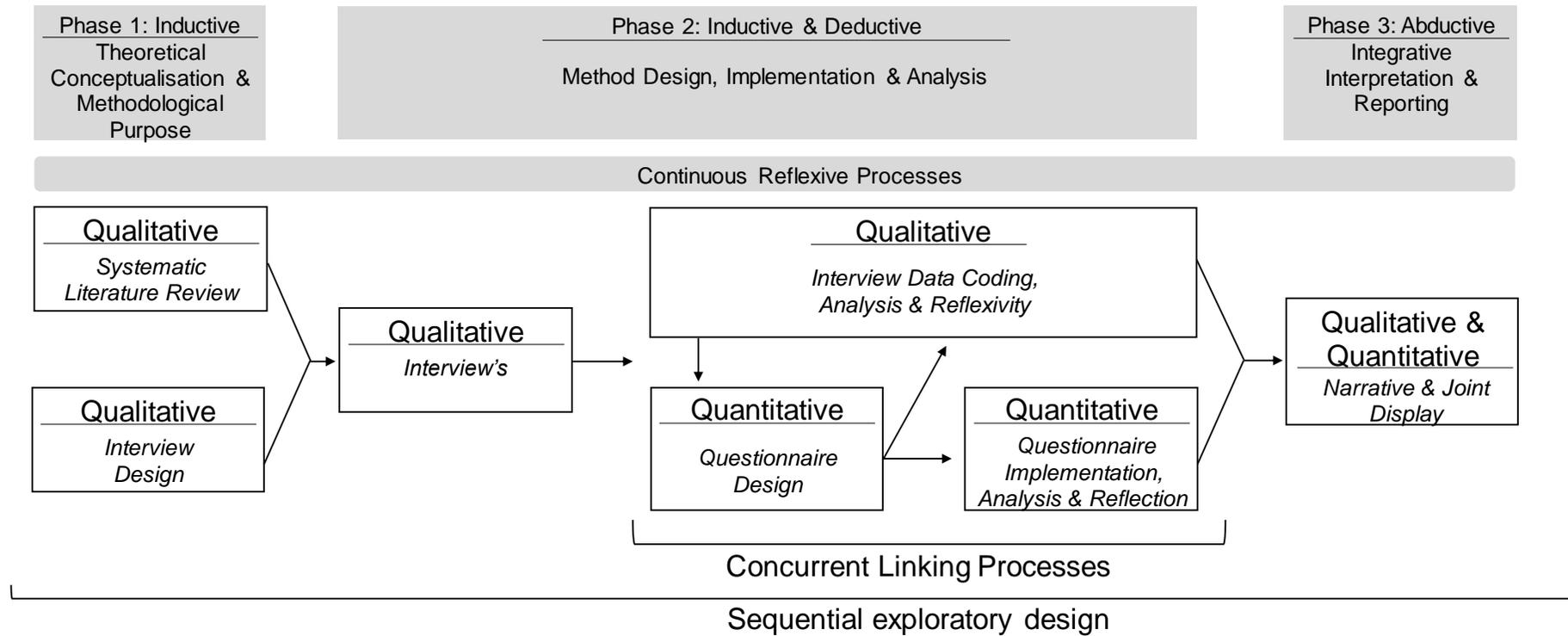
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## 7.0 APPENDICES

### APPENDIX A: Thesis schematic diagram



## APPENDIX B: Current thesis multistage exploratory sequential mixed methods design



Source: Adapted from Turner, Cardinal, & Burton, (2017) and Creswell, (2014)

## APPENDIX C: Study 1 - Included systematic review papers

Paper Number	Included Paper APA Reference
1	Aghamohammadi, S., Mosaviyan, S. E., & Heidari, M. (2016). The relationship between emotional intelligence and transformational leadership style in the female sports coaches from Hamedan province. <i>European Journal of Physical Education and Sport Science</i> , 1(4), 71-77.
2	AlTahayneh, Z. L., & Qatami, H. M. (2019). Coaches' Transformational Leadership Behavior and its Effect on Team Cohesion as Perceived by Female Football Players in Jordan. <i>International Journal of Humanities and Social Science</i> , 9(1), 69-75.
3	Álvarez, O., Castillo, I., Molina-García, V., & Tomás, I. (2019). Transformational leadership, task-involving climate, and their implications in male junior soccer players: a multilevel approach. <i>International journal of environmental research and public health</i> , 16(19), 3649.
4	Arthur, C.A., Woodman, T., Wei Ong, C., Hardy, L., & Ntoumanis, N. (2011). The Role of Athlete Narcissism in Moderating the Relationship Between Coaches' Transformational Leader Behaviors and Athlete Motivation. <i>Journal of Sport &amp; Exercise Psychology</i> , 33, 3-19.
5	Baird, N., Martin, L. J., & Benson, A. J. (2020). A dynamic view of coach transformational leadership: How leadership perceptions relate to task cohesion and team potency. <i>Psychology of Sport and Exercise</i> , 51, 101789.
6	Beauchamp, M.R., Liu, Y., Morton, K.L., Martin, L.J., Wilson, A.H., Wilson, A.J., Sylvester, B.D., Zumbo, B.D., & Barling, J. (2014). Transformational Teaching and Adolescent Physical Activity: Multilevel and Mediation Effects. <i>International Journal of Behavioral Medicine</i> , 21, 537-546.
7	Bormann, K. C., Schulte-Coerne, P., Diebig, M., & Rowold, J. (2016a). Athlete Characteristics and Team Competitive Performance as Moderators for the Relationship Between Coach Transformational Leadership and Athlete Performance. <i>Journal of Sport and Exercise Psychology</i> , 38(3), 268-281.
8	Bormann, K. C., & Rowold, J. (2016b). Transformational leadership and followers' objective performance over time: Insights from German basketball. <i>Journal of Applied Sport Psychology</i> , 28(3), 367-373.
9	Bosselut, G., Boiché, J., Salame, B., Fouquereau, E., Guilbert, L., & Serrano, O. C. (2018). Transformational leadership and group cohesion in sport: Examining the mediating role of interactional justice using a within-and between-team approach. <i>International Journal of Sports Science &amp; Coaching</i> , 13(6), 912-928.
10	Bourne, J., Liu, Y., Shields, C. A., Jackson, B., Zumbo, B. D., & Beauchamp, M. R. (2015). The relationship between transformational teaching and adolescent physical activity: The mediating roles of personal and relational efficacy beliefs. <i>Journal of Health Psychology</i> , 20(2), 132-143.
11	Callow, N., Smith, M.J., Hardy, L., Arthur, C.A., & Hardy, J. (2009). Measurement of Transformational Leadership and its Relationship with Team Cohesion and Performance Level. <i>Journal of Applied Sport Psychology</i> , 21, 395-412.
12	Charbonneau, D., & Barling, J., & Kelloway, E. K. (2001). Transformational Leadership and Sports Performance: The Mediating Role of Intrinsic Motivation. <i>Journal of Applied Social Psychology</i> , 31(7), 1521-1534.
13	Cronin, L.D., Arthur, C.A., Hardy, J., & Callow, N. (2015). Transformational Leadership and Task Cohesion in Sport: The Mediating Role of Inside Sacrifice. <i>Journal of Sport &amp; Exercise Psychology</i> , 37, 23-36.
14	Din, C., Paskevich, D., Gabriele, T., & Werthner, P. (2015). Olympic Medal-Winning Leadership. <i>International Journal of Sports Science &amp; Coaching</i> , 10(4), 589-604.
15	Erikstad, M. K., Høigaard, R., Côté, J., Turnnidge, J., & Haugen, T. (2021). An examination of the relationship between coaches' transformational leadership and athletes' personal and group characteristics in elite youth soccer. <i>Frontiers in Psychology</i> , 12, 3010.
16	Gorgulu, R. (2019). Transformational Leadership Inspired Extra Effort: The Mediating Role of Individual Consideration of The Coach-Athlete Relationship in College Basketball Players. <i>Universal Journal of Educational Research</i> , 7(1), 157-163.
17	Kao, S. F., Tsai, C. Y., & Schinke, R. (2021). Investigation of the interaction between coach transformational leadership and coaching competency change over time. <i>International Journal of Sports Science &amp; Coaching</i> , 16(1), 44-53.
18	Kao, S. F., Tsai, C. Y., Schinke, R., & Watson, J. C. (2019). A cross-level moderating effect of team trust on the relationship between transformational leadership and cohesion. <i>Journal of sports Sciences</i> , 37(24), 2844-2852.
19	Kao, S., & Li, J. C. W. (2017). A multilevel study of transformational leadership and motivational climates in university basketball teams. <i>International Journal of Sport Psychology</i> , 48(1), 50-69.
20	Kao, S. F., & Tsai, C. Y. (2016). Transformational Leadership and Athlete Satisfaction: The Mediating Role of Coaching Competency. <i>Journal of Applied Sport Psychology</i> , 28(4), 469-482.
21	Kassim, A. F. M. (2021a). Coach's Effectiveness Mediate Longitudinal Effects of Transformational Leadership Behaviour on Athlete Outcomes. <i>Malaysian Journal of Sport Science and Recreation (MJSSR)</i> , 17(2), 328-348.
22	Kassim, A. F. M., Mazli, A., Saufi, A., & Mansor, S. H. (2021b). Assessing Coach's Personality and Transformational Leadership Behavior among Team and Individual Sports. <i>The International Journal of Indian Psychology</i> , 9(3) 1060-1070.
23	Lawrason, S., Turnnidge, J., Martin, L. J., & Côté, J. (2019). A transformational coaching workshop for changing youth sport coaches' behaviors: A pilot intervention study. <i>The Sport Psychologist</i> , 33(4), 304-312.
24	Lefebvre, J. S., Turnnidge, J., & Côté, J. (2021). A systematic observation of coach leadership behaviors in youth sport. <i>Journal of Applied Sport Psychology</i> , 33(3), 377-386.

25	López de Subijana, C., Martin, L. J., Ramos, J., & Côté, J. (2021). How coach leadership is related to the coach-athlete relationship in elite sport. <i>International Journal of Sports Science &amp; Coaching</i> , 16(6), 1239-1246.
26	Mach, M., Ferreira, A. I., & Abrantes, A. C. (2021). Transformational leadership and team performance in sports teams: A conditional indirect model. <i>Applied Psychology</i> , 1-33.
27	Macquet, A. C., & Stanton, N. A. (2021). How do head coaches brief their athletes? Exploring transformational leadership behaviors in elite team sports. <i>Human Factors and Ergonomics in Manufacturing &amp; Service Industries</i> , 31(5), 506-515.
28	Morgan, H. J., & Bush, A. J. (2016). Sports coach as transformative leader: arresting school disengagement through community sport-based initiatives. <i>Sport, Education and Society</i> , 21(5), 759-777.
29	Newland, A., Newton, M., Moore, E. W. G., & Legg, W. E. (2020). Do Goal Orientations and Coaching Efficacy Contribute to the Likelihood of Coaches' Transformational Leadership? <i>Journal of Sport Behavior</i> , 43(4), 442-462.
30	Newland, A., Newton, M., Moore, E. W. G., & Legg, W. E. (2019). Transformational leadership and positive youth development in basketball. <i>International Sport Coaching Journal</i> , 6(1), 30-41.
31	Newland, A., Newton, M., Podlog, L., Legg, W.E., & Tanner, P. (2015). Exploring the nature of transformational leadership in sports: a phenomenological examination with female athletes. <i>Qualitative Research in Sport, Exercise and Health</i> , 7(5), 663-687.
32	Price, M.S., & Weiss, M.R. (2013). Relationships among Coach Leadership, Peer Leadership, and Adolescent Athletes' Psychosocial and Team Outcomes: A Test of Transformational Leadership Theory. <i>Journal of Applied Sport Psychology</i> , 25, 265-279.
33	Price, M.S., & Weiss, M.R. (2011). Peer Leadership in Sport: Relationships among Personal Characteristics, Leader Behaviors, and Team Outcomes. <i>Journal of Applied Psychology</i> , 23, 49-64.
34	Radzi, J. A., Salimee, M. F., & Kassim, A. F. M. (2021). Athletes' perception of their coach transformational leadership and coach-athlete relationship in team and individual sports. <i>Journal Sains Sukan &amp; Pendidikan Jasmani</i> , 10(1), 24-31.
35	Rowold, J. (2006). Transformational and Transactional Leadership in Martial Arts. <i>Journal of Applied Psychology</i> , 18, 312-325.
36	Saybani, H., Yusof, A., Soon, C., Hassan, A., & Zardoshtian, S. (2013). Athletes' satisfaction as mediator of transformational leadership behaviors of coaches and football players' sport commitment relationship. <i>World Applied Sciences Journal</i> , 21(10), 1475-1483.
37	Smith, M. J., Young, D. J., Figgins, S. G., & Arthur, C. A. (2017). Transformational leadership in elite sport: A qualitative analysis of effective leadership behaviors in cricket. <i>The Sport Psychologist</i> , 31(1), 1-15.
38	Smith, M.J., Arthur, C.A., Hardy, J., Callow, N., & Williams, D. (2013). Transformational leadership and task cohesion in sport: The mediating role of intrateam communication. <i>Psychology of Sport and Exercise</i> , 14, 249-257.
39	Stenling, A., & Tafvelin, S. (2014). Transformational Leadership and Well-Being in Sports: The Mediating Role of Need Satisfaction. <i>Journal of Applied Sport Psychology</i> , 26, 182-196.
40	Tucker, S., Turner, N., Barling, J., McEvoy, M. (2010). Transformational leadership and children's aggression in team settings: A short-term longitudinal study. <i>The Leadership Quarterly</i> , 21, 389-399.
41	Vella, S. A., Oades, L. G., & Crowe, T. P. (2013a). A Pilot Test of Transformational Leadership Training for Sports Coaches: Impact on the Developmental Experiences of Adolescent Athletes. <i>International Journal of Sports Science &amp; Coaching</i> , 8(3), 513-530.
42	Vella, S.A., Oades, L.G. and Crowe, T.P. (2013b). The relationship between coach leadership, the coach-athlete relationship, team success, and the positive developmental experiences of adolescent soccer players. <i>Physical Education and Sport Pedagogy</i> , 18(5), 549-561.
43	Vella, S.A., Crowe, T.P., & Oades, L.G. (2013c). Increasing the Effectiveness of Formal Coach Education: Evidence of a Parallel Process. <i>International Journal of Sports Science &amp; Coaching</i> , 8(2), 417-430.
44	Wang, Y., & Hu, T. (2017). Transformational leadership behavior and turnover intention in China physical education. <i>Eurasia Journal of Mathematics, Science and Technology Education</i> , 13(9), 6357-6368.
45	You, K. W. (2021). The Effect of Transactional and Transformational Leadership Behaviours on Factors Establishing Teams' Cultural Aspects to Promote Organizational Effectiveness. <i>Sport Mont</i> , 19(3), 35-40.
46	Younghan, L., So-Hee, K., & Joon-Ho, K. (2013). Coach leadership effect on elite handball players' psychological empowerment and organizational citizenship behaviour. <i>International Journal of Sports Science &amp; Coaching</i> , 8(2), 327-342.
47	Zhang, S., Beattie, S., Pitkethly, A., & Dempsey, C. (2019). Lead me to train better: Transformational leadership's moderation of the negative relationship between athlete personality and training behaviors. <i>The Sport Psychologist</i> , 33(2), 119-128.

## APPENDIX D: Study 1 - Scopus citations by rank order

Citations Rank Order (↑ to ↓)	Publication	Scopus Citations (January 2022)
1	Charbonneau, D., & Barling, J., & Kelloway, E. K. (2001). Transformational Leadership and Sports Performance: The Mediating Role of Intrinsic Motivation. <i>Journal of Applied Social Psychology</i> , 31(7), 1521-1534.	156
2	Callow, N., Smith, M.J., Hardy, L., Arthur, C, A., & Hardy, J. (2009). Measurement of Transformational Leadership and its Relationship with Team Cohesion and Performance Level. <i>Journal of Applied Sport Psychology</i> , 21, 395-412.	132
3	Vella, S.A., Oades, L.G. and Crowe, T.P. (2013b). The relationship between coach leadership, the coach-athlete relationship, team success, and the positive developmental experiences of adolescent soccer players. <i>Physical Education and Sport Pedagogy</i> , 18(5), 549-561.	111
4	Rowold, J. (2006). Transformational and Transactional Leadership in Martial Arts. <i>Journal of Applied Psychology</i> , 18, 312-325.	92
5	Arthur, C.A., Woodman, T., Wei Ong, C., Hardy, L., & Ntoumanis, N. (2011). The Role of Athlete Narcissism in Moderating the Relationship Between Coaches' Transformational Leader Behaviors and Athlete Motivation. <i>Journal of Sport &amp; Exercise Psychology</i> , 33, 3-19.	71
6	Price, M.S., & Weiss, M.R. (2013). Relationships among Coach Leadership, Peer Leadership, and Adolescent Athletes' Psychosocial and Team Outcomes: A Test of Transformational Leadership Theory. <i>Journal of Applied Sport Psychology</i> , 25, 265-279.	69
7	Price, M.S., & Weiss, M.R. (2011). Peer Leadership in Sport: Relationships among Personal Characteristics, Leader Behaviors, and Team Outcomes. <i>Journal of Applied Psychology</i> , 23, 49-64.	60
8	Vella, S. A., Oades, L. G., & Crowe, T. P. (2013a). A Pilot Test of Transformational Leadership Training for Sports Coaches: Impact on the Developmental Experiences of Adolescent Athletes. <i>International Journal of Sports Science &amp; Coaching</i> , 8(3), 513-530.	49
9	Stenling, A., & Tafvelin, S. (2014). Transformational Leadership and Well-Being in Sports: The Mediating Role of Need Satisfaction. <i>Journal of Applied Sport Psychology</i> , 26, 182-196.	46
10	Tucker, S., Turner, N., Barling, J., McEvoy, M. (2010). Transformational leadership and children's' aggression in team settings: A short-term longitudinal study. <i>The Leadership Quarterly</i> , 21, 389-399.	41
11	Cronin, L.D., Arthur, C.A., Hardy, J., & Callow, N. (2015). Transformational Leadership and Task Cohesion in Sport: The Mediating Role of Inside Sacrifice. <i>Journal of Sport &amp; Exercise Psychology</i> , 37, 23-36.	34
12	Kao, S. F., & Tsai, C. Y. (2016). Transformational Leadership and Athlete Satisfaction: The Mediating Role of Coaching Competency. <i>Journal of Applied Sport Psychology</i> , 28(4), 469-482.	24
13	X132 2 <sup>nd</sup> )	22
14	Smith, M. J., Young, D. J., Figgins, S. G., & Arthur, C. A. (2017). Transformational leadership in elite sport: A qualitative analysis of effective leadership behaviors in cricket. <i>The Sport Psychologist</i> , 31(1), 1-15.	21
15	Younghan, L., So-Hee, K., & Joon-Ho, K. (2013). Coach leadership effect on elite handball players' psychological empowerment and organizational citizenship behaviour. <i>International Journal of Sports Science &amp; Coaching</i> , 8(2), 327-342.	17
16	Newland, A., Newton, M., Moore, E. W. G., & Legg, W. E. (2020). Do Goal Orientations and Coaching Efficacy Contribute to the Likelihood of Coaches' Transformational Leadership? <i>Journal of Sport Behavior</i> , 43(4), 442-462.	14
17=	Morgan, H. J., & Bush, A. J. (2016). Sports coach as transformative leader: arresting school disengagement through community sport-based initiatives. <i>Sport, education, and society</i> , 21(5), 759-777.	13
17=	Bormann, K. C., Schulte-Coerne, P., Diebig, M., & Rowold, J. (2016a). Athlete Characteristics and Team Competitive Performance as Moderators for the Relationship Between Coach Transformational Leadership and Athlete Performance. <i>Journal of Sport and Exercise Psychology</i> , 38(3), 268-281.	13
19	Beauchamp, M.R., Liu, Y., Morton, K.L., Martin, L.J., Wilson, A.H., Wilson, A.J., Sylvester, B.D., Zumbo, B.D., & Barling, J. (2014). Transformational Teaching and Adolescent Physical Activity: Multilevel and Medialional Effects. <i>International Journal of Behavioral Medicine</i> , 21, 537-546.	12
20	Bourne, J., Liu, Y., Shields, C. A., Jackson, B., Zumbo, B. D., & Beauchamp, M. R. (2015). The relationship between transformational teaching and adolescent physical activity: The mediating roles of personal and relational efficacy beliefs. <i>Journal of Health Psychology</i> , 20(2), 132-143.	11

21	Wang, Y., & Hu, T. (2017). Transformational leadership behavior and turnover intention in China physical education. <i>Eurasia Journal of Mathematics, Science and Technology Education</i> , 13(9), 6357-6368.	9
22	Bormann, K. C., & Rowold, J. (2016b). Transformational leadership and followers' objective performance over time: Insights from German basketball. <i>Journal of Applied Sport Psychology</i> , 28(3), 367-373.	7
23	Álvarez, O., Castillo, I., Molina-García, V., & Tomás, I. (2019). Transformational leadership, task-involving climate, and their implications in male junior soccer players: a multilevel approach. <i>International Journal of Environmental Research and Public Health</i> , 16(19), 3649.	6
24=	Din, C. Paskevich, D., Gabriele, T., & Werthner, P. (2015). Olympic Medal-Winning Leadership. <i>International Journal of Sports Science &amp; Coaching</i> , 10(4), 589-604.	5
24=	Kao, S., & Li, J. C. W. (2017). A multilevel study of transformational leadership and motivational climates in university basketball teams. <i>International Journal of Sport Psychology</i> , 48(1), 50-69.	5
24=	Bosselut, G., Boiché, J., Salame, B., Fouquereau, E., Guilbert, L., & Serrano, O. C. (2018). Transformational leadership and group cohesion in sport: Examining the mediating role of interactional justice using a within-and between-team approach. <i>International Journal of Sports Science &amp; Coaching</i> , 13(6), 912-928.	5
24=	Lefebvre, J. S., Turnnidge, J., & Côté, J. (2021). A systematic observation of coach leadership behaviors in youth sport. <i>Journal of Applied Sport Psychology</i> , 33(3), 377-386.	5
28=	Saybani, H., Yusof, A., Soon, C., Hassan, A., & Zardoshtian, S. (2013). Athletes' satisfaction as mediator of transformational leadership behaviors of coaches and football players' sport commitment relationship. <i>World Applied Sciences Journal</i> , 21(10), 1475-1483.	4
28=	Kao, S. F., Tsai, C. Y., Schinke, R., & Watson, J. C. (2019). A cross-level moderating effect of team trust on the relationship between transformational leadership and cohesion. <i>Journal of Sports Sciences</i> , 37(24), 2844-2852.	4
30	Zhang, S., Beattie, S., Pitkethly, A., & Dempsey, C. (2019). Lead me to train better: Transformational leadership's moderation of the negative relationship between athlete personality and training behaviors. <i>The Sport Psychologist</i> , 33(2), 119-128.	3
31=	Baird, N., Martin, L. J., & Benson, A. J. (2020). A dynamic view of coach transformational leadership: How leadership perceptions relate to task cohesion and team potency. <i>Psychology of Sport and Exercise</i> , 51, 101789.	1
31=	Kao, S. F., Tsai, C. Y., & Schinke, R. (2021). Investigation of the interaction between coach transformational leadership and coaching competency change over time. <i>International Journal of Sports Science &amp; Coaching</i> , 16(1), 44-53.	1
33=	Smith, M.J., Arthur, C.A., Hardy, J., Callow, N., & Williams, D. (2013). Transformational leadership and task cohesion in sport: The mediating role of intrateam communication. <i>Psychology of Sport and Exercise</i> , 14, 249-257.	0
33=	Aghamohammadi, S., Mosaviyan, S. E., & Heidari, M. (2016). The relationship between emotional intelligence and transformational leadership style in the female sports coaches from Hamedan province. <i>European Journal of Physical Education and Sport Science</i> , 1(4), 71-77.	0
33=	AlTahayneh, Z. L., & Qatami, H. M. (2019). Coaches' Transformational Leadership Behavior and its Effect on Team Cohesion as Perceived by Female Football Players in Jordan. <i>International Journal of Humanities and Social Science</i> , 9(1), 69-75.	0
33=	Gorgulu, R. (2019). Transformational Leadership Inspired Extra Effort: The Mediating Role of Individual Consideration of The Coach-Athlete Relationship in College Basketball Players. <i>Universal Journal of Educational Research</i> , 7(1), 157-163.	0
33=	Lawrason, S., Turnnidge, J., Martin, L. J., & Côté, J. (2019). A transformational coaching workshop for changing youth sport coaches' behaviors: A pilot intervention study. <i>The Sport Psychologist</i> , 33(4), 304-312.	0
33=	Newland, A., Newton, M., Moore, E. W. G., & Legg, W. E. (2019). Transformational leadership and positive youth development in basketball. <i>International Sport Coaching Journal</i> , 6(1), 30-41.	0
33=	Newland, A., Newton, M., Moore, E. W. G., & Legg, W. E. (2020). Do Goal Orientations and Coaching Efficacy Contribute to the Likelihood of Coaches' Transformational Leadership? <i>Journal of Sport Behavior</i> , 43(4), 442-462.	0
33=	Erikstad, M. K., Høigaard, R., Côté, J., Turnnidge, J., & Haugen, T. (2021). An examination of the relationship between coaches' transformational leadership and athletes' personal and group characteristics in elite youth soccer. <i>Frontiers in Psychology</i> , 12, 3010.	0
33=	López de Subijana, C., Martin, L. J., Ramos, J., & Côté, J. (2021). How coach leadership is related to the coach-athlete relationship in elite sport. <i>International Journal of Sports Science &amp; Coaching</i> , 16(6), 1239-1246.	0

33=	Mach, M., Ferreira, A. I., & Abrantes, A. C. (2021). Transformational leadership and team performance in sports teams: A conditional indirect model. <i>Applied Psychology</i> , 1-33.	0
33=	Macquet, A. C., & Stanton, N. A. (2021). How do head coaches brief their athletes? Exploring transformational leadership behaviors in elite team sports. <i>Human Factors and Ergonomics in Manufacturing &amp; Service Industries</i> , 31(5), 506-515.	0
33=	Radzi, J. A., Salimee, M. F., & Kassim, A. F. M. (2021). Athletes' perception of their coach transformational leadership and coach-athlete relationship in team and individual sports. <i>Journal Sains Sukan &amp; Pendidikan Jasmani</i> , 10(1), 24-31.	0
33=	You, K. W. (2021). The Effect of Transactional and Transformational Leadership Behaviours on Factors Establishing Teams' Cultural Aspects to Promote Organizational Effectiveness. <i>Sport Mont</i> , 19(3), Ahead-of.	0
33=	Kassim, A. F. M. (2021a). Coach's Effectiveness Mediate Longitudinal Effects of Transformational Leadership Behaviour on Athlete Outcomes. <i>Malaysian Journal of Sport Science and Recreation (MJSSR)</i> , 17(2), 328-348.	0
33=	Kassim, A. F. M., Mazli, A., Saufi, A., & Mansor, S. H. (2021b). Assessing Coach's Personality and Transformational Leadership Behavior among Team and Individual Sports. <i>The International Journal of Indian Psychology</i> , 9(3) 1060-1070.	0

## APPENDIX E: Study 1 - Scopus and CiteScore data by journal

Journal Title	Scopus Subject Area/s	CiteScore Rank 2020	Percentile	CiteScore 2020	CiteScoreTracker 2021
Journal of Applied Social Psychology	Psychology: Social Psychology	100/289	65th	2.9	2.9
Journal of Applied Sport Psychology	Psychology: Applied Psychology	55/227	75th	4.7	5.1
Physical Education and Sport Pedagogy	Social Sciences: Education	65/1319	95th	5.6	7.7
	Health Professions: Physical Therapy, Sports Therapy and Rehabilitation	17/206	91st		
	Medicine: Orthopaedics and Sports Medicine	25/262	90th		
Journal of Sport & Exercise Psychology	Psychology: Applied Psychology	92/227	59th	3.1	2.9
International Journal of Sports Science & Coaching	Social Sciences: Social Sciences (miscellaneous)	87/334	74th	2.5	2.9
The Leadership Quarterly	Social Sciences: Sociology and Political Science	4/1269	99th	13.2	15.2
	Business, Management and Accounting: Organizational Behavior and Human Resource Management	4/200	98th		
	Business, Management and Accounting: Business and International Management	8/399	98th		
	Psychology: Applied Psychology	6/227	97th		
Sport Psychologist	Psychology: Applied Psychology	106/227	53rd	2.6	2.1
Qualitative Research in Sport	Social Sciences: Health (social science)	16/293	94th	5.9	9.5
	Health Professions: Physical Therapy, Sports Therapy and Rehabilitation	15/206	92nd		
	Psychology: Social Psychology	24/289	91st		
Sport, Education and Society	Health Professions: Physical Therapy, Sports Therapy and Rehabilitation	20/206	90th	5.3	6.1
	Medicine: Orthopaedics and Sports Medicine	32/262	87th		
International Journal of Behavioral Medicine	Psychology: Applied Psychology	71/227	68th	4.0	3.3
Journal of Health Psychology	Psychology: Applied Psychology	47/227	79th	5.0	5.3
Eurasia Journal of Mathematics, Science and Technology Education	Social Sciences: Education	149/1319	88th	4.0	4.2
	Mathematics: Applied Mathematics	93/548	83rd		
International Journal of Environmental Research and Public Health	Medicine: Public Health, Environmental and Occupational Health	179/526	66th	3.4	4.2
	Environmental Science: Pollution	59/132	55th		
	Environmental Science: Health, Toxicology and Mutagenesis	71/134	47th		
International Journal of Sport Psychology	Psychology: Applied Psychology	148/227	35th	1.5	2.2
World Applied Sciences Journal	Multidisciplinary	No data available			
Journal of sports sciences	Health Professions: Physical Therapy, Sports Therapy and Rehabilitation	27/206	87th	4.8	5.7
	Medicine: Orthopaedics and Sports Medicine	43/262	83rd		
Psychology of Sport and Exercise	Psychology: Applied Psychology	38/227	83rd	5.2	6.3
European Journal of Physical Education and Sport Science	No data available				

International Journal of Humanities and Social Science	No data available				
Universal Journal of Educational Research	Social Sciences: Education	1101/1254	12th	0.2	No data available
Journal of Sport Behavior	No data available				
Frontiers in Psychology	Psychology: General Psychology	54/203	73rd	3.5	3.8
Applied Psychology	Arts and Humanities: Arts and Humanities (miscellaneous)	22/306	92nd	5.3	5.4
	Psychology: Developmental and Educational Psychology	41/332	87th		
	Psychology: Applied Psychology	36/227	84th		
Human Factors and Ergonomics in Manufacturing & Service Industries	No data available				
Journal Sains Sukan & Pendidikan Jasmani	No data available				
Sport Mont	Health Professions: Physical Therapy, Sports Therapy and Rehabilitation	1/206	56th	2.2	2.0
	Medicine: Orthopaedics and Sports Medicine	126/262	52nd		
	Business, Management and Accounting: Tourism, Leisure and Hospitality Management	63/120	47th		
Malaysian Journal of Sport Science and Recreation	No data available				
The International Journal of Indian Psychology	No data available				

## APPENDIX F: Study 1 – Theory testing and building evaluation for transformational leadership in sport coaching papers

(Adapted from Colquitt & Zapata-Phelan, 2007)

Taxonomy subcategory key:		
Reporters (limited theory building and testing),		
Testers (empirical articles with high theory testing and low theory building)		
Qualifiers (empirical articles with an intermediate level of theory testing and low theory building)		
Builders (high theory building with limited theory testing)		
Expanders (existing theory links with potentially high theory building and testing)		
Paper number	Taxonomy subcategory	Included Papers
1	Tester	Aghamohammadi, S., Mosaviyan, S. E., & Heidari, M. (2016). The relationship between emotional intelligence and transformational leadership style in the female sports coaches from Hamedan province. <i>European Journal of Physical Education and Sport Science</i> , 1(4), 71-77.
2	Qualifier	AlTahayneh, Z. L., & Qatami, H. M. (2019). Coaches' Transformational Leadership Behavior and its Effect on Team Cohesion as Perceived by Female Football Players in Jordan. <i>International Journal of Humanities and Social Science</i> , 9(1), 69-75.
3	Qualifier	Álvarez, O., Castillo, I., Molina-García, V., & Tomás, I. (2019). Transformational leadership, task-involving climate, and their implications in male junior soccer players: a multilevel approach. <i>International journal of environmental research and public health</i> , 16(19), 3649.
4	Tester	Arthur, C.A., Woodman, T., Wei Ong, C., Hardy, L., & Ntoumanis, N. (2011). The Role of Athlete Narcissism in Moderating the Relationship Between Coaches' Transformational Leader Behaviors and Athlete Motivation. <i>Journal of Sport &amp; Exercise Psychology</i> , 33, 3-19.
5	Qualifier	Baird, N., Martin, L. J., & Benson, A. J. (2020). A dynamic view of coach transformational leadership: How leadership perceptions relate to task cohesion and team potency. <i>Psychology of Sport and Exercise</i> , 51, 101789.
6	Qualifier	Beauchamp, M.R., Liu, Y., Morton, K.L., Martin, L.J., Wilson, A.H., Wilson, A.J., Sylvester, B.D., Zumbo, B.D., & Barling, J. (2014). Transformational Teaching and Adolescent Physical Activity: Multilevel and Medial Effects. <i>International Journal of Behavioral Medicine</i> , 21, 537-546.
7	Qualifier	Bormann, K. C., Schulte-Coerne, P., Diebig, M., & Rowold, J. (2016a). Athlete Characteristics and Team Competitive Performance as Moderators for the Relationship Between Coach Transformational Leadership and Athlete Performance. <i>Journal of Sport and Exercise Psychology</i> , 38(3), 268-281.
8	Qualifier	Bormann, K. C., & Rowold, J. (2016b). Transformational leadership and followers' objective performance over time: Insights from German basketball. <i>Journal of Applied Sport Psychology</i> , 28(3), 367-373.
9	Qualifier	Bosselut, G., Boiché, J., Salame, B., Fouquereau, E., Guilbert, L., & Serrano, O. C. (2018). Transformational leadership and group cohesion in sport: Examining the mediating role of interactional justice using a within-and between-team approach. <i>International Journal of Sports Science &amp; Coaching</i> , 13(6), 912-928.
10	Qualifier	Bourne, J., Liu, Y., Shields, C. A., Jackson, B., Zumbo, B. D., & Beauchamp, M. R. (2015). The relationship between transformational teaching and adolescent physical activity: The mediating roles of personal and relational efficacy beliefs. <i>Journal of Health Psychology</i> , 20(2), 132-143.
11	Expander	Callow, N., Smith, M.J., Hardy, L., Arthur, C. A., & Hardy, J. (2009). Measurement of Transformational Leadership and its Relationship with Team Cohesion and Performance Level. <i>Journal of Applied Sport Psychology</i> , 21, 395-412.
12	Expander	Charbonneau, D., & Barling, J., & Kelloway, E. K. (2001). Transformational Leadership and Sports Performance: The Mediating Role of Intrinsic Motivation. <i>Journal of Applied Social Psychology</i> , 31(7), 1521-1534.
13	Qualifier	Cronin, L.D., Arthur, C.A., Hardy, J., & Callow, N. (2015). Transformational Leadership and Task Cohesion in Sport: The Mediating Role of Inside Sacrifice. <i>Journal of Sport &amp; Exercise Psychology</i> , 37, 23-36.
14	Builder	Din, C., Paskevich, D., Gabriele, T., & Werthner, P. (2015). Olympic Medal-Winning Leadership. <i>International Journal of Sports Science &amp; Coaching</i> , 10(4), 589-604.
15	Qualifier	Erikstad, M. K., Høigaard, R., Côté, J., Turnnidge, J., & Haugen, T. (2021). An examination of the relationship between coaches' transformational leadership and athletes' personal and group characteristics in elite youth soccer. <i>Frontiers in Psychology</i> , 12, 3010.
16	Qualifier	Gorgulu, R. (2019). Transformational Leadership Inspired Extra Effort: The Mediating Role of Individual Consideration of The Coach-Athlete Relationship in College Basketball

		Players. <i>Universal Journal of Educational Research</i> , 7(1), 157-163.
17	Qualifier	Kao, S. F., Tsai, C. Y., & Schinke, R. (2021). Investigation of the interaction between coach transformational leadership and coaching competency change over time. <i>International Journal of Sports Science &amp; Coaching</i> , 16(1), 44-53.
18	Qualifier	Kao, S. F., Tsai, C. Y., Schinke, R., & Watson, J. C. (2019). A cross-level moderating effect of team trust on the relationship between transformational leadership and cohesion. <i>Journal of Sports Sciences</i> , 37(24), 2844-2852.
19	Qualifier	Kao, S., & Li, J. C. W. (2017). A multilevel study of transformational leadership and motivational climates in university basketball teams. <i>International Journal of Sport Psychology</i> , 48(1), 50-69.
20	Qualifier	Kao, S. F., & Tsai, C. Y. (2016). Transformational Leadership and Athlete Satisfaction: The Mediating Role of Coaching Competency. <i>Journal of Applied Sport Psychology</i> , 28(4), 469-482.
21	Qualifier	Kassim, A. F. M. (2021a). Coach's Effectiveness Mediate Longitudinal Effects of Transformational Leadership Behaviour on Athlete Outcomes. <i>Malaysian Journal of Sport Science and Recreation (MJSSR)</i> , 17(2), 328-348.
22	Qualifier	Kassim, A. F. M., Mazli, A., Saufi, A., & Mansor, S. H. (2021b). Assessing Coach's Personality and Transformational Leadership Behavior among Team and Individual Sports. <i>The International Journal of Indian Psychology</i> , 9(3) 1060-1070.
23	Tester	Lawrason, S., Turnnidge, J., Martin, L. J., & Côté, J. (2019). A transformational coaching workshop for changing youth sport coaches' behaviors: A pilot intervention study. <i>The Sport Psychologist</i> , 33(4), 304-312.
24	Expander	Lefebvre, J. S., Turnnidge, J., & Côté, J. (2021). A systematic observation of coach leadership behaviors in youth sport. <i>Journal of Applied Sport Psychology</i> , 33(3), 377-386.
25	Expander	López de Subijana, C., Martin, L. J., Ramos, J., & Côté, J. (2021). How coach leadership is related to the coach-athlete relationship in elite sport. <i>International Journal of Sports Science &amp; Coaching</i> , 16(6), 1239-1246.
26	Qualifier	Mach, M., Ferreira, A. I., & Abrantes, A. C. (2021). Transformational leadership and team performance in sports teams: A conditional indirect model. <i>Applied Psychology</i> , 1-33.
27	Builder	Macquet, A. C., & Stanton, N. A. (2021). How do head coaches brief their athletes? Exploring transformational leadership behaviors in elite team sports. <i>Human Factors and Ergonomics in Manufacturing &amp; Service Industries</i> , 31(5), 506-515.
28	Builder	Morgan, H. J., & Bush, A. J. (2016). Sports coach as transformative leader: arresting school disengagement through community sport-based initiatives. <i>Sport, Education and Society</i> , 21(5), 759-777.
29	Qualifier	Newland, A., Newton, M., Moore, E. W. G., & Legg, W. E. (2020). Do Goal Orientations and Coaching Efficacy Contribute to the Likelihood of Coaches' Transformational Leadership? <i>Journal of Sport Behavior</i> , 43(4), 442-462.
30	Qualifier	Newland, A., Newton, M., Moore, E. W. G., & Legg, W. E. (2019). Transformational leadership and positive youth development in basketball. <i>International Sport Coaching Journal</i> , 6(1), 30-41.
31	Builder	Newland, A., Newton, M., Podlog, L., Legg, W.E., & Tanner, P. (2015). Exploring the nature of transformational leadership in sports: a phenomenological examination with female athletes. <i>Qualitative Research in Sport, Exercise and Health</i> , 7(5), 663-687.
32	Qualifier	Price, M.S., & Weiss, M.R. (2013). Relationships among Coach Leadership, Peer Leadership, and Adolescent Athletes' Psychosocial and Team Outcomes: A Test of Transformational Leadership Theory. <i>Journal of Applied Sport Psychology</i> , 25, 265-279.
33	Qualifier	Price, M.S., & Weiss, M.R. (2011). Peer Leadership in Sport: Relationships among Personal Characteristics, Leader Behaviors, and Team Outcomes. <i>Journal of Applied Psychology</i> , 23, 49-64.
34	Builder	Radzi, J. A., Salimee, M. F., & Kassim, A. F. M. (2021). Athletes' perception of their coach transformational leadership and coach-athlete relationship in team and individual sports. <i>Journal Sains Sukan &amp; Pendidikan Jasmani</i> , 10(1), 24-31.
35	Builder	Rowold, J. (2006). Transformational and Transactional Leadership in Martial Arts. <i>Journal of Applied Psychology</i> , 18, 312-325.
36	Builder	Saybani, H., Yusof, A., Soon, C., Hassan, A., & Zardoshtian, S. (2013). Athletes' satisfaction as mediator of transformational leadership behaviors of coaches and football players' sport commitment relationship. <i>World Applied Sciences Journal</i> , 21(10), 1475-1483.
37	Builder	Smith, M. J., Young, D. J., Figgins, S. G., & Arthur, C. A. (2017). Transformational leadership in elite sport: A qualitative analysis of effective leadership behaviors in cricket. <i>The Sport Psychologist</i> , 31(1), 1-15.
38	Qualifier	Smith, M.J., Arthur, C.A., Hardy, J., Callow, N., & Williams, D. (2013). Transformational leadership and task cohesion in sport: The mediating role of intrateam communication. <i>Psychology of Sport and Exercise</i> , 14, 249-257.
39	Tester	Stenling, A., & Tafvelin, S. (2014). Transformational Leadership and Well-Being in Sports: The Mediating Role of Need Satisfaction. <i>Journal of Applied Sport Psychology</i> , 26, 182-196.
40	Qualifier	Tucker, S., Turner, N., Barling, J., McEvoy, M. (2010). Transformational leadership and children's aggression in team settings: A short-term longitudinal study. <i>The Leadership Quarterly</i> , 21, 389-399.
41	Tester	Vella, S. A., Oades, L. G., & Crowe, T. P. (2013a). A Pilot Test of Transformational

		Leadership Training for Sports Coaches: Impact on the Developmental Experiences of Adolescent Athletes. <i>International Journal of Sports Science &amp; Coaching</i> , 8(3), 513-530.
42	<b>Expander</b>	Vella, S.A., Oades, L.G. and Crowe, T.P. (2013b). The relationship between coach leadership, the coach-athlete relationship, team success, and the positive developmental experiences of adolescent soccer players. <i>Physical Education and Sport Pedagogy</i> , 18(5), 549-561.
43	<b>Builder</b>	Vella, S.A., Crowe, T.P., & Oades, L.G. (2013c). Increasing the Effectiveness of Formal Coach Education: Evidence of a Parallel Process. <i>International Journal of Sports Science &amp; Coaching</i> , 8(2), 417-430.
44	<b>Qualifier</b>	Wang, Y., & Hu, T. (2017). Transformational leadership behavior and turnover intention in China physical education. <i>Eurasia Journal of Mathematics, Science and Technology Education</i> , 13(9), 6357-6368.
45	<b>Qualifier</b>	You, K. W. (2021). The Effect of Transactional and Transformational Leadership Behaviours on Factors Establishing Teams' Cultural Aspects to Promote Organizational Effectiveness. <i>Sport Mont</i> , 19(3), 35-40.
46	<b>Qualifier</b>	Younghan, L., So-Hee, K., & Joon-Ho, K. (2013). Coach leadership effect on elite handball players' psychological empowerment and organizational citizenship behaviour. <i>International Journal of Sports Science &amp; Coaching</i> , 8(2), 327-342.
47	<b>Qualifier</b>	Zhang, S., Beattie, S., Pitkethly, A., & Dempsey, C. (2019). Lead me to train better: Transformational leadership's moderation of the negative relationship between athlete personality and training behaviors. <i>The Sport Psychologist</i> , 33(2), 119-128.

## APPENDIX G: Study 1 - Excluded systematic review papers

Paper Number	Excluded Paper APA Reference	Reason Excluded
1	Arthur, C. A., Bastardo, N., & Eklund, R. (2017). Transformational leadership in sport: Current status and future directions. <i>Current Opinion in Psychology</i> , 16, 78-83.	Review
2	Beauchamp, M. R., & Morton, K. L. (2011). Transformational teaching and physical activity engagement among adolescents. <i>Exercise and Sport Sciences Reviews</i> , 39(3), 133-139.	Review
3	Beauchamp, M.R., Barling, J., & Li, Z., Morton, K.L., Keith, S.E., & Zumbo, B.D. (2010). Development and Psychometric Properties of the Transformational Teaching Questionnaire. <i>Journal of Health Psychology</i> , 15(8), 1123-1134.	Validating new instrument
4	Chen, C. C. (2010). Leadership and teamwork paradigms: Two models for baseball coaches. <i>Social Behaviour and Personality: An International Journal</i> , 38(10), 1367-1376.	Discussion
5	Crozier, A.J., Loughhead, T.M., & Munroe-Chandler, K.J. (2013). Examining the Benefits of Athlete Leaders in Sport. <i>Journal of Sport Behaviour</i> , 13(36), 346-364.	Discussion
6	Din, C., & Paskevich, D. (2013). An integrated research model of Olympic podium performance. <i>International Journal of Sports Science &amp; Coaching</i> , 8(2), 431-444.	Review
7	Garner, P., Turnnidge, J., Roberts, W., & Côté, J. (2020). How coach educators deliver formal coach education: a full range leadership perspective. <i>International Sport Coaching Journal</i> , 8(1), 23-33.	Teachers
8	Høigaard, R., Jones, G.W., & Peters, D.M. (2008). Preferred Coach Leadership Behaviour in Elite Soccer in Relation to Success and Failure. <i>International Journal of Sports Science &amp; Coaching</i> , 3(2), 241-250.	Scenario data used
9	Kao, S. F., Lien, Y. H., Cheng, Y. H., & Cheng, B. S. (2020). Literature review of transformational leadership and paternalistic leadership in sport: Current status and future directions. <i>Chinese Journal of Psychology</i> , 62(2), 267-298.	Review
10	Laurent, T.G., & Bradney, D.A. (2007). Leadership Behaviours of Athletic Training Leaders Compared with Leaders in Other Fields. <i>Journal of Athletic Training</i> , 42(1), 120-125.	Programme Directors
11	Moen, F., Hoigaard, R., & Peters, D.M. (2014). Performance Progress and Leadership Behaviour. <i>International Journal of Coaching Science</i> , 8(1), 67-79.	Not TFL
12	Navin, A., Vinson, D., Croad, A., Turnnidge, J., & Côté, J. (2020). The Birth of the Stars: A Participatory and Appreciative Action and Reflection Investigation into the Leadership and Development of a New Superleague Netball Club. <i>The Sport Psychologist</i> , 34(3), 220-231.	Operational Managers
13	Su, P. (2018). Adopting the Transformational Leadership Questionnaire (TLQ) towards the Chinese Professional Basketball Coach. <i>International Journal of Human Movement Science</i> , 12(2), 43-52.	Validating new instrument
14	Smith, V., & Moore, E. W. G. (2019). Strategies to Increase Athletes' Transformational Leadership Behaviours During Strength and Conditioning Sessions. <i>Strength &amp; Conditioning Journal</i> , 41(2), 31-37.	Discussion
15	Sullivan, P., Paquette, K.J., Holt, N.L., & Bloom, G.A. (2012). The Relation of Coaching Context and Coach Education to Coaching Efficacy and Perceived Leadership Behaviours in Youth Sport. <i>The Sport Psychologist</i> , 26, 122-134.	Not TFL
16	Turnnidge, J., & Côté, J. (2017). Transformational coaching workshop: Applying a person-centred approach to coach development programs. <i>International Sport Coaching Journal</i> , 4(3), 314-325.	Discussion
17	Turnnidge, J., & Côté, J. (2018). Applying transformational leadership theory to coaching research in youth sport: A systematic literature review. <i>International Journal of Sport and Exercise Psychology</i> , 16(3), 327-342.	Review
18	Vella, S. A., & Perlman, D. J. (2014). Mastery, autonomy, and transformational approaches to coaching: Common features and applications. <i>International Sport Coaching Journal</i> , 1(3), 173-179.	Review
19	Vella, S. A., Oades, L. G., & Crowe, T. P. (2010). The application of coach leadership models to coaching practice: Current state and future directions. <i>International Journal of Sports Science &amp; Coaching</i> , 5(3), 425-434.	Review
20	Vella, S.A., Oades, L.G., & Crowe, T.P. (2012). Validation of the differentiated transformational leadership inventory as a measure of coach leadership in youth soccer. <i>Sport Psychologist</i> , 26(2), 207-223.	Validating new instrument
21	Wilson, A. J., Liu, Y., Keith, S. E., Wilson, A. H., Kermer, L. E., Zumbo, B. D., & Beauchamp, M. R. (2012). Transformational teaching and child psychological needs satisfaction, motivation, and engagement in elementary school physical education. <i>Sport, Exercise, and Performance Psychology</i> , 1, 215-230.	Teachers

## **APPENDIX H: Study 2 – Pilot interview schedule**

N.B. highlights indicate the amendments action across the pilot interview schedule

### **PhD STUDY TWO: PILOT INTERVIEW SCHEDULE**

#### ***‘An exploration of what makes an excellent tennis coach: coaching attitudes, behaviours and characteristics in British Tennis’***

Good morning/afternoon my name is Claire Bruce. I would just like to thank you in advance for taking time to participate in this research. The aim of this interview is to investigate your perceptions of what makes an excellent tennis coach, focusing specifically on: ~~your~~ coaching attitudes, behaviours, and characteristics in British Tennis. The interview will draw upon existing coach education programmes and specifically training delivered on leadership skills/behaviours alongside current perceptions of these. In addition, the interview will also explore the specific coaching outputs that are currently in focus within British Tennis at an organisation level and evaluate how widely these are known and linked to excellence in tennis coaching practice across the British Tennis coaching workforce. The interview will draw upon the current British Tennis Strategy 2015-18 to support the accuracy and context of discussions.

The interview should last no longer than 90 minutes (although under some circumstances it may take a little longer) and you are free to stop the interview at any point. Furthermore, you are free to withdraw from the study should you wish to do so at any point.

The interview will comprise of four sections of discussion: Tennis Career Overview, Excellence in Tennis Coaching, Coach Education in Tennis, and Coaching Organisation Outputs.

Do you have any questions that you may wish to ask at this point?

Are you happy to continue?

Could you now sign the consent forms before we commence the interview, please?

#### **Section One: Tennis Career Overview**

First of all, I am going to ask you about your career within tennis to date. If you do not understand any of the questions posed, please just ask me to repeat the question or clarify my question further:

1. Can you tell me a little bit about yourself/career to date in tennis and your current role?  
Prompts:
  - a. Number of years working in tennis.
  - b. Job title, responsibilities, location of role?
  - c. Why coaching? What level coach are you now?
  - d. Why tennis? Have you coached any other sports?

Would you like to expand on anything that we have discussed so far?

Are there any questions that you would like to ask me?

#### **Section Two: Excellence in Tennis Coaching:**

Now we will move onto questions regarding Excellence in Tennis Coaching. As before if you do not understand any of the questions posed, please just ask me to repeat the question or clarify my question further, or if you do not have any knowledge/experience of the area I am asking about we can move onto the next question:

2. Could you now just think of the best tennis coach you have had, watched and or worked with and tell me about them?

Prompts:

- a. Could you explain that a little more for me
  - b. Can you describe that further for me
  - c. Do you have any specific examples of that
3. So, you have discussed your best tennis coach just then and the reasons why you felt they were 'the best' tennis coach if you were to compare that to the best 'imaginary' coach you could put together what would the differences be?

Prompts:

- a. So, discuss what would make that tennis coach 'excellent':
  - i. What would they do?
  - ii. What would they say?
  - iii. What would they behave like?
  - iv. What attitude would they portray?
  - v. What characteristics would they have?
- b. Could you explain that a little more for me
- c. Can you describe that further for me
- d. Do you have any specific examples of that

- ~~4. If we could now then spend a little time putting together a profile of an excellent tennis coach by working through some specific areas, for example~~

- ~~a. So, discuss what would make that tennis coach 'excellent':~~
  - ~~i. What would they do?~~
  - ~~ii. What would they say?~~
  - ~~iii. What would they behave like?~~
  - ~~iv. What attitude would they portray?~~
  - ~~v. What characteristics would they have?~~

~~Prompts:~~

- ~~b. Could you explain that a little more for me~~
- ~~c. Can you describe that further for me~~
- ~~d. Do you have any specific examples of that~~

5. Could you now discuss any examples you can recall of current excellent tennis coaching practice within British Tennis?

So, what I mean by this is....

- a. Explain why you feel that practice is excellent
- b. Discuss why specifically do you think that excellent practice happens?
- c. Has that practice been adopted anywhere else in tennis?

Prompts:

- d. Could you explain that a little more for me
- e. Can you describe that further for me
- f. Do you have any specific examples of that

6. What do you feel are the impacts of excellent tennis coaching on British Tennis as a sport?

So, what I mean by this is....

- a. What impact does excellent coaching have on participants, spectators, investors, other sports, and the media?
- ~~b. What outcomes do coaches want from athletes as a result of their coaching? Which of these athlete outcomes are important? (Provide a ranking 1 very important to 5 not very important)~~
- ~~Explain if you feel there are any links between excellent tennis coaching and the British Tennis Strategy 2015-18 outputs~~

Prompts:

- c. Could you explain that a little more for me
- d. Can you describe that further for me
- e. Do you have any specific examples of that

Would you like to expand on anything that we have discussed so far?  
Are there any questions that you would like to ask me?

**Section Three: Coach Education in Tennis:**

Now we will move onto questions regarding current Coach Education in Tennis. As before if you do not understand any of the questions posed, please just ask me to repeat the question or clarify my question further, or if you do not have any knowledge/experience of the area I am asking about we can move onto the next question:

7. What is your understanding of the differences between the Club and Performance Tennis Coach Education pathways?

Prompts:

- a. Could you explain that a little more for me
- b. Can you describe that further for me
- c. Do you have any specific examples of that

8. With regards now specifically to these two developmental pathways, from a tennis athletes/participants perspective:

So, what I mean by this is....

- a. What characteristics do you think a performance tennis athlete needs to display?
- b. What is the difference in characteristics at the club developmental level?

Prompts:

- a. Could you explain that a little more for me
- b. Can you describe that further for me
- c. Do you have any specific examples of that

9. Could you tell me what your understanding is of the term leadership within the context of tennis coaching?

So, what I mean by this is....

- a. Explain how leadership links into the role of a tennis coach and how this differs across coaching levels (1, 2, 3, 4, 5)
- b. Discuss if you think leadership behaviours are/need to be different for Club/Performance coaches
- c. Can you give me an example of any recent workshops you attended (including titles, topics covered, mode of delivery, level of audience, details of tutors etc.)
- d. Are you able to provide any specific insight into leadership training and the tennis coaching practice outcomes the training was linked to (participant motivation, team cohesion, task performance etc.)
- e. Discuss at what level in the coach education pathway does leadership training take place and how often is this overtly focused on
- f. Explain if this leadership training is the same for both Club/Performance tennis coaches

~~Discuss how good or poor leadership can impact on the practice of a tennis coach/ the experience of the participants/ the achievement of strategy outputs~~

Prompts:

- g. Could you explain that a little more for me
- h. Can you describe that further for me

i. Do you have any specific examples of that

~~10. Could you please outline any coach education specifically related to leadership that British Tennis currently provide the tennis coaching workforce with?~~

~~So, what I mean by this is....~~

- ~~a. Can you give me an example of any recent workshops you attended (including titles, topics covered, mode of delivery, level of audience, details of tutors etc.)~~
- ~~b. Are you able to provide any specific insight into leadership training and the tennis coaching practice outcomes the training was linked to (participant motivation, team cohesion, task performance etc.)~~
- ~~c. Discuss at what level in the coach education pathway does leadership training take place and how often is this overtly focused on~~
- ~~d. Explain if this leadership training is the same for both Club/Performance tennis coaches~~

~~Prompts:~~

- ~~e. For example, you suggested previously....~~
- ~~f. Could you explain that a little more for me~~
- ~~g. Can you describe that further for me~~
- ~~h. Do you have any specific examples of that~~

11. Can you explain what you believe are the most important coach leader behaviour outcomes for British Tennis?

So, what I mean by this is....

- a. What type of coach leader behaviours are displayed/adhered to?
- b. What specific behaviour characteristics do you need to display when coaching your athletes performance/club tennis athletes/participants?
- c. Discuss specific leader behaviours British Tennis feel excellent coaches should exhibit, for example:
  - i. Confidence/self-efficacy of coaches/participants
  - ii. Motivation/engagement of coaches/participants and abilities to build relationships i.e., coach-athlete relationship
  - iii. Fostering of group goals and team cohesion/motivation for both coaches and participants
  - iv. Effect on performance expectations and role modelling both amongst coaches and participant groups

Prompts:

- d. For example, you suggested previously....
- e. Could you explain that a little more for me
- f. Can you describe that further for me
- g. Do you have any specific examples of that

~~12. Can you now rank these coach leader behaviour outcomes for British Tennis you have just discussed in order of importance?~~

~~So, what I mean by this is....~~

- ~~a. If team cohesion is the most important rank that as number 1 and then in descending order to the least important~~
- ~~b. Explain why you are ranking them in this order~~
- ~~c. Discuss if you feel any additional coach leader behaviour outcomes should now also be considered~~

~~Prompts:~~

- ~~d. For example, you suggested previously....~~
- ~~e. Could you explain that a little more for me~~

- ~~f. Can you describe that further for me~~
- ~~g. Do you have any specific examples of that~~

13. Finally, can you explain if you feel tennis coaches are/would be receptive to specific training in leadership?

So, what I mean by this is....

- a. Discuss why they would be receptive and how they would choose to engage with this opportunity
- b. Explain specifically what would need to be included in this leadership training to attract the attention of the tennis coaches
- c. Discuss if you think this training could be the same for both Club/Performance tennis coaches
- d. Discuss if you feel tennis coaches would see the benefit of this upskilling in direct relation to their coaching practice and/or tennis coaching career prospects
- e. Explain if this leadership training would need to demonstrate benefits to both the coach and participants

Prompts:

- f. For example, you suggested previously....
- g. Could you explain that a little more for me
- h. Can you describe that further for me
- i. Do you have any specific examples of that

Would you like to expand on anything that we have discussed so far?

Are there any questions that you would like to ask me?

#### **Section Four: Coaching Organisation Outputs**

Now we will move onto a number of questions regarding the current British Tennis Strategy. As before if you do not understand any of the questions posed, please just ask me to repeat the question or clarify my question further, or if you do not have any knowledge/experience of the area I am asking about we can move onto the next question:

14. Could you tell me what is your understanding of the current British Tennis Strategy 2015-2018 is?

So, what I mean by this is.... (Provide participant with a copy of the British Tennis Strategic Plan 2015-18 diagram)

- a. Explain how the current 'Mission/Purpose' relates to you and the sport of tennis (Get more people playing tennis more often/To enrich lives through tennis)
- b. Describe the three 'Pillars' of the current strategy and how important they are to you and the sport of tennis (deliver great service to clubs, build partnerships in the community, enhance tennis offer in education)
- c. Discuss the 'Drivers' of the strategy and how these currently work in relation to your role and the sport of tennis (relevant to coaches, 'no compromise' high performance programme, result orientated facility investment, refocus on recreational competitions, jump start the peak summer season, apply 'best in class marketing and insight)
- d. Discuss the 'Values' embedded within the strategy and how these currently work in relation to your role and the sport of tennis (teamwork, integrity, passion, excellence)
- e. Discuss the 'Enablers' of the strategy and how these currently work in relation to your role and the sport of tennis (harness full resource network, more efficient and effective LTA, new revenue generation)

Prompts:

- f. Could you explain that a little more for me
- g. Can you describe that further for me
- h. Do you have any specific examples of that

15. How aware do you feel that the Club/Performance Tennis Coaches are of their role in contributing to the delivery of the British Tennis Strategy 2015-18?

So, what I mean by this is....

- a. Explain how the coaches are made aware of the strategy
- b. Discuss if this process of communication to the coaches works
- c. Discuss if the different Levels (1-5) of Tennis Coaches from the Club or Performance pathways are held responsible in different ways?
- d. Explain if you feel that the Club/Performance tennis coaches have enough skills to support the delivery of the British Tennis Strategy 2015-18?

~~Explain if the Club/Performance tennis coaches have enough knowledge of the strategy?~~

Prompts:

- e. For example, you suggested previously....
- f. Could you explain that a little more for me
- g. Can you describe that further for me
- h. Do you have any specific examples of that

~~16. Could you explain if you feel that the Club/Performance tennis coaches have enough skills to support the delivery of the British Tennis Strategy 2015-18?~~

~~So, what I mean by this is....~~

- ~~a. Explain what skills specifically they have to support them with this (technical tennis coaching, interpersonal/communication, business (marketing, finance, and project/event management), management/leadership, networking, bidding/funding etc.)~~
- ~~b. Discuss a little about the training you received to support the delivery of your coaching practice/sessions to meet the required strategy outputs~~
- ~~c. Discuss further thoughts/ideas you have on any additional support the coaches would benefit from~~

~~Prompts:~~

- ~~d. For example, you suggested previously....~~
- ~~e. Could you explain that a little more for me~~
- ~~f. Can you describe that further for me~~
- ~~g. Do you have any specific examples of that~~

17. Can you describe then any challenges British Tennis encounter when trying to link tennis coach's practice to the British Tennis Strategy 2015-18 outputs?

So, what I mean by this is....

- a. Explain challenges relating to the geographical spread of tennis participation and tennis coaches
- b. Discuss potential resource limitations both nationally and regionally
- c. Discuss challenges relating to the varied employment status and context of tennis coaches (private/local authority club/facilities, self-employed, part/full-time)
- d. Explain challenges relating to the coach accreditation scheme and the varied levels of tennis coaches (Levels 1, 2, 3, 4, 5)

Prompts:

- e. For example, you suggested previously....
- f. Could you explain that a little more for me

- g. Can you describe that further for me
- h. Do you have any specific examples of that

18. From the leadership skills/behaviours you have identified earlier can you explain which ones you feel are the most important in relation to delivery of the British Tennis Strategy 2015-18?

So, what I mean by this is....

- a. Consider the coaching leadership behaviours:
  - i. Confidence of coaches/participants
  - ii. Motivation/engagement of coaches/participants and abilities to build relationships
  - iii. Fostering of group goals and team cohesion for both coaches and participants
  - iv. Effect on performance expectations and role modelling both amongst coaches and participant groups
- b. Then discuss which strategy outputs specifically do they link to:
  - i. 'Mission/Purpose' (Get more people playing tennis more often/To enrich lives through tennis)
  - ii. 'Pillars' (deliver great service to clubs, build partnerships in the community, enhance tennis offer in education)
  - iii. 'Drivers' (relevant to coaches, 'no compromise' high performance programme, result orientated facility investment, refocus on recreational competitions, jump start the peak summer season, apply 'best in class marketing and insight)
  - iv. 'Values' (teamwork, integrity, passion, excellence)
  - v. 'Enablers' (harness full resource network, more efficient and effective LTA, new revenue generation)

Prompts:

- c. Could you explain that a little more for me
- d. Can you describe that further for me
- e. Do you have any specific examples of that

Would you like to expand on anything that we have discussed so far?  
Are there any questions that you would like to ask me?

**Final Summary:**

19. Is there anything else from across the questions we have discussed you would like to add/provide further comment on at this point before we conclude this interview?

**Thank you for participating and giving your time to support this process. The participant debrief form provides you with further details of this study and the availability of the results from this data collection process.**

## **APPENDIX I: Study 2 – Main interview schedule**

### **PhD STUDY TWO: MAIN INTERVIEW SCHEDULE**

**PARTICIPANT NUMBER: PXXX**

#### ***‘An exploration of what makes an excellent tennis coach: coaching attitudes, behaviours and characteristics in British Tennis’***

Good morning/afternoon my name is Claire Bruce. I would just like to thank you in advance for taking time to participate in this research. The aim of this interview is to investigate your perceptions of what makes an excellent tennis coach, focusing specifically on: coaching attitudes, behaviours, and characteristics in British Tennis. The interview will draw upon existing coach education programmes and specifically training delivered on leadership skills/behaviours alongside current perceptions of these. In addition, the interview will also explore the specific coaching outputs that are currently in focus within British Tennis at an organisation level and evaluate how widely these are known and linked to excellence in tennis coaching practice across the British Tennis coaching workforce. The interview will draw upon the current British Tennis Strategy 2015-18 to support the accuracy and context of discussions.

The interview should last no longer than 90 minutes (although under some circumstances it may take a little longer) and you are free to stop the interview at any point. Furthermore, you are free to withdraw from the study should you wish to do so at any point.

The interview will comprise of four sections of discussion: Tennis Career Overview, Excellence in Tennis Coaching, Coach Education in Tennis, and Coaching Organisation Outputs.

Do you have any questions that you may wish to ask at this point?

Are you happy to continue?

Could you now sign the consent forms before we commence the interview, please?

#### **Section One: Tennis Career Overview**

First of all, I am going to ask you about your career within tennis to date. If you do not understand any of the questions posed, please just ask me to repeat the question or clarify my question further:

1. Can you tell me a little bit about yourself/career to date in tennis and your current role?  
Prompts:
  - a. Number of years working in tennis.
  - b. Job title, responsibilities, location of role?
  - c. Why coaching? What level coach are you now?
  - d. Why tennis? Have you coached any other sports?

Would you like to expand on anything that we have discussed so far?

Are there any questions that you would like to ask me?

#### **Section Two: Excellence in Tennis Coaching:**

Now we will move onto questions regarding Excellence in Tennis Coaching. As before if you do not understand any of the questions posed, please just ask me to repeat the question or clarify my question further, or if you do not have any knowledge/experience of the area I am asking about we can move onto the next question:

2. Could you now just think of the best tennis coach you have had, watched and or worked with and tell me about them?

Prompts:

- a. Could you explain that a little more for me
  - b. Can you describe that further for me
  - c. Do you have any specific examples of that
3. So, you have discussed your best tennis coach just then and the reasons why you felt they were 'the best' tennis coach if you were to compare that to the best 'imaginary' coach you could put together what would the differences be?
- Prompts:
- a. So, discuss what would make that tennis coach 'excellent':
    - i. What would they do?
    - ii. What would they say?
    - iii. What would they behave like?
    - iv. What attitude would they portray?
    - v. What characteristics would they have?
  - b. Could you explain that a little more for me
  - c. Can you describe that further for me
  - d. Do you have any specific examples of that
4. Could you now discuss any examples you can recall of current excellent tennis coaching practice within British Tennis?
- So, what I mean by this is....
- a. Explain why you feel that practice is excellent
  - b. Discuss why specifically do you think that excellent practice happens?
  - c. Has that practice been adopted anywhere else in tennis?
- Prompts:
- d. Could you explain that a little more for me
  - e. Can you describe that further for me
  - f. Do you have any specific examples of that
5. What do you feel are the impacts of excellent tennis coaching on British Tennis as a sport?
- So, what I mean by this is....
- a. What impact does excellent coaching have on participants, spectators, investors, other sports, and the media?
- Prompts:
- b. Could you explain that a little more for me
  - c. Can you describe that further for me
  - d. Do you have any specific examples of that

Would you like to expand on anything that we have discussed so far?

Are there any questions that you would like to ask me?

**Section Three: Coach Education in Tennis:**

Now we will move onto questions regarding current Coach Education in Tennis. As before if you do not understand any of the questions posed, please just ask me to repeat the question or clarify my question further, or if you do not have any knowledge/experience of the area I am asking about we can move onto the next question:

6. What is your understanding of the differences between the Club and Performance Tennis Coach Education pathways?
- Prompts:
- a. Could you explain that a little more for me
  - b. Can you describe that further for me

- c. Do you have any specific examples of that
7. With regards now specifically to these two developmental pathways, from a tennis athletes/participants perspective:  
So, what I mean by this is....
- a. What characteristics do you think a performance tennis athlete needs to display?
  - b. What is the difference in characteristics at the club developmental level?
- Prompts:
- c. Could you explain that a little more for me
  - d. Can you describe that further for me
  - e. Do you have any specific examples of that
8. Could you tell me what your understanding is of the term leadership within the context of tennis coaching?  
So, what I mean by this is....
- a. Explain how leadership links into the role of a tennis coach and how this differs across coaching levels (1, 2, 3, 4, 5)
  - b. Discuss if you think leadership behaviours are/need to be different for Club/Performance coaches
  - c. Can you give me an example of any recent workshops you attended (including titles, topics covered, mode of delivery, level of audience, details of tutors etc.)
  - d. Are you able to provide any specific insight into leadership training and the tennis coaching practice outcomes the training was linked to (participant motivation, team cohesion, task performance etc.)
  - e. Discuss at what level in the coach education pathway does leadership training take place and how often is this overtly focused on
  - f. Explain if this leadership training is the same for both Club/Performance tennis coaches
- Prompts:
- g. Could you explain that a little more for me
  - h. Can you describe that further for me
  - i. Do you have any specific examples of that
9. Can you explain what you believe are the most important coach leader behaviour outcomes for British Tennis?  
So, what I mean by this is....
- a. What type of coach leader behaviours are displayed/adhered to?
  - b. What specific behaviour characteristics do you need to display when coaching your athletes performance/club tennis athletes/participants?
  - c. Discuss specific leader behaviours British Tennis feel excellent coaches should exhibit, for example:
    - i. Confidence/self-efficacy of coaches/participants
    - ii. Motivation/engagement of coaches/participants and abilities to build relationships i.e., coach-athlete relationship
    - iii. Fostering of group goals and team cohesion/motivation for both coaches and participants
    - iv. Effect on performance expectations and role modelling both amongst coaches and participant groups
- Prompts:
- d. For example, you suggested previously....

- e. Could you explain that a little more for me
- f. Can you describe that further for me
- g. Do you have any specific examples of that

10. Finally, can you explain if you feel tennis coaches are/would be receptive to specific training in leadership?

So, what I mean by this is....

- a. Discuss why they would be receptive and how they would choose to engage with this opportunity
- b. Explain specifically what would need to be included in this leadership training to attract the attention of the tennis coaches
- c. Discuss if you think this training could be the same for both Club/Performance tennis coaches
- d. Discuss if you feel tennis coaches would see the benefit of this upskilling in direct relation to their coaching practice and/or tennis coaching career prospects
- e. Explain if this leadership training would need to demonstrate benefits to both the coach and participants

Prompts:

- f. For example, you suggested previously....
- g. Could you explain that a little more for me
- h. Can you describe that further for me
- i. Do you have any specific examples of that

Would you like to expand on anything that we have discussed so far?  
Are there any questions that you would like to ask me?

#### **Section Four: Coaching Organisation Outputs**

Now we will move onto a number of questions regarding the current British Tennis Strategy. As before if you do not understand any of the questions posed, please just ask me to repeat the question or clarify my question further, or if you do not have any knowledge/experience of the area I am asking about we can move onto the next question:

11. Could you tell me what is your understanding of the current British Tennis Strategy 2015-2018 is?

So, what I mean by this is.... (Provide participant with a copy of the British Tennis Strategic Plan 2015-18 diagrams)

- a. Explain how the current 'Mission/Purpose' relates to you and the sport of tennis (Get more people playing tennis more often/To enrich lives through tennis)
- b. Describe the three 'Pillars' of the current strategy and how important they are to you and the sport of tennis (deliver great service to clubs, build partnerships in the community, enhance tennis offer in education)
- c. Discuss the 'Drivers' of the strategy and how these currently work in relation to your role and the sport of tennis (relevant to coaches, 'no compromise' high performance programme, result orientated facility investment, refocus on recreational competitions, jump start the peak summer season, apply 'best in class marketing and insight)
- d. Discuss the 'Values' embedded within the strategy and how these currently work in relation to your role and the sport of tennis (teamwork, integrity, passion, excellence)

- e. Discuss the 'Enablers' of the strategy and how these currently work in relation to your role and the sport of tennis (harness full resource network, more efficient and effective LTA, new revenue generation)

Prompts:

- f. Could you explain that a little more for me
- g. Can you describe that further for me
- h. Do you have any specific examples of that

12. How aware do you feel that the Club/Performance Tennis Coaches are of their role in contributing to the delivery of the British Tennis Strategy 2015-18?

So, what I mean by this is....

- a. Explain how the coaches are made aware of the strategy
- b. Discuss if this process of communication to the coaches works
- c. Discuss if the different Levels (1-5) of Tennis Coaches from the Club or Performance pathways are held responsible in different ways?
- d. Explain if you feel that the Club/Performance tennis coaches have enough skills to support the delivery of the British Tennis Strategy 2015-18?

Prompts:

- e. For example, you suggested previously....
- f. Could you explain that a little more for me
- g. Can you describe that further for me
- h. Do you have any specific examples of that

13. Can you describe then any challenges British Tennis encounter when trying to link tennis coach's practice to the British Tennis Strategy 2015-18 outputs?

So, what I mean by this is....

- a. Explain challenges relating to the geographical spread of tennis participation and tennis coaches
- b. Discuss potential resource limitations both nationally and regionally
- c. Discuss challenges relating to the varied employment status and context of tennis coaches (private/local authority club/facilities, self-employed, part/full-time)
- d. Explain challenges relating to the coach accreditation scheme and the varied levels of tennis coaches (Levels 1, 2, 3, 4, 5)

Prompts:

- e. For example, you suggested previously....
- f. Could you explain that a little more for me
- g. Can you describe that further for me
- h. Do you have any specific examples of that

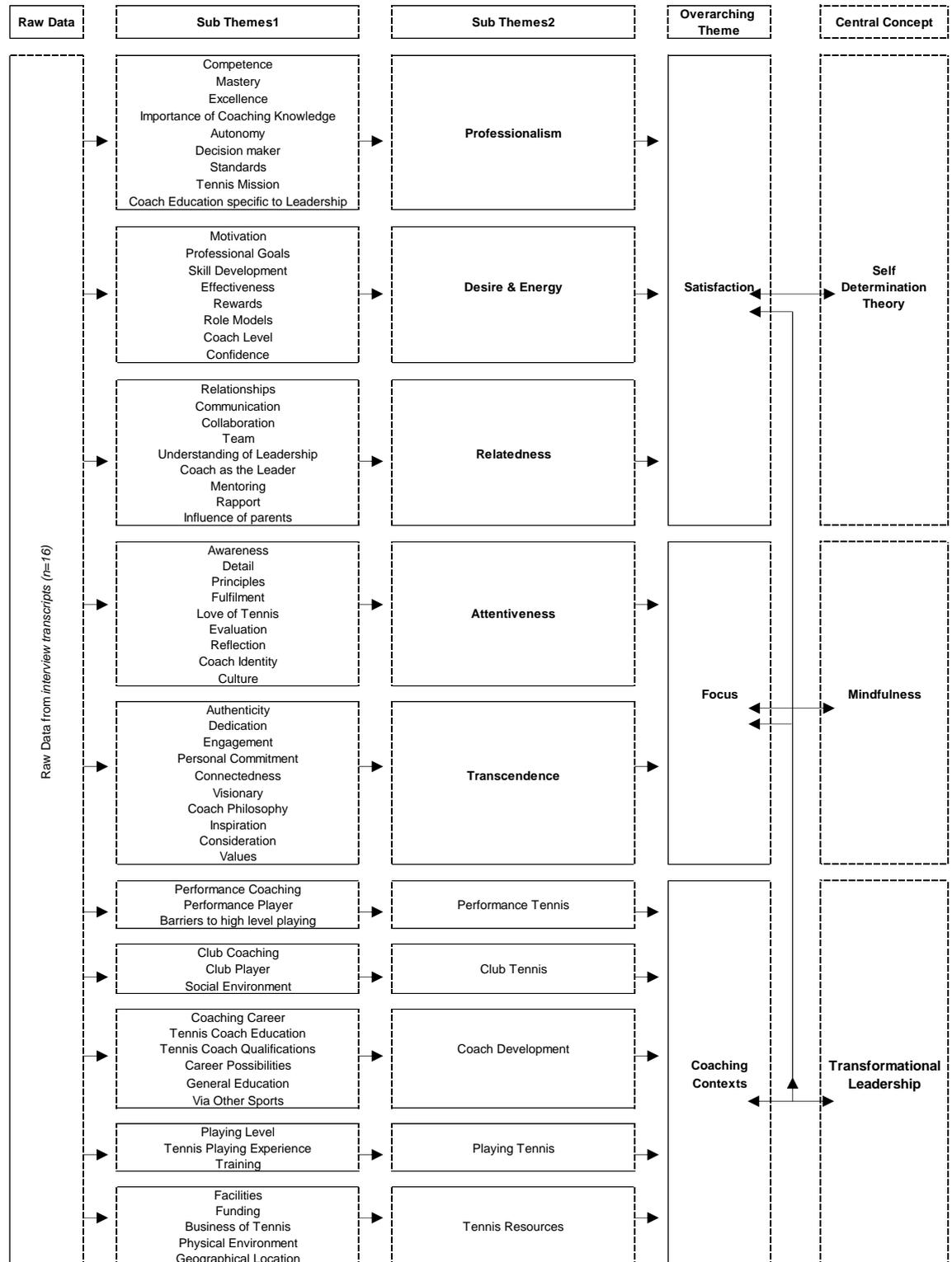
Would you like to expand on anything that we have discussed so far?  
Are there any questions that you would like to ask me?

**Final Summary:**

14. Is there anything else from across the questions we have discussed you would like to add/provide further comment on at this point before we conclude this interview?

**Thank you for participating and giving your time to support this process. The participant debrief form provides you with further details of this study and the availability of the results from this data collection process.**

## APPENDIX J: Study 2 - Reflexive thematic analysis map of hierarchical themes



## APPENDIX K: Study 3 – Participant information and measurement tools

### Examining possible relationships between perceptions of tennis coach transformational leadership behaviours with tennis player basic need satisfaction and mindfulness.

Before you decide if you want to continue and participate, it is important for over 18 years of age, are either male or female, and actively play tennis (at least once a week for at least six months). Additionally, you play tennis in the you to read this information so you understand why the study is being carried out and what it will involve:

- The aim of the study is to investigate leadership behaviours associated with tennis coach's practice and the impact tennis player's perceptions of these have on your own basic needs as a player and your mindfulness attributes.
- You have been invited to take part because you are U.K. and also currently work with a qualified British Tennis Coach (either Level 1, 2, 3, 4 or 5) either individually or in a group setting.
- You are under no obligation to take part in the study and you are free to withdraw at any point.
- It is estimated that the total time to complete this study will be no more than 10 minutes.

1. I have carefully read and understood the information above and I understand that I am free to withdraw from the study at any time without giving a reason: (please circle an option below)

YES

NO

2. I agree to take part in this study: (please circle an option below)

YES

NO

Player Participant ID:	Date:  / /20
Name of Tennis Venue:	Signature:

Further Information:

This study has been funded by Northumbria University and its protocol has received full ethical approval from the Department of Sport, Exercise and Rehabilitation ethics system. If you require confirmation of this please contact the chair of ethics using the details below and stating the full title and principal investigator of the study:

Dr Mick Wilkinson, Department of Sport, Exercise and Rehabilitation, Northumbria University, Northumberland Road, Newcastle-upon-Tyne, NE1 8ST, 0191 243 7097, [mick.wilkinson@northumbria.ac.uk](mailto:mick.wilkinson@northumbria.ac.uk).

Contact for further information: Principal Researcher email: [c.bruce@northumbria.ac.uk](mailto:c.bruce@northumbria.ac.uk), Supervisor email: [nick.caplan@northumbria.ac.uk](mailto:nick.caplan@northumbria.ac.uk), Name of another person who can provide independent information or advice about the project: [calum.arthur@stir.ac.uk](mailto:calum.arthur@stir.ac.uk)

**Instructions for completion:**

This questionnaire contains questions pertaining to you as a tennis player and the tennis coach you work with/or have worked with. Please respond to the questions as honestly as possible and relevant to how you personally feel. There are no right or wrong answers, your responses are anonymous and completely confidential.

**SECTION 1 - Please complete the information below:**

1. Your Age in Years:	2. Your Gender: M	F
3. How long have you been playing tennis?	YRS	MTHS
5. How long have you been with your current tennis coach?	YRS	MTHS
6. On average, how many hours per week do you spend playing tennis?		
7. On average, how many hours per week do you spend with your tennis coach?		
8. What is your tennis performance level?		
Participation	University	Club
	County/Regional	National
		International
Other: _____ (specify)		
9. Your coach's gender: M _____ F _____		

**SECTION 2 - Note:**

Please answer the following questions in relation to your tennis coach. Please answer all the questions indicating how often the coach does these things. Your responses to the questions will be kept confidential, only the research team will have access to this information. Indicate your level of agreement with each statement from Not at All (1) to All of the time (5).

**Please judge how frequently each statement fits your coach's normal behaviour:**

1. Tries to help us to work out how to solve problems.

Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
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2. Treats each player/team member as an individual.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
3. Talks optimistically about the future.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
4. Helps players/team members to develop their strengths.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
5. Talks in a way that makes me believe I can succeed.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
6. Gives me special recognition when I do very good work.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
7. Talks enthusiastically about what needs to be accomplished.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
8. Gives us praise when we do good work.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
9. Gets me to re-think the way I do things.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
10. Praises players when they show improvement.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
11. Shows players how to look at difficulties from a new angle.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
12. Considers that I have different strengths and abilities from others.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
13. Encourages players to be team players.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
14. Expects a lot from us.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5

15. Develops a strong team attitude and spirit among players/team members.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
16. Recognises that different players have different needs.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
17. Leads by example.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
18. Expects us to achieve high standards.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
19. Expresses confidence that goals will be achieved.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
20. Provides training that helps me to improve my performance.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
21. Leads from the front whenever he/she can.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
22. Challenges me to think about problems in new ways.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
23. Will not settle for second best.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
24. Gets the players/team to work together for the same goal.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
25. Leads by "doing" rather than simply "telling".				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
26. Is a good role model for me to follow.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
27. Always recognizes our achievements.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5

28. Coaches players/team members to help them improve their performance.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
29. Always expects us to do our best.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
30. Cares about my needs.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
31. Understands that I have different needs than others.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
32. Talks optimistically about players/team prospects.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
33. Express confidence in me.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
34. Inspires me to do the best I can.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5
35. Expresses to me that I make a valuable contribution to the team/club.				
Not at all 1	Once in a while 2	Sometimes 3	Fairly Often 4	All of the time 5

**SECTION 3 - Note:**

Whilst considering yourself as a tennis player please answer the questions according to your feelings and experiences when participating in tennis. Indicate your level of agreement with each statement from Not true at All (1) to Very true (7).

**Indicate your level of agreement:**

1. In my sport, I feel close to other people.

Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
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2. In my sport, I feel I am pursuing goals that are my own.

Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
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3. I feel I participate in my sport willingly.

Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>4. In my sport, I get opportunities to make choices.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>5. In my sport, I feel that I am being forced to do things that I don't want to do.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>6. I can overcome challenges in my sport.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>7. I show concern for others in my sport.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>8. I choose to participate in my sport according to my own free will.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>9. In my sport, I have a say in how things are done.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>10. There are people in my sport who care about me.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>11. I am skilled at my sport.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>12. I feel I am good at my sport.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>13. In my sport, I can take part in the decision-making process.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>14. I get opportunities to feel that I am good at my sport.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>15. In my sport, I really have a sense of wanting to be there.</b>						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
<b>16. In my sport, I feel I am doing what I want to be doing.</b>						

Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
17. I have the ability to perform well in my sport.						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
18. In my sport, there are people who I can trust.						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
19. I have close relationships with people in my sport.						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7
20. In my sport, I get opportunities to make decisions.						
Not true at all 1	Very slightly true 2	Slightly true 3	Somewhat true 4	Mostly true 5	True 6	Very true 7

**SECTION 4 - Note:**

Below is a collection of statements about your everyday experience. Using the scale below Almost Always (1) to Almost Never (6), please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

**Indicate your level of agreement:**

1. I could be experiencing some emotion and not be conscious of it until some-time later.

Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
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2. I break or spill things because of carelessness, not paying attention, or thinking of something else.

Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
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3. I find it difficult to stay focused on what's happening in the present.

Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
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4. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.

Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
--------------------	----------------------	--------------------------	----------------------------	------------------------	-------------------

5. I tend not to notice feelings of physical tension or discomfort until they really

grab my attention.					
Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
6. I forget a person's name almost as soon as I've been told it for the first time.					
Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
7. It seems I am "running on automatic," without much awareness of what I'm doing.					
Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
8. I rush through activities without being really attentive to them.					
Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
9. I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.					
Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
10. I do jobs or tasks automatically, without being aware of what I'm doing.					
Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
11. I find myself listening to someone with one ear, doing something else at the same time.					
Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
12. I drive places on 'automatic pilot' and then wonder why I went there					
Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
13. I find myself preoccupied with the future or the past.					
Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
14. I find myself doing things without paying attention					
Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6
15. I snack without being aware that I'm eating					
Almost Always 1	Very Frequently 2	Somewhat Frequently 3	Somewhat Infrequently 4	Very Infrequently 5	Almost Never 6

**Thank you for participating in this survey, your input and expertise is important.**

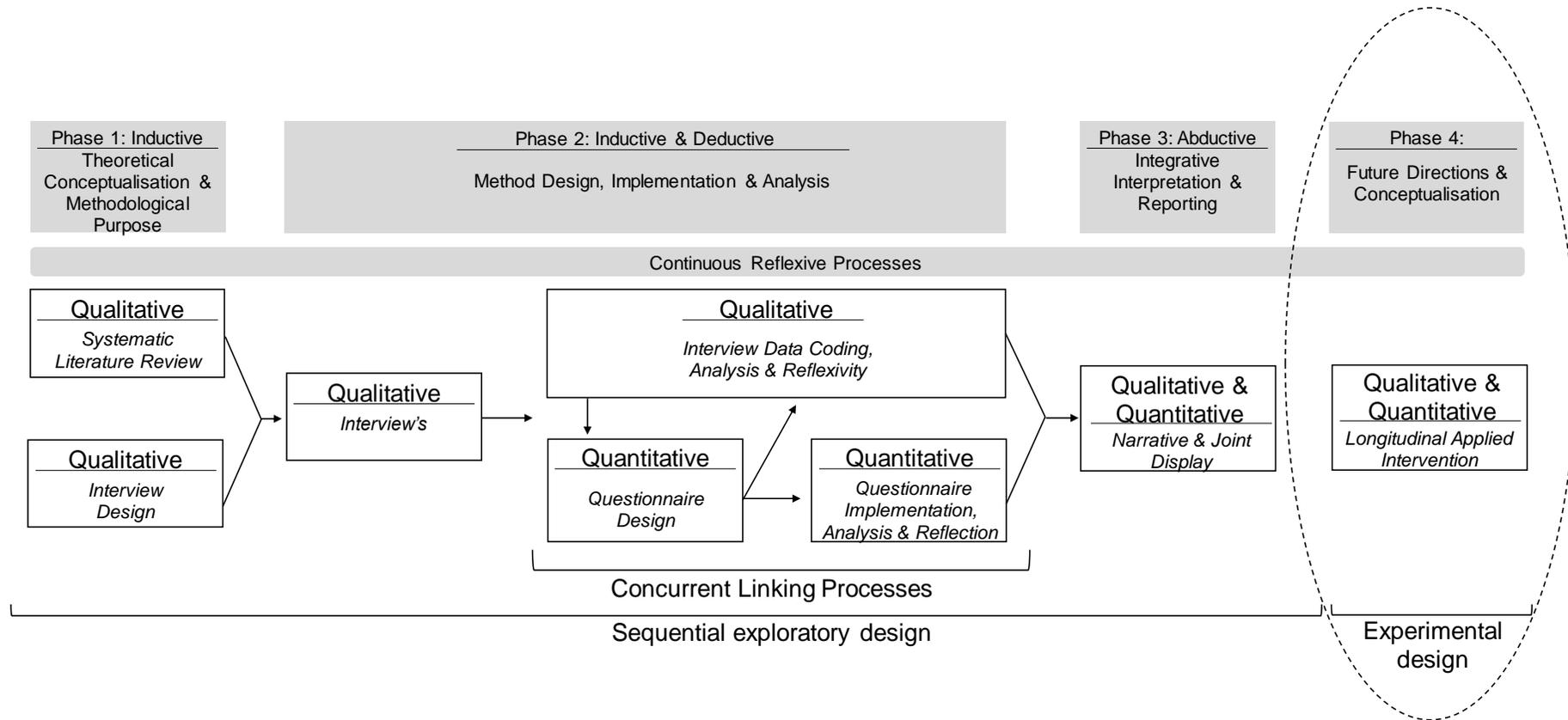
- We hope that the findings from this study will help establish a high-quality evidence base to further support the development of excellence across tennis coach's practice, with a view to continuing to impact positively on tennis player performance and experience of the coaching they receive.
- If, for any reason, you wish to withdraw your data please contact the investigator within a month of your participation stating your participant code (or if you have lost this, your tennis club and date the questionnaire was completed).
- If you wish to receive feedback about the findings of this research study then please contact the researcher at [c.bruce@northumbria.ac.uk](mailto:c.bruce@northumbria.ac.uk)

**Further Information:**

This study and its protocol have received full ethical approval from Faculty of Health and Life Sciences Research Ethics Committee. If you require confirmation of this, or if you have any concerns or worries about this research, or if you wish to register a complaint, please contact the Chair of this Committee (Dr Nick Neave: [nick.neave@northumbria.ac.uk](mailto:nick.neave@northumbria.ac.uk)), stating the title of the research project and the name of the researcher.

All information and data gathered during this research will be stored in line with the Data Protection Act and will be destroyed 60 months following the conclusion of the study. If the research is published in a scientific journal, it may be kept for longer before being destroyed. During that time the data may be used by members of the research team only for purposes appropriate to the research question. Insurance companies and employers will not be given any individual's personal information, nor any data provided by them, and nor will we allow access to the police, security services, social services, relatives or lawyers, unless forced to do so by the courts. All data will be anonymous (i.e. your personal information or data will not be identifiable).

## APPENDIX L: Future direction of the current thesis multistage exploratory sequential mixed methods design



Source: Adapted from Turner et al., (2017); Creswell, (2014)

## 8.0 GLOSSARY

A-COMB	-	Autonomy Combined
A-IPLOC	-	Autonomy Internal Perceived Locus of Causality
A-PC	-	Autonomy Perceived Choice
A-V	-	Autonomy Volition
BC	-	Before Christ
BNSSS	-	Basic Needs Satisfaction in Sport Scale
BPS-DSEP	-	British Psychological Society - Sport Exercise Psychology Conference
CALS	-	Canadian Association for Leisure Studies
CBAS	-	Coaching Behaviour Assessment System
CEU	-	Council of the European Union and the Representatives of Governments of Member States
CI	-	Confidence Interval
CIMSPA	-	Chartered Institute for the Management of Sport and Physical Activity
CLAS	-	Coach Leadership Assessment System
COMP	-	Competence
CPL	-	Continued Professional Learning
CR	-	Contingent Reward
CTF	-	Coaching Task Force
DCMS	-	Department of Culture, Media, and Sport
DE	-	Direct Effect
DNA	-	Deoxyribonucleic Acid
DTLI	-	Differentiated Transformational Leadership Inventory
DTLI-YS	-	Differentiated Transformational Leadership Inventory for Youth Sport
ECC	-	European Coaching Council
ESA	-	European Space Agency
FC	-	Football Club
FGG	-	Fostering Acceptance of Group Goals
FIFA	-	Federation Internationale de Football Association
FMI	-	Freiburg Mindfulness Inventory
FRLM	-	Full-Range Leadership Model
FRLT	-	Full-Range Leadership Theory
GTLS	-	Global Transformational Leadership Scale

HPE	-	High Performance Expectations
IC	-	Individual Consideration
ICCE	-	International Council for Coaching Excellence
ICM	-	International Conference on Mindfulness
IE	-	Indirect Effect
IF	-	Idealised Influence
IJSSC	-	International Journal of Sports Science & Coaching
IM	-	Inspirational Motivation
IOC	-	International Olympic Committee
IPLOC	-	Internal Perceived Locus of Causality
IS	-	Intellectual Stimulation
JASP	-	Journal of Applied Psychology
LBDQ	-	Leader Behaviour Description Questionnaire
LMX	-	Leader Member Exchange Theory
LPC	-	Least Preferred Co-worker Questionnaire
LSS	-	Leadership Scale for Sport
LTA	-	Lawn Tennis Association
M	-	Mean
MAAS	-	Mindfulness Attention Awareness Scale
MAC	-	Mindfulness Acceptance Commitment
MGM	-	Managerial Grid Model
MLQ	-	Multifactor Leadership Questionnaire
MLQ-5X	-	Multifactor Leadership Questionnaire-5X
MML	-	Multi-dimensional Model of Leadership
MMoL	-	Mediational Model of Leadership
MMR	-	Mixed Methods Research
N	-	Number
NASA	-	National Aeronautics and Space Administration
NFL	-	National Football League (United States)
NGB	-	National Governing Body
PRISMA	-	Preferred Reporting Items for Systematic Reviews and Meta-Analysis
PSLBI	-	Peer Sport Leadership Behaviour Inventory
REL	-	Relatedness
RM	-	Appropriate Role Modelling
SD	-	Standard Deviation

SDT	-	Self Determination Theory
SE	-	Sport England
SLBI	-	Sport Leadership Behaviour Inventory
TFL	-	Transformational Leadership
TLI	-	Transformational Leadership Inventory
TPQ	-	Transformational Parenting Questionnaire
TTQ	-	Transformational Teaching Questionnaire
UK	-	United Kingdom
UKC	-	United Kingdom Coaching
UKCC	-	United Kingdom Coaching Certificate
WHO	-	World Health Organisation