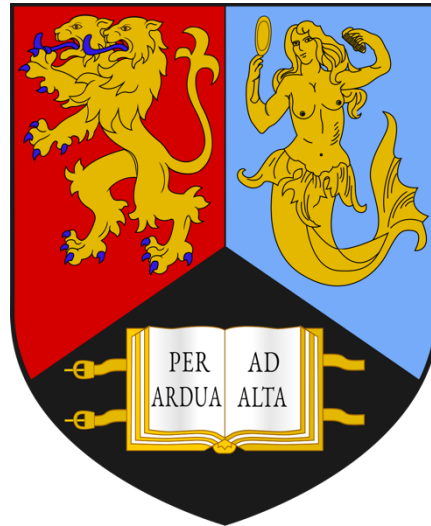


AUTHENTIC LEADERSHIP IN SPORT

By

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ABSTRACT

The aim of the present thesis was to extend existing research on authentic leadership in sport and develop a better understanding of the impact of authentic leadership on athletes, through investigating the relationship between coaches' authentic leadership and a range of reported athlete outcomes. Authentic leadership is a style of leadership which has received little attention in sport. However, due to its proposed core components and focus on followers' development and creating trusting relationships with followers, it could prove promising in promoting positive athlete outcomes.

After reviewing the literature in Chapter 1, Chapter 2 presents Study 1 which examined how authentic leadership is unique when compared to the dominant sport leadership theory i.e., transformational leadership. Specifically, Study 1 examined whether authentic leadership is empirically distinct from transformational leadership and what it adds to transformational leadership in terms of predicting athletes' commitment and enjoyment, when controlling for transformational leadership. Authentic leadership was found to be positively correlated to transformational leadership, suggesting evidence of overlap between the leadership styles. However structural equation modelling revealed authentic leadership to also be different to transformational leadership and demonstrated that it predicted athlete enjoyment and commitment beyond that explained by transformational leadership.

After finding evidence for the divergent validity of authentic leadership compared to the prominent leadership theory in sport, Chapter 3 consists of a longitudinal study which examined whether authentic leadership would be directly related to changes in athletes' enjoyment, commitment, and prosocial behaviours, or indirectly related through changes in trust and cohesion over time. Authentic leadership was found to be directly related to changes in athletes' prosocial behaviours and enjoyment over time. Authentic leadership was also indirectly related to athletes' enjoyment via changes in cohesion over time, and indirectly related to prosocial behaviours via changes in trust and cohesion over time.

Chapter 4 consists of an experimental study which examined the effects of authentic leadership on athletes' trust, achievement, and moral outcomes. The results of Study 3 demonstrated that athletes in the high authentic condition reported higher trust, commitment, enjoyment, anticipated guilt and lower aggression compared to participants in the low authentic leadership and neutral conditions.

Chapter 5 consists of Study 4 which examined the potential effectiveness of an intervention designed to increase coaches' demonstration of authentic leadership. This authentic coaching intervention was pilot tested and evaluated by examining its efficacy on athletes' perceptions of their coaches use of authentic leadership and a range of reported athlete outcomes. Study 4 indicated that athletes in the intervention group reported significantly higher perceptions of authentic leadership, as well as higher enjoyment and prosocial behaviours compared to the control group. Overall, the findings of the thesis suggest that coaches should be encouraged to demonstrate behaviours indicative of authentic leadership as this was found to have positive consequences for their respective athletes and teams.

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LIST OF PAPERS

This thesis is comprised of data from four papers. Study design, data collection, statistical analysis, and writing were conducted by Ella Rose Malloy. Dr Maria Kavussanu provided assistance with study design, data analysis, and paper editing. Thomas Mackman provided assistance with data collection, statistical analysis, and paper editing of Study 3. Third-year undergraduate students assisted with data collection.

1. Malloy, E., & Kavussanu, M. (2021). A Comparison of Authentic and Transformational Leadership in Sport. *Journal of Applied Sport Psychology*.
2. Malloy, E., & Kavussanu, M. (in revision). The Role of Authentic Leadership on Athletes Outcomes Over Time. *Sport, Exercise, and Performance Psychology*.
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In addition, during my postgraduate study within the School of Sport, Exercise and Rehabilitation Sciences at the University of Birmingham, the following conference presentations were delivered.

1. Malloy, E., & Kavussanu, M. (2017). Investigating the relationship between authentic leadership and follower outcomes in sport: a cross sectional study. *Poster presented at the International Society of Sport Psychology, Sevilla, Spain.*

2. Malloy, E., Kavussanu, M., & Yukhymenko, M. (2019). Consequences of authentic leadership in sport. Paper presented at the *15th European Congress of Sport & Exercise Psychology*, Munster, Germany.

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CHAPTER ONE

General Introduction

Elements of this manuscript have been accepted for publication under the following references:

1. Malloy, E., & Kavussanu, M. (2021). A Comparison of Authentic and Transformational Leadership in Sport. *Journal of Applied Sport Psychology*.
2. Malloy, E., & Kavussanu, M. (in press). The Effects of an Authentic Coaching Intervention on Athlete Outcomes: A Pilot Randomised Control Trial. *Psychology of Sport and Exercise*.

General Introduction

Leadership in sport

Sport is a complex multifaceted infrastructure evident in every advanced western society. In fact, sport is often considered a microcosm of society in which athletes and coaches engage in the complexities of social life, including group dynamics and relationships (Frey & Eitzen, 1991). Sports participation has been shown to correlate with numerous physical, cognitive and social developmental outcomes (Vella et al., 2013). However, while sport is expected to lead to a range of positive outcomes, it has been suggested that sport by itself may not only lead to positive outcomes but also negative outcomes for athletes, such as cheating and aggression (Vella et al., 2013). Whether sport has a positive or negative impact on these outcomes is largely determined by contextual factors (Turnnide & Côté, 2016). One such important situational factor is the type of leadership shown by coaches. Specifically, it is the characteristics and leadership styles shown by coaches which positively influence athletes' development, character, and competence (Côté & Gilbert, 2009; Peterson, 2004). Thus, research into leadership in sport that effectively promotes positive outcomes in athletes, and coach education which promotes such leadership, is vital.

Leadership is defined as “the behavioural process of influencing individuals and groups towards set goals” (Barrow, 1977, p. 232). This definition suggests that leaders play an important role in influencing their followers and highlights the importance leaders have in interactions with athletes and teams. This idea is supported by Burns (1978) definition of leadership which suggests that in addition to influencing followers towards set goals, leadership considers the wants, needs, and expectations of both leaders and followers. Weinberg and Gould (2003) expanded on this to suggest leaders have two functions: (a) to ensure the group is meeting targets to satisfy the demands of the group and (b) to ensure the needs of the team/athletes are satisfied. Thus, suggesting leadership goes beyond meeting

targets to also include a leader-athlete dynamic that is essential to leaders influencing their followers. In fact, effective leaders are expected to have a good understanding of the power dynamic between themselves as leaders and their followers (Crust & Lawrence, 2006). Leader effectiveness is the standard used to judge leaders and is related to how leaders' impact upon specific variables within teams and organizations, such as how leaders influence their team's performance, how followers perceive their leaders, and the characteristics of the leader (Hogan et al., 1994). Due to the complexity of the relationships between leaders and athletes, and the potential influence leaders can have on their athletes' development, research into effective leadership and its impact on athletes has become a key area of sport psychology literature (O'Boyle et al., 2015).

In particular, coaches are seen as important leaders within sport due to the focus they place on influencing teams towards goals/targets, considering the needs of their athletes, and developing dynamic relationships with their followers. As such, coaches are believed to be key determinants in influencing a range of athlete outcomes such as psychological development, positive emotions, relationships, and commitment (Vella et al., 2013). Outcomes such as these are believed to be important in determining athletes' continued sports participation. Consequently, coaches are capable of positively promoting higher levels of lifelong sports participation (Turnnidge & Côté, 2016). This is vital given the decrease in sports participation with age (Gould, 1987; Slater & Tiggemann, 2011). Positive forms of leadership shown by coaches are also essential to creating positive sports environments. This is because coaches are expected to be moral influences for athletes and are able to create the team norms of socially accepted behaviours (Guivernau & Duda, 2002). Coaches are able to do this because, at the athlete level, sport is a social context in which athletes and coaches interact with one another and therefore sport provides an ideal environment in which to influence individuals' psychological development and positive skills. Thus, positive forms of

leadership, which include an ethical component, could help to promote ethical behaviours, as well as have wider societal impacts, such as the integration of social groups and positive communities. There is therefore importance in systematically exploring possible coach leadership models which have been suggested to promote such outcomes in athletes.

This thesis will examine a model of leadership which has received little attention in sport. First, the introduction will provide a historical overview of the development of leadership theories in sport, before discussing several different models of leadership. Second, the introduction will then introduce the model which is the focus of this thesis and contrast this to the previous leadership models in sport. Third, the introduction will finish with an overview of the variables this model of leadership is suggested to influence. Finally, the introduction will end with the rationale for this novel research and outline the research which was conducted to examine this model of leadership in sport.

Overview of Prominent Leadership Models in Sport

Until the late 1940s leadership was studied via trait and behavioural approaches. The trait approach suggested effective leadership was dependant of the personality traits of the leaders, whilst the behavioural approach suggested that leaders could become an effective leader by demonstrating specific behaviours of other successful leaders (Crust & Lawrence, 2006). Both of these early approaches to leadership examined the behaviours of the leaders in isolation of other factors, and thus ignored athlete and situational factors (Weiss & Friedrichs, 1986). Therefore, these early approaches were deemed too oversimplistic and optimistic (Crust & Lawrence, 2006).

As such, more recent leadership approaches have begun to include an interactionist approach which consider the interactions between leaders, followers, and the context in which they operate, as well as any mediating or moderating influences on these factors (Crust & Lawrence, 2006). Several models of leadership have been proposed from this premise.

Firstly, Smoll and Smith (1989) proposed a cognitive-mediational model which suggests that leadership considers situational factors, overt behaviours, cognitive processes, and individual differences (Smoll & Smith, 1989). These factors are believed to mediate the interactions between leaders and followers. Situational factors include the nature of the sport; individual differences include variables such as the goals and gender of both the athletes and coaches; and cognitive processes include factors such as athletes' perceptions of their coaches' behaviours (Chellandurai, 2007; Smoll and Smith, 1989; Vella et al., 2010).

Sports specific models of leadership were also introduced and gained popularity. One such model is the multidimensional model of sports leadership (Chellandurai & Saleh 1978). This model suggests that leadership consists of the coaches' required behaviour, actual behaviour and the athletes' preferred coach behaviour (Vella et al., 2010). The coaches' behaviour is influenced by several antecedents such as situational characteristics (e.g., goals of the group), the characteristics of the coach (e.g., personality and experience) and of the athletes (e.g., personality). The coaches' actual behaviour is influenced by the leaders required and preferred behaviours. If the coaches actual, required, and athletes' preferred coach behaviours, are consistent, athletes are expected to be more satisfied and show greater performance (Vella et al., 2010).

More recently, leadership has been defined as "a process of interpersonal influence that is dependent upon, and constituted by, the interpersonal relationship between coach and athlete" (Vella et al., 2010, p. 431). As such, current leadership models suggest that leadership is primarily concerned with the relationships and interactions leaders have with their followers (O'Boyle et al., 2015). Thus, current leadership models are expected to advance previous models by suggesting that the leadership depends on the coaching context, and that coach-athlete relationships act as mediating variables between leaders' behaviour

and athlete outcomes (Vella et al., 2010). Leadership models which consider coach-athlete relationships are highly applicable to sport given its social nature (Vella et al., 2010).

One such model of coach-athlete relationships which has been proposed is the 3 C's model (Jowett, 2005). This model denotes that leadership needs to include a relational element and suggests coach athlete relationships are comprised of three constructs: closeness, commitment, and complementarity. Closeness includes factors such as trust and refers to how coaches and athletes emotionally express their relationships (Jowett, 2005; Jowett & Cockerill, 2003). Commitment relates to whether athletes perceive they share the beliefs and values of their leaders, which if found to align, facilitates individuals' intention to stay with their leader and team (Jowett & Cockerill, 2003). Complementarity refers to the similarity in the interpersonal behaviours of the coach and athlete (Jowett & Cockerill, 2003; Jowett & Chaundry, 2004). This model suggest that interpersonal perceptions are an important component of coach-athlete relationships. Coaches are able to create a "shared reality" if athletes' perceptions of their coach correspond to the athletes' perceptions of their coach in relation to themselves (Jowett & Chaundry, 2004). A good coach-athlete relationship is expected to contain empathy, honesty, and trust, which in turn is believed to result in positive developmental outcomes such as improved psychological wellbeing and morality (Jowett, 2005, Jowett & Cockerill, 2003; Lavoie, 2007)

Ethical leadership is another model of leadership which incorporates coach-athlete relationships. Ethical leadership was proposed by Brown et al. (2005) and is defined as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making". Thus, ethical leaders act morally and promote moral behaviours in followers through demonstrating concern for their followers and by creating interpersonal relationships (Walumbwa et al., 2008). Ethical leaders are honest,

model ethical behaviours to their followers, and seek to be a good person (Walumbwa et al., 2008). Furthermore, ethical leadership is believed to be made up of two components: the moral person and the moral manager. The moral person aspect is related to how ethical leaders show concern for others and are principle decision makers (Brown & Trevino, 2006; Walumbwa et al., 2008). The moral manager aspect suggests ethical leaders make ethics an integral part of leadership and these ethics guide how they interact with their followers, which makes them ethical role models to their followers (Brown et al., 2005).

Another leadership model which considers coach-athlete relationships and has been the dominant form of leadership in sport in the past decade is transformational leadership (Bass, 1985). Transformational leaders are believed to be charismatic and inspire their followers to become leaders. Burns (1978) defines transformational leadership as the "relationship of mutual stimulation and elevation that converts followers into leaders and may convert leaders into moral agents" (p. 4). Transformational leaders are believed to influence their followers through demonstrating the "four Is": idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1985). Idealized influence relates to setting a good example through acting as a role model, showing high moral values, and showing dedication to their inner values (Hopton et al., 2007; Walumbwa et al., 2008). Inspirational motivation refers to how transformational leaders inspire their followers through communicating high and clear expectations (Bass, 1985). Intellectual stimulation refers to providing rational and intelligent problem-solving skills and stimulating followers to solve problems in new creative ways (Bass, 1985). Finally, individualized consideration refers to treating each athlete as an individual and showing concern for the follower's feelings, as well as creating supportive climates (Walumbwa et al., 2008). In turn, through demonstrating these behaviours, transformational leaders create a reciprocal

understanding between themselves and their followers which allows these leaders to co-construct beliefs and values with their followers (Burns, 1978).

In summary, given the importance of coaches in sport to positive athlete outcomes, several models of leadership have been proposed. The initial models of leadership considered the traits and behaviours of the leader. These models were developed further by including an interactionist approach which considered the interactions between leaders, followers, and the context in which they operate. Multidimensional models of leadership were then introduced which considered both the coaches and athletes needs and behaviours. Finally, models of leadership began to focus on the coach-athlete relationship, which included models such as transformational and ethical leadership.

Authentic Leadership

Within the past decade, another form of leadership has been proposed called authentic leadership (Walumbwa et al., 2008). Authentic leadership also focuses on coach-athlete relationships and provides a multidimensional model. Authentic leadership is believed to add to previous leadership models by incorporating different core components which collectively influence how authentic leaders influence their followers and could produce desirable outcomes in followers (Avolio & Gardner, 2005; Walumbwa et al., 2008). Despite this suggestion, authentic leadership has received limited attention in sport. Whilst authentic leadership is believed to be similar to previous leadership approaches, the theories have been operationally defined in a separate manner. This model will be discussed further in the following sections.

Authentic Leadership centres around the term authenticity. The term authenticity derives from Greek philosophy meaning ‘to thine oneself be true’ (Gardner et al., 2005; Harter, 2002). Kernis (2003) defines authenticity as “the unobstructed operation of one’s true self, or core, self in one’s daily enterprise”. The concept of authenticity lies on a continuum

with authentic leaders achieving high levels of authenticity (Avolio et al., 2004; Erickson, 1995). Thus, authentic leaders are leaders who know who they are and are able to act in line with this vision of their true self (Avolio et al., 2004). Authentic leadership is therefore a genuine leadership style in which leaders display behaviours in line with their inner values (Avolio et al., 2004). Authentic leaders also show concern for their followers' development, involve their followers in decision-making, have a highly developed moral component, and build trusting relationships with followers (Avolio et al., 2004). Authentic leaders are perceived as authentic by their followers through demonstrating the components of authentic leadership. This is because a leader cannot be considered authentic unless their followers perceive them to be so (Avolio et al., 2004).

Historical Overview of Authentic Leadership Models

The original definition of authentic leadership was created by Kernis (2003) who suggests authenticity consists of four key components: self-awareness, unbiased processing, authentic action, and relational transparency. This was later developed by Avolio et al. (2004) who define authentic leaders as “those individuals who are deeply aware of how they think and behave and are perceived by others as being aware of their own and others values/ moral perspective, knowledge and strengths” (p. 4).

Avolio et al. (2004) proposed a model which suggested that authentic leaders influence their followers through personal and social identification. Personal identification is defined as “the process by which someone’s beliefs about a person become self-defining”; meaning that followers will identify with a leader if they perceive their leader to show similar values to them (Avolio et al., 2004, p. 806). Social identification is defined as “the process through which individuals come to identify with the group” (Avolio et al., 2004, p. 807). Authentic leaders are believed to promote personal identification through displaying high levels of credibility and transparency in their interactions with followers. After followers

personally identify with their authentic leaders, social identification results as followers begin to operate in a similar manner to their leader, establishing a team culture of authenticity. Personal and social identification is expected to then result in followers showing greater developmental outcomes such as engagement, motivation, and commitment. The relationship between identification and follower outcomes is believed to be built on intervening variables such as trust, hope, and positive emotions, as can be seen in Figure 1.1.

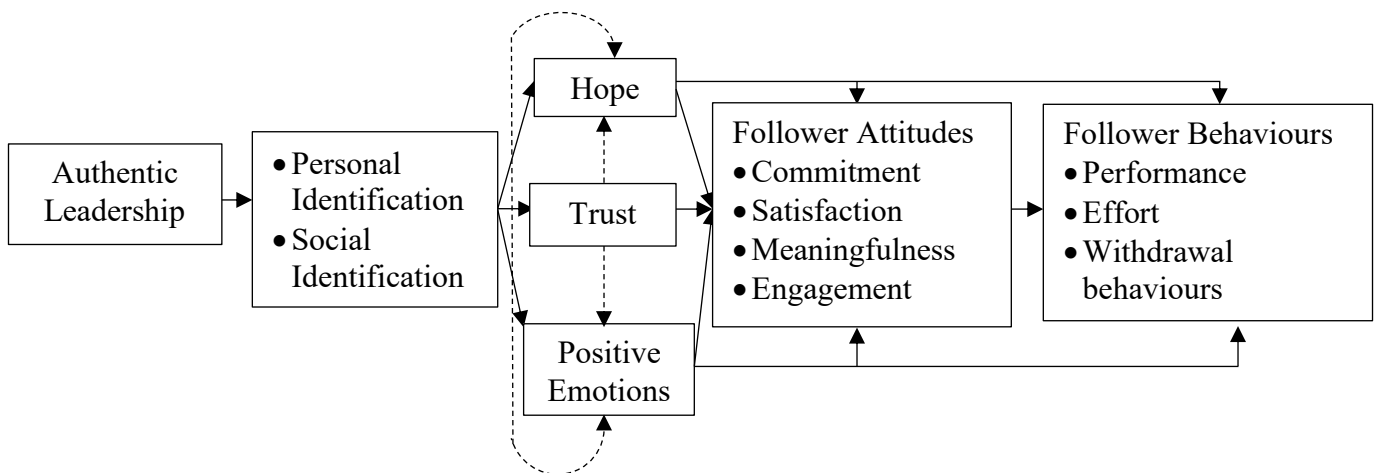


Figure 1.1. Avolio et al. (2004) model of authentic leadership.

Avolio et al's. (2004) model was further developed by Ilies et al. (2005) who proposed a four-component model similar to Kernis (2003), which included: self-awareness; unbiased processing, which means authentic leaders process self-relevant information in line with their character; authentic behaviour, which pertains to acting in line with inner values rather than external pressures; authentic relational orientation, which refers to authentic leaders creating open and honest relationships with their followers.

This model, as seen in Figure 1.2, advances Avolio et al's. (2004) model by suggesting authentic leaders have heightened levels of positive emotions/wellbeing, which is spread to followers and expected to increase followers' wellbeing, through several mechanisms. Firstly, they promote emotional contagion, which is the process by which the

leaders' high levels of positive emotions are spread to their followers (Kernis, 2003). Secondly, they influence their followers via social learning principles, through acting as positive role models of authentic behaviours. Thirdly, authentic leaders provide autonomy support, acknowledge their followers' perspectives, and provide honest feedback which is believed to increase followers' self-determination i.e., the extent to which individuals feel they are in control of their own behaviour (Ryan & Deci, 2002). Lastly, they influence their followers through developing positive leader-follower relationships which results in positive social exchanges, leading followers to reciprocate and engage in behaviours similar to their leaders (Ilies et al., 2005). Through these mechanisms, authentic leaders promote an increase in follower wellbeing.

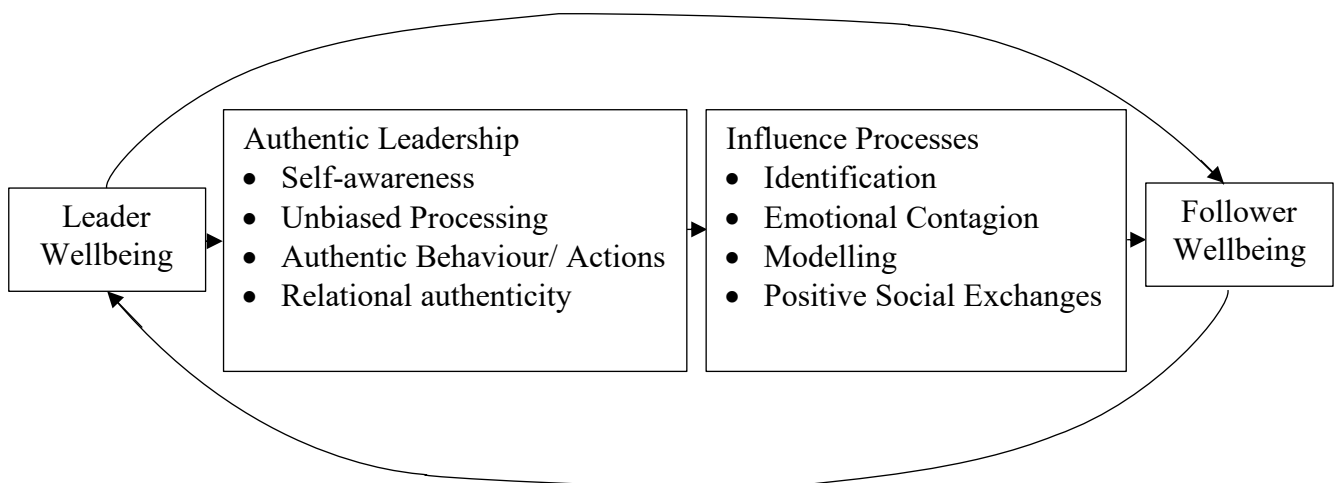


Figure 1.2. Ilies et al. (2005) model of authentic leadership.

Finally, Gardner et al. (2005) proposed a model of authentic leadership which integrated both Ilies et al. (2005) and Kernis's (2003) definitions to suggest that self-awareness, self-regulation, and authentic follower development are critical components of authentic leadership, as can be seen in Figure 1.3. Self-awareness relates to authentic leaders continuously asking themselves 'who am I?' to reflect on their core values, which results in

higher integrity (Leroy et al., 2012). While self-regulation encompasses the terms balanced processing, relational transparency, and authentic behaviours to suggest that authentic leaders' behaviours are driven by their core beliefs (Gardner et al., 2005).

Authentic followership is suggested to be an integral component of authentic leadership, and is believed to mimic authentic leadership (Gardner et al., 2005). Followers mimic their leaders' authentic behaviours, as a result of authentic leaders positively modelling their authentic behaviours to their followers by displaying higher levels of self-awareness and self-regulation. This in turn leads to positive follower development and consequently follower outcomes such as greater trust, engagement, and wellbeing, as well as an increase in follower performance (Gardner et al., 2005). Authentic leaders are also expected create more inclusive, caring, and ethical team climates which further enhance this process (Gardner et al., 2005; Luthans & Avolio, 2003).

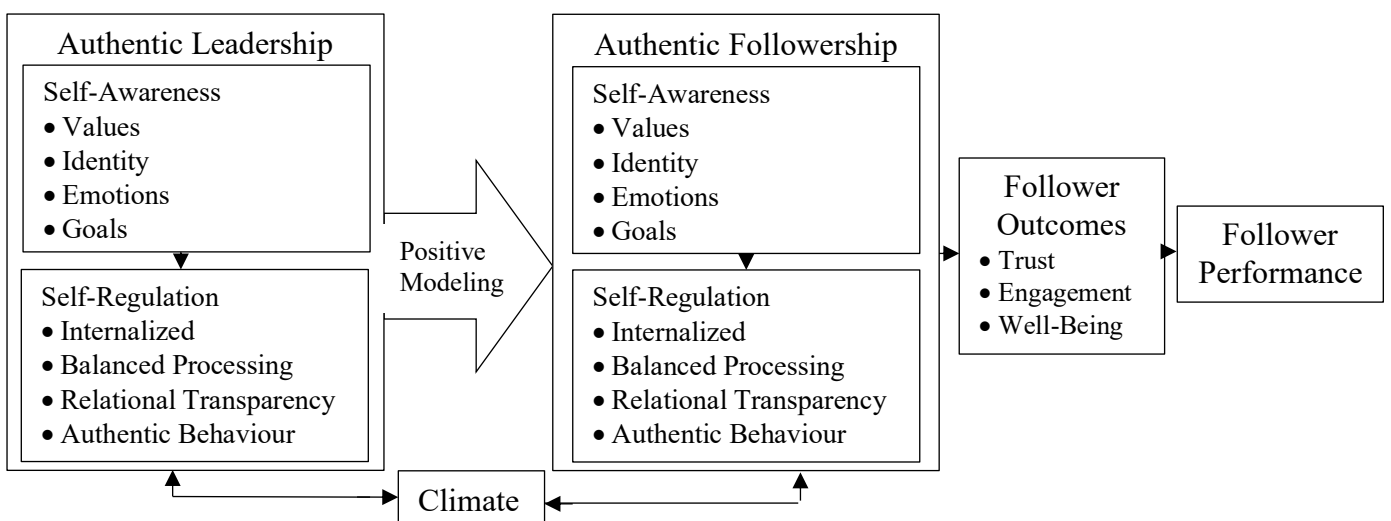


Figure 1.3. Gardner et al. (2005) self-based model of authentic leadership.

Walumbwa et al. (2008) proposed a definition of authentic leadership which integrated the components and definitions of these previous models, such as Avolio et al. (2004), Ilies et al. (2005), and Gardner et al. (2005). Whilst many definitions of authentic leadership exist we

focus on Walumbwa et al.'s. (2008) definition throughout this thesis. Walumbwa et al. (2008) define authentic leadership as “a pattern of leader behaviour that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development” (p. 94). This definition suggests authentic leadership consists of four components: self-awareness, relational transparency, balanced processing, and internalised moral perspective.

Self-awareness pertains to how leaders view themselves (Walumbwa et al., 2008). When a leader has high levels of self-awareness, they demonstrate a greater understanding of themselves and are able to accept their own strengths and weaknesses, as well as their inner values and morals (Ilies et al., 2005; Neider & Schrieshem, 2011; Walumbwa et al., 2008). Values relate to authentic leaders' standards of behaviour or issues they deem important. One cannot be considered authentic, until they are more aware of oneself, and therefore self-awareness is a key element of authentic leadership (Ilies et al., 2005). Relational transparency refers to leaders showing behaviours which are consistent with their true self, values and morals (Ilies et al., 2005). Authentic leaders also show relational transparency by being fully open with their followers through showing transparency between their values, behaviours, and emotions, admitting when they make mistakes, and telling their athletes the hard truth (Walumbwa et al., 2008). As a result of authentic leaders showing relational transparency, trusting and open relationships between the leaders and their followers are expected to be developed as followers perceive their leaders as genuine (Kernis, 2003; Walumbwa et al., 2008). Due to the focus authentic leaders place on developing relationships with their followers, authentic leadership is an ideal model for sports environments as athletes are

highly influenced by contextual factors such as the relationship they have with their coach (O'Boyle et al., 2015).

Balanced processing suggests authentic leaders objectively process all available information before coming to an objective decision (Walumbwa et al., 2008). Furthermore, authentic leaders are willing to consider different points of views, such as asking their followers for their own perspective, even if these challenge the leader's own positions (Walumbwa et al., 2008). Finally, internalized moral perspective highlights that authentic leaders have high moral standards which determine their moral behaviours, rather than the leader being influenced by external pressures. Thus, authentic leaders engage in ethical decision-making, express where they stand on controversial issues, and ask their followers to also act in line with their moral values (Walumbwa et al., 2008). Ethics relates to the moral principles that govern one's behaviours whilst morality is a person's judgment of right or wrong. Authentic leaders are believed to have a higher understanding of their ethics and views on morality and demonstrate more moral behaviours as a result.

We focus on Walumbwa et al's. (2008) definition as this used the previous models of authentic leadership to create a definition which incorporates all the previous models into one definition and advances them to suggest that authentic leadership is more than being genuine, and true to oneself, but instead suggest it is a multidimensional construct which involves: acting in line with your own values, being open and transparent, demonstrating moral behaviours, and considering all available information before making an objective decision; as reflected in the four components of self-awareness, relational transparency, balanced processing, and internalised moral perspective. In this way Walumbwa et al's. (2008) definition more fully reflects all the underlying constructs proposed in these previous models and definitions, by providing a clear four component model which incorporates the definitions and components from the previous models. They also proposed specific

behaviours which relate to each component, as reflected in the Authentic Leadership Questionnaire (ALQ; Walumbwa et al., 2008). Therefore, I focus on Walumbwa et al.'s (2008) definition of authentic leadership, as well as all the models of authentic leadership which were used to create this definition, to explain how authentic leadership is related to various follower outcomes.

Walumbwa et al. (2008) also advances previous models by suggesting that authentic leadership is made up of two key dimensions: a moral dimension and a developmental one. The moral dimension suggests authentic leaders have a highly developed moral character, which is reflected in their ethical standards and behaviours. The developmental dimension pertains to authentic leaders creating open and transparent relationships with their followers, as a result of demonstrating authentic behaviours, which instils high levels of trust and is believed to result in positive outcomes for followers. This focus on relationships is believed to be central to authentic leadership theory. Thus, Walumbwa et al. (2008) suggest that authentic leadership research would be incomplete if it did not reflect the four components of authentic leadership, as well as the underlying constructs of leader-follower relationships, and the moral dimension.

In sum, Kernis (2003) firstly defined authentic leadership in terms of authenticity. Avolio et al. (2004) then proposed a definition of authentic leadership which considers both the leaders view of themselves as well as their followers' perspective and a model which highlights the importance of identification, trust, hope, and positive emotions as intervening variables. Ilies et al. (2005) then proposed a four-component model of authentic leadership and provided five mechanisms in which authentic leaders influence their followers. Gardner et al. (2005) relied on Kernis's (2003) definition, but also incorporated self-determination theory, to propose a similar model and indicated the importance of authentic follower development; however, they suggested the components of authentic leadership fall under two

core components of self-awareness and self-regulation. Walumbwa et al. (2008) then integrated these previous theories into their definition to suggest that authentic leadership is a multidimensional construct which consists of four components, as well as considers the importance of a developmental and moral focus. A summary of the different models, which were used to develop Walumbwa et al's. (2008) definition, can be seen in Table 1.1.

Table 1.1*Comparison of Authentic Leadership Models*

Authors	Definition/Components of authentic leadership	Process of influence	Follower outcomes
Avolio et al. (2004)	<ul style="list-style-type: none"> • “Those individuals who are deeply aware of how they think and behave and are perceived by others as being aware of their own and others values/ moral perspective, knowledge and strengths” (p. 4). 	<ul style="list-style-type: none"> • Personal identification • Social identification • Intervening variables: <ul style="list-style-type: none"> • Hope • Trust • Positive emotions 	Attitudes: <ul style="list-style-type: none"> • Commitment • Satisfaction • Meaningfulness • Engagement Behaviours: <ul style="list-style-type: none"> • Performance • Effort • Withdrawal behaviours
Ilies et al. (2005)	Focused four component model <ul style="list-style-type: none"> • Self-awareness • Unbiased processing • Authentic behaviour/actions • Relational authenticity 	<ul style="list-style-type: none"> • Identification • Emotional contagion • Modelling • Positive social exchanges 	<ul style="list-style-type: none"> • Wellbeing
Gardner et al. (2005)	Considers authentic leader and authentic follower development Self-awareness <ul style="list-style-type: none"> • Values • Identity • Emotions • Goals Self-regulation <ul style="list-style-type: none"> • Internalized • Balanced processing • Relational transparency • Authentic behaviour 	<ul style="list-style-type: none"> • Positive modelling • Climate acts as an intervening variable 	Follower outcomes <ul style="list-style-type: none"> • Trust • Engagement • Wellbeing Follower performance

Contrasting Authentic Leadership and Other Models of Leadership

As previously mentioned, transformational leadership has been the dominant model of leadership in sport (Stenling & Tafvelin, 2014). With ethical leadership also being suggested to be a similar model of leadership. Both transformational and ethical leadership are believed to share some conceptual overlap with authentic leadership (Walumbwa et al., 2008).

Specifically, authentic, ethical, and transformational leaders show similarities as they all consider the leaders as role models to their followers (Walumbwa et al., 2008). Furthermore, both authentic and transformational models of leadership highlight the importance of creating trusting relationships with followers and being concerned with their followers' development. Authentic leadership is also similar to ethical leadership in that both models of leadership suggest that the leaders are moral in nature and display honesty and integrity to their followers by seeking to do the right thing (Walumbwa et al., 2008).

Despite the conceptual overlap between transformational, ethical, and authentic leadership, the models have distinct core components, which suggests they are separate models of leadership. Firstly, authentic leadership is distinct from ethical leadership as it contains additional components to just being ethical such as self-awareness, relational transparency, and balanced processing (Walumbwa et al., 2008). Self-awareness is a core component of authentic leadership, and suggests authentic leaders have a deeply rooted sense of self, suggesting they know where they stand on important issues and have a deeper sense of self. Authentic leaders are expected to act in-line with their inner values regardless of any external pressures. Followers of authentic leaders become aware of their authentic leaders' deep sense of self through these leaders showing internalized moral perspective and self-regulation (Ilies et al., 2005; Walumbwa et al., 2008). This deep sense of self and openness displayed by authentic leaders is expected to result in them developing enduring and trusting

relationships with their followers. This core component of self-awareness also distinguishes authentic leadership from transformational leadership.

Secondly, whilst transformational and authentic leaders are both concerned with their followers' needs, authentic leaders are expected to be genuine and thus remain true to themselves and lead with purpose, whilst also engaging in high levels of self-regulation by being willing to acknowledge their followers' perspectives and consider different points of views (Avolio & Gardner, 2005; Walumbwa et al., 2008).

Thirdly, transformational, and authentic leaders are concerned with their followers' development in different ways, with transformational leaders being concerned with developing their followers into leaders, and authentic leaders being concerned with promoting authenticity and developing enduring relationships with their followers (Gardner et al., 2005; Luthans & Avolio, 2003). Furthermore, the mechanisms through which authentic leaders influence their followers' development are different. Authentic leaders influence their followers indirectly by being transparent, leading by example and showing dedication to their followers, which is believed to influence their followers' beliefs and values. Whereas transformational leaders influence their followers through similar but distinct mechanisms such as showing character, stimulating ideas, providing a powerful vision, and being attentive to followers' achievement needs.

Lastly, a key distinguishing component of authentic leadership compared to transformational leadership is its inherent moral component (Avolio & Gardner, 2005; Gardner et al., 2005). Whilst transformational leaders are expected to act in line with moral values, they are not expected to always act ethically, and can instead act manipulatively, if they consider this is for the greater good (Bass & Steidlmeier, 1999). Authentic leaders however are proposed to show moral behaviours in line with their moral standards, regardless of any situational factors (Walumbwa et al., 2008). In sum, the different core components of

the two leadership models suggest that authentic leadership is conceptually distinct to transformational leadership. As such, while ethical and transformational leadership may incorporate some of the same components of authentic leadership, all four components (i.e., self-awareness, relational transparency, balanced processing, and internalised moral perspective) are required for a leader to be considered authentic.

Walumbwa et al. (2008) has examined the construct validity of authentic leadership in a study that compared authentic to transformational and ethical leadership. They found that authentic, transformational, and ethical leadership showed some conceptual overlap. However, the different models were also distinct from one another, as the correlation between the different models was significant but not large enough to suggest the models are the same. They also found that authentic leadership explained variance in followers' commitment and satisfaction beyond that explained by transformational and ethical leadership. These findings suggest that authentic leadership is a separate construct to transformational and ethical leadership and can explain variance in follower outcomes beyond that explained by transformational and ethical leadership. Despite the suggested differences between authentic leadership and dominant leadership theories, no study in sport has attempted to distinguish authentic leadership from other models of leadership, or examined how this model may predict athlete outcomes beyond that explained by other leadership models, in order to discern the importance of authentic leadership research in sport. This gap in the literature needs to be addressed.

In summary, authentic leadership is distinct from dominant leadership models in sport (e.g., Ethical and transformational leadership), due to its distinct four components, such as higher self-awareness and the inherent moral component demonstrated by authentic leaders. Given that ethical leadership only relates to the internalized moral perspective component of authentic leadership, it is clear how authentic leadership is a distinguishable construct to

ethical leadership and so ethical leadership will not be the focus on the following thesis.

Transformational leadership however contains several overlaps with authentic leadership and is the dominant leadership theory in sport. The overlap and distinguishing features of these two types of leadership need to be investigated further within a sport setting in order to establish authentic leadership as a unique construct in sport to investigate the impact of this leadership style on important athlete outcomes. The distinct components authentic leadership could be suggested that authentic leaders may predict an array of athlete outcomes, beyond that explained by other leadership theories in sport, such as enjoyment and commitment. However, currently no study in sport has investigated this.

Enjoyment and Commitment

Due to the four components of authentic leadership, proposed by Walumbwa et al. (2008) two follower outcomes authentic leaders may influence are enjoyment and commitment. Enjoyment is defined as “a positive affective response to the sport experience that reflects generalised feelings such as pleasure, liking and fun” (Scanlan et al., 1993, p. 6). Commitment is defined as a “psychological construct representing the desire and resolve to continue sport participation” (Scanlan, 1993, p. 6). Both commitment and enjoyment are vital psychological outcomes in sport as they can impact on athletes’ dedication to continued sports participation and are highly influenced by factors such as the type of leadership shown by coaches (Scanlan et al., 1993). Given the 35% decline in sports participation as age increases from the age of 12, investigating which forms of leadership may influence these variables is particularly important in promoting sports participation beyond adolescence (Gratton et al., 2011; Slater & Tiggemann, 2011).

Several models of authentic leadership (e.g., Avolio et al., 2004; Gardner et al., 2005) have highlighted the potential role of authentic leadership on follower commitment and positive emotions, suggesting these two variables are important to consider in authentic

leadership research. Firstly, Avolio et al. (2004) suggests emotions play an important role within the authentic leadership process as they influence individuals' awareness of themselves and other people. Authentic leaders are expected to have a substantial impact on their followers' positive emotions by creating a sense of identification and trust, which elicits positive emotions in followers, suggesting authentic leadership, trust and positive emotions have a strong relationship with one another.

Secondly, Ilies et al. (2005) suggests authentic leaders have heightened levels of positive emotions and wellbeing for several reasons: Firstly, high levels of self-awareness leads to self-acceptance which elicits positive emotions; relational orientation promotes positive relations with others; engaging in balanced processing leads to personal growth; and finally, authentic behaviours promotes high levels self-determination which positively relates to positive wellbeing. Authentic leaders then influence their followers' commitment and positive emotions by several processes as described previously, such as: identification which makes individuals feel they are part of the same team and promotes high levels of trust which in turn positively impact on follower's positive emotions and commitment; emotional contagion; role modelling positive authentic behaviours and emotions. This idea was further supported by Gardner et al's. (2005) model which suggest authentic leaders increase followers' positive emotions naturally through demonstrating authenticity, which makes followers feel more engaged and secure; social contagion processes via authentic leaders creating positive leader-follower relationships which inclines followers to reciprocate these positive social exchanges and results in positive emotions; social contagion processes over time, by creating inclusive team environments which spreads positive emotions and behaviours from the leader to the follower and team (Ilies et al., 2005); and giving their followers a say in decisions which supports their followers self-determination (Gardner et al.,

2005). Thus, authentic leaders are believed to both directly and indirectly influence athletes' enjoyment and commitment.

The potential indirect roles of trust and team culture on wellbeing, has been supported by several studies (Leroy et al., 2012; Nelson et al., 2014; Peus et al., 2012). Furthermore, a cross-sectional study in sport, conducted on a sample of team sport athletes, found that trust mediated the relationship between authentic leadership and athletes' enjoyment and commitment (Bandura & Kavussanu, 2018). In sum, authentic leaders are likely to directly impact on their followers' enjoyment through emotional contagion and acting as an authentic role model, as well as indirectly through creating trusting relationships, positive team cultures, and cohesion.

Walumbwa et al. (2008) suggest that authentic leadership is likely to also directly and indirectly effect followers' commitment through similar processes to enjoyment. Firstly, authentic leaders influence their followers' commitment directly through demonstrating balanced processing, relational transparency, consistency between their values and behaviours and by exhibiting an internalized moral perspective and regulation. Secondly, they may indirectly influence their followers' commitment through both personal and social identification (Walumbwa et al., 2008). Authentic leaders may also indirectly effect followers' commitment through increasing their levels of self-determination, by providing autonomy supportive and inclusive climates (Miniotaite & Bučiūnienė, 2013).

Support for the direct effect of authentic leadership on commitment was demonstrated by Walumbwa et al. (2008) which found authentic leadership positively predicted followers' commitment when controlling for ethical and transformational leadership. Furthermore, another study conducted on employees at a telecommunication companies in Iran, found that the components of authentic leadership were positively correlated to followers' commitment, with balanced processing having the greatest impact on follower's commitment. The indirect

role of authentic leadership on followers' commitment was supported by a study which found trust mediated the relationship between authentic leadership and followers' commitment (Peues et al., 2012). Furthermore, a study in sport found that the relationship between authentic leadership and athletes' commitment and enjoyment was mediated by trust and autonomy support (Bandura et al., 2019). This study was however limited by its cross-sectional nature. Enjoyment and commitment are expected to increase over time, as the relationships between the authentic leaders and their followers develop and strengthen, and this cannot be measured during a cross sectional study (Avolio et al., 2014). This gap in the literature needs to be addressed, to see how these variables develop over time.

In summary, several models of authentic leadership provide conceptual evidence of the influence authentic leadership may have on followers' enjoyment and commitment (e.g., Avolio et al., 2004; Gardner et al., 2005; Ilies et al., 2005). Authentic leadership is expected to be both directly related to followers' enjoyment and commitment, but also indirectly through identification, creating trusting relationships, positive team cultures, and positive social exchanges. These proposed relationships have been supported by studies in the nursing and business domain, with support from sports research also beginning to emerge. This sports research is however in its early stages.

Moral behaviours

Another variable that authentic leaders may influence is followers' moral behaviours (Gardner et al., 2005). Specifically, Walumbwa et al. (2018) states that in addition to the developmental focus of authentic leadership, which is expected to result in trusting relationships, authentic leadership also contains a moral dimension. This moral dimension suggests that authentic leaders have a highly developed moral component, which is reflected in authentic leaders demonstrating ethical decision making and moral behaviours. By acting in line with their ethical standards, authentic leaders serve as moral exemplars to their

followers which is expected to promote more moral behaviours in followers, by encouraging them to also act in line with their moral values (Gardner et al., 2005; Hannah et al., 2011), Furthermore, by acting as a moral role models, authentic leaders are also expected to create more ethical environments through establishing a team norm to act ethically, and setting the moral standards of the team (Cianci et al., 2014; Hannah et al., 2011). Therefore, according to several scholars it is important that research into authentic leadership considers the moral nature of authentic leadership and suggest authentic leadership could be key to promoting prosocial behaviours amongst followers (e.g., Walumbwa et al., 2008; Gardner et al., 2005). In this thesis, we will examine the impact of authentic leadership on athletes' moral behaviours in relation to prosocial and antisocial sport behaviours. Prosocial behaviours are defined as "voluntary behaviours intended to help or benefit another individual" (Kavussanu & Boardley, 2009, p. 99), while antisocial behaviours are defined as "voluntary behaviour intended to harm or disadvantage another" and includes behaviours such as cheating and aggression (Kavussanu & Boardley, 2009, p. 99).

Authentic leaders may also be expected to indirectly influence their followers' prosocial and antisocial behaviours, through indirectly influencing team environments to make them more ethical (Gardner et al., 2005). Furthermore, authentic leaders may influence their followers' behaviours by creating trusting relationships and more cohesive teams which may incline athletes to be more motivated to show moral behaviours which support the leaders and teams' values, in order to appease their other team members (Bruner et al., 2014). Support for these ideas has been provided by a cross-sectional study of soldiers, which found that authentic leadership was positively related to soldiers' prosocial behaviours, which they defined as ethical behaviours common in a military setting such as demonstrating responsible behaviour, considering soldiers' impact on others, and putting the good of the group ahead of their own self-interest (Hannah et al., 2011).

Furthermore, an experimental study assigned participants to a high, neutral, or low authentic leadership condition, with temptation either present or absent (Cianci et al., 2014). They found that participants in the high authentic leadership condition reported that they were less likely to make unethical decisions in the face of temptation, compared to those in the low or neutral conditions (Cianci et al., 2014). No effects were found however when temptation was absent. This study suggests that authentic leaders may prevent their followers from making unethical decisions. Despite the suggested impact authentic leaders may have on athletes' moral behaviours, no study has examined this within sport. Such research is needed because antisocial behaviours are common within sport, with an apparent 3-5% of youth athletes reporting to engage in doping (Avolio et al, 2004; Laure & Binsinger, 2007). A key factor in determining an athletes' moral behaviour is the characteristics shown by the coach (Kavussanu & Stranger, 2017). As authentic leadership incorporates a moral component, athletes who have an authentic leader may demonstrate more prosocial behaviours and less antisocial behaviours, and this needs to be investigated within sport to potentially address issues of antisocial behaviours amongst athletes.

Potential Mediating Variables

Given the emphasis authentic leadership models place on creating positive relationships with followers, creating authentic climates, and demonstrating moral and transparent behaviours, it is expected that authentic leaders may promote several potential mediating variables such as trust, positive team cultures, and more cohesive teams (e.g., Avolio et al., 2004; Gardner et al., 2005). These variables are all interconnected, e.g., as trusting relationships are developed, it would logically follow that cohesion and moral, positive team cultures may also be created, which promotes trusting relationships even further (Gardner et al., 2005). Several models of authentic leadership suggest that variables such as trust and team cultures may play an indirect role between authentic leadership and

follower outcomes (e.g., Avolio et al., 2004). The influence of authentic leadership on these potential mediating variables will be discussed in the following sections.

Trust

A key variable authentic leadership is suggested by literature to influence is trust, due to the focus that authentic leaders place on developing open relationships with followers (e.g., Avolio et al., 2004; Gardner et al., 2005). Trust is defined as the ability to rely on one's leader and believing they have good intentions for the team (Dirks, 2000). Trust in leadership is believed to be a crucial element in a leader being considered effective (Avolio et al., 2004; Bass, 1990). Trust is also an essential element of a quality coach-athlete relationship and is needed to produce positive developmental outcomes in followers (Hampson & Jowett, 2014; Jowett, 2007). Therefore, it is essential that leadership models consider the impact of leadership on trust. Due to authentic leadership emphasis on trust, it is highly important to consider the impact of authentic leadership on this variable within this thesis.

Avolio et al.'s (2004) model was one of the first models to include the role of trust in the authentic leadership process. They suggest that authentic leaders promote trust in followers as a result of personal and social identification. Authentic leaders promote personal identification in followers by acting as role models and through setting high moral standards, as well as through showing integrity, honesty, and engaging in open discussion with followers (Avolio et al., 2004). This results in followers realising they share similar values with their leader, which evokes followers' self-concepts of their own values. Authentic leaders also promote social identification through social identity theory principles (Tajfel, 1974). This is because they have a highly developed sense of themselves, their role as a leader, and their responsibility in engaging in behaviours in line with their moral values (Avolio et al., 2004; May et al., 2003). Thus, authentic leaders create a deeper sense of high moral values, which through being open and honest, is passed to their followers. These

behaviours all lead team members to connect with their leaders and their values. After followers have identified with their leader, trusting relationships are developed which are critical to the long-term relationship between the leader and their followers being sustained (Avolio et al., 2004). Trust in turn is expected to mediate the relationship between authentic leadership and numerous developmental outcomes for followers (Avolio et al., 2004).

Gardner et al.'s (2005) self-based model also suggests that authentic leaders are likely to instil higher trust in their followers. This model states that authentic leaders have high self-awareness and self-regulation, which in turn influence followers' authentic development, via identification and role modelling. If followers perceive their values align with their leaders, they are likely to identify with their leader and emulate their high levels of self-awareness and self-regulation themselves, which results in higher trust. Through engaging in authentic behaviours and showing transparency in their actions they are also more likely to establish trusting relationships with their followers as followers are aware their leaders' values support their own (Gardner et al., 2005). This model also suggests authentic leaders are concerned with their followers' development and take into consideration their followers' needs and ideas, which further enhances the level of trust (Gardner et al., 2005).

Finally, Ilies et al. (2005) model, suggests that authentic leaders promote trust as a result of demonstrating relational authenticity by showing openness and truthfulness to their followers. Authentic leaders will also seek out their followers' motivations which allows followers to perceive their leader as showing authentic relational orientation which results in trusting relationships being developed between the leader and follower (Ilies et al., 2005). In addition to this, authentic leaders act as role models and so it is evident to followers that their leaders engage in balanced processing of information and show integrity, increasing trust further.

The relationship between authentic leadership and trust has been documented in a study of retail clothing employees, with followers of authentic leaders reporting higher levels of trust towards their leader (Clapp-smith et al., 2009) The relationship between authentic leadership and trust has also been confirmed in two sport studies (e.g., Bandura & Kavussanu, 2018; Houchin, 2011). In both studies perceived authentic leadership of coaches was found to strongly correlate with athletes' reported trust in their coach, trust in turn indirectly mediated the relationship between authentic leadership and athlete outcomes such as enjoyment and commitment. However, as previously mentioned, these studies were limited by their cross-sectional nature. Authentic leadership is expected to increase trust over time, as the leader-follower relationship is developed and strengthen, and this cannot be fully captured with cross-sectional research (Avolio et al., 2014).

In summary, authentic leaders are expected to create high levels of trust amongst followers through engaging in genuine and authentic behaviours and consequently prompting their followers to trust their leaders. This in turn promotes positive follower outcomes, such as enjoyment and commitment.

Team Culture

In addition to authentic leaders creating trusting relationships with their followers, positive, inclusive, and open team cultures are also expected to be created. This is because these leaders are open with followers, create trusting relationships with them, and are concerned with their development by providing opportunities, which overtime may become the culture of the team (Gardner et al., 2005). Higgins-D'Alessandro & Sadh (1998) define culture as individuals' perception of their team environment, and suggest it includes factors such as leader-follower relationships and the opportunities given by the leader and represents inclusive and open team cultures. As such, Higgins-D'Alessandro and Sadh (1998) suggest culture is made up of four different components: Normative expectations, leader/follower

relationships, follower relationships, and educational opportunities. Normative expectations refer to the norms of the group. Leader/follower relationships relates to the quality of the relationships between leaders and followers. Follower relationships relates to the quality of the relationships amongst followers. Finally, educational opportunities relate to the extent to which followers perceive themselves to be given opportunities. While this definition was originally related to school culture, the concept is similar to the culture created by coaches towards their athletes as all of these components are also evident in sports environments and are influenced by the coach.

Coaches are believed to be capable of influencing the team culture in a positive or negative manner (Ntoumanis & Vazou, 2005). The team culture or environment created by coaches are particularly influential in determining whether an athlete's development is positive or negative, and so it is vital that in addition to coach-athlete relationships, sports research relating to coaches needs to examine how leaders influence the team cultures, and how these cultures influence athlete variables.

Specifically, models of authentic leadership (e.g., Avolio & Gardner, 2005) suggest that authentic leaders are particularly likely to create positive, inclusive, and open cultures due to the trusting relationships they develop with their followers, and by creating inclusive environments which focus on followers' strengths. Thus, authentic leadership closely relates to Higgings-D'Alessandro & Sath (1998) definition of culture. Furthermore, Gardner et al's. (2005) model also suggests that authentic leaders are capable of creating positive cultures, defined as inclusive, ethical, caring and strength based, by creating trusting relationships with their followers which over time become the culture of the team. This authentic culture fosters high quality relationships and connections amongst followers, that are sustained as a result of the supportive and inclusive environments created by authentic leaders (Gardner et al., 2005). Inclusive cultures provide followers with support and encourage the open sharing of

information, which empowers followers and enables them to grow and positively influences the followers' development (Higgings-D'Alessandro & Sath, 1998). This is likely to result in followers becoming more committed and displaying more positive attitudes (Avolio & Gardner, 2005). Thus, team culture may play an indirect role between authentic leadership and follower outcomes (Avolio & Gardner, 2005; Gardner et al., 2005).

Despite the importance of culture in influencing how athletes develop and the role coaches have on team culture, the relationship between authentic leadership and team culture has not yet been investigated in a sporting context, and this gap in the literature needs to be addressed (Zander, 1982). Several studies in other contexts have investigated the relationship between authentic leadership and similar variables, such as team climates. For example, two studies conducted on a sample of nurses, found a positive relationship between authentic leadership and positive climates, defined as supportive, joyful, and patient-focused (Nelson et al., 2014; Shirey, 2006). Furthermore, in a sample of employees, over a 22-month period, authentic leadership was positively related to team climates, which were characterized by trust, integrity, and support (Kinnuen et al., 2016). Although these studies measured team culture in slightly different ways, they all focused on the trusting relationships leaders have with their followers and the perceived opportunities/support given by the leader, and so are comparable. These findings suggest authentic leaders are able to create positive team cultures as they acknowledge their followers' perspective, show behaviours in line with their inner values and by demonstrating they are aware of their strengths and weaknesses. These cultures are then reinforced as the followers take on their leaders' values as their own.

Cohesion

In addition to creating positive team cultures and trusting relationships, authentic leaders may also be able to develop more cohesive teams. Cohesion is defined as “a dynamic process which is reflected in the tendency for a group to stick together and remain united in

the pursuit of instrumental objectives and/or the satisfaction of group members affective needs” (Carron et al., 1998, p. 213). Authentic leaders are likely to create more cohesive teams as a result of followers’ socially identifying with their leader and team, due to authentic leaders providing high levels of social support and transparency (Ashford & Mael, 1989; Avolio et al., 2004). By socially identifying with their leaders’ values, followers begin to operate in a similar manner to their leader, which establishes a team culture of authenticity and promotes cohesion amongst the team as they perceive themselves to have the same values of their team. Furthermore, authentic leaders also provide social support by including their followers in open discussions, which is likely to create more cohesive teams as athletes feel they have a say in team decisions (Bandura et al., 2019). In turn cohesion may have a positive impact on follower outcomes such as enjoyment and commitment (Bandura et al., 2019). Therefore, it is important that research into authentic leadership considers the impact of authentic leaders on team environment variables such as cohesion.

The relationship between authentic leadership and team cohesion has been supported by two studies of team sport athletes (e.g., Bandura et al., 2019; Houchin, 2011) which showed that authentic leadership was positively related to trust, team and task cohesion. These studies also found that cohesion had an indirect role between authentic leadership and follower outcomes, such as enjoyment and commitment. Cohesion is likely to have an indirect role between authentic leadership and follower outcomes because, in more cohesive groups, team members are likely to be motivated in ways that support team values by demonstrating positive behaviours to appease teammates and preserve the resulting positive emotions (Bruner et al., 2014).

In summary, authentic leadership is expected to be related to numerous outcomes in followers such as trust, team culture, and cohesion. These variables in turn may indirectly influence the relationship between authentic leadership and athlete outcomes and moral

behaviours. Authentic leadership may also directly influence these athlete outcomes and moral behaviours. These suggestions have been supported by studies in the business and nursing domain, as well as three studies in sport. Despite the importance of coaches showing behaviours indicative of authentic leaders, such as being concerned for their followers' development and creating trusting relationships with athletes, authentic leadership has received limited attention in sport. The limited research conducted in sport has found authentic leadership to be positively related to athletes' trust, autonomy satisfaction, cohesion, performance, satisfaction, enjoyment, and commitment (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018; Houchin, 2011).

Based on the research conducted on models of authentic leadership and research conducted in sport and other domains, we propose a model of authentic leadership in sport presented in Figure 1.4.

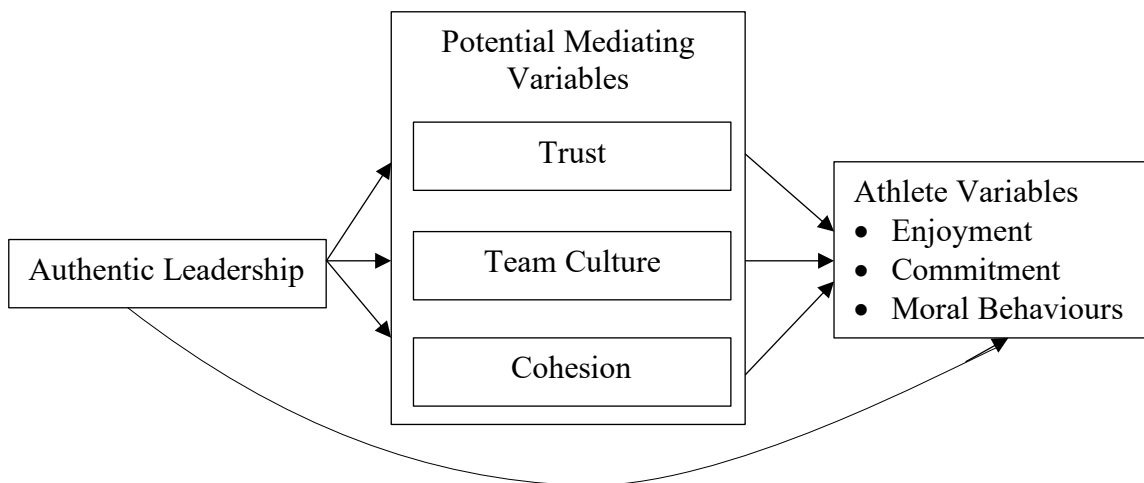


Figure 1.4. Proposed model of authentic leadership in sport

Despite the initial studies conducted on authentic leadership in sport, it is not known how authentic leadership may be related to other athlete outcomes such as moral behaviours, team cultures, and follower wellbeing in spite of models of authentic leadership suggesting

authentic leadership may influence these variables (e.g., Avolio et al., 2004; Gardner et al., 2005). Furthermore, it is not known how authentic leadership compares against dominant leadership models in terms of predicting athlete outcomes, in order to discern the importance of authentic leadership research in sport. In addition, the previous research in sport is limited by its cross-sectional design, thus providing limited evidence for the long-term influence and causal effects of authentic leadership. Scholars have suggested that authentic leadership and consequently follower outcomes may change over time as followers identify with and begin to mimic their authentic leaders (Avolio et al., 2004). Therefore, there is the need for longitudinal research on authentic leadership in sport in order to rectify this gap in the literature. Furthermore, this cross-sectional research does not allow for a causal relationship between authentic leadership and athlete variables to be established, thus there is the need for an experimental study, to examine the effects of an authentic leadership manipulation on athlete variables. Finally, currently, no intervention designed to increase coaches use of authentic leadership has been developed or tested in either the sports domain or any other domain. However, authentic leadership is expected to result in numerous positive outcomes for followers, suggesting such an intervention would be beneficial.

Summary and Rationale for Research

In summary, whilst authentic leadership shares some similarities with dominant leadership theories such as transformational leadership, the four components of authentic leadership distinguish it from these previous models. This is because whilst previous leadership models may contain similar components, all four components are required for a leader to be considered authentic. Furthermore, the different core components of authentic leadership suggest it may predict athlete outcomes beyond that explained by transformational leadership (Walumbwa et al., 2008). Currently, no study in sport has made an attempt to distinguish authentic leadership from dominant leadership theories in sport, such as

transformational leadership. This gap in the literature needs to be addressed in order to discern the importance of authentic leadership in sport and to determine how it may predict athlete outcomes beyond that explained by previous leadership models.

Furthermore, there is a body of evidence which shows that authentic leadership could be positively related to numerous beneficial outcomes for followers such as higher trust, cohesion, enjoyment, and commitment (e.g., Bandura & Kavussanu, 2018; Hannah et al., 2011; Nelson et al., 2014). This research suggests that authentic leaders may promote these variables in followers directly, by demonstrating authentic behaviours, but also indirectly through creating trusting relationships with followers, more inclusive team cultures, and more cohesive teams (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018).

In addition, to the relationships which have already been found between authentic leadership and athlete outcomes, according to models and research in other domains, authentic leaders could also promote numerous other beneficial outcomes such as team culture, wellbeing, and moral behaviours (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018; Houchin, 2011). Therefore, these gaps in the literature relating to authentic leadership research in sport need to be addressed.

Furthermore, the previous research conducted in sport has been cross-sectional, however several authors suggest that authentic leadership, and consequently athlete variables, may change over time, as the leader-follower relationship is developed and strengthened (e.g., Avolio et al., 2014). This cannot be addressed by the current cross-sectional research in sport. The cross-sectional nature of these previous studies also does not allow for a causal relationship between authentic leadership and athlete variables to be established, thus there is the need for an experimental study, in which authentic leadership is manipulated, in order to examine the effects of this manipulation on athlete variables. Lastly, there is the need to develop an authentic coaching intervention in order to educate coaches to show authentic

leadership in their coaching and potentially improve the enjoyment, commitment, and moral behaviours of their athletes, as suggested by models of authentic leadership and previous research conducted in sport. As of writing, no previous intervention designed to increase authentic leadership has been developed

Authentic leadership is highly relevant to a sporting context given the importance authentic leaders place on developing relationships with their followers and being concerned with their followers' development. However, despite this little research has been conducted to examine the impact of authentic leadership of coaches on athlete outcomes, within a sporting context. Nonetheless, in order to be considered effective, leaders need to encourage caring and trusting relationships (Vella et al., 2010). In addition to this, the four core components of authentic leadership, suggest authentic leaders could be key to creating more positive sports environments, through positively impacting on athletes' development. Thus, there is merit in investigating this form of leadership further, within a sports environment.

Variables such as trust, commitment, and enjoyment are important in promoting continued participation in sport, which is vital given the proposed 35% drop in sports participation with age (Gould, 1987). Furthermore, given the social nature of sport, prosocial and antisocial behaviours are commonplace amongst athletes. Coaches are expected to play an important role in athletes' moral behaviours and ethical decision making (Kavussanu & Stranger, 2017). Therefore, investigating whether authentic leadership will promote more prosocial behaviours could help to address antisocial behaviours in sport, such as aggression and cheating. This could help to address these issues in sport, which is particularly relevant in light of recent doping scandals and the apparent 3-5% of youth athletes reporting to engage in doping (Avolio et al, 2004; Laure & Binsinger, 2007).

Aim of Thesis and Study Purposes

Thus, the aim of this thesis was to extend existing research on authentic leadership in sport and develop a better understanding of the impact of authentic leadership on athletes, using a variety of outcomes, samples, and research methods. Specifically, the first aim of the thesis was to distinguish authentic leadership from the dominant leadership theory in sport. The second aim was to examine the influence of authentic leadership on a wide range of athlete outcomes, such as trust, cohesion, team culture, commitment, enjoyment, and prosocial behaviours. The final aim of the thesis is to pilot test the effectiveness of an authentic leadership coaching intervention through assessing its effectiveness on reported athlete outcomes. The research reported in this thesis is important because, authentic leadership research in sport is still in its early stages. Throughout the studies presented in this thesis authentic leadership is measured via athletes' perceptions of their leader's authentic leadership. The specific aims and purposes of each study will be discussed in more detail below.

The purpose of Study 1, presented in chapter 2, was to examine whether authentic and transformational leadership are distinct from one another, as well as whether authentic leadership predicts athletes' commitment and enjoyment beyond that of transformational leadership. We hypothesized that authentic leadership is distinct from transformational leadership and will show predictive validity above transformational leadership in terms of athletes' enjoyment and commitment. This study will collect data from team sport athletes using questionnaires.

After distinguishing authentic leadership from the dominant leadership theory and determining its predictive power of athlete outcomes, Study 2, presented in Chapter 3 consisted of a longitudinal study. The purpose of this study was to examine whether changes in authentic leadership would be directly related to changes in athletes' enjoyment, commitment, and moral outcomes, as well as whether it is indirectly related through changes

in trust and cohesion over time. The study involved questionnaires being given to athletes at the start of the season and then 5 months later towards the end of the season.

Due to the previous research on authentic leadership in sport being cross-sectional, little is known of the casual relationships between authentic leadership and athlete variables. Study 3, presented in Chapter 4, thus involved an experimental study to establish more of a causal relationship between authentic leadership and the variables identified in the previous studies. The purpose of Study 3 was to examine whether participants in the high authentic leadership condition would report higher trust, enjoyment, commitment, and moral (i.e., cheating, cheating anticipated guilt, aggression, aggression anticipated guilt) outcomes, compared to the low authentic leadership and neutral conditions. Participants were randomly assigned to either a high, low, or neutral authentic leadership condition. The participants were asked to imagine they played for the coach described in their condition and complete a questionnaire.

The purpose of Study 4, presented in Chapter 5, was to develop and pilot test an authentic coaching intervention, and examine whether athletes in the intervention group would report their coach to show higher authentic leadership and report higher trust, team culture, cohesion, coach-athlete relationships, enjoyment, commitment, and prosocial behaviours post intervention, compared to athletes in the control group. The authentic coaching intervention was developed using a number of focus groups and pilot tested on a small sample of participants. The intervention was then delivered over a 1-day session with coaches. Coaches were randomly allocated into either the intervention condition who received the intervention or the control group who did not. Data was collected from coaches and their athletes at the start of the season and then again two months after the intervention. The effectiveness of the intervention was assessed by whether it lead to higher rates of

athletes' perceptions of their coaches' authentic leadership behaviours and reported developmental outcomes, compared to the control group and the baseline scores.

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CHAPTER TWO

Study 1: A Comparison of Authentic and Transformational Leadership in Sport

Abstract

Introduction

Transformational and authentic leadership are two models of leadership, which have some similarities and are relevant to sport. However, these leadership models are also distinct and consequently may predict athlete outcomes differently. Authentic leadership has received little attention in sport and so research is needed to examine how it is unique in terms of what it adds to dominant sport leadership models.

Method

The purpose of this study was to investigate whether authentic leadership (a) is empirically distinct from transformational leadership and (b) adds to transformational leadership by explaining unique variance in commitment and enjoyment. A total of 421 (227 female, $M_{\text{age}} = 20.32$) team sport athletes took part in the study by completing a questionnaire.

Results

Authentic leadership was correlated to transformational leadership suggesting transformational and authentic leadership show some convergent validity. However, structural equation modelling revealed that authentic leadership also shows discriminant validity to transformational leadership and has incremental predictive power above that of transformational leadership, in terms of predicting athletes' enjoyment and commitment.

Conclusions

Our findings enhance our understanding of authentic leadership in sport and clearly show that it is distinct from transformational leadership. They also highlight the importance of authentic leadership and how it adds to transformational leadership in terms of predicting athletes' commitment and enjoyment.

Key words: commitment, enjoyment, structural equation modelling, validity, coaching, athletes

Introduction

Leadership is believed to be an important contextual factor in determining athletes' psychological development, wellbeing, and commitment (Vella et al., 2013). Therefore, research into leadership and its impact on athletes, has become a key area of sport psychology literature (O'Boyle et al., 2015). This is because whether an athlete's sport experience is positive or negative is largely determined by situational factors such as the characteristics of the coach and the type of leadership they show (Turnnidge & Côté, 2016; Vella et al., 2013). As such, coaches are highly influential to athletes and are able to promote lifelong participation in sport (Turnnidge & Côté, 2016). Thus, promoting good leadership in sport can address issues such as sport drop-out with age (Gould, 1987; Slater & Tiggemann, 2011).

Recently, the view of what makes an effective coach has moved away from authoritarian leaders to ones who focus on their athletes' development and building quality relationships with their athletes. This is because research has highlighted that supportive relationships with coaches bring positive developmental outcomes (e.g., Benson et al., 2006). In fact, coaching effectiveness is defined as the facilitation of positive developmental outcomes and interpersonal relationships (Côté & Gilbert, 2009; Vella et al., 2013). Several models of leadership which focus on developing interpersonal relationships with their athletes have been proposed (e.g., authentic, transformational & ethical leadership). However, it is unclear how these leadership models differ and how they may impact on athlete outcomes within a sporting context. In this thesis, we will examine two contemporary models of leadership: transformational and authentic leadership. The latter is a more recently proposed form of leadership, which has received little attention in sport thus far but could add to dominant leadership theories in terms of explaining unique variance in athlete outcomes.

Authentic Versus Transformational Leadership

Transformational leadership has been the dominant model of leadership in sport over the recent decade (Stenling & Tafvelin, 2014). It is defined as transforming followers' values and motivating followers to achieve performance outcomes beyond their normal expectations or limits (Bass, 1985; Kark et al., 2003). Transformational leaders are also believed to be charismatic and inspire followers to become leaders themselves (Hopton et al., 2007). Transformational leaders are able to do this through showing four leader behaviours which influence their followers' values and performance (Bass & Riggio, 2006; Hopton et al., 2007). These four components are referred to as the "four Is" and are: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Avolio, 1999; Bass, 1985).

Idealized influence suggests transformational leaders act as role models by placing their followers' needs first, instilling pride, being devoted to their values and showing high moral standards (Avolio, 1999; Hopton et al., 2007). Inspirational motivation refers to inspiring and motivating followers, by providing meaning, clear expectations, and demonstrating confidence in achieving goals. This results in athletes displaying greater self-efficacy and a shared vision (e.g., Bass, 1985; Hopton et al., 2007). Intellectual stimulation means listening and stimulating their followers to question assumptions and come up with new creative ways to solve problems, by providing intelligent and rational solutions (e.g., Bass, 1985; Hopton et al., 2007). Finally, individualized consideration relates to paying attention to their followers' achievement needs through creating supportive climates, providing learning opportunities, and serving as mentors (Walumbwa et al., 2008).

Authentic leadership is defined as "a pattern of leader behaviour that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive

self-development” (Walumbwa et al., 2008, p. 94). Authentic leaders are believed to be genuine and open through acting in ways consistent with their innermost values, and as such they are perceived as credible leaders (Avolio et al., 2004). Authentic leadership has a specific focus on leader-follower relationship, which makes it an appropriate model for sports environments as these are highly influenced by factors such as the relationship athletes have with their coach (O’Boyle et al., 2015). Furthermore, Walumbwa et al.’s. (2008) definition suggests authentic leadership is a multidimensional construct made up of four components: self-awareness, relational transparency, balanced processing, and internalized moral perspective.

Self-awareness is defined as leaders being aware of their own strengths, weaknesses, values and morals, which in turn regulate their behaviours (Ilies et al., 2005; Neider & Schrieshem, 2011; Walumbwa et al., 2008). Relational transparency refers to being open and showing one’s true self to one’s followers, which results in trusting open relationships between the leader and their followers (Kernis, 2003; Walumbwa et al., 2008). Balanced processing pertains to objectively processing all available information, including the perspective of one’s followers, before coming to a decision (Walumbwa et al., 2008). Internalized moral perspective refers to having high moral standards; authentic leaders act in line with these values rather than external pressures, which results in ethical decision-making and consequently moral behaviours (Avolio & Gardner, 2005; Ilies et al., 2005). These four components reflect the core components of authentic leadership which are self-awareness and self-regulatory processes. Whilst, promoting follower development and creating authentic relationships are also important components of authentic leadership.

Similarities and Differences Between the Two Leadership Models

Transformational and authentic leadership share some conceptual overlap, with authentic leadership often being described as a subset of transformational leadership

(Walumbwa et al., 2008). Specifically, transformational leadership suggests that these leaders serve as role models and display moral conduct. Authentic leaders are also believed to be role models by showing their true self to their followers and demonstrating moral behaviours in line with their values. Furthermore, both place their followers first and create supportive trusting relationships. This is because both transformational and authentic leaders are concerned with their followers' development, listen to their followers' perspectives, and build trusting relationships with them. Thus, both models suggest that the leaders care about their followers and are centred around the idea of developing leader-follower relationships. As such, it would be expected that the two models would show a degree of convergent validity.

Despite the conceptual overlap between authentic leadership and transformational leadership, the two leadership models also have distinct core components. Firstly, a core component of authentic leadership is the deeply rooted sense of self (i.e., self-awareness). Authentic leaders know where they stand on important issues and act in-line with their inner values despite situational factors. This deep sense of self is then displayed to their followers, through showing internalized moral perspective and self-regulation, which results in enduring relationships (Ilies et al., 2005; Walumbwa et al., 2008). Secondly, whilst transformational and authentic leaders both consider their followers' needs; authentic leaders' genuine nature suggests they remain true to their self and thus lead with purpose. However, they are also willing to take into account both their followers' perspective and core values, and therefore display high levels of self-regulation (Avolio & Gardner, 2005; Walumbwa et al., 2008).

Thirdly, both transformational and authentic leaders are concerned with their followers' development, but in different ways. Specifically, transformational leaders are concerned with developing their followers into leaders. Whilst authentic leaders instead promote authenticity amongst followers, develop enduring relationships with them, and influence them to become authentic (Gardner et al., 2005; Luthans & Avolio, 2003).

Furthermore, the mechanisms through which the two models influence their followers' development is different. Authentic leaders influence their followers indirectly by being transparent when faced with problems, leading by example and showing dedication, which influences their followers' beliefs and values. In contrast, transformational leaders influence their followers by showing character, providing a powerful inspirational vision, providing intellectually stimulating ideas, and paying attention to followers' achievement needs. Lastly, a key distinguishing component of authenticity is an inherent moral component (Avolio & Gardner, 2005; Gardner et al., 2005). Whilst original theories of transformational leadership suggest that transformational leaders show ethical role modelling, more recently it has been suggested that transformational leaders do not always have to act ethically, and can instead be manipulative, if they consider this is for the greater good (Bass & Steidlmeier, 1999; Walumbwa et al., 2008). Staying true to moral values, regardless of situational challenges, however, is a key component of authentic leadership (Avolio & Gardner, 2005; Walumbwa et al., 2008). In sum, these core differences suggest that authentic leadership is conceptually distinct to transformational leadership, and so it is likely to show divergent validity.

To date, only one study, Walumbwa et al. (2008), has examined the construct validity of authentic leadership compared to transformational leadership. They did this by firstly demonstrating its convergent validity through showing its positive correlations with transformational leadership. Secondly, they demonstrated its discriminant and predictive validity via showing the incremental predictive power of authentic leadership in regard to commitment and satisfaction. These findings suggest that authentic leadership is a viable construct that can explain follower outcomes beyond that explained by other forms of leadership. However, Walumbwa et al. (2008) study was conducted on a business sample and so the results cannot be generalized to other settings. Furthermore, in order to demonstrate construct validity, they suggest that the study needs to be recreated on a range of different

contexts and consider variables which are important within these contexts. As such, we conducted a study within a sports environment and used sport specific variables. This is because authentic leadership is believed to be a relevant model of leadership in sport, but its sport specific research is in its early stages of development. Therefore, there is the need to investigate its construct validity in terms of what it adds to dominant leadership theories in sport, such as transformational leadership, in order to determine the unique benefits of authentic leadership in explaining athlete outcomes.

Predicting Athlete Outcomes

As authentic and transformational leadership share some conceptual overlap it would be expected that authentic and transformational leadership will lead to similar outcomes in athletes. However, because authentic leadership has different core components to transformational leadership it is suggested that it could explain different amounts of variance in athlete outcomes. Two outcomes that both transformational and authentic leadership are suggested to influence are enjoyment and commitment. Enjoyment is defined as “a positive affective response to the sport experience that reflects generalised feelings such as pleasure, liking and fun” and can be considered an aspect of wellbeing (Scanlan et al., 1993, p. 6). Commitment is defined as a “psychological construct representing the desire and resolve to continue sport participation” (Scanlan et al., 1993, p. 6). Both commitment and enjoyment are important in sport, as they can influence whether an athlete will continue sport participation (Scanlan et al., 1993). Currently, there has been shown to be a 35% drop in sports participation with age, after the age of 12 (Gould, 1987; Slater & Tiggemann, 2011). Therefore, research into the predictors of these two psychological outcomes is vital.

Research into transformational leadership suggests it is likely to positively influence athletes’ enjoyment and commitment via demonstrating individualised consideration and inspirational motivation. These components show followers that their leaders care for them

and inspires them to show more effort during challenging situations (Hopton et al., 2007; Price & Weiss, 2013). Furthermore, through showing charisma, followers are likely to personally and socially identify with their leaders, which promotes higher commitment and enjoyment (Kark et al., 2003). This was supported by a study conducted on female athletes, which found that transformational leadership was positively related to athletes' soccer enjoyment (Price & Weiss, 2013). These findings were replicated in a second study which found that transformational leadership both directly and indirectly, via need satisfaction, predicted athletes' wellbeing, defined as being cheerful, enthusiastic and optimistic (Stenling & Tafvelin, 2014). Other studies found a significant positive relationship between transformational leadership and commitment (Hallajy et al., 2011; Saybani et al., 2013).

Authentic leadership may also influence followers' enjoyment and commitment by creating trusting relationships and supportive team climates via social contagion, as a result of them showing the four components of authentic leadership (e.g., Ilies et al., 2005; Nelson et al., 2014). These trusting relationships can also indirectly influence athletes' commitment as followers identify with their leaders (Gardner et al., 2005; Walumbwa et al., 2008). Consequently, authentic leaders may make individuals feel they are part of the same team through athletes socially identifying with the team and leader (Fransen et al., 2020). Authentic leaders may do this through openly sharing their values with the team, thus promoting trust and social identification, which has been linked to followers' wellbeing (Steffens et al., 2017). Authentic leaders may also heighten followers' positive emotions through emotional contagion, which involves the spread of positive emotions from the leader to their followers (Ilies et al., 2005). This was supported by a recent study which found athletes' perceptions of authentic leadership were positively related to their enjoyment and commitment, and this relationship was mediated by trust (Bandura & Kavussanu, 2018).

Taken together, the research suggests that transformational and authentic leadership are likely to positively impact athletes' commitment and enjoyment. However, because authentic leadership is distinct from transformational leadership, it may have different value in predicting these outcomes beyond that of transformational leadership. Specifically, authentic leaders may promote higher commitment and positive emotions because of its core components such as relational transparency (i.e., self-regulation), which creates clear and open relationships built on trust and positive emotions (Avolio et al., 2004; Bandura & Kavussanu, 2018). Secondly, the core component of self-awareness suggests authentic leaders are likely to be perceived as more genuine and trustworthy, which will further result in greater commitment and positive emotions (Walumbwa et al., 2008). Lastly, the inherent core moral component, is also expected to create greater commitment (Cianci et al., 2014). Therefore, authentic leadership could offer unique contributions to explaining commitment and enjoyment, in sport, compared to transformational leadership.

The Current Investigation

In summary, transformational and authentic leadership have some conceptual overlap. However, authentic leadership incorporates different core components to transformational leadership, such as self-awareness, self-regulation, relational transparency, showing concern for their followers' development, developing strong relationships, and an inherent moral component. These core components suggest that authentic leadership may add to transformational leadership in terms of promoting positive outcomes for athletes (Walumbwa et al., 2008). Walumbwa et al. (2008) found evidence for this within a business setting however, no such comparison has been made in sport or with sport specific athlete outcomes.

We therefore plan to build on Walumbwa et al's. (2008) study by investigating the construct validity of authentic leadership within a sporting context. Specifically, we plan to examine how authentic and transformational leadership are distinct as well as whether

authentic leadership predicts athletes' commitment and enjoyment beyond that of transformational leadership. We propose the following hypotheses: (a) authentic leadership is empirically distinct from transformational leadership (discriminant validity) (Avolio & Gardner, 2005; Houchin, 2011; Walumbwa et al., 2005); and (b) authentic leadership predicts commitment and enjoyment when controlling for transformational leadership (predictive validity; Avolio et al., 2004; Ilies et al., 2005; Walumbwa et al., 2008).

Method

Participants

A total of 421 athletes (227, 53.9% females), representing 28 teams, took part in the study. A power analysis indicated that for a small effect size using SEM, 137 participants would need to be recruited to reach 80% power in a model with 4 latent variables, assuming a significance of .05. Participants came from a variety of team sports and competed in university leagues (1st to 4th teams), which competed at a regional or national level ($n = 387$) or adult regional level teams, of an amateur level ($n = 34$), from the West Midlands area of the UK. The sports included in the study are lacrosse ($n = 95$, 22.6%), hockey ($n = 67$, 15.9%), American football ($n = 73$, 17.3%), volleyball ($n = 24$, 5.7%), dodgeball ($n = 38$, 9%), football ($n = 37$, 8.8%), korfbal ($n = 12$, 2.9%), cheerleading ($n = 53$, 12.6%), and ultimate Frisbee ($n = 22$, 5.2%). The participants were aged 17 to 44 ($M_{age} = 20.32$, $SD = 2.86$). The participants had 1 to 23 years of experience in their respective sports ($M = 5.01$, $SD = 4.86$), had played for their current team for one to over four years ($M = 1.64$, $SD = 0.82$) and had played under their current coach for one to over four years ($M = 1.50$, $SD = 0.80$). Most coaches were male (52.7%). At the time of data collection, all participants had played for their current coach for at least a year.

Measures

Authentic leadership. Athletes completed the Authentic Leadership Questionnaire (ALQ) developed by Walumbwa et al. (2008) in order to capture their perceptions of their leaders' level of authentic leadership. The ALQ measures the four components of authentic leadership using 16 items and four subscales. The self-awareness subscale consists of four items (e.g., "my coach accurately describes how others view his or her capabilities" $\alpha = .87$); balanced processing consists of three items (e.g., "my coach analyses relevant data before coming to a decision" $\alpha = .75$); relational transparency is measured with five items (e.g., "my coach admits mistakes when they are made" $\alpha = .77$); and internalized moral perspective is measured with four items (e.g., "my coach makes decisions based on his or her core values" $\alpha = .84$). Participants rated their coach's level of authentic leadership on a 5-point scale with 1 corresponding to "not at all" and 5 corresponding to "frequently if not always". The Pearson correlations between the different subscales ranged from $r = .67$ to $r = .79$. Thus, we computed the average score across the four subscales for authentic leadership, in line with previous studies (e.g., Houchin, 2011).

Transformational leadership. In line with Walumbwa et al. (2008) and several studies in sport (e.g., Hallajy et al., 2011; Price & Weiss, 2013), transformational leadership was measured using the four three-item subscales of the Multifactor Leadership Questionnaire (MLQ) developed by Bass and Avolio (1992). The wording of the questionnaire was changed so that "I" became "my coach", in order to measure athletes' perceptions of their coaches' behaviours. The subscales include idealized influence (e.g., "my coach makes others feel good to be around them"), inspirational motivation (e.g., "my coach helps others find meaning in their work"), individual consideration (e.g., "my coach gives personal attention to others who seem rejected"), and intellectual stimulation (e.g., "my coach provides others with new ways of looking at puzzling things"). Participants responded on a 5-point scale with 0 corresponding to "not at all" to 4 corresponding to "frequently if not always". The scores of

this scale showed high reliability as shown by Cronbach alphas of .92, and good construct validity (Muenjohn & Armstrong, 2008).

Commitment and enjoyment. Commitment and enjoyment were measured using two subscales from the Sport Commitment Model developed by Scanlan et al. (1993). Participants were asked to think about their experiences in their team and circle the appropriate number. An example item from the commitment subscale is “how dedicated are you to continue playing for this team” ($\alpha = .85$) and from the enjoyment scale “do you enjoy playing for this team” ($\alpha = .94$). Athletes rated their levels of commitment and enjoyment using a 5-point Likert scale with 1 corresponding to “not at all dedicated” or “not at all” and 5 “very dedicated” or “very much” for the commitment and enjoyment scales, respectively.

Procedure

Firstly, ethical approval was obtained from the lead author’s University’s ethical review committee. Next, 28 coaches were contacted via email or by the phone, using purposeful sampling techniques. The coaches were told the purpose of the study, given a sample questionnaire, and agreed to take part in the study. A date and time for data collection was arranged once the coach agreed for their athletes to take part in the study. Each athlete was then told the purpose of the study, that data would be confidential and used for research purposes only, that they could withdraw their data at any point, and that their participation was voluntary. Participants were encouraged to answer the questions truthfully. Data collection took place at the start of the season, over two months, and the questionnaire was given to participants at the start or end of a practice session. The questionnaire took 10-15 minutes to complete, and the researcher remained present at all times to answer any questions. Finally, the measures were counterbalanced to avoid order effects.

Data Analysis

We conducted preliminary analysis using the Statistical Program for Social Sciences (SPSS) v.25 and the main analysis using AMOS. We first conducted preliminary analysis to look for any missing data and to see if the data was normally distributed, followed by a reliability analysis, computed descriptive statistics, and correlations. We present results for the overall scores of authentic and transformational leadership as well as their sub-dimensions. Then, a measurement model was run which included the items measuring all variables in the model, to assess the relationships between the latent variables and the items that serve as each variable's indicators (i.e., the items that make up the authentic leadership, transformational leadership, enjoyment, and commitment variables), using SEM. Next, we inspected whether transformational and authentic leadership are distinct by examining if the average variance extracted value of authentic leadership was greater than the squared correlation of authentic leadership and transformational leadership (Netemeyer et al., 1990). We further tested for discriminant validity, using the items as indicators in a nested model, following the steps presented in Walumbwa et al. (2008). This involved freely estimating the correlation between authentic leadership and transformational leadership in the first model (i.e., the unconstrained model), setting the correlation as 1.00 in the second model (i.e., constrained model), and examining if the χ^2 value for the model with the unconstrained correlation is significantly lower than the χ^2 value for the model with the constrained correlation.

We further examined transformational and authentic leadership, in terms of their relation to the outcome variables, by comparing the correlation coefficients using Lee and Preacher's (2013) Z score calculator. We then employed SEM again, using a two-step approach. The first step involved running a nested model, in order to account for the lack of independence in the data (i.e., as a result of athletes being nested within teams), which dropped the path from transformational leadership to enjoyment and commitment. The

second step involved running a nested model, in which the path from authentic leadership to the outcome variables was fixed to zero. This determined whether authentic leadership positively predicted athletes' enjoyment and commitment, when controlling for transformational leadership.

Results

Preliminary Analysis

The Shapiro-Wilk test and visual inspection of the Q-Q plots, histograms and box plots showed that the data were normally distributed. The skewness and kurtosis of authentic leadership (Skewness = .82, SE = .12; Kurtosis = 1.09, SE = .24), transformational (Skewness = -1.42, SE = .12; Kurtosis = 1.30, SE = .24), enjoyment (-.68, SE = .12; Kurtosis = .67, SE = .24) and commitment (Skewness = -.97, SE = .12; Kurtosis = .97, SE = .24) scales demonstrated normal distribution. Missing data were found to range from .1 to .4% of the individual items, thus a very small proportion of data was missing. A MCAR test revealed the data to be missing at random, as shown by supporting the null hypothesis that the data is missing completely at random. Therefore, we replaced missing data with the mean of each variable (Fox-Wasylyshyn & El-Masri, 2005; Tabachnick & Fidell, 2001).

Cronbach Alphas, Descriptive Statistics, and Correlations

Table 2.1 shows the alpha coefficients, means, standard deviations, zero-order correlations of all the study measures and the items that make up each measure. All the internal consistencies for the different scale scores were high and above the commonly accepted .70 level (George & Mallery, 2003). Participants perceived their coach to have high levels of authentic and transformational leadership and also reported high levels of commitment and enjoyment. Authentic leadership and its sub-dimensions were strongly correlated to transformational leadership and moderately correlated to enjoyment and

commitment, whilst transformational leadership and its sub-dimensions were weakly correlated to enjoyment and commitment.

Table 2.1*Descriptive Statistics, Alpha Coefficients, and Zero-Order Correlations*

Variable	M	SD	α	1	2	3	4	5	6	7	8	9	10	11	12
1. Authentic leadership	4.16	.61	.94	-											
2. Self-Awareness	4.10	.78	.92	.91*	-										
3. Relational transparency	4.23	.61	.84	.89*	.72*	-									
4. Internalized moral perspective	4.22	.69	.90	.88*	.72*	.76*	-								
5. Balanced Processing	4.01	.74	.87	.87*	.79*	.67*	.70*	-							
6. Transformational leadership	3.14	.60	.91	.66*	.61*	.58*	.59*	.57*	-						
7. Idealised influence	3.27	.64	.89	.64*	.59*	.54*	.58*	.57*	.88*	-					
8. Inspirational motivation	3.17	.66	.87	.59*	.53*	.56*	.53*	.47*	.89*	.76*	-				
9. Intellectual stimulation	3.04	.71	.89	.56*	.51*	.49*	.49*	.48*	.90*	.68*	.75*	-			
10. Individualised consideration	3.07	.72	.81	.56*	.54*	.47*	.49*	.51*	.87*	.68*	.65*	.71*	-		
11. Enjoyment	4.62	.73	.94	.45*	.38*	.35*	.40*	.34*	.25*	.31*	.31*	.28*	.32*	-	
12. Commitment	4.32	.68	.85	.39*	.36*	.33*	.39*	.30*	.29*	.29*	.27*	.25*	.25*	.53*	-

Note. Possible range of authentic leadership, enjoyment and commitment = 1-5, transformational leadership = 0-4.

* $p < .001$.

Contrasting Authentic and Transformational Leadership

The first purpose of the study was to examine whether authentic and transformational leadership were distinct from each other. Table 2.1 shows the correlations between the different components of authentic and transformational leadership. The four components of authentic leadership were moderately correlated to the components of transformational leadership. Authentic leadership and transformational leadership were highly correlated. However, authentic leadership was also found to be distinct from transformational leadership as the average variance extracted of authentic leadership was .76, in the model that included transformational leadership, which was greater than the squared correlation of .40 (Netemeyer et al., 1990; Walumbwa et al., 2008). We then further established discriminant validity by following the steps outlined in Walumbwa et al. (2008) which suggests that authentic and transformational leadership will demonstrate discriminant validity if the χ^2 value in the model with the unconstrained correlation between authentic and transformational leadership is significantly lower than the model with the constrained correlation between the two variables. The results demonstrated that the χ^2 value for the model with the unconstrained correlation ($\chi^2(349) = 1305.16$) was significantly lower than the model with the constrained correlation ($\chi^2(350) = 1416.80$; $\Delta\chi^2 = 111.64$, $p < .001$), thus further enhancing our confidence in the discriminant validity between authentic and transformational leadership.

We then used Lee and Preacher's. (2013) Z score calculator, to see how the different leadership models related to the outcome variables, by comparing the correlation coefficients of the leadership models, presented in Table 2.1, and the outcome variables. This assesses the equality of two correlation coefficients with two correlations (i.e., the correlations between authentic leadership or transformational leadership and the outcome variables), from the same sample and sharing a common variable (the correlation between transformational and

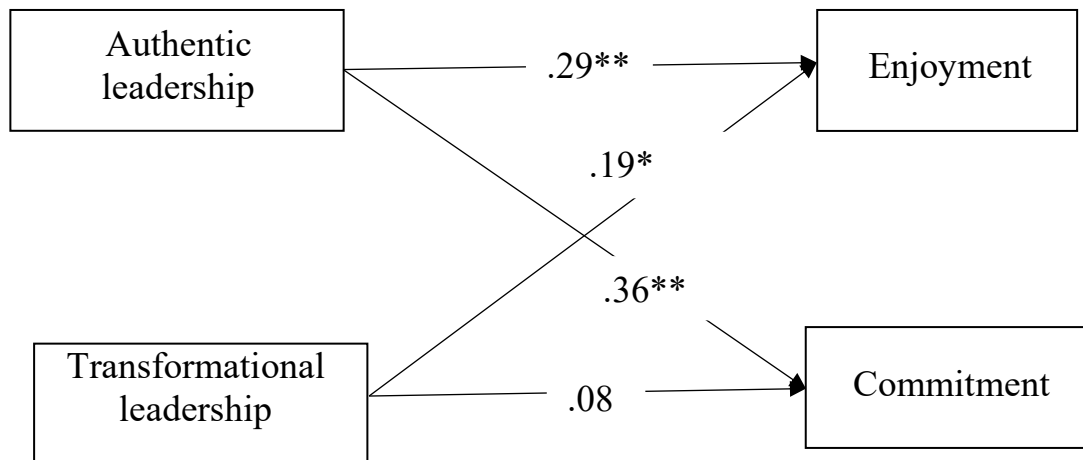
authentic leadership), in order to obtain a z score, via the Fisher's r-z transformation. The z score results are compared in a 1-tailed and 2-tailed fashion against the units normal distribution. The z score for authentic leadership compared against transformational leadership with regards to enjoyment was 5.42 (1-tailed $p \leq .001$, 2-tailed $p \leq .001$) and to commitment was 2.67 (1-tailed $p \leq .001$, 2-tailed $p \leq .001$).

Authentic Leadership Predicting Athlete Outcomes

From the zero-order correlations between authentic leadership and the outcome variables there is good initial evidence of predictive power. We first examined a measurement model with all the variables included in the study (i.e., authentic leadership, transformational leadership, enjoyment, and commitment) to assess the relationship between the latent variables and their indicators (i.e., the manifest items). We used a combination of fit indices to determine the degree of model fit for this measurement model, including the Chi-Square (χ^2), Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA). A χ^2 with a probability value of below .05, a CFI value close to .90, and RMSEA less than .08 are suggested to indicate good fit (Hooper et al., 2008). The measurement model had good fit ($\chi^2 = 1653.01$, $df = 588$, $CFI = .90$, $RMSEA = .07$). In order to determine whether authentic leadership adds to transformational leadership, in terms of predicting follower outcomes, we examined whether authentic leadership was positively related to followers' enjoyment and commitment, when controlling for transformational leadership. This was also done using SEM and observed variables. Authentic leadership predicted enjoyment ($\beta = .29$, $p < .001$) and commitment ($\beta = .36$, $p < .001$) when controlling for transformational leadership, as can be seen in Figure 2.1.

Figure 2.1

Authentic and Transformational Leadership predicting enjoyment and commitment



Note. This figure illustrates the SEM results of authentic and transformational leadership predicting enjoyment and commitment, when controlling for either transformational or authentic leadership respectively.

Values are standardized coefficients.

* $p < .05$; ** $p < .001$.

To determine the incremental predictive power of authentic leadership above and beyond that of transformational leadership, two nested models were run for each model. In the first nested model, the path from transformational leadership to enjoyment and commitment was fixed to zero, and in the second nested model the path from authentic leadership to these variables was fixed to zero. In the first sub model, dropping the path from transformational leadership to enjoyment ($\Delta\chi^2 = 3.81$, ns; $\Delta df = 1$) and commitment ($\Delta\chi^2 = 0.77$, ns; $\Delta df = 1$) did not significantly degrade model fit, whereas dropping the path from authentic leadership to enjoyment ($\Delta\chi^2 = 26.11$, $p < .001$; $\Delta df = 1$) and commitment ($\Delta\chi^2 = 27.86$, $p < .001$; $\Delta df = 1$) did significantly degrade model fit. These results show that authentic leadership has incremental predictive power above that of transformational leadership, in terms of predicting athletes' enjoyment and commitment.

Discussion

Over the past decade, an abundance of sport psychology studies have been conducted on numerous leadership approaches (Vella et al., 2013). To date, the majority of this literature has focused on transformational leadership theory, with very few studies having been conducted on authentic leadership. Therefore, we do not know what this approach to leadership adds to the dominant sport leadership theory, in terms of predicting athlete-related outcomes. Authentic leadership is often described as a subset of transformational leadership, meaning the two types of leadership show some conceptual overlap (e.g., Walumbwa et al., 2008). However, the two models also have several distinct components, thus the need to ascertain whether there is merit in investigating what authentic leadership adds to dominant leadership theories in sport. The present study sought to fill this gap in the literature by extending Walumbwa et al's. (2008) study to a sporting setting and with sport specific outcomes. We sought to demonstrate authentic leaderships construct validity, by investigating whether authentic leadership is conceptually similar to or distinct from transformational

leadership and if it predicts athletes' commitment and enjoyment, above and beyond transformational leadership.

Authentic Leadership Versus Transformational Leadership

The first purpose of the study was to investigate whether authentic leadership is distinct from transformational leadership. As expected, the results demonstrated that authentic leadership is correlated to transformational leadership, but not so highly correlated that it would indicate the different leadership scales are measuring the same construct (McCornack, 1956). The findings of the current study are in line with existing literature in organizational settings (e.g., Walumbwa et al., 2008) who reported similar correlations, but also extend the findings to sport literature. These results suggest that although the two leadership models share some conceptual overlap, they are distinct from each other and are therefore separate models of leadership in sport.

As expected, we also found authentic leadership to be distinct from transformational leadership, by demonstrating evidence for the divergent validity of authentic leadership. This is in line with Walumbwa et al. (2008) study; however, they reported a slightly lower average variance extracted value than that found in the current study. The slight difference in the values could be because we examined enjoyment, via the enjoyment scale developed by Scanlan et al. (1993), which measures enjoyment towards the team. Whereas Walumbwa et al. (2008), measured satisfaction towards their supervisor using a scale developed by Smith et al. (1969). Both values nonetheless suggest the two models are empirically distinct, meaning that authentic leadership has a different focus to transformational leadership and vice versa. Therefore, the results suggest there is merit in investigating both models of leadership separately, within a sport context.

The second purpose of the study was to examine if authentic leadership had predictive power over transformational leadership in terms of athlete outcomes. We hypothesized that

authentic leadership would predict athlete outcomes, whilst controlling for transformational leadership. The results supported this hypothesis by firstly showing that authentic leadership predicted participants' enjoyment and commitment when controlling for transformational leadership. The effect size from authentic leadership to enjoyment, when controlling for transformational leadership (.29**) was greater than the effect size between transformational leadership and enjoyment (.19*), when controlling for authentic leadership. Furthermore, the effect size from authentic leadership to commitment (.36**) was larger than the effect size from transformational leadership to commitment (.08), which was not significant. Whilst the effect sizes were small, the results provided important initial evidence for the strength of authentic leadership in terms of being a better predictor of these athlete outcomes compared to transformational leadership.

Secondly, using a nested model, we found that dropping the path from transformational leadership to commitment and enjoyment significantly degraded the model fit. These findings were in line with Walumbwa et al. (2008) study and provide evidence for the unique variance that authentic leadership provides in explaining athlete outcomes. However, our findings showed a smaller degradation in model fit than in Walumbwa et al's. (2008) study. This could be because Walumbwa et al. (2008) measured organizational commitment and so the results cannot be directly compared. However, the scales do contain similar items about dedication, quitting, and effort to stay with the team/organization. Therefore, the outcomes of the two studies are similar enough to extend the findings of Walumbwa et al. (2008) into a different context of sport with sport specific variables.

The incremental validity that authentic leadership demonstrated in predicting athlete outcomes, suggests that authentic leadership is a viable model of leadership in sport and adds to transformational leadership. Thus, authentic leadership is capable of predicting important athlete outcomes above and beyond that of previous leadership models. This predictive power

of authentic leadership over transformational leadership in regard to follower commitment and enjoyment supports theories such as, those proposed by Walumbwa et al. (2008). They suggested that authentic leaders show higher self-awareness, self-regulation, relational transparency and internalized moral perspective which increases followers' commitment and positive emotions, as the authentic leaders are seen to demonstrate greater integrity and trustworthiness. Gardner et al. (2005) further suggested that authentic leaders are capable of influencing followers' wellbeing through creating trusting relationships with their followers. Furthermore, Ilies et al. (2005) suggested that authentic leaders spread positive emotions to their followers through processes such as emotional contagion and creating supportive team cultures. The relationship between authentic leadership and athletes' commitment and enjoyment, when controlling for transformational leadership was also in-line with research from Bandura and Kavussanu (2018), who found that authentic leadership was positively correlated with athletes' enjoyment and commitment.

Taken together our results and the supporting literature suggest that authentic leadership shows construct validity in a sport context, with sport specific variables. Furthermore, the results suggest that the additional components authentic leadership offers can result in unique contributions to explaining positive outcomes in followers, beyond that explained by other leadership theories. Thus, authentic leadership adds to transformational leadership. This is important because it shows that authentic leadership is legitimately found in sport contexts and is a unique model of leadership. Furthermore, it shows that it may explain positive outcomes in athletes, such as greater commitment and enjoyment, compared to transformational leadership. This is likely due to the different focus authentic leadership places on its core components such as self-awareness, an inherent moral component, and self-regulatory processes which result in trusting relationships being developed between the leaders and their athletes. Therefore, authentic leadership is an appropriate model of

leadership in sport and there is value in prompting coaches to show more authentic behaviours, rather than previous dominant leadership models, in order to promote happier and more committed athletes.

Practical Implications

Our study extends the current literature by highlighting the importance of authentic leadership through demonstrating how authentic leadership is different from transformational leadership and what it adds to transformational leadership in terms of predicting athlete outcomes, to enhance our understanding of leadership in sport. The results of this study suggest that coaches should be encouraged to display the four dimensions of authentic leadership in their coaching practice, which were shown to be distinct to transformational leadership model, in order to promote greater commitment and wellbeing of athletes. This is vital given the drop-in sports participation after the age of 12 (Gould, 1987; Slater & Tiggemann, 2011). Therefore, by promoting authentic leadership to increase athletes' enjoyment and commitment, there is the potential to increase athletes' dedication to sport participation beyond adolescence.

Limitations and Future Research Directions

Despite some interesting findings, this study is not without limitations. First, the cross-sectional nature of the study does not allow a cause-and-effect relationship to be established. Furthermore, the long-term effects of authentic leadership are not known. Authentic leadership is believed to develop and change over time, which could not be captured by this study (Avolio et al., 2004). Secondly, this study focuses only on athlete-level variables however, previous research has provided evidence for the link between both authentic and transformational leadership and team-level variables, such as team climate (e.g., Callow et al., 2009; Nelson et al., 2014). Finally, this study only included a sample of

adult teams, at either a university or amateur regional level, and thus the impact of authentic leadership on different competition levels or youth teams is not known.

Future research should thus firstly use a longitudinal design in order to examine how the variables and relationships develop over time. Secondly, future research should make a comparison between authentic and transformational leadership in terms of their predictive power on team-level variables. Thirdly, future research should include a sample of amateur and professional teams, as well as youth teams, to examine the influence of authentic leadership amongst teams of various competitiveness levels and age groups. Furthermore, authentic leadership is believed to influence team identification, and this in turn may impact on athletes' commitment and enjoyment (Gardner et al., 2005). In this way, authentic leadership relates to the social identity approach to leadership which promotes team identity through creating a meaningful sense of "us" (Reicher & Haslam, 2011). Therefore, future research should make a comparison between authentic leadership and identity leadership, as well as examine how authentic leadership may predict team identification, and how this in turn may impact athletes' enjoyment and commitment. Finally, future research should also look at developing an intervention to teach coaches how to display the four dimensions of authentic leadership. Based on the findings of this study, and previous studies of authentic leadership in sport, such a coaching plan may help to promote positive outcomes in athletes and lead to more supportive sports environments (e.g., Avolio et al., 2004; Bandura & Kavussanu, 2018; Walumbwa et al., 2008).

Conclusion

Our findings extend the current literature by identifying that authentic leadership, in coaches within a sport setting, is distinct from transformational leadership and, has predictive power in terms of athletes' commitment and enjoyment, when controlling for transformational leadership. Thus, evidence was found for the construct validity of authentic

leadership in a sport setting. The study makes a significant contribution to the sport leadership literature by showing that authentic leadership is a viable model of leadership in sport and has demonstrated that when coaches show authentic leadership in the context of sport it can predict important positive athlete outcomes, whilst controlling for transformational leadership. Therefore, coaches should be encouraged to display authentic leadership behaviours within their coaching practices, which would be expected to result in happier and more dedicated athletes.

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¹Asterisk symbolise * $p < .05$; ** $p < .001$.

CHAPTER 3

Study 2: The Role of Authentic Leadership on Athlete Outcomes Over Time

Abstract

Introduction

Authentic leadership is a genuine form of leadership in which coaches demonstrate behaviours in line with their inner values, and could result in positive outcomes in athletes, such as trust, cohesion, enjoyment, and prosocial behaviours, yet, it has received limited research attention in sport. Furthermore, previous research of authentic leadership in sport has been cross sectional and so it is not known how the relationships between authentic leadership and athlete outcomes change over time. The aim of the study was to investigate whether changes in coaches' authentic leadership are related to changes in commitment, enjoyment, and prosocial behaviour directly and indirectly through changes in trust, team culture, and cohesion from the start to the end of a season.

Method

Data were collected via questionnaires. The study had a longitudinal design, which assessed changes in the study variables from the beginning to the end of the season, with 421 (227 females, $M_{age} = 20.32$) team sport athletes at time 1 and 247 athletes at time 2 (five months later).

Results

Changes from pre to post season in authentic leadership were related to changes in athletes' perceptions of their teammates' prosocial behaviours and enjoyment, both directly and indirectly via changes in trust and cohesion.

Conclusions

Our findings enhance our understanding of authentic leadership in sport and highlight its importance in predicting changes in trust, cohesion, enjoyment, and prosocial behaviours.

Keywords: coaches, commitment, enjoyment, trust, prosocial behaviours

The Role of Authentic Leadership on Athlete Outcomes Over Time

Leaders are seen as highly influential within sports environments and can positively or negatively impact followers' development, wellbeing, and morality (Vella et al., 2013). As such, several models of leadership have been proposed in sport, with more recent models focusing on the relationships leaders develop, and interactions they have, with their followers (O'Boyle et al., 2015). One such model of leadership which focuses on relationships and interactions leaders have with their followers and has been shown to be positively related to several desirable outcomes, is authentic leadership (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018; Houchin, 2011). This model of leadership is highly applicable to sport, due to its focus on follower development, leader-follower relationships, and a moral component. However, thus far it received little attention in sport.

In Chapter 2 I began to develop an understanding of how authentic leadership differs to dominant leadership theories such as transformational leadership and demonstrated how it promotes athletes' commitment and enjoyment beyond that explained by transformational leadership. However, models of authentic leadership and previous research suggest that authentic leadership has a potential link to additional beneficial outcomes for athletes such as trust, cohesion, and prosocial behaviours which needs to be investigated further (e.g., Bandura et al., 2019). Furthermore, the cross-sectional nature of the study presented in Chapter 2 did not allow for analysis of how authentic leadership may impact these variables over a longer period of time, despite the suggestion authentic leadership and consequently follower outcomes may change over time as the relationships between leaders and followers are strengthened (Avolio et al., 2004). To address these gaps in the literature, and develop the work completed in the previous chapter further, in this chapter I examine the impact of changes in authentic leadership on changes in athlete outcomes, such as trust, cohesion, enjoyment, and prosocial behaviours, via a longitudinal study.

Authentic Leadership

Authentic leadership is a genuine form of leadership in which leaders show authenticity by demonstrating behaviours in line with their inner values (Endrissat et al., 2007). The term authenticity is derived from ancient Greek philosophy, referring to “to thine oneself be true” (Harter, 2002). Authentic leaders are seen as being aware of their own values, morals, strengths and weaknesses (Avolio et al., 2004).

Authentic leadership shares similarities with other leadership approaches such as transformational leadership, with both leadership theories focusing on follower development (Walumbwa et al., 2008); however, authentic leadership is distinct from this transformational leadership with authentic leaders achieving high levels of authenticity (Avolio et al., 2004). This suggests authentic leaders are more aware of who they are and are able to act in line with their true vision of themselves, and are thus genuine leaders (Avolio et al., 2004). Furthermore, authentic leadership contains unique core components which centre around involving followers in decision-making and building trusting relationships (Avolio et al., 2004). In Chapter 2, we found that in a sport sample authentic leadership is distinct from transformational leadership and predicts athletes’ enjoyment and commitment beyond that of transformational leadership. Thus, authentic leadership may add to previous leadership models by incorporating different core components which determine how authentic leaders influence their followers and could produce desirable outcomes in followers (Avolio & Gardner, 2005; Walumbwa et al., 2008). These core components of authentic leadership are defined by Walumbwa et al. (2008).

Whilst many definitions of authentic leadership exist, in this study we utilized Walumbwa et al.’s. (2008) definition which uses a developmental perspective, as this integrates the previous definitions of authentic leadership into one clear definition (e.g., Gardner et al., 2005; Ilies et al., 2005). Walumbwa et al. (2008) advances previous definitions

by suggesting that authentic leadership is viewed as a multidimensional construct which goes beyond being true to oneself and incorporates four key components: self-awareness, relational transparency, internalized moral perspective, and balanced processing.

Self-awareness pertains to how the leader makes sense of themselves, including being aware of their inner values, strengths, weaknesses, and morals (Avolio et al., 2004; Walumbwa et al., 2008). It is a key element of authentic leadership as one cannot be considered authentic, until they are more aware of oneself (Ilies et al., 2005). Relational transparency refers to being open with followers and showing their true, authentic self, which results in trusting relationships (Kernis, 2003; Walumbwa et al., 2008). Authentic leaders are open with their followers by showing transparency in their values, behaviours and emotions, admitting when they make mistakes, and by telling their followers the hard truth. Internalized moral perspective pertains to showing moral behaviours, which are influenced by the leaders' high internal moral standards, rather than external pressures (Avolio & Gardner, 2005). Authentic leaders also show an internalized moral perspective by engaging in ethical decision-making, expressing where they stand on controversial issues and asking their followers to act in line with their own moral values (Walumbwa et al., 2008). Balanced processing means taking into account followers' perspective and all other relevant information before coming to an objective decision; this includes considering alternative points of views (Walumbwa et al., 2008).

Walumbwa et al. (2008) further suggests that authentic leadership is made up of two key dimensions: a moral dimension reflected in authentic leaders showing high ethical standards and moral behaviours (as reflected in leaders demonstrating an internalized moral perspective and balanced processing); a developmental component reflected in authentic leaders being able to create open and transparent relationships with their followers as a result of them demonstrating authentic behaviours (through having high levels of self-awareness

and engaging in relational transparency). Based on Walumbwa et al.'s. (2008) definition of authentic leadership, previous research conducted on authentic leadership in sport, and other models of authentic leadership (e.g., Avolio et al., 2004; Gardner et al., 2005), in this study, we examined the influence of changes in authentic leadership on changes in athletes' trust, cohesion, commitment, enjoyment, and prosocial behaviour, as will be discussed in detail in the following sections.

Trust, Team Culture, and Cohesion

Based on models of authentic leadership a key variable authentic leadership is expected to influence, and is considered important to measure within authentic leadership research, is trust (e.g., Avolio et al., 2004). The focus that authentic leaders place on developing strong relationships with followers, is believed to result in trusting relationships (Avolio & Gardner, 2005). Trust in one's leader is defined as being able to rely on your leader and believing that they have good intentions for the team (Dirks, 2000). Avolio et al.'s. (2004) model suggested that authentic leaders instil trust in followers by: acting as role models, demonstrating high moral values, showing integrity, and being transparent with their values. This evokes followers' self-concepts of their own values and leads them to identify with their leader, and consequently develop higher trust. Other models of authentic leadership also suggest that authentic leaders instil higher trust in followers through modelling their high levels of self-awareness and self-regulation, as well as through identification (e.g., Gardner et al., 2005; Ilies et al., 2005). These models also suggest that trust in turn is expected to indirectly affect the relationship between authentic leadership and follower outcomes, such as commitment, enjoyment, and prosocial behaviour (Avolio et al., 2004; Gardner et al., 2005).

The positive relationship between authentic leadership and trust has been supported by studies in the business domain and in young adult athletes (Bandura & Kavussanu, 2018; Bandura et al., 2019; Clapp-Smith et al., 2009; Houchin, 2011). However, these studies were

cross-sectional. Scholars have suggested that research on authentic leadership should use longitudinal designs as, after followers identify with their authentic leader a trusting relationship develops and this is strengthened over time (Avolio et al., 2004). Furthermore, indirect relationships are processes that unfold over time; thus, longitudinal research is needed to examine the temporal aspect of how authentic leadership, trust, and other outcomes change over time (Laughlin et al., 2018; MacKinnon, 2008).

Once trusting relationships are established between the authentic leader and their followers, more positive team cultures and higher cohesion may also be created as the coach-athlete relationship is developed and strengthened. Authentic leaders also create authentic team cultures which may foster greater cohesion as a result of the supportive and inclusive environments created by authentic leaders (Gardner et al., 2005). Higgins-D'Alessandro & Sadh (1998) define culture as individuals' perception of their team environment and suggest that it is made up of normative expectations, leader/team relationships, follower relationships, and educational opportunities; cohesion is defined as "a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of instrumental objectives and/ or the satisfaction of group members affective needs" (Carron et al., 1998, p. 213).

Gardner et al's. (2005) model proposed that authentic leaders are likely to create positive team cultures through being open with their followers, creating trusting relationships, and by providing opportunities to their followers through being concerned with their followers' development; over time, this becomes the culture of the team (Gardner et al., 2005). This authentic culture can further foster high quality relationships and connections amongst followers, which are sustained as a result of the supportive and inclusive environments created by authentic leaders and is therefore considered an important variable to include within authentic leadership research (Gardner et al., 2005). Authentic leadership

over time should positively influence team culture. Furthermore, authentic leaders are more likely to create inclusive environments and develop relationships with their followers, characterised as being built on trust (Avolio & Gardner, 2005). These environments support followers and encourage the open sharing of information, which empowers followers to grow and develop. Thus, authentic leadership may indirectly influence follower outcomes via team culture (Avolio & Gardner, 2005; Gardner et al., 2005). In this study, the term team climate will be used to refer to team culture.

The relationship between authentic leadership and team culture has not yet been investigated in a sporting context. Team culture could influence how athletes work together and is largely affected by the coaches' leadership style (Zander, 1982). Research in nurses showed that authentic leadership led to positive climates and healthy work environments, defined as supportive, joyful, and patient-focused (Nelson et al., 2014; Shirey, 2006). In addition, authentic leaders of municipal employees, were capable of creating positive climates, characterized by trust, integrity, and support over a 22-month period (Kinnuen et al., 2016). This occurred by acknowledging their followers' perspective and demonstrating moral values and an awareness of their strengths and weaknesses. These climates are then reinforced as the followers begin to take on their leaders' values (Kinnuen et al., 2016). Although these studies measured team climate in slightly different ways, they are conceptually similar to Higgins-D'Alessandro and Sath (1998) definition of culture, as they focused on the trusting relationships leaders have with their followers and the perceived opportunities/support given by the leader.

In addition to team culture, authentic leaders are likely to create more cohesive teams by displaying high levels of social support, including followers in open discussions and by leading followers to socially identify with their leader, thus promoting greater cohesion (e.g., Ashford & Mael, 1989; Avolio et al., 2004; Bandura et al., 2019). This has been supported by

research in sport with an adult sample (e.g., Bandura et al., 2019; Houchin, 2011). Cohesion could in turn influence follower' outcomes. This is because through authentic leaders creating more cohesive groups, team members are likely to be motivated in ways that support team values and positive emotions, by engaging in more frequent prosocial behaviours to appease teammates and preserve the resulting positive emotions (Bruner et al., 2014). Overtime, as followers trust and identify with their leaders more, cohesion will likely increase, and this may also consequently increase athlete outcomes, such as positive emotions and prosocial behaviours. Therefore, group cohesion may explain the link between changes in authentic leadership and potential changes in these athlete outcomes.

In summary, changes in authentic leadership are expected to result in trusting relationships, positive team cultures, and higher cohesion which may increase over time. In turn, these variables are expected to lead to positive follower outcomes (e.g., Avolio et al., 2004; Walumbwa et al., 2008). It is to these outcomes that we now turn.

Commitment, Enjoyment, and Prosocial Behaviour

According to several models of authentic leadership, authentic leaders are believed to indirectly influence follower outcomes such as commitment and enjoyment (Gardner et al., 2005; Ilies et al., 2005). Commitment is defined as a “psychological construct representing the desire and resolve to continue sport participation” (Scanlan, 1993, p. 6), while enjoyment is defined as “a positive affective response to the sport experience that reflects generalised feelings such as pleasure, liking and fun” and can be considered an aspect of wellbeing (Scanlan, 1993, p. 6). Commitment and enjoyment are both vital psychological outcomes in sport as they can determine whether an athlete will continue with sports participation beyond adolescence (Scanlan et al., 1993). Thus, investigating the impact of authentic leadership on these outcomes is important (Gratton et al., 2011; Slater & Tiggemann, 2011).

Authentic leaders are expected to promote wellbeing and commitment in followers in several ways as suggested by models of authentic leadership (e.g., Avolio et al., 2004; Ilies et al., 2005). Avolio et al. (2004) suggest that authentic leaders substantially impact on their followers' positive emotions and commitment by creating a sense of identification and trust. Thus, authentic leadership, trust, commitment and positive emotions may have a strong relationship with one another. Ilies et al. (2005) model supports this assumption and proposes that authentic leaders may also promote an increase in positive emotions by three additional processes: emotional contagion; role modelling positive authentic behaviours; and social contagion processes, by creating inclusive team environments over time which spreads positive emotions to followers. Thus, authentic leaders may directly and indirectly influence athletes' enjoyment and commitment.

The potential indirect roles of trust and team culture on commitment and wellbeing has been supported by several scholars (Leroy et al., 2012; Nelson et al., 2014; Peus et al., 2012). A cross-sectional study in sport found an indirect relationship between authentic leadership and athletes' commitment via trust (Bandura & Kavussanu, 2018). The results of Chapter 2 also provided initial evidence for the positive relationship between authentic leadership and athletes' commitment and enjoyment. Over time, the trusting relationships and cohesive teams created by authentic leaders are suggested to increase as the relationships between authentic leaders and their followers gets stronger, leading to higher commitment and enjoyment (Avolio et al., 2004). Such changes could be examined via longitudinal research in sport.

Walumbwa et al's. (2008) model also suggests authentic leaders could influence athletes' prosocial behaviour via trust, cohesion, and team culture. Specifically, authentic leadership has a moral component, which is reflected in authentic leaders demonstrating moral behaviours and thus serving as moral exemplars to their followers who are expected to

imitate this behaviour. According to models of authentic leadership (i.e., Gardner et al., 2005; Ilies et al., 2005) authentic leaders are capable of influencing followers' prosocial behaviours indirectly through role modelling by establishing a team norm to act morally. As such, followers of authentic leaders would be expected to show more prosocial behaviours. Support for this proposed link has been provided by a study conducted in a military setting, with prosocial behaviour being defined as ethical behaviour that is common in a military setting such as demonstrating responsible behaviour, considering soldiers' impact on others and putting the good of the group ahead of their own self-interest (Hannah et al., 2011). In the sport context, prosocial behaviour has been examined as "voluntary behaviour intended to help or benefit another individual" (Kavussanu and Boardley, 2009, p. 99). Authentic leadership could therefore lead to higher prosocial behaviour within the team through creating trusting relationships, cohesion, and moral team culture.

Current Investigation

In summary, authentic leaders may influence followers' commitment, enjoyment, and teammate prosocial behaviour by creating trusting relationships, cohesive teams and team cultures (e.g., Clapp-Smith et al., 2009; Hannah et al., 2011). However, only a limited amount of studies have investigated the influence of authentic leadership on athlete variables, despite it being highly relevant to a sporting context. Given the influence of coaches within sports environments, investigating beneficial forms of leadership are vital within sport (O'Boyle et al., 2015). Authentic leadership is centred around trusting relationships and focuses on athlete development, and therefore it could be key to creating more positive sports environments and positively impacting on athletes' development, thus, there is merit in investigating this form of leadership further, within a sports environment. The relationship between authentic leadership, athletes' perception of their teammate's prosocial behaviours, and enjoyment has yet to be investigated in sport, however these variables are important in

promoting continued participation in sport, which is vital given the proposed 35% drop in sports participation with age from the age of 12 (Gratton et al., 2011; Slater & Tiggemann, 2011) Furthermore, given the social nature of sport, moral behaviours are commonplace amongst athletes, with coaches playing an important role in this. Therefore, investigating whether authentic leadership will promote more prosocial behaviours could help to address a lack of prosocial behaviours in sport.

Furthermore, a limitation of previous sport research is that it has employed cross-sectional designs, thus providing limited evidence of the long-term influence of authentic leadership on the athlete outcomes mentioned throughout the introduction. There is a need to employ longitudinal research designs, for several reasons. Firstly, it is important to examine how authentic relationship and the suggested athlete outcomes change over time. Authentic leadership and follower outcomes such as trust, cohesion, wellbeing, commitment, and prosocial behaviours are expected to positively change over time as followers begin to trust and mimic the emotions of their leaders, as well as by authentic leaders creating more positive team cultures and cohesive teams over time as the relationships between authentic leaders and their followers are strengthened (Avolio et al., 2004). Secondly, cross sectional research alone could lead to inappropriate inference about the strength or direction of the relationships between authentic leadership and athlete outcomes (Mitchell & James, 2001). Finally, longitudinal research can improve the quality of effect size estimates and hypothesis tests, by improving confidence in the statistical conclusion in ways which cannot be achieved using cross-sectional research (Wang et al., 2017).

This research will address these gaps in the literature. We conducted a longitudinal study which examined: (a) whether changes in authentic leadership was related to changes in athlete outcomes (e.g., enjoyment, commitment, and prosocial behaviours) directly, pre-post season (e.g., Avolio et al., 2004; Ilies et al., 2005); and (b) whether authentic leadership

indirectly effected changes in the athlete variables pre-post season, via changes in trust, culture, and cohesion (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018). We hypothesized that changes in authentic leadership would be positively related to changes in athletes' commitment, enjoyment, and prosocial behaviours, via changes in trust, cohesion, and team culture. We recruited team sport athletes and focused on team sports because leaders are highly capable of influencing the team environment and because culture and prosocial behaviours are important within this context (Jowett & Chaundry, 2004).

Method

Participants

A total of 421 participants (53.9% female) took part in the study; this number was based on a power analysis which suggested that for a OLS regression with 7 predictors and a small effect and power of .80, 158 participants would be required. Participants were athletes from team sports, recruited either from university leagues ($n = 387$) (British Universities and Colleges Sport, BUCS; 1st, 2nd, 3rd, 4th, or developmental teams) or regional level leagues ($n = 34$) in the UK of an amateur level. The university and regional teams included athletes with a similar average age and competed at a similar amateur standard. The sports included in the study are lacrosse ($n = 95$, 22.6%), American football ($n = 73$, 17.3%), field hockey ($n = 67$, 15.9%), cheerleading ($n = 53$, 12.6%), dodgeball ($n = 38$, 9%), football ($n = 37$, 8.8%), volleyball ($n = 24$, 5.7%), ultimate Frisbee ($n = 22$, 5.2%) and korfbal ($n = 12$, 2.9%; a sport similar to netball or basketball). The athletes had an average age of 20.32 ($SD = 2.86$). Participants had played for their respective team and coach for an average of 1.64 ($SD = 0.82$) and 1.50 years ($SD = 0.80$). The inclusion criteria for the study were that athletes should be over 16 years old, participate in a team sport and have been with their coach and team for around a year or more.

Measures

Authentic Leadership

Athletes' perceptions of their coach's level of authentic leadership were measured using the Authentic Leadership Questionnaire (ALQ, Walumbwa et al., 2008). The ALQ consists of 16 items, which encompass the four components of authentic leadership using four subscales including, self-awareness (e.g., "my coach seeks feedback to improve interactions with others"), relational transparency (e.g., "my coach says exactly what he or she means"), internalized moral perspective (e.g., "my coach demonstrates beliefs that are consistent with actions") and balanced processing (e.g., "my coach listens carefully to different points of view before coming to conclusions"). Participants are asked to think about their experiences with their coach and respond using a 5-point scale with 1 corresponding to "not at all" and 5 corresponding to "frequently if not always." This scale was found to have good reliability as shown by the Cronbach alphas of .79 (self-awareness), .72 (relational transparency), .73 (internalised moral perspective), and .76 (balanced processing; Walumbwa et al., 2008). This scale has been found to have good reliability ($\alpha = .85$; Bandura et al., 2019) and validity as demonstrated by a CFA value of .95 on an adult sample (Walumbwa et al., 2008).

Trust

Athletes rated their perceived levels of trust using the Trust Questionnaire developed by Dirks (2000). This scale consists of nine items, example items include "I trust and respect my coach" and "other players consider my coach to be trustworthy". Participants are asked to think about their experiences with their coach this season and circle an appropriate answer using a 7-point Likert scale, with 1 representing "strongly disagree" and 7 "strongly agree". This scale was found to be reliable as shown by a Cronbach alpha of .96 and valid with an adult sample, as shown by factor loadings of .84 - .96 (Dirks, 2000).

Team Culture

Athletes' perceptions of their team culture were measured using an adapted version of the School Culture Scale (SCS; Higgins-D'Alessandro, & Sath, 1998). The original scale is made up of four subscales however for our study any items which could not be adapted to a sport environment were removed, leaving a 14-item questionnaire. The wording of the questionnaire was also changed so that "teacher" became "coach" and "students" became "athletes." As used in previous sports studies (e.g., Rutten et al., 2007). The remaining subscales included in our study were: teacher/school relationships (e.g., "athletes generally treat each other with respect and fairness"), athlete relationships (e.g., "coaches generally treat their athletes with respect and fairness") and educational opportunities, (e.g., "athletes learn how to listen to other people's ideas better"). We chose to include this measure of team culture as it closely relates to authentic leadership theory, with authentic leaders being expected to be concerned with their followers' development by providing opportunities, and by the focus authentic leaders place on developing relationships with their followers (Gardner et al., 2005). This scale has been found to be reliable in a sport setting as shown by Cronbach alphas of .86. (Rutten et al., 2007).

Team Cohesion

Athletes rated their perceptions of team cohesion using the Youth Sport Environment Questionnaire developed by Eys et al. (2009) ($\alpha = .91$). The questionnaire measures both task (e.g., "we all share the same commitment to our team's goals") and social cohesion (e.g., "we like the way we work together as a team"), with eight items respectively, as well as two negatively worded items. We used this questionnaire (rather than the adult version) because we had participants under the age of 18, and so the youth questionnaire was deemed more acceptable as under 18s may not be able to distinguish between group integration and individual attraction to the group, thus they could misinterpret the questionnaire (Eys et al., 2009). Participants were told that the statements relate to their feelings towards their team

and were asked to circle the number which best reflects their feelings using a 9-point Likert-type scale with 1 corresponding to “strongly disagree” and 9 corresponding to “strongly agree”. This scale has been found to be reliable ($\alpha = .84$; Bandura et al., 2019).

Enjoyment

Athletes rated their enjoyment using the enjoyment subscale from the Sport Commitment Model developed by Scanlan et al. (1993) ($\alpha = .94$). An example item is “do you enjoy playing for this team”. The enjoyment subscale uses a 5-point Likert scale with 1 corresponding to “not at all” and 5 “very much”. This scale has been found to be reliable on an adult sample ($\alpha = .95$; Bandura & Kavussanu, 2018).

Commitment

Athletes’ ratings of their commitment were measured using a scale from the Sport Commitment Model (Scanlan et al., 1993). This scale consists of four items (e.g., “How hard would it be for you to quit playing for this team”). Participants are asked to think about their experiences in their team and circle the most relevant number using a 5-point Likert scale, with 1 corresponding to “not at all committed” and 5 corresponding to “very dedicated.” This scale has been found to be reliable with an adult sample ($\alpha = .88$ for commitment; Bandura & Kavussanu, 2018).

Perceived Teammate Prosocial Behaviours

Athletes indicated their perception of the frequency of their teammates prosocial behaviours using the Prosocial and Antisocial Behaviours in Sport Scale (PABSS; Kavussanu & Boardley, 2009). An adapted version of the subscale was used, as in Al-yaaribi et al. (2016). The wording was then changed so that the scale was measuring athletes’ perceptions of their teammate’s prosocial behaviours towards themselves rather than measuring how often athletes themselves engage in prosocial behaviours towards their teammates. This was because authentic leaders are expected to change team norms and so it would be expected to

increase the team's frequency of prosocial behaviours. The stem was changed to "this season, my teammates." This scale consists of five items (e.g., "Congratulated me for good play") and uses a five-point Likert scale with 1 corresponding to "never" and 5 corresponding to "very often." A Confirmatory Factor Analysis (CFA) found this adapted scale to have good model fit as shown by factor loadings ranged from .60 to .85, as well as good reliability as demonstrated by Cronbach alpha of .87 (Al-yaaribi et al., 2016).

Data Analyses

Firstly, preliminary analysis was conducted to identify any missing data. Descriptive statistics, reliability analysis, and correlations were then computed using Statistical Program for Social Sciences (SPSS v. 25). For the main analysis, the MEMORE macro of SPSS was used (Montoya & Hayes, 2017). Montoya & Hayes (2017) suggest the MEMORE macro can be used to measure changes in X, M and Y over 2 or more occasions, to assess whether changes in X are related to changes in Y through changes in M, from pre-post season, i.e., whether there is a significant change in these variables between the two time points, and whether the change in the Y variable is significantly related to the change in X and consequent change in M variables. This path analytic framework is useful for testing mediation in complex models, such as in this study, which have more than one mediator, as it uses one test to examine all the paths together rather than running multiple tests for each individual path (Montoya & Hayes, 2017).

Procedure

After ethical approval was received from the university ethical committee, the researchers contacted the teams' coaches, via email or phone, and they were asked whether their athletes could take part in the study. Informed consent was then obtained from the participants. The questionnaires were then given to the athletes before or after a training session, in the same place as their normal training session, and took 10 minutes to complete.

At time 1, surveys were given to 421 athletes from 28 teams, and then again five months later, at time 2, to 247 athletes from 26 teams who completed the first survey, leaving 58.7% of responses from the original participants. At the second time point we were unable to collect data from 2 of the teams due to their season ending early. The five-month time period was selected based on the time frame between the start of the season to the end of the season.

Results

Preliminary Analysis

The data were found to be normally distributed, according to the Shapiro-Wilk test and visual inspection of the histograms, Q-Q plots and boxplots. The skewness and kurtosis of authentic leadership (Skewness = .82, SE = .16; Kurtosis = .19, SE = .31), trust (Skewness = -1.50, SE = .16; Kurtosis = 1.42, SE = .31), climate (Skewness = -.13, SE = .16; Kurtosis = .58, SE = .31) cohesion (Skewness = -.50, SE = .16; Kurtosis = .48, SE = .31), enjoyment, (Skewness = -.143, SE = .16; Kurtosis = 1.30 SE = .31), commitment (Skewness = -.97, SE = .16; Kurtosis = .97, SE = .31), and prosocial behaviour scales (Skewness = -.87, SE = .16; Kurtosis = 1.11, SE = .31), demonstrated normal distribution. Missing data ranged from 0 to 1.4 % and were found to be missing at random (as indicated by little MCAR test), thus missing data were replaced with the mean of the variable for each of the following analyses (Acock, 1997; Tabachnick & Fidell, 2001).

Alpha Coefficients, Descriptive Statistics, and Zero-Order Correlations

Table 3.1 displays the reliabilities, descriptive statistics, and correlations among the study variables at Times 1 and 2. The Cronbach alpha scores of the scales were considered excellent, as suggested by George and Mallery (2003; $\alpha > .80$).

Table 3.1*Descriptive Statistics, Cronbach Alphas and Pearson Correlations (N = 421)*

Variable	Time 1					Time 2									
	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	α	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1. Authentic leadership	4.15	.62	1.06	5	.94	4.31	.52	.92	-	.66**	.44**	.33**	.25**	.28**	.25**
2. Trust	5.97	.92	2.22	7	.92	6.21	.76	.94	.69**	-	.37**	.31**	.31**	.30**	.20**
3. Team culture	4.10	.56	2.36	5	.92	4.20	.50	.92	.59**	.53**	-	.35**	.30**	.14*	.41**
4. Cohesion	7.26	1.07	3.41	9	.91	7.44	.95	.89	.34**	.32**	.43**	-	.33**	.31**	.35**
5. Enjoyment	4.63	.56	2.50	5	.94	4.75	.46	.92	.41**	.39**	.43**	.50**	-	.42**	.40**
6. Commitment	4.32	.65	1.75	5	.85	4.40	.68	.88	.39**	.38**	.25**	.41**	.53**	-	.22**
7. Prosocial behaviour	4.22	.64	1	5	.90	4.36	.55	.88	.29**	.29**	.44**	.33**	.39**	.17**	-

Note. Time 1 correlations are below the diagonal and time 2 correlations are above the diagonal.

Possible range for authentic leadership, team culture, enjoyment, commitment and prosocial behaviours scales was 1-5, 1-7 for trust, and 1-9 for the cohesion scale.

** $p < .01$, * $p < .05$.

Main Data Analysis

Table 3.2 shows the results of the *t*-tests showing how the variables changed over time. For the main data analysis, the MEMORE macro was used. This macro allows you to assess whether changes in the independent variable bring about a change in the outcome variables via changes in the indirect variables, when the independent, dependent, and indirect variables are each measured on two or more occasions (Montoya & Hayes, 2017). The analysis is based on Judd et al.'s (2001), approach to assessing mediation, and uses two steps. The first step of the MEMORE analysis involved a one sample *t*-test which assesses whether the variables changed over time (Judd et al., 2001; Montoya & Hayes, 2017). The second step involved an OLS regression, using bootstrapping to produce a regression coefficient and 95% confidence intervals (CI), to assess whether changes in the outcome variables is caused by changes in the independent variable via changes in the indirect variables. The results of this step are significant if the confidence intervals do not cross zero.

We used Model 1 of Montoya and Hayes (2017) suggested template for MEMORE models, as it allowed us to further test our hypothesis of whether changes in our three outcomes (commitment, enjoyment and prosocial behaviours (Y) occurred as a result of changes in authentic leadership, and subsequent changes in the three mediators (trust, cohesion, and team culture (M). The MEMORE macro estimates the direct, indirect and total effects of the independent variable and multiple mediators over two or more time points. We used 3 serial mediation models, one for each of the 3 outcomes, with authentic leadership first, and trust, team culture or cohesion second.

For each variable, this macro creates a new variable which represents the difference between time 1 and time 2 values in each variable and is referred to as “X = time”, for all the following analyses (Montoya & Hayes, 2017). Thus, this macro computes a change score that shows how much a variable has changed from time 1 to time 2. In the serial mediator model,

the variables are inputted in pairs. This means that for each variable the score from both time points are included, to create the X variable, with time 2 of each variable imputed into the model first and the time 1 score imputed second (e.g., authentic leadership time 2 scores were imputed first and then time 1).

The results of the first step of the MEMORE analysis revealed a significant positive change between the two time points for most variables. As can be seen in Table 3.3, changes in authentic leadership were significantly related to changes in trust and cohesion. Changes in trust were significantly related to changes in enjoyment. Finally, changes in cohesion were significantly related to changes in enjoyment and teammates' prosocial behaviours. Commitment and team culture were not found to significantly change from the start to end of the season.

Table 3.2*Changes in the variables over time (t-test results, N = 421)*

Variable	\hat{b}	SE	<i>t</i>	95% CI	
				LL	UL
Authentic leadership	.12*	.05	2.46	.03	.22
Trust	.12*	.05	2.33	.19	.23
Team culture	.13	.08	.81	-.04	.10
Cohesion	.30**	.08	3.66	.14	.46
Commitment	.01	.05	.11	-.10	.12
Enjoyment	.11**	.04	2.58	.03	.19
Prosocial behaviour	.20**	.05	3.77	.09	.30

Note. \hat{b} = Predicted difference in score between time 1 and time 2 for each variable.

** $p < .00$, * $p < .05$.

Table 3.3

MEMORE analysis: t-test results. Indirect effects of changes in authentic leadership via trust and cohesion (N = 421)

	β ^	SE	95% CI		t	df
			LL	UL		
Effect of changes in Authentic leadership on						
Trust	.94	.07	.82	1.10	13.96*	244
Cohesion	.38	.11	.17	.60	3.52*	244
Changes in trust on						
Enjoyment	.19	.09	.09	.29	2.58*	242
Commitment	.20	.07	.07	.33	3.05*	242
Changes in cohesion on						
Enjoyment	.20	.03	.14	.26	6.25*	242
Commitment	.23	.04	.15	.34	5.48*	242
Prosocial behaviours	.17	.04	.09	.25	4.11*	242

Note. SE = Standard Error; *df* = degrees of freedom.

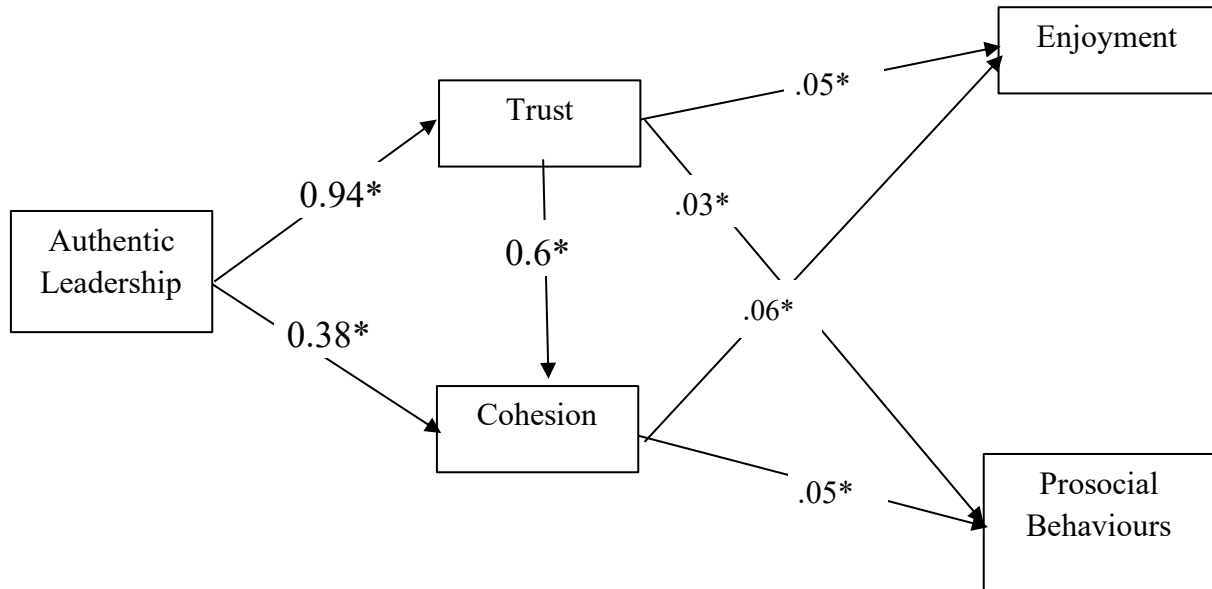
**p* < .05.

Indirect Effects

The results of the serial mediation model can be seen in Figure 3.1. Changes in authentic leadership and the subsequent changes in trust, were related to significant changes in cohesion $\beta^{\wedge} = .06$ ($SE = .03$), 95% CI [.02, .12]. Subsequent changes in trust $\beta^{\wedge} = .05$ ($SE = .02$), 95% CI [.02, .09] and cohesion $\beta^{\wedge} = .04$ ($SE = .02$), 95% CI [.01, .08] were significantly related to changes in enjoyment. Changes in trust $\beta^{\wedge} = .03$ ($SE = .02$), 95% CI [.01, .07] and cohesion $\beta^{\wedge} = .05$ ($SE = .02$), 95% CI [.01, .09] were significantly related to changes in athletes' perceptions of their teammates' prosocial behaviours. Changes in authentic leadership, and subsequent changes in trust $\beta^{\wedge} = .07$ ($SE = .02$), 95% CI [.03, .12] were related to significant changes on commitment. However, the total effect of time on commitment was not significant $\beta^{\wedge} = .01$ ($SE = .06$), 95% CI [-.10, .12]: thus, commitment did not significantly change over time.

Figure 3.1

Regression results



Note. This figure represents the relationship between the changes in enjoyment and prosocial behaviours through authentic leadership and subsequent changes in trust and cohesion. Values represent β^{\wedge} value.

* $p = <.05$.

Discussion

Only a limited amount of research has been conducted on authentic leadership in sport, despite it being highly applicable to sports environments and the suggestion that it may be related to numerous positive outcomes for athletes which could help address issues with sports participation and the promotion of moral behaviours in sport (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018; Houchin, 2011). The previous research of authentic leadership in sport has also been cross-sectional, and so it is not known how changes in authentic leadership may result in changes in athlete outcomes from pre to post season, despite models of authentic leadership suggesting authentic leadership and follower outcomes may change over time (Avolio et al., 2004). The present study sought to fill this gap in the literature by examining whether changes in authentic leadership would be directly related to changes in athlete outcomes (commitment, enjoyment, and athletes' perceptions of their teammates' prosocial behaviours) from the start of the season to the end of the season, as well as indirectly related via changes in trust, team culture, and cohesion.

In support of our hypothesis, changes in authentic leadership were indirectly related to changes in athletes' enjoyment and athletes' perceptions of their teammates' prosocial behaviours, via changes in trust and cohesion. These results are in line with previous studies conducted within sport and other environments and with similar variables (e.g., Bandura & Kavussanu, 2018; Clapp-Smith et al., 2009; Nelson et al., 2014). The relationship between authentic leadership and athletes' enjoyment also supports the results of Chapter 2, however this chapter built on these results by investigating variables which may indirectly effect this relationship i.e., trust and cohesion. Taken together with previous research and the authentic leadership literature, our results suggest that through coaches' showing authentic behaviours, such as being open and genuine, athletes may be more inclined to trust them, which may lead them to feel more content and create more cohesive teams (Gardner et al., 2005; Ilies et al.,

2005). Furthermore, the positive relationship found between authentic leadership and athletes' trust and cohesion may be due authentic leaders being transparent and having open discussions with followers which is likely to result in followers identifying with their leader (Avolio et al., 2004). These findings have important implications because variables such as trust are considered essential elements in quality coach-athlete relationships and so coaches should be encouraged to demonstrate more authentic behaviours in order to build high quality coach-athlete relationships, built on trust, with their athletes.

Our findings also support the literature which suggests that authentic leaders may promote enjoyment in followers by demonstrating positive emotions to followers, and through creating trusting relationships and more cohesive teams, which instils a sense of identification and trust and enables the spread of positive emotions from the leader to the team (Avolio et al., 2004). Furthermore, the results suggest that through coaches demonstrating authentic behaviours, these coaches may be seen as moral exemplars and create a more cohesive moral environment, which in turn promotes the prosocial behaviours of their athletes through athletes being motivated to show more prosocial behaviours to appease their teammates (e.g., Gardner et al., 2005; Ilies et al., 2005). The results of this study therefore have important implications for coaching practice by suggesting coaches should be encouraged to display authentic behaviours, such as speaking to followers honestly, taking into account everyone's opinions and frequently displaying their true emotions, to create more trusting relationships and more cohesive teams, and consequently promote greater enjoyment and prosocial behaviours.

In line with our hypothesis, changes in authentic leadership were found to be related to changes in athletes' enjoyment and prosocial behaviours via trust and cohesion. This study is the first in sport to examine how changes in authentic leadership may relate to changes in athlete outcomes from the start to end of a season. Our findings support previous literature such as Avolio et al. (2004), who suggested that followers' perception of their leader as authentic, and

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consequently their reported outcomes, may change over time as the relationship between authentic leaders and their followers develop and strengthen. The results suggest that by coaches showing authentic behaviours over a sports season, they have the potential to enhance individuals' trust and cohesion, and subsequently improve athletes' enjoyment and prosocial behaviours, which may have beneficial outcomes to continued sports participation and increasing moral sports behaviours, two highly important issues in sport currently. The longitudinal nature of the study findings has important implications for coaching practice by highlighting the importance of coaches showing authentic leadership behaviours consistently over time in order to promote an increase in trust, team cohesion, and athlete's enjoyment and prosocial behaviours.

This study provided novel findings by being the first study in sport to investigate how authentic leadership and athlete outcomes may change over a season and to investigate the influence of authentic leadership on variables such as prosocial behaviours. These novel findings are important because the longitudinal nature of this study allowed us to draw inference about the strength and direction of these changes, which enhances our confidence in our results (Mitchell & James, 2001). This is particularly important because indirect relationships are processes that unfold over time (Laughlin et al., 2018; MacKinnon, 2008). Therefore, by measuring the changes in the outcomes over a season, we can begin to have a better understanding of the temporal aspect of how trust and cohesion may indirectly influence the relationship between authentic leadership and athlete outcomes. In addition, the results of the current study highlight the importance of authentic leadership in predicting enjoyment and prosocial behaviours amongst athletes, which may have beneficial outcomes to continued sports participation and increasing moral sports environments, two highly important issues in sport currently (Gratton et al., 2011; Slater & Tiggemann, 2011). The results of this study suggest authentic leadership is an appropriate model of leadership in sport and there is value in

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prompting coaches to show more authentic behaviours, in order to promote more trusting and cohesive relationships and consequently happier and more prosocial athletes.

We did not find support for our hypothesis that changes in authentic leadership would be related to changes in team culture and commitment. These null findings could be due to our study not being long enough, i.e., under a year, to find a change in these variables or because it did not include more than 3 time points. Culture often takes a long time to be created as it involves changing the team's values, which may not be adequately captured with just two time points relatively close together (Cruickshank & Collins, 2013). Whilst the changes in the variables were significant, the means did not greatly change from pre to post study. This is likely due to the small-time frame of the study and because the scores for each variable were relatively high to begin with at the start of the season. However, the results were still significant due to the large sample size of the study. Thus, the results suggest that changes in authentic leadership significantly predicted changes in athletes trust, cohesion, enjoyment and prosocial behaviours.

Practical Implications

Our study highlights the importance of authentic leadership within the context of sport and demonstrated its impact on a wide variety of important athlete outcomes. Specifically, the findings suggest coaches should demonstrate authentic behaviours, in order to potentially develop more trusting relationships and cohesive teams, to in turn produce happier, and more moral athletes. Our findings are important because trust, cohesion and moral behaviours are particularly important variables within sport due to its social nature and are vital in determining how athletes develop (Hodge & Lonsdale, 2011). Athletes' development is not always positive, so investigating positive forms of leadership in sport are vital (O'Boyle et al., 2015). Cohesion and enjoyment are particularly important variables in influencing athletes' dedication to sport (Gould, 1987). Therefore, promoting authentic leadership could address issues with sports participation beyond adolescence, which has been shown to decline with age (Price & Weiss,

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2013). Furthermore, we found authentic leadership to be positively related to athletes' prosocial behaviours and so promoting authentic leadership amongst coaches may help to create more positive, moral environments in order to promote moral behaviours in sport (Laure & Binsinger, 2007). Finally, our study is the first in sport to demonstrate that authentic leadership is positively related to athlete outcomes overtime, highlighting the need for coaches to consistently show authentic behaviours in order to build trusting relationships with their athletes to promote beneficial outcomes in athletes.

Limitations and Future Directions

Our research has revealed some interesting findings but also has some limitations. First, the study included only two time points, thus we do not know how variables changed in the intervening period. Future research could include three or more time points, over a longer period of time, or conduct a field experiment, in which authentic leadership is manipulated to reduce any inferential error (Aguinis & Bakker, 2020). Secondly, we were not able to obtain second responses from a number of participants, which may reduce the generalizability of the findings (Bildt et al., 2001). However, drop out is typical in longitudinal studies. Future research should use methods to also capture the leaders' perspective, open-ended questions and observational measures, in order to gain a more in-depth picture of authentic leadership in sport (Nelson et al., 2014; Walumbwa et al., 2008). Furthermore, future research could involve the development of a coaching intervention, designed to increase coaches' demonstration of the four components of authentic leadership, in order to promote more authentic behaviours and consequently enable positive athlete outcomes.

Conclusion

Our findings extend the current literature by demonstrating the relationship between changes in authentic leadership and a wide range of athlete variables. In particular, our findings demonstrated that changes in authentic leadership predicted changes in athletes' enjoyment, and

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perceptions of their teammates' prosocial behaviours, via changes in trust and cohesion, from pre to post season. The longitudinal nature of the study allowed us to investigate whether these relationships change over the course of one sports season. The study makes a significant contribution to sport leadership literature by revealing the value of authentic leadership in predicting athlete outcomes. Therefore, coaches should be encouraged to display authentic leadership behaviours consistently over time, to produce more moral athletes with higher enjoyment.

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CHAPTER 4

Study 3: The Effects of Authentic Leadership on Athletes' Trust, Achievement, and Moral Variables

Abstract

Objectives

Authentic leadership is a style of leadership which could be promising in sport. However, to date, very little research has examined this leadership style in coaches. The purpose of this research was to investigate the effects of an authentic leadership manipulation on athletes' trust, achievement, and moral outcomes.

Design

Experiment using a 3 x 2 between-participant design.

Methods

129 university athletes ($M_{age} = 19.36$; 76 females) were randomly assigned to either a high, low or neutral authentic leadership condition.

Results

A multivariate analysis of variance indicated that participants in the high authentic leadership condition reported higher trust, commitment, enjoyment, and anticipated guilt for aggression, and lower aggression compared to participants in the low authentic leadership and neutral conditions.

Conclusions

The findings suggest that high authentic leadership could be key to creating more positive environments in sport.

Keywords: Coaching, commitment, cheating, aggression, enjoyment

Introduction

Coaches are seen as significant agents within sports environments, as they may affect athletes' psychosocial development (Vella et al., 2013). Whether coaches positively or negatively influence their athletes' development depends on the type of leadership they exhibit (Turnnide & Cote, 2016). Therefore, investigating effective forms of leadership in sport, which are likely to positively influence athletes, is essential. Recently, the view of what makes an effective leader has changed from authoritarian leaders to ones who focus on their athletes' development and the formation of relationships with their athletes (Cote & Gilbert, 2009; Vella et al., 2013). Authentic leadership is one such form of leadership and will be the focus of this research.

Chapter 2 and 3 provided initial evidence of the link between authentic leadership and various athlete outcomes both cross-sectionally and longitudinally. However, in order to improve confidence in these results an experimental study in which authentic leadership is manipulated is needed to establish casual relationships between an authentic leadership manipulation and athletes' trust, enjoyment, and commitment. Furthermore, Chapter 3 was the first study in sport to provide evidence for the relationship between authentic leadership and prosocial behaviours however, authentic leaders are expected to be related to numerous other moral variables (e.g., Cianci et al., 2014; Hannah et al., 2011), which have yet to be investigated in sport. Therefore, in this chapter, I aim to fill this gap in the literature and develop the work presented in the previous chapters further by examining the effects of an authentic leadership manipulation on athletes' trust, achievement, and moral outcomes.

Authentic Leadership

Authentic leadership involves a genuine leadership style, whereby leaders' behaviours are consistent with their inner values (Walumbwa et al., 2008). It centres around the notions of creating open and trusting relationships with followers, showing concern for their

development, involving them in decision making, and acting in an ethical manner (Gardner et al., 2005). Whilst various definitions of authentic leadership have been proposed, in this study, we focus on Walumbwa et al.'s (2008) definition of this construct, in line with previous research in sport (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018) and because it integrates definitions and constructs from previous models of authentic leadership into a concise definition (e.g., Avolio et al., 2004; Gardner et al., 2005). They define authentic leadership as “a pattern of leader behavior that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development” (p. 94). Authentic leadership thus comprises four components: self-awareness, relational transparency, balanced processing, and internalized moral perspective.

Self-awareness refers to how leaders make sense of themselves. Authentic leaders are aware of their own strengths, weaknesses, and inner values, and act in line with these values (Avolio et al., 2004; Walumbwa et al., 2008). One cannot be considered authentic unless you have a greater understanding of and are able to accept oneself (Ilies et al., 2005). Relational transparency pertains to authentic leaders showing their true authentic self to their followers, through being open (Kernis, 2003; Walumbwa et al., 2008). This can include telling the hard truth, admitting when they have made a mistake and displaying emotions in line with their feelings. Balanced processing means taking into account all relevant information, including followers' perspective before making an objective decision (Walumbwa et al., 2008). Authentic leaders demonstrate balanced processing by seeking feedback from their followers in order to better understand their perspective, even if their followers' views oppose their own (Wong & Lashinger, 2013). Finally, internalized moral perspective refers to showing internalized self-regulation through exhibiting moral behaviours, in line with the authentic

leaders' high ethical standards, rather than being influenced by external pressures (Walumbwa et al., 2008). Authentic leaders express where they stand on controversial issues and ask their followers to also act in line with their inner values (Avolio & Gardner, 2005; Ilies et al., 2005). These core components operationally distinguish authentic leadership from previous leadership models such as transformational leadership, with authentic leadership containing different core components and achieving higher levels of authenticity. In support of this, in Chapter 2, authentic leadership and transformational leadership were found to be separate constructs, with authentic leadership predicting athlete outcomes beyond that of transformational leadership.

Authentic Leadership, Trust, and Achievement Outcomes

According to Avolio et al.'s. (2004) model of authentic leadership, and previous research conducted in sport (e.g., Bandura & Kavussanu, 2018), authentic leaders are expected to promote trust amongst followers and so trust is considered an important variable to measure in authentic leadership research. Trust is expected to play an important role in the authentic leadership model, due to the focus authentic leaders place on developing relationships with followers. Trust is defined as the ability to rely on one's leader and believing they have good intentions for the team (Dirks, 2000). Authentic leaders are expected to promote trust because they are considered genuine and credible, inclining athletes to identify with their leader thus creating a trusting relationship (Avolio et al., 2004). Furthermore, through showing relational transparency, authentic leaders show their true self and high moral standards, which results in followers trusting their leader (Gardner et al., 2005; Ilies et al., 2005). The relationship between authentic leadership and trust has been documented in studies of retail clothing employees (Clapp-Smith et al., 2009). The relationship between authentic leadership and trust has been documented two studies of team

sport athletes which found that coaches' authentic leadership was positively related to athletes' reported trust (Bandura et al., 2019; Bandura & Kavussanu, 2018).

According to Avolio et al.'s. (2008) model, in addition to trust, authentic leaders are also expected to promote greater enjoyment and commitment in their followers. Enjoyment is defined as "a positive affective response to the sport experience that reflects generalised feelings such as pleasure, liking and fun" (Scanlan et al., 1993, p. 6), while sport commitment is defined as a "psychological construct representing the desire and resolve to continue sport participation" (Scanlan et al., 1993, p. 6). Both enjoyment and commitment are vital in sport as they can influence athletes' achievement and continued sports participation (Scanlan et al., 1993), which tends to decline as age increases (Gratton et al., 2011; Slater & Tiggemann, 2011). Therefore, research into whether authentic leadership can promote these outcomes is important. For the purpose of conciseness, enjoyment and commitment are referred to collectively as achievement variables.

Authentic leaders are expected to promote enjoyment and commitment in their followers through several mechanisms; (a) creating trusting relationships with followers (Gardner et al., 2005); (b) spreading their own positive emotions to their followers in a process known as emotional contagion; and (c) creating supportive team climates, which make followers feel more secure, in a process known as social contagion (Ilies et al., 2005). A few studies have provided empirical support for the relationship between authentic leadership and followers' enjoyment and commitment. For example, authentic leadership was positively correlated with nurses' wellbeing (Nelson et al., 2014) and positively related to enjoyment and commitment in health care, manufacturing, and service employees (Leroy et al., 2012; Peus et al., 2012). In the sport context, authentic leadership has also been positively associated with athletes' enjoyment and commitment (Bandura & Kavussanu, 2018). Furthermore, in Chapters 2 and 3, authentic leadership was found to be both directly related

to athletes' enjoyment and commitment, and indirectly related to enjoyment via trust and cohesion. However, the majority of this research was cross sectional, and cannot establish a causal relationship between authentic leadership and athlete outcomes. The present study will therefore examine the effects of authentic leadership on trust, enjoyment, and commitment in an experimental setting.

Authentic Leadership and Moral Outcomes

Walumbwa's et al. (2008) states that in addition to the developmental focus of authentic leadership, which is expected to result in trusting relationships and followers, authentic leadership also contains a moral dimension. Specifically, authentic leaders have a highly developed moral component, which is expected to promote ethical decisions and prosocial behaviours in their followers (Hannah et al., 2011). They have high moral standards and act in line with these moral standards (Gardner et al., 2005; Hannah et al., 2011), thus they serve as moral exemplars to their followers and are likely to create ethical environments, by establishing a norm of what is considered acceptable behaviour, thereby promoting prosocial and discouraging antisocial behaviours (Cianci et al., 2014; Hannah et al., 2011). In this study, we will examine authentic leadership in relation to antisocial sport behaviour, which is defined as "voluntary behaviour intended to harm or disadvantage another" and includes behaviours such as cheating and aggression (Kavussanu & Boardley, 2009, p. 99).

Authentic leaders may also influence the level of anticipated guilt followers may feel if they chose to engage in unethical behaviour. Guilt is a moral emotion that is experienced from wrongdoing (Baumeister et al., 1994). It is a negative emotion which stops individuals from acting transgressively, so that they can avoid experiencing this emotion (Bandura, 1991). As authentic leaders are likely to promote higher moral standards and behaviours in athletes, it is likely that their athletes would experience greater guilt from engaging in antisocial behaviours, as they see these behaviours as wrong according to their moral

standards. There are potential sex differences in anticipated guilt and moral behaviours, with males being more likely to show aggression and experience less guilt than females for acts such as bullying and violence (Haddock & Jimerson, 2017). Therefore, it is important that research examines whether authentic leadership has different effects on guilt and moral behaviours of male and female athletes.

The effects of authentic leadership on followers' moral behaviour and anticipated guilt have been examined in previous research in military and business contexts. In a cross-sectional study, authentic leadership was positively and indirectly related to soldiers' prosocial behaviour, through moral courage. Prosocial behaviour was operationally defined as ethical behaviour that is common in a military setting such as demonstrating responsible behaviour, considering soldiers' impact on others and putting the good of the group ahead of their own self-interest (Hannah et al., 2011). Furthermore, in Chapter 3 changes in authentic leadership was found to be positively related to changes in athletes' prosocial behaviours via trust and cohesion over a sports season.

In an experimental study of employees, Cianci et al. (2014) assigned participants to a high, neutral, or low authentic leadership condition, with temptation either present or absent. This was done using scripts depicting a supervisor as demonstrating behaviours indicative of a high or low authentic leader, or no mention of authentic leadership. Participants then received a second script which did or did not expose them to the temptation of a better job opportunity and to have their reputation be unaffected by their poor performance. An interesting interaction between authentic leadership and temptation emerged: Specifically, participants in the high authentic leadership condition were less likely to make unethical decisions in the face of temptation, compared to those in the low or neutral conditions, and were more likely to feel guilty. No effects were found when temptation was absent.

Therefore, this study suggests that authentic leaders may prevent their followers from making unethical decisions and feel more anticipated guilt about making unethical decisions.

Current Investigation

In summary, research has shown that authentic leadership in coaches has been positively associated with trust, enjoyment, and commitment in athletes (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018). However, previous research on authentic leadership in sport has been cross-sectional. Thus, there is a need for experimental research examining the effects of an authentic leadership manipulation on trust, enjoyment, and commitment of athletes. In addition, despite evidence that authentic leadership could influence moral variables (e.g., Cianci et al., 2014; Hannah et al., 2011), no study has examined the effects of authentic leadership on moral outcomes in sport.

In this research, we aimed to fill this gap in the literature. Our purpose was to examine the effects of an authentic leadership manipulation on athletes' trust, achievement (i.e., enjoyment, commitment), and moral (i.e., cheating, cheating anticipated guilt, aggression, aggression anticipated guilt) outcomes. To this end, we conducted an experiment assigning participants to high, low, or neutral authentic leadership. We hypothesized that, compared to participants in the low authentic leadership or neutral leadership conditions, participants in the high authentic leadership condition, would report higher trust, enjoyment, and commitment (Bandura & Kavussanu, 2018); less cheating and aggression; and more anticipated guilt for both cheating and aggression (Cianci et al., 2014).

Method

Design

The design of the experiment was a 3 Authentic Leadership Condition (high, low, neutral) x 2 Sex (male, female) between-participant design.

Participants

A total of 129 (76 females, 58.9%) participants took part in the experiment, all of which were sports science students at a British University. A-priori power calculation using G*power showed that for a 3 x 2 between-participant MANOVA, with seven outcomes, in order to detect a small effect size for the difference between conditions (.20), 105 participants were required to reach 80% power, assuming a significance level of .05. The selection criteria for the study were that participants were healthy, over 18 years old and actively competing in sport. At the time of data collection, the participants' average age was 19.36 ($SD = 1.57$), they had an average of 9.36 ($SD = 3.61$) years of experience taking part in their respective sport, and they had played 1 of 25 sports, however all participants had experiences with participating in a range of different sports.

Experimental Manipulations

Three scripts were created, one for each experimental condition. The high and low authentic leadership conditions pertained to the four components of authentic leadership (Walumbwa et al., 2008). They were based on Cianci et al. (2014) and adapted to be relevant to sport. As such, the scripts were pilot tested and modified to ensure their suitability and relevance for use in athletes before conducting the actual experiment (Cohen et al., 2005). Specifically, the aim of pilot testing was to develop the material, test the experiment under realistic conditions, and to gather information about how another person would interpret the questions put forward during the experiment. The pilot testing occurred in three stages. In the first stage, 10 athletes from team sports were asked to comment about how realistic the cheating and aggression scenarios were, whether the modified scripts were easy to understand, and whether the questionnaire items were appropriate. Next, we used the material developed during the first stage of pilot testing and allocated 12 university athletes into the three experimental conditions to check whether the authentic leadership manipulations would be suitable for the main experiment. The final stage of the pilot testing involved obtaining

feedback from a further nine university sport athletes about the final material, regarding the clarity and level of engagement with the material.

From the pilot testing, the specific cheating and aggression scenarios were selected, and the scripts finalized. Each script, presented in a PowerPoint presentation on individual computers, referred to an imaginary coach and started with the general description: “This coach, like most typical coaches, is mostly concerned with the team meeting targets and rewards athletes for showing personal progress”. In the high authentic leadership condition, the script stated that the coach manifested behaviours typically displayed by authentic leaders. In the low authentic leadership condition, the script stated that the coach rarely or did not display these behaviours. The neutral leadership script included the general description of the coach and a brief history of sports coaching, with no references to any authentic leadership behaviours. The neutral script was modified from Cianci et al. (2014) to be a similar in length to the high and low authentic leadership script, rather than just containing the general description of the coach, so that participants in the different conditions would complete the study in a similar time frame to limit demand characteristics. In addition, the coach described in the script was gender neutral. The three scripts are presented in Appendix 3a. The cheating and aggression scenarios are presented in Appendix 3b. In Appendix 3a, the words which were different between the high and low authentic leadership conditions are presented in italics. The rest of the script was identical in the two conditions. Participants were asked to read the scripts depicting an imaginary coach and then read the scenarios and respond to the questionnaire, as if they were an athlete for the coach described in the script.

Measures

Manipulation check. To assess the effectiveness of the authentic leadership manipulation, participants’ perceptions of the imaginary coach as an authentic leader, were measured using the Authentic Leadership Questionnaire (ALQ, Walumbwa et al., 2008).

Participants were asked to complete the measure in relation to the description of the imaginary coach in the presentation they had just read, rather than referring to their own coach. The ALQ consists of 16 items with responses made on a 5-point scale with 1 corresponding to “not at all” and 5 corresponding to “frequently if not always.” Self-awareness was measured with four items (e.g., “shows he/she understands how specific actions impact on players”). Relational transparency was measured with five items (e.g., “says exactly what he or she means”). Internalized moral perspective was measured by four items (e.g., “makes decisions based on his/her core values”). Balanced processing was measured with three items (e.g., “seeks feedback to improve interactions with players”). Bandura et al. (2019) found this scale to be reliable as shown by a Cronbach alpha of .85.

Trust. Participants’ trust in the imaginary coach was measured using an adapted version of the Trust Questionnaire developed by Dirks (2000). The instructions were adapted, so that the participants were asked “Based on the description of the coach, presented in the script (PowerPoint presentation), please indicate your level of agreement with the following statements”. This scale consists of 9 items, and an example item is “I would trust and respect the coach”. Participants chose an appropriate answer from a 7-point scale, with 1 representing “strongly disagree” and 7 “strongly agree”. Dirks (2000) found this scale to be reliable, as shown by a Cronbach’s alpha of .96.

Enjoyment and commitment. Enjoyment and commitment were measured using the respective subscales from the Sport Commitment Model developed by Scanlan et al. (1993). Participants were asked to imagine they played for the coach described in their PowerPoint presentation and rate their enjoyment/commitment towards the coach by selecting the appropriate number. An example item from the enjoyment scale is “would you enjoy playing for this coach” and from the commitment subscale “how dedicated would you be to continue playing for this coach”. Athletes rated their levels of enjoyment using a 5-point Likert scale

with 1 corresponding to “not at all” and 5 “very much”. Similarly, athletes rated their levels of commitment to play for the imaginary coach on a 5-point Likert scale with 1 corresponding to “not at all dedicated” and five “very dedicated”. These scales have been shown to have good reliability as demonstrated by Cronbach alphas of .90 for enjoyment and .92 for commitment (Weiss et al., 2010).

Cheating and aggression. Cheating and aggression were assessed by questions that followed two scenarios adapted from previous research (Kavussanu & Roberts, 2001). The first scenario described faking an injury and assessed cheating, and the second scenario described the act of intentionally fouling another player and assessed aggression. The cheating and aggression scenarios are presented in Appendix 3a. Participants were asked how “likely” and “tempted” they would be to engage in each of the described behaviours. Responses were made on a 7-point scale, with 1 corresponding to “not at all (likely/tempted)” and 7 “very (likely/tempted)”.

We conducted a factor analysis, using principle-axis factor extraction, on the likelihood and temptation items pertaining to the cheating and aggression scenarios (i.e., the four items). Through inspection of the scree plots, the four items showed a 2-factor structure with 57.18% of variance explained (VE) by factor 1 and 28.89% VE by factor 2. The pattern matrix revealed that likelihood (Eigenvalue = .96) and temptation (Eigenvalue = .93) for cheating loaded onto factor 1, whilst likelihood (Eigenvalue = .93) and temptation (Eigenvalue = .89) for aggression loaded onto factor 2. In addition, the cheating likelihood and temptation items for scenario 1 were highly correlated with each other ($r = .66^{**}$), as were the aggression likelihood and temptation for scenario 2 ($r = .78^{**}$). Therefore, the mean of likelihood and temptation for each scenario were averaged to create the variables cheating and aggression. Although we measured likelihood and temptation to engage in cheating and aggression, in this thesis, we use the terms cheating and aggression to refer to these variables,

for the sake of conciseness. The Cronbach alpha for the computed cheating score was .79, while the alpha score for the computed aggression score was .87.

Anticipated Guilt. Participants were also asked how guilty they anticipated they would feel if they chose to engage in the cheating and aggression acts described in the two scenarios. Responses were made on a 7-point scale, with 1 corresponding to “not at all guilty” and 7 “very guilty”. Therefore, there were two guilt variables, one for cheating and one for the aggression. We chose to include guilt as a separate measure as it is a unique moral emotion (Baumeister et al., 1994) and as such was used as a separate variable.

Procedure

After receiving approval from the university ethical committee, the three scripts and questionnaire items were pilot tested. Participants for the main experiment were then recruited via email and university advertisement. The study purposes and confidentiality were explained to respondents and informed consent was obtained, prior to starting the experiment. Participants were randomly allocated to either a high or low authentic, or neutral leadership condition and were tested in a computer cluster, with groups of 5 to 15. Each participant was assigned to one computer, with an empty space between adjacent participants to ensure each participant focused on their own condition. Participants were told to assume the role of an athlete and then read the script describing a coach presented in the PowerPoint presentation. The presentation took around 5 minutes to complete. Next, participants completed an online questionnaire that included the measures described above. The questionnaire took around 10-15 minutes to complete. The researchers were present during all data collection sessions to answer any questions. At the end of the experiment the participants were provided with a copy of a debriefing statement and thanked for their time.

Data Analysis

Preliminary data analysis was conducted to examine whether there were any missing data and to calculate the Cronbach alphas for the different scales. Descriptive statistics were then computed. This Preliminary data analysis and the main analysis was run using the Statistical Program for Social Sciences (SPSS, v. 26). For the main analysis, we firstly conducted an ANOVA to examine whether the manipulation of authentic leadership was effective, comparing responses to the authentic leadership measure across the 3 conditions. For the main analysis, we used a 3 Condition (high, low, neutral authentic leadership) x 2 Sex (male, female) MANOVA to examine the effects of the authentic leadership manipulation on the outcome variables.

Results

Alpha Coefficients, Descriptive Statistics, and Zero-Order Correlations

There was no missing data. In addition, the Shapiro-Wilk test and visual inspection of the histograms, Q-Q plots, and boxplots revealed the data to be normally distributed. The skewness and kurtosis of authentic leadership (Skewness = $-.36$, SE = $.21$; Kurtosis = $-.13$, SE = $.42$), trust (Skewness = $.45$, SE = $.21$; Kurtosis = -1.38 , SE = $.42$), commitment ($-.43$, SE = $.21$; Kurtosis = -1.17 , SE = $.45$) enjoyment (Skewness = $-.46$, SE = $.21$; Kurtosis = -1.24 , SE = $.42$), cheating (Skewness = $.64$, SE = $.21$; Kurtosis = $.46$ SE = $.42$), and aggression (Skewness = $.87$, SE = $.21$; Kurtosis = -16 , SE = $.42$), demonstrated normal distribution. The Cronbach alpha scores of authentic leadership ($.98$), trust ($.97$), enjoyment ($.98$) and commitment ($.93$) were considered excellent, as suggested by George and Mallery (2003). Table 4.1 displays the descriptive statistics. Participants reported moderate levels of authentic leadership, trust, enjoyment, and commitment, low levels of cheating and aggression and high levels of anticipated guilt for both cheating and aggression.

Table 4.1*ANOVA Results for Each Variable as a Function of Experimental Condition*

Variable	Experimental Condition						<i>F</i> (9, 118)	<i>p</i>	η_p^2
	High AL		Low AL		Control Condition				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Trust	6.09 ^a	.63	2.12 ^a	.83	5.15 ^a	.94	280.41**	.00	.82
Enjoyment	4.26 ^a	.56	1.59 ^a	.66	3.84 ^a	.76	201.39**	.00	.76
Commitment	4.12 ^a	.45	1.75 ^a	.55	3.52 ^a	.58	233.24**	.00	.79
Cheating	2.53	1.36	3.20	1.75	3.10	1.58	2.31	.38	.04
Anticipated Guilt - Cheating	5.30	1.67	4.65	1.90	5.16	1.77	2.84	.06	.04
Aggression	1.87 ^a	1.13	2.91 ^{ab}	1.63	2.52 ^{ab}	1.45	6.12*	.00	.09
Anticipated Guilt - Aggression	5.97 ^a	1.32	5.21 ^{ab}	1.64	5.65 ^{ab}	1.48	2.93*	.04	.05

Note. AL = Authentic Leadership. In each row, means with the same superscript differ significantly from each other.

Manipulation Check

The manipulation check, via the one-way ANOVA, revealed a significant effect of the different conditions on authentic leadership, $F(2, 123) = 317.32, p < .001, \eta^2 = .84$. Tukey HSD (post-hoc) tests revealed that athletes in the high authentic condition rated the imaginary coach as high in authentic leadership and reported significantly higher authentic leadership ($M = 4.34, SD = .08$) than the neutral ($M = 3.51, SD = .80$) and low authentic leadership ($M = 1.56, SD = .80$) conditions, thus providing evidence that the manipulation was successful.

Main Data Analysis

A 3 Condition (high, low, neutral authentic leadership) x 2 Sex (male, female) MANOVA was used to examine the effects of Condition and Sex on the athlete outcomes. The MANOVA showed a significant multivariate Condition main effect (Wilks Lambda = .104, $F(16, 232) = 30.45, p < .05$) and a significant Sex main effect (Wilks Lambda = 0.81, $F(8, 116) = 3.52, p < .05$), but no significant interaction between Condition and Sex. Thus, the effects of authentic leadership did not vary as a function of participants' sex. The results of follow up univariate ANOVAs are presented in Table 4.1.

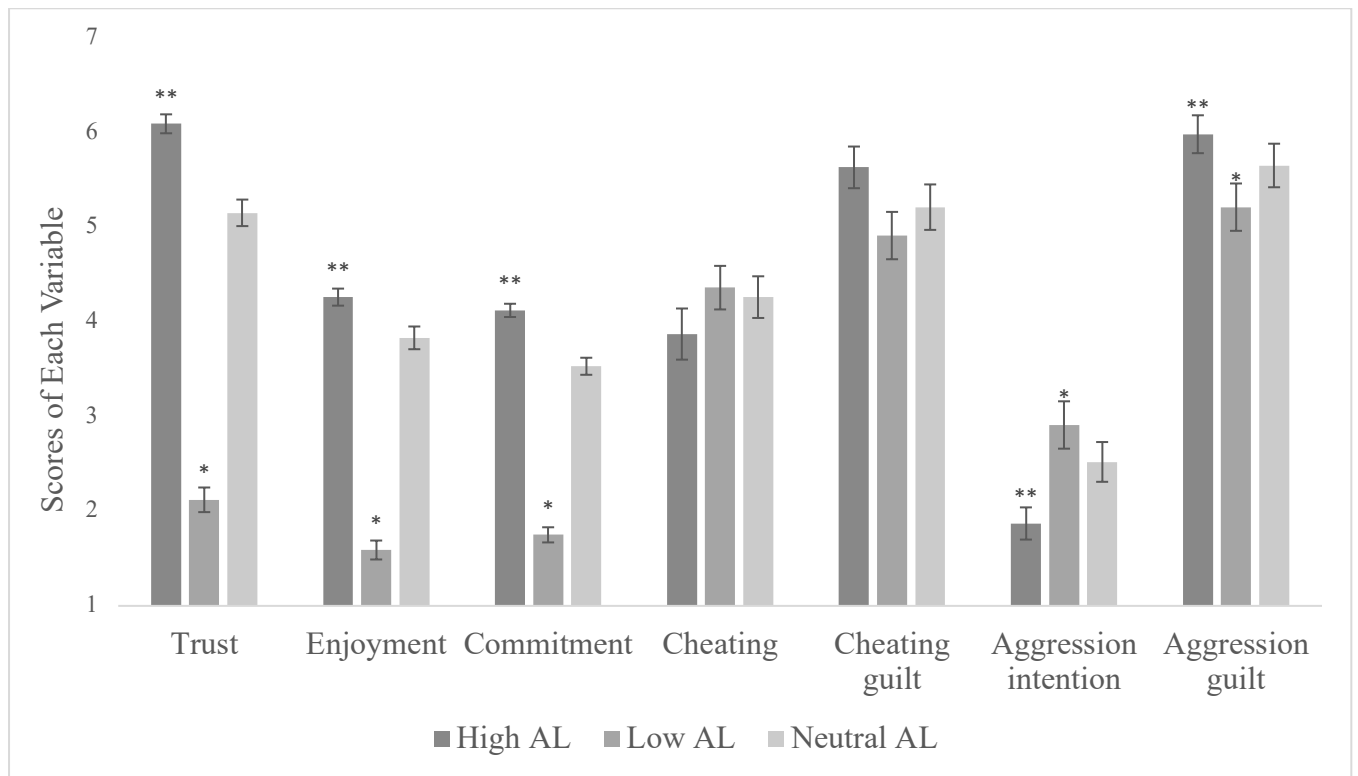
As can be seen in Table 4.1, there was a significant condition main effect on trust, enjoyment, commitment, aggression, and anticipated guilt for acting aggressively. Tukey HSD (post-hoc) tests revealed that athletes in the high authentic leadership condition reported significantly higher trust, enjoyment and commitment, compared to the low authentic leadership and neutral condition. Furthermore, athletes in the high authentic condition reported less aggression and higher guilt, compared to the low authentic leadership and neutral condition. There was a Sex effect for cheating, aggression, and anticipated guilt from cheating and aggression, with males reporting higher cheating ($M = 3.03, SD = .22, F(9, 118) = 4.07, p = .05$) than females ($M = 2.88, SD = .18$) and lower anticipated guilt for cheating ($M = 5.10, SD = .20, F(9, 118) = 21.29, p = .00$) compared to females ($M = 6.00, SD = .16$).

Similarly, males ($M = 2.73$, $SD = .19$, $F(9, 118) 4.04$, $p = .05$) scored more highly than females ($M = 2.23$, $SD = .16$) for aggression and had less anticipated guilt for aggression ($M = 5.08$, $SD = .16$, $F(9, 118) 12.29$, $p = .00$) compared to females ($M = 5.98$, $SD = .16$).

Figure 4.1 displays the mean of each variable as a function of the 3 conditions. It can be seen that participants in the high authentic leadership condition indicated high levels of trust, enjoyment, commitment, anticipated guilt for aggression, and low aggression. The Condition main effect was not found to have a significant effect on cheating or anticipated guilt of cheating. Participants in the low authentic leadership condition indicated low levels of these variables, apart from aggression in which they scored highly. Finally, participants in the neutral condition indicated moderate levels of the study variables. The mean difference in effect sizes of the authentic leadership variable between the high authentic leadership and the low condition was significant (Cohen's $d = -5.59$, $n = 84$, 95% CI = -6.54, -4.64) and demonstrated a medium effect size (Cohen, 1988). The mean differences in the authentic leadership effect sizes between the high authentic leadership and the neutral condition were also significant (Cohen's $d = -1.66$, $n = 84$, 95% CI = -2.15, -1.16), although this effect size is considered small. Finally, the differences in the authentic leadership effect sizes between the low authentic leadership and neutral condition were also significant and considered a medium effect size (Cohen's $d = 3.50$, $n = 84$, 95% CI = 2.82, 4.18).

Figure 4.1

Mean of each variable as a function of experimental condition



Note. This figure shows differences among the three experimental conditions on our outcomes displayed in the Y axis.

** = high AL is significantly different from both low AL and neutral conditions; * = low AL is significantly different from the neutral condition.

Discussion

To date, a limited amount of research has been carried out on authentic leadership in sport (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018; Houchin, 2011). However, this research has been cross sectional. The purpose of this research was to examine whether an authentic leadership manipulation influences trust and a range of achievement and moral outcomes in athletes. To this end, we conducted an experiment, in which participants were presented with the description of a high, low, or neutral authentic leader and examined the impact of this on their reported trust, enjoyment, commitment, cheating, aggression, and anticipated guilt for cheating and aggression. At the outset, it should be acknowledged that even though manipulating leadership with a script (e.g., Cianci et al., 2014) is a common method in research for examining the effects of leadership on outcomes, our findings refer to the concept of authentic leadership rather than to actual authentic leaders. Similarly, our athletes responded with hypothetical rather than actual experiences in sport.

Authentic Leadership, Trust, and Achievement Variables

In line with our hypothesis, participants who read the script depicting an imaginary coach who was described as having high authentic leadership reported higher trust, enjoyment, and commitment compared to the low and neutral conditions. Our findings are in line with previous literature. For example, authentic leadership was positively correlated with trust in managers in a sample of retail employees (Clapp-Smith et al., 2009) and positively related to trust in athletes (Bandura & Kavussanu, 2018). Furthermore, the results are also in line with the results found in Chapters 2 and 3. However, this Chapter builds on the previous chapters by investigating the effect of an authentic leadership manipulation on these variables, to provide more of a causal relationship. Taken together with past research, our results suggest that high authentic leadership may result in athletes reporting higher levels of trust, enjoyment, and commitment compared to low authentic leadership.

This is the first experiment to provide evidence to support the view that high authentic leadership is positively related to trust, enjoyment and commitment in athletes. It has been suggested that trust results from authentic leaders being genuine (Walumbwa et al., 2008). Moreover, authentic leaders are likely to promote higher enjoyment and commitment in followers by creating supportive relationships and team climates which help followers to feel more secure and content (Gardner et al., 2005; Ilies et al., 2005). Although we did not examine these mechanisms in our experiment, we did find support for the relationship between high authentic leadership and trust, enjoyment, and commitment. We also found that athletes in the low authentic leadership condition reported lower trust, enjoyment and commitment compared to both the high and neutral conditions. This provides initial evidence to suggest that low levels of authentic leadership, such as not telling athletes the truth, displaying actions inconsistent with their moral beliefs, not considering everyone's opinions or inaccurately describing their own strengths and weaknesses could potentially diminish athletes' trust, enjoyment, and commitment.

Authentic Leadership and Moral Outcomes

Participants in the high authentic leadership condition reported lower likelihood to display aggression in a hypothetical situation, whereas those in the low authentic leadership condition reported higher likelihood to be aggressive compared to the high authentic leadership and neutral condition. Our findings are in line with the literature which suggests authentic leadership could lower antisocial behaviours in athletes (e.g., Hannah et al., 2014) and the results of Chapter 3 which found a positive relationship between authentic leadership and athletes' prosocial behaviours. Whilst we did not directly measure the mechanisms behind this relationship, the literature suggests authentic leadership may do this by showing relational transparency, being open, and displaying balanced processing when faced with moral dilemmas. Specifically, authentic leadership contains a moral component which

suggests authentic leaders regularly display actions consistent with their moral beliefs, make decisions based on their high moral standards and take into account everyone's opinions, even if these opinions challenge their own position.

As hypothesized participants in the high authentic leadership condition reported that they would feel more anticipated guilt if they were to act aggressively, than the low authentic leadership condition. This finding is in line with the literature which suggests that authentic leadership may promote high moral standards in followers which results in greater guilt for choosing to engage in antisocial behaviours, as these behaviours go against their moral values (Bandura, 1991; Hannah et al., 2014). Our results are also in line with previous research (Cianci et al., 2014), which found that participants in a high authentic leadership condition were less likely to make an unethical decision, and more likely to feel guilty about making an unethical decision, compared to those in a low authentic leadership condition, in the face of temptation. Taken together with previous literature, our findings suggest that high authentic leadership may reduce likelihood of aggression and intensify guilt in athletes, with respect to engaging in aggression. The inhibiting effects of authentic leadership on guilt is an important finding, because anticipated guilt has been inversely and consistently linked to antisocial behaviour in sport (e.g., Kavussanu, 2019; Kavussanu et al., 2015). Thus, a leadership style which intensifies feelings of guilt for acting aggressively is likely to discourage aggression in sport.

Contrary to our hypothesis, participants in the high authentic leadership condition did not differ from those in the other two conditions in cheating or anticipated guilt from cheating. The null findings in our experiment are in line with the findings of a laboratory-based study, which found that a short authentic leadership intervention did not have an effect on the extent to which participants cheated (Braun & Hornuf, 2015). In addition, the cheating scenario related to faking an injury – a behaviour that is common and viewed as acceptable in

some sports (e.g., soccer). Furthermore, faking an injury does not necessarily have directly harmful consequences to another person. Whereas the aggression scenario referred to intentionally injuring an opponent, which does have direct consequences for the other player, in terms of causing physical harm. Therefore, this behaviour may not have been perceived as severe as the aggression scenario. Consequently, the participants likelihood to engage in cheating could have possibly been unaffected by the authentic leadership manipulation as it may not have been against the athletes' moral values and therefore their scores for cheating or the anticipated guilt from cheating would not have been effected.

Practical Implications

Our experiment showed that a manipulation of authentic leadership had an effect on athletes' trust, achievement, and moral outcomes. Our findings are important because coaches are particularly vital in influencing athletes' development and moral behaviours. High authentic leadership was related to higher trust, enjoyment, and commitment of athletes, and discouraged aggression. Therefore, coaches could be encouraged to regularly demonstrate high authentic leadership as presented in Appendix 3a, such as telling the hard truth, seeking feedback from their athletes, speaking to their athletes honestly, making decisions based on their core values and analysing all relevant information before coming to a conclusion.

Limitations and Future Research Directions

Despite some interesting findings revealed in this experiment, our research has some limitations. First, like all experiments conducted in a lab setting, this research has high internal but low external validity. We manipulated authentic leadership with a script of a coach in line with Cianci et al. (2014). Future research should be conducted in a real world setting, in which athletes of a high, low, and neutral leader (as indicated by screening questionnaires) are compared against one another on the outcome variables to enhance confidence in the casual relationships between the variables measured in this study. Second,

our anticipated guilt measures, consisted of only one item each, thus it was not possible to assess their internal consistency. Future research should employ multi-item measures of guilt. Finally, future research should develop and administer an authentic leadership intervention to coaches and examine its effects on the outcomes investigated in this research.

Conclusion

Our findings extend the current literature on authentic leadership in sport. They show that high authentic leadership can promote higher reported trust, enjoyment, and commitment in athletes as well as reduce their likelihood of aggression and increase the guilt they would anticipate feeling if they were to act aggressively. The study has made a significant contribution to the literature by extending previous cross-sectional studies in sport, by being the first experiment to demonstrate the effects of authentic leadership on these variables. The results suggest it may be beneficial for coaches to display more authentic leadership within their coaching practice, to help create more positive and moral sports environments.

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Endnote

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CHAPTER 5

Study 4. The Effects of Authentic Coaching Intervention on Athlete Outcomes: A Pilot Randomised Control Trial

Abstract

Objectives

Authentic leadership has been found to be related to promising outcomes in sport. However, no intervention designed to increase coaches' authentic leadership exists. The aim of this study was to develop and evaluate such an intervention.

Design

The study was a pilot randomised controlled trial with a pre-post mixed design with Group (Intervention, Control) as between and Time (pre, post) as within-participants factors.

Method

A total of 18 coaches ($M_{age} = 37.89$; 83% male) and their athletes ($N = 153$; $M_{age} = 20.48$; 50.3% females) were randomly allocated, via block randomisation, into either an intervention (coaches $n = 9$, athletes $n = 90$) or a control group (coaches $n = 9$, athletes $n = 63$). The coaches in the intervention group received a 2-hour-long workshop and completed weekly coaching logs. Data were collected via questionnaires and were administered to both the coaches and their athletes prior to the intervention and two months after the intervention.

Results

A manipulation check revealed the intervention group reported higher authentic leadership, compared to the control group. A mixed multivariate analysis of variance indicated that athletes in the intervention group reported significantly higher enjoyment and prosocial behaviour from pre to post-test compared to the control group.

Conclusions

The findings suggest that an authentic coaching intervention can be effective in promoting coaches' use of authentic behaviours and promoting positive athlete outcomes.

Keywords: coaches, enjoyment, athletes, prosocial behaviour

Introduction

In sport, coaches are seen as highly influential and are vital in eliciting positive athlete outcomes (Nichol et al., 2019; Vella et al., 2013). It has been suggested that effective coaches need to focus on the positive psychological growth of athletes and interpersonal relationships (Côté & Gilbert, 2009; Vella et al., 2013). Developing interventions to promote effective coaching behaviours is important in order to positively impact on athletes' developmental outcomes (Nichol et al., 2019). This has become particularly important in the past few years, in light of the recent decline in sports participation with age and moral sport scandals (Turnnidge & Côté, 2017). Authentic leadership is a form of leadership that could facilitate positive athlete outcomes and is the focus of the present research.

The previous chapters demonstrated evidence of the link between authentic leadership and various athlete outcomes both cross-sectionally, longitudinally, and experimentally, thus highlighting that an authentic leadership intervention for coaches may have beneficial outcomes for athletes through increasing coaches' demonstration of authentic behaviours. However, currently no such intervention exists in sport. Therefore, in this chapter, I aim to fill this gap in the literature and develop the work presented in the previous chapters further by developing and pilot testing an authentic coaching intervention by examining its influence on a range of important athlete outcomes which authentic leadership has been found to be positively related to in the previous chapters.

Authentic Leadership

Authentic leadership is a genuine style of leadership, where leaders display behaviours that are in line with their inner values (Avolio et al., 2004). Authentic leaders are concerned with their followers' development, involve their athletes in decision-making, act in an ethical manner and build trusting relationships with followers (Avolio et al., 2004). Many definitions of authentic leadership exist. In this study, we utilize Walumbwa et al.'s (2008) definition,

which defines authentic leadership as “a pattern of leader behaviour that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development” (p. 94).

Authentic leadership consists of four components: self-awareness, relational transparency, balanced processing, and internalised moral perspective. Self-awareness refers to how one makes sense of the world and consequently their views of themselves (Walumbwa et al., 2008). Furthermore, self-awareness suggests authentic leaders are more aware of their own strengths, weaknesses, inner values and moral values (Ilies et al., 2005; Walumbwa et al., 2008). Relational transparency refers to acting in accordance with one’s true self, values and morals and being open with followers (Ilies et al., 2005). This includes telling athletes the hard truth, admitting mistakes and displaying emotions exactly in line with feelings (Walumbwa et al., 2008). Balanced processing pertains to leaders objectively processing all available information, including their followers’ perspective before coming to a decision (Walumbwa et al., 2008). Authentic leaders are willing to consider different points of view, even if this challenges their own positions (Walumbwa et al., 2008). Finally, internalized moral perspective refers to having high moral standards, rather than them being guided by external pressures; authentic leaders also express where they stand on controversial issues and ask that their followers do the same (Walumbwa et al., 2008).

Authentic leaders may impact on important athlete outcomes and are highly relevant to sport in several ways. Firstly, authentic leadership incorporates a moral component, which suggests authentic leaders could establish moral team norms and thus may positively impact on followers’ moral behaviours (Walumbwa et al., 2008). This is vital in sport as behaviours such as cheating and aggression are commonplace and are largely influenced by the norms

coaches create (Kavussanu & Boardley, 2009). Furthermore, coach-athlete relationships are highly important in sport. Authentic leaders are concerned with their followers' development and create trusting relationships with them. This could have a beneficial impact on positive athlete outcomes which may influence sports participation such as commitment and enjoyment (Bandura & Kavussanu, 2018; Bandura et al., 2019) thereby addressing issues with sports participation, which has been found to decline with age (Slater & Tiggemann, 2011). Finally, authentic leaders influence their followers by leading by example and showing dedication to their development (Walumbwa et al., 2008).

Authentic leadership provides a multilevel leadership approach to coaching which is highly relevant to sport and focuses on the relationship leaders have with their followers, as well as incorporating four key components (i.e., self-awareness, relational transparency, balanced processing, and internalised moral perspective). These key components make it operationally distinguishable from other theories of leadership (e.g., transformational and ethical leadership). According to models of authentic leadership, authentic leaders are expected to promote a range of follower outcomes, as will be discussed in the following sections (e.g., Avolio et al., 2004; Ilies et al., 2005; Gardner et al., 2005). By creating an intervention programme designed to teach coaches how to become authentic leaders it may have a positive impact on the athlete outcomes discussed in the following sections.

Consequences of Authentic Leadership

Models of authentic leadership propose that this leadership style could lead to a number of positive outcomes in followers (e.g., Avolio et al., 2004, Gardner et al., 2005; Ilies et al., 2005). A key outcome authentic leadership is believed to influence is trust, which has been defined as feeling that one can rely on their leader and believing that the leader has good intentions for the team (Dirks, 2000). Authentic leaders are expected to create high trust as a result of them being genuine and credible leaders, and through being open and demonstrating

high moral standards (Gardner et al., 2005; Ilies et al., 2005). The positive relationship between authentic leadership and trust has been confirmed in sport research (e.g., Bandura & Kavussanu, 2018) and in Chapter 3 and 4.

Authentic leadership may also influence coach-athlete relationships, which comprise of closeness, commitment, and complementarity (Jowett & Cockerill, 2003). Closeness refers to how coaches and athletes emotionally express their relationships and includes trust; commitment refers to athletes' cognitions about whether they share beliefs and values with their leader; complementarity refers to the interactions between the coach and athletes and relates to the similarity of coaches' and athletes' interpersonal behaviours. Authentic leaders may create strong relationships with their athletes as they are open, show their true self, and develop trusting relationships with their followers.

Authentic leaders may also be capable of promoting higher cohesion (Avolio et al., 2004). Cohesion is defined as “a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of instrumental objectives and/or the satisfaction of group members affective needs” (Carron et al., 1998, p. 213). Authentic leaders are expected to create more cohesive teams as a result of followers identifying with their leader, and consequently their team, through authentic leaders providing high levels of social support (Avolio et al., 2004). The relationship between authentic leadership and group cohesion has been supported by a study, which found authentic leadership was positively related to team cohesion in athletes (Bandura et al., 2019) and in Chapter 3.

Team culture is another variable authentic leaders may positively impact upon (e.g., Gardner et al., 2005). Team culture is a concept similar to school culture which consists of four components (Higgins-D'Alessandro & Sath, 1998): normative expectations, leader/team relationships, follower relationships, and educational opportunities. Authentic leadership may positively influence team culture, because authentic leaders are transparent, create open

relationships with their followers, and provide opportunities to the team, and this over time may become the culture of the team (Gardner et al., 2005). Studies have found a positive relationship between authentic leadership and similar variables to team culture, such as team climate, defined as supportive and trusting social environments, in organizational and nursing settings (e.g., Nelson et al., 2014; Shirey, 2006).

Authentic leadership may also be related to follower enjoyment and commitment (e.g., Gardner et al., 2005; Ilies et al., 2005). Enjoyment is “a positive affective response to the sport experience that reflects generalised feelings such as pleasure, liking and fun”, while commitment is a “psychological construct representing the desire and resolve to continue sport participation” (Scanlan et al., 1993, p. 6). Authentic leaders should promote enjoyment and commitment through creating trusting relationships with followers, by spreading their own positive emotions, and by creating supportive team cultures (Gardner et al., 2005; Ilies et al., 2005). Indeed, one study found that authentic leadership was positively related to athletes’ commitment and enjoyment (Bandura & Kavussanu, 2018). Both enjoyment and commitment are vital to investigate in sport as they influence athletes’ continued involvement in sport participation beyond adolescence (Scanlan et al., 1993; Slater & Tiggemann, 2011).

Finally, authentic leadership incorporates a moral dimension, reflected in authentic leaders acting in line with their moral values, which is expected to have a positive influence on followers’ prosocial behaviours (Walumbwa et al., 2008). Prosocial behaviours are “voluntary behaviours intended to help or benefit another individual” (Eisenberg & Fabes, 1998). Authentic leaders could promote followers’ moral behaviours, by influencing the team culture to become more ethical and instilling a norm to act ethically (Gardner et al., 2005). Hannah et al. (2011) found that authentic leadership was positively related to soldiers’ ethical and prosocial behaviours, common in a military training center, such as considering soldiers’ impact on others and putting the good of the group ahead of their own self-interest.

Furthermore, in Chapter 3 changes in authentic leadership were found to be positively related to changes in athletes' prosocial behaviours via trust and cohesion over a sports season. In one experiment, participants assigned to a high authentic leadership condition were less likely to make unethical decisions in the face of temptation, compared to participants assigned to a low or neutral authentic leadership condition (Cianci et al., 2014).

Current Investigation

In summary, authentic leadership has been related to several positive outcomes such as trust, cohesion, enjoyment, and commitment (Bandura et al., 2019; Bandura & Kavussanu, 2018; Shirey, 2006). It could also be associated with coach-athlete relationships, team culture, and prosocial behaviours. However, to date, no study has investigated the effects of authentic leadership on these variables. There is a need to develop an authentic coaching intervention and examine its effectiveness on these athlete outcomes. The aim of this study was to develop such an intervention and evaluate its effectiveness on a range of outcomes (i.e., trust, coach-athlete relationships, cohesion, culture, enjoyment, commitment, and prosocial behaviour). To this end, once we developed the intervention, we recruited coaches who were assigned to an intervention or a control group. We hypothesised that compared to the control group, athletes in the intervention group would report higher scores on the outcomes we examined (trust, cohesion, culture, coach-athlete relationships, enjoyment, commitment, and prosocial behaviour) from pre to post intervention.

The present study adds to the literature on two accounts. First, it is the first study to develop an authentic leadership intervention. Second, it is the first study to examine the effects of authentic leadership on a range of athlete outcomes. The study is important because by showing that we can train coaches to demonstrate authentic behaviours more frequently, we can help them create more positive and ethical coaching environments, which may help to

address current issues in sport such as the decline in sports participation with age (Turnnidge & Côté, 2017).

Method

Design

The study consisted of two phases. In the first phase, we developed the intervention. During the second phase we tested the efficacy of the intervention using a small-scale pilot randomized controlled trial (RCT) with a pre-post mixed design, over one sports season.

Phase 1: Development of the Intervention

Prior to starting the study, ethical approval was obtained from the University ethical research committee. The development of the intervention was based on the authentic leadership literature and its content reflected concepts solely relevant to authentic leadership (e.g., Avolio et al., 2004; Walumbwa et al., 2008; Gardner et al., 2005). Full details of the intervention can be seen in Table 1 and in the Template for Intervention Description and Replication checklist (TIDieR; Hoffman et al., 2014), presented in S1 of the supplementary material. The intervention consisted of an initial group workshop, training manual, and a second workshop. The initial group workshop consisted of: presentations including written information, videos and quotes from well-known coaches; scenario tasks; role-play activities and group-based exercises; and SMART (Specific, Measurable, Achievable, Realistic, Time-Constraint) goals for each of the components of authentic leadership (Vella et al., 2013). The training manual contained the information presented in the workshop, and a coaching log in which coaches were asked to write their SMART goals. The second workshop, which took place four weeks after the first workshop used the GROW model (i.e., Goals: relating to what they want to achieve; Reality: where they are now in terms of achieving goal; Options: describing what they could do to achieve their goal; What: what are they going to do now to achieve their goals), to assess the coaches' progress towards their SMART goals.

For the coaching log, the coaches were provided with a list of behaviours relating to each component of authentic leadership and were asked to focus on one component every week, for the first four weeks, recording the number of times they engaged in the behaviours, and provide written examples of how they did so. The coaches were also asked to reflect on each session by asking them questions such as “how did you find incorporating authentic leadership into your coaching sessions this week?” and “what could you do differently regarding authentic leadership?”. For example, for relational transparency, one coach recorded that they had told the hard truth 4 times, with an example being “I allowed players to know my true thoughts at the end of the session which helped me to gain more feedback”. The logs were sent to the researchers each week. After the first four weeks, coaches were asked to choose one behaviour per component to implement each week and again record how often they engaged in these behaviours and provide examples of how they did so.

The second workshop was 1.5 hours long and allowed for more one-to-one conversations with the coaches. Its aims were to give a refresher of the material, to address any issues they may have had in the first month, and to assess their progress towards the SMART goals they had set during the initial workshop. The GROW format (Vella et al., 2013) influenced the structure of the conversation with each coach. We asked them to state the four goals they set in the first workshop and where they were in terms of achieving their goals. Then we asked them to think of any strategies they could employ to achieve their goals, helped them set some plans to achieve their goals, and helped them set new goals. The GROW format was adapted to be relevant to the authentic leadership SMART goals they had set during the initial workshop and ensured the coaches were engaging with what they had learnt during the intervention by demonstrating authentic leadership in their coaching.

The different components of the intervention were selected based on Nelson et al. (2013) suggestions for effective coach education which states interventions should: (a) use

thought provoking pedagogical approaches which actively involve the coaches and result in an improvement in knowledge and ability to demonstrate the behaviours; (b) use a range of learning resources, and provide new, high-quality supporting material; (c) be coach-centred and relevant to their own personal coaching practice; (d) link theory to practice, provide practical examples, and utilize group learning in which coaches can share their knowledge; (e) use confident presenters who possess an in-depth understanding of the cutting-edge ideas.

The authentic coaching intervention covered all of these components by using novel ideas from the authentic leadership literature and by incorporating many different teaching strategies described above. The authentic coaching intervention employed techniques from several previous successful intervention studies in transformational leadership (e.g., Barling et al., 1996; Vella et al., 2013) which related to Nelson et al. (2013) recommendations and the authentic leadership literature. These techniques were adapted to only include information relevant to authentic leadership. For example, setting SMART goals allowed the intervention to be specific to the coaches and authentic leadership, by setting personalised authentic leadership goals. We also used practical examples in the form of well-known coaches so the coaches could witness the successful implementation of authentic leadership (Nelson et al., 2013). Furthermore, we included interactive group activities which allowed coaches to share their experience and provided practical examples of how to demonstrate authentic behaviours. The supporting material provided coaches with a better understanding of authentic leadership. Lastly, the intervention was delivered by the lead author, who had high levels of expertise on authentic leadership, whilst research assistants helped encourage the coaches' involvement during group exercises as a result of prior training in how to engage the coaches in the session, e.g., by being given examples of prompts and questions to ask.

The intervention also covered the components of a successful intervention as proposed by Hoffman et al. (2014) such as using a theory to guide the intervention, which in

this case was Walumbwa et al.'s (2008) definition of authentic leadership and authentic leadership theory. To ensure fidelity of the intervention we employed strategies proposed by Gearing et al. (2011) such as ensuring: the content is based on theory, that the study had well-defined objectives, procedures and outcomes, the use of pre and post-test self-report measures to examine changes that occurred as a result of the intervention, and by providing the conceptual relevance of authentic leadership. To ensure fidelity of delivery we used strategies such as including a checklist of the intervention material, a second workshop session to ensure the coaches understood the first workshop, taking attendance, ensuring the treatment differed for the intervention and control group, ensuring a good participant-researcher ratio (6-4), and presenting the information in a simple way, (Gearing et al., 2011).

Table 5.1*Authentic Coaching Intervention Components and Content*

Component	Content
Workshop	<ul style="list-style-type: none"> • Discuss the importance of good coaching and present information on how it can lead to positive athlete outcomes. • Explain what authentic leadership is, its four components, its link with athlete outcomes, and its importance. • Provide examples of why authentic leadership is important and how behaviours of famous effective coaches illustrate each component. • Give practical examples of how to show each component in coaching. • Discuss with the group each component and ways coaches can solve common problems in their coaching in an ‘authentic’ way. • Come up with SMART goals based on what was presented.
Training Manual	<ul style="list-style-type: none"> • Provide with main points of workshop content, additional space to contribute to group tasks and activities.
Coaching Log	<ul style="list-style-type: none"> • Space for SMART goals set during session. • Provide information on how to show the behaviours relating to each component and space to tally how often engaged in authentic behaviours relating to different components and examples.
Second Workshop	<ul style="list-style-type: none"> • Main points of workshop reiterated. • Provide additional mentoring towards SMART goals using GROW format.

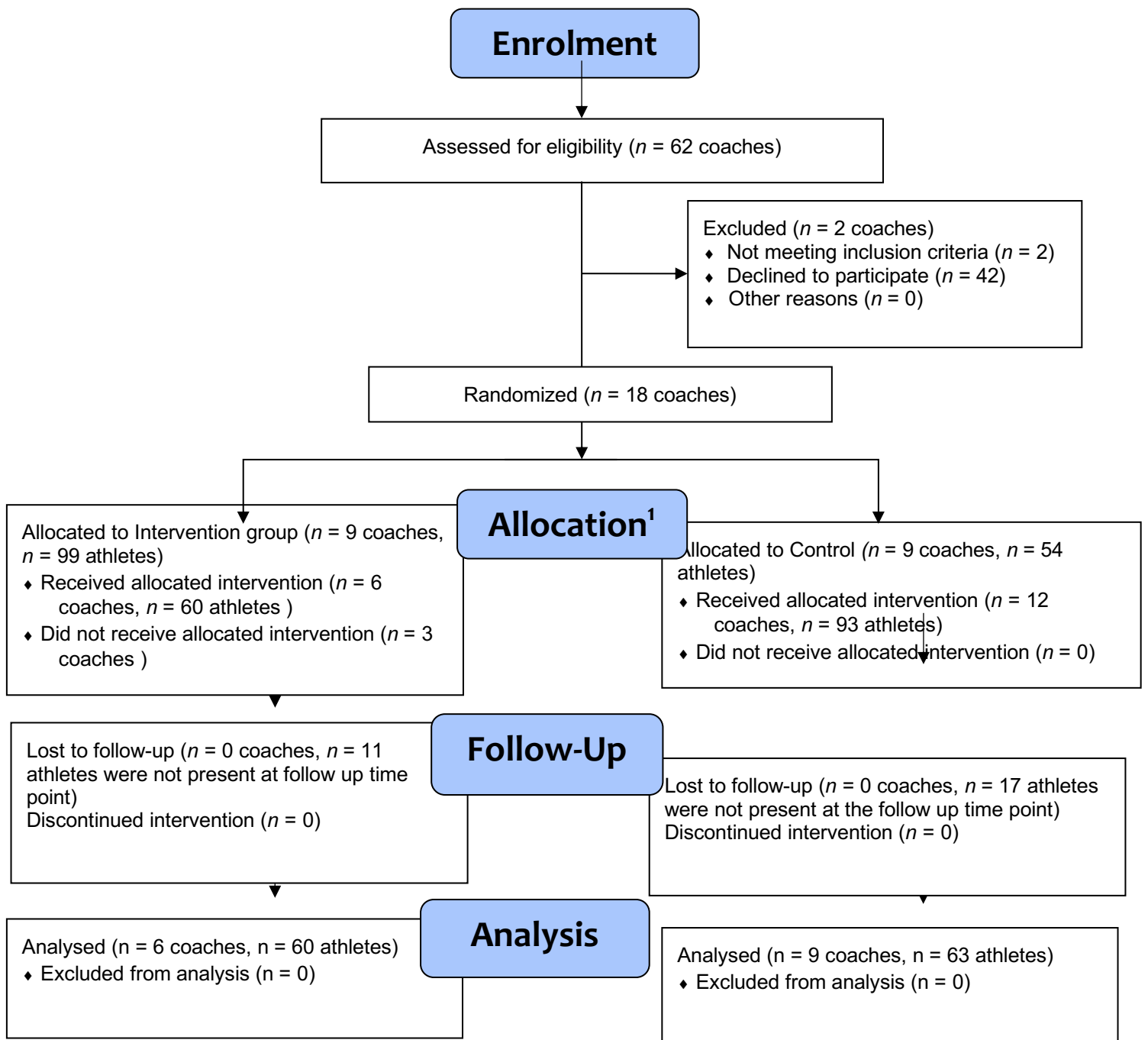
Once the intervention material was developed, we conducted a focus group with 5 coaches to refine the material. This included a presentation of the intervention material; we asked coaches to give their feedback on the material using closed and open-ended questions. An example of an open question was “what would you change to make this section better?”. An example of a closed question was “on a scale of 1 to 7, how engaging did you find the presentation?” Responses to the closed questions revealed that the participants found the presentation highly interesting, clear, enjoyable and engaging. Responses to the open-ended questions revealed that the content could be improved by providing specific examples from the media and including more female coach examples. The intervention material was revised to implement these changes prior to administering the main trial described below.

Phase 2: Evaluation of the Authentic Coaching Intervention

The second phase involved delivering the authentic coaching intervention to a group of coaches and evaluating its effectiveness. As this study was a pilot study and therefore not a fully powered study, and only a small sample of coaches were used, a priori power analysis was not needed (Hertzog, 2008). Furthermore, as this was a pilot study it would be unethical to expose too many coaches to the intervention material at this early stage. The coaches were randomly allocated to either the intervention group, who received the intervention workshop or the control group, who did not. The CONSORT (2010) flow diagram for participant flow is presented in Figure 5.1. Two coaches were excluded because they did not meet the criteria and 42 coaches declined to participate or did not respond, however poor recruitment is often the biggest hurdle of RCTs and a common problem (Toerien et al., 2009).

Figure 5.1

CONSORT 2010 flow diagram



Note. This figure illustrates the CONSORT flow diagram of participant flow.

Participants. Participants were 18 coaches and their 153 athletes¹. The eligibility criteria for the coach and athlete participants were that they are healthy, over 16, and currently coach a team/participate in sport respectively, at the time of data collection. As can be seen in Table 5.2, the majority of the coaches were male (93.3%) and coached within British Universities and Colleges Sport (BUCS) leagues ($n = 10$), with the remaining coaching in external leagues. Both the university and external leagues competed at a similar amateur level, with a mixture of team and individual sports who practiced within a team.

Table 5.2*Participant Characteristics* ($N_{Coaches} = 15$; $N_{Athletes} = 123$)

Variable		Group	
		Coaches <i>M</i> (<i>SD</i>)	
		Intervention (<i>N</i> = 6)	Control (<i>N</i> = 9)
Sex	Male	6 (100%)	8 (88.9%)
	Female	0 (0.0%)	1 (11.1%)
Sport	Football	3 (50.0%)	3 (33.3%)
	Athletics	2 (33.3%)	5 (55.6%)
	Mixed Martial Arts	1 (16.7%)	0 (0%)
	Korfball	0 (0%)	1 (11.1%)
Age		32.66 (18.90)	46.56 (19.93)
Years of coaching		10.83 (14.63)	9.67 (11.95)
Years of coaching team		8.33 (15.55)	4.56 (4.22)
		Athletes <i>M</i> (<i>SD</i>)	
		Intervention (<i>N</i> = 60)	Control (<i>N</i> = 63)
Sex	Male	49 (81.7%)	23 (36.51%)
	Female	11 (18.3%)	40 (33.49%)
Sport type	Football	34 (56.7%)	30 (47.622%)
	Athletics	17 (28.3%)	21 (33.33%)
	MMA	9 (15%)	0 (0%)
	Korf ball	0 (0%)	12 (19.05%)
Age		21.77 (.88)	20.25 (.53)
Years training with team		10.70 (.71)	9.58 (.811)
Years training with coach		1.42 (.16)	2.11 (.18)

Measures

For the pre-test questionnaire, participants were asked to think about their experiences/behaviours so far this season; and for the post-intervention questionnaire over the past 2 months. Although data were collected from both coaches and athletes, the main analysis was conducted on only the athlete data, due to the small number of coaches and because followers' perceptions of their leaders' behaviours are more reliable (Avolio et al., 2004). We have included the coach data in S2 of the supplementary material. The coach data and athletes' perception of their coaches' authentic leadership were used to examine whether the intervention was successful in increasing coaches' authentic leadership behaviours.

Athlete Measures

Authentic Leadership. Athletes rated their perceptions of their coach's level of authentic leadership using the Authentic Leadership Questionnaire (ALQ; Walumbwa et al., 2008). The wording of the questionnaire was changed to state "my coach". Athletes were asked to think about their experiences with their coach and rate their perceptions of their coaches use of authentic leadership on a 5-point scale with 1 corresponding to "not at all" and 5 corresponding to "frequently if not always". This scale has been found to have good reliability ($\alpha = .85$; Bandura et al., 2019). The Cronbach alphas for each of the scales, as found in the present study, are presented in Table 3.

Trust. Athletes rated their levels of trust towards their coach using the Trust Questionnaire (Dirks, 2000). This scale consists of nine items, and an example item is "I trust and respect my coach." Participants are asked to think about their experiences with their coach this season and circle an appropriate answer using a 7-point Likert scale, with 1 representing "strongly disagree" and 7 "strongly agree". This scale has been found to be reliable, as shown by a Cronbach alpha of .96 (Dirks, 2000).

Coach-Athlete Relationship. Athletes rated the nature of their relationship with their coach using the CART-Q (Jowett & Ntoumanis, 2004). The wording of the questionnaire was changed to reflect the athletes' perception of their relationship with their coach. An example item of the closeness subscale is "I feel close to my coach", an example of the complementarity subscale is "when I am coached by my coach, I feel at ease" and an example item of the commitment subscale is "I feel committed to my coach". The athletes were asked to think about their experience with their coach and rate their agreement to each statement using a 7-point Likert scale with 1 corresponding to "strongly disagree" and 7 "strongly agree". This scale has been found to be reliable as demonstrated by Cronbach alphas of .82 - .88 (Jowett & Ntoumanis, 2004).

Team Cohesion. We measured team cohesion using the Youth Sport Environment Questionnaire (Eys et al., 2009), which measures task and social cohesion, with nine items for each subscale. We used this questionnaire (rather than the adult version) as we had some participants under the age of 18; this questionnaire is more suitable for athletes below the age of 18, as youths may not be able to distinguish between group integration and individual attraction to the group, thus they could misinterpret the questionnaire (Eys et al., 2009). An example item for social cohesion is "I spend time with my teammates" and for task cohesion "my approach to playing is the same as my teammates". Participants were told to think about their experience with their team this season and circle the appropriate number using a 9-point Likert scale with 1 corresponding to "strongly disagree" and 9 corresponding to "strongly agree". For this study we computed an average score for the two subscales and used this in all analysis, as the correlation amongst the two subscales was high (.69). This scale has been found to be reliable ($\alpha = .84$; Bandura et al., 2019).

Team Culture. Athletes' perceptions of their team culture were measured using an adapted version of the School Culture Scale to sport (SCS; Higgins-D'Alessandro & Sadh,

1998). This has been adapted to sports studies to measure positive sociomoral team cultures by making the items sports-specific and removing items which are not relevant to the sport context (e.g., Rutten et al., 2007). The wording of the questionnaire was also changed so that “teacher” became “coach” and “students” became “athletes.” We included three subscales with 14 items: teacher/school relationships (5 items, e.g., “athletes generally treat each other with respect and fairness”), athlete relationships (3 items, e.g., “my coach generally treats their athletes with respect and fairness”), and educational opportunities (6 items, e.g., “athletes learn how to listen to other people’s ideas better”). Participants were asked to rate how true the statements were for their team this season using a 5-point scale with 1 corresponding to “false” and 5 “true”. The average of the three subscales was used in the analyses, as the subscales were found to be highly correlated (.65, .76, .71). This scale has been found to be reliable ($\alpha = .85$; Higgins-D’Alessandro, & Sadh, 1998).

Enjoyment and Commitment. The athletes rated their levels of enjoyment and commitment using two subscales with 4 items respectively, from the Sport Commitment Model (Scanlan et al., 1993). An example item from the enjoyment scale includes “are you happy playing for this team” and from the commitment subscale “how hard would it be for you to quit playing for this team”. Participants were asked to think about their experiences in their team and circle the appropriate number using a 5-point Likert scale with one corresponding to “not at all” or “not at all dedicated” and five “very much” or “very dedicated” for the enjoyment and commitment scales, respectively. The scale has shown to have good reliability of $\alpha = .95$ for enjoyment and $\alpha = .88$ for commitment (Bandura & Kavussanu, 2018).

Prosocial Teammate Behaviours. Athletes rated their levels of prosocial behaviours using the prosocial behaviour towards teammate subscale of the Prosocial and Antisocial Behaviour in Sport Scale (PABSS; Kavussanu & Boardley, 2009). This is because we

expected that authentic leadership would influence athletes' prosocial behaviour towards their teammates. This scale consists of five items (e.g., "Congratulated a teammate for good play"). Athletes were asked how often they engaged in the behaviours this season using a five-point Likert scale with 1 corresponding to "never" and 5 "very often". This scale was found to be reliable, as shown by Cronbach alphas of .74 (Kavussanu & Boardley, 2009).

Procedure

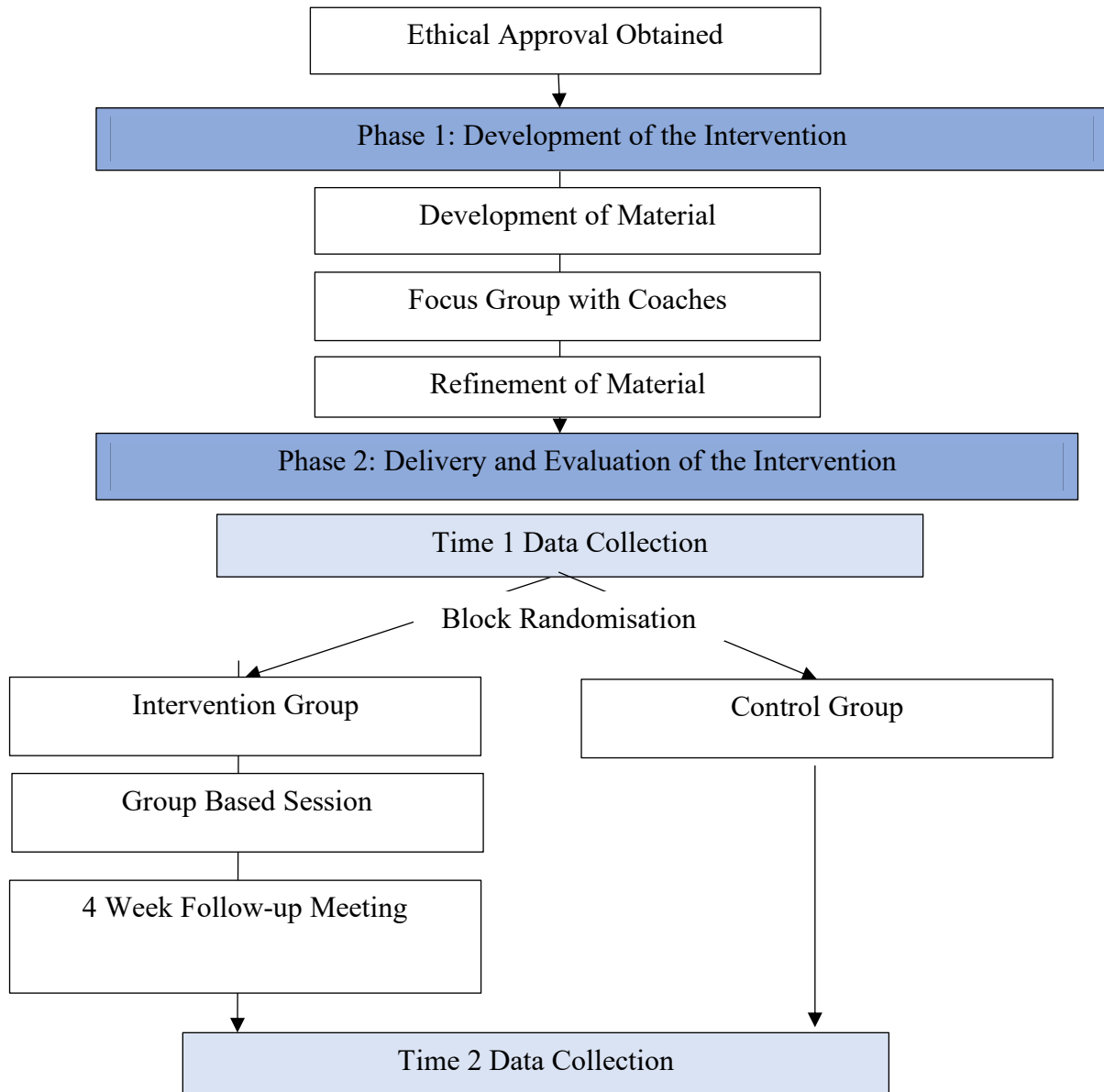
A total of 62 coaches were contacted via email or phone, using purposeful sampling techniques and were invited to take part in the study and to allow their athletes to take part in the study. The participants were told the purpose of the study, that data would be confidential and for research purposes only, that they could withdraw their data at any point, and that participation was voluntary. The recruitment took place over a period of two months. Once the coaches agreed to take part in the study a date and time was arranged for Time 1 data collection. The order of the measures in the questionnaire was counterbalanced to avoid order effects. The pre-test questionnaires were given to both the coach and athletes, at the start or end of a practice session, towards the middle of the season, and took 10-15 minutes to complete. The same questionnaire was then given to all participants 2 months later, after the intervention, in order to allow for enough time for the coaches in the intervention group to implement the behaviours they had learnt during the intervention.

As this was only a pilot study this time frame was kept relatively short to avoid dropout, allow for enough time for coaches to complete their coaching logs, and assess the intervention's initial effectiveness, as suggested by previous coach interventions which were between 8 weeks and 12 months (e.g., McEwan & Beauchamp, 2020; Vella et al., 2013). In addition, the purpose of the short time frame was to assess whether this would be sufficient time for coaches to implement the behaviours learnt during the intervention, in order to guide the time frame of a future RCT.

The coaches, and their respective athletes, were then randomly allocated to either the intervention or the control group, by the lead experimenter using block randomisation techniques, as the sample size was small (Kim & Shin, 2014). A strength of RCT is that it eliminates selection bias. Specifically, the coaches were allocated a number and their names removed to ensure anonymity. We then used a block randomization online calculator which randomly split the coaches into four blocks of two groups (group A relating to the intervention group, and B being the control) and picked the fourth block of random numbers. The letters A or B were added next to the 18 numbers, which were then checked against the original list of coaches. The intervention group then received the three-hour face-to-face group workshop; there was no intervention for the control group. The intervention was only delivered once. The workshop took place in a seminar room on campus. The coaches in the intervention group were given financial compensation for their time and for travel to the intervention location. They were asked to complete weekly coaching logs to assess their progress. The overall compliance with the weekly coaching log reporting through Week one to four was high (100%), and lower for weeks 5 (66.7%), 6 (66.7%), 7 (66.7%), and 8 (50%). The intervention was evaluated by the experimenters using the questionnaires and the coaching logs. The first coaching workshop was followed up by regular contact and a second workshop at the midway point with all the intervention group coaches, four weeks later, which was half-way through the intervention time. All the steps of the study are presented in Figure 5.2.

Figure 5.2

Flow diagram of procedure



Note. This figure illustrates the procedure of the study.

Data Analysis

Data analyses were conducted using the Statistical Program for Social Sciences (SPSS v. 26). Preliminary data analysis was firstly conducted to examine whether there was any missing data and in order to calculate the Cronbach alphas. Descriptive statistics were then calculated. For the main analysis we conducted a mixed MANOVA, followed by a post hoc analysis of pairwise comparisons based on estimated marginal means to examine whether athletes of coaches in the intervention group would report higher scores on the outcomes from pre to post-intervention compared to the control group. We report the partial eta-squared (η_p^2) as the effect sizes, with .02, .13 and .25 considered small, medium, and large effect sizes respectively Cohen (1992). For the variables which demonstrated a significant interaction effect, an Analysis of Covariance (ANCOVA) was conducted, to examine whether group differences on each variable in the Time 2 scores were significant, when controlling for Time 1 scores.

Results

Descriptive Statistics and Alpha Coefficients

Preliminary data analysis revealed the data to be normally distributed according to the Shapiro-Wilk test and visual inspection of the histograms, Q-Q plots, and boxplots. The skewness and kurtosis of authentic leadership (Skewness = .94, SE = .20; Kurtosis = .22, SE = .39), trust (Skewness = -1.50, SE = .20; Kurtosis = 1.81, SE = .39), climate (-.74, SE = .20; Kurtosis = .45, SE = .39) cohesion (Skewness = -.56, SE = .20; Kurtosis = .61, SE = .39), enjoyment, (Skewness = -.74, SE = .20; Kurtosis = -.10 SE = .39), commitment (Skewness = -.11, SE = .20; Kurtosis = .22, SE = .39), and prosocial behaviour scales (Skewness = -.58, SE = .20; Kurtosis = .10, SE = .39), demonstrated normal distribution

There were no missing data from the coach data set. For the athlete data set, missing data were 0.7% at time 1 and 13.1% at Time 2. A MCAR (Missing Completely at Random)

test showed the data to be missing completely at random (Chi-square = 505.44, $df = 585$, $p = .999$), as the significance levels indicate we were not able to reject the null hypothesis that the data would be missing at random. Therefore, multiple imputation was used to replace the missing values, as this is considered a valid method of handling missing data in randomised controlled trials (Jakobsen et al., 2017). The multiple imputation procedure generated five data sets; their sum was used to replace the missing values and was used throughout the rest of the analysis. Therefore, for the following analysis the data from the original 153 athletes were used¹.

Table 5.3 displays the Cronbach alphas and descriptive statistics for the athlete variables. In general, the Cronbach alphas for the athlete measures were considered good to excellent, whilst the scores for the prosocial teammate behaviour subscale of the PABSS were considered acceptable ($> .9 = \text{Excellent}$; $> .8 = \text{Good}$; $> .7$; George & Mallery, 2003). Athletes reported moderate levels of perceived coach authentic leadership, team cohesion, and teammate prosocial behaviours. Athletes also reported high levels of commitment, trust, team culture, enjoyment and coach-athlete relationships.

Table 5.3*Cronbach Alphas and Descriptive Statistics for Athlete Variables*

Variable	α	Group			
		Intervention		Control	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Authentic Leadership					
Time 1	.92	3.98	.69	3.95	.60
Time 2	.92	4.20	.51	33.87	.77
Trust					
Time 1	.93	6.34	.66	6.14	.93
Time 2	.90	6.27	.61	6.12	.51
Team Culture					
Time 1	.91	4.10	.52	4.05	.54
Time 2	.93	4.35	.50	4.27	.58
Team Cohesion					
Time 1	.90	7.12	1.20	7.36	.95
Time 2	.86	7.23	.87	7.14	.89
Coach-Athlete Relationship					
Time 1	.96	5.95	1.06	5.98	.91
Time 2	.94	6.22	.63	6.10	.81
Enjoyment					
Time 1	.96	4.58	.66	4.69	.54
Time 2	.93	4.62	.47	4.46	.55
Commitment					
Time 1	.85	4.28	.70	4.46	.53
Time 2	.86	4.44	.49	4.43	.58
Prosocial Behaviour					
Time 1	.79	3.87	.63	3.98	.58
Time 2	.77	4.00	.53	3.88	.50

Authentic Leadership

A mixed MANOVA, conducted on the athletes' responses revealed a significant Group effect and Group x Time interaction for authentic leadership. The follow up ANCOVA controlling for Time 1 scores revealed that athletes in the intervention group reported higher perceptions of authentic leadership compared to the control group, thus confirming that the intervention was successful in changing coaches' authentic leadership.

Main Analysis

The main purpose of our study was to examine whether the coaching intervention was effective in increasing the outcomes and to this end we examined scores in the intervention group from pre to post intervention, compared to the control group. Table 5.4 shows the results of a mixed MANOVA, with 2 Group (Intervention, Control) x 2 Time (pre, post). There was a significant Time effect for team culture and coach athlete relationship. We also found significant Group x Time interaction effects for enjoyment and prosocial behaviour. These effects are illustrated in Figure 5.3. We found no main or interaction effects for cohesion and trust.

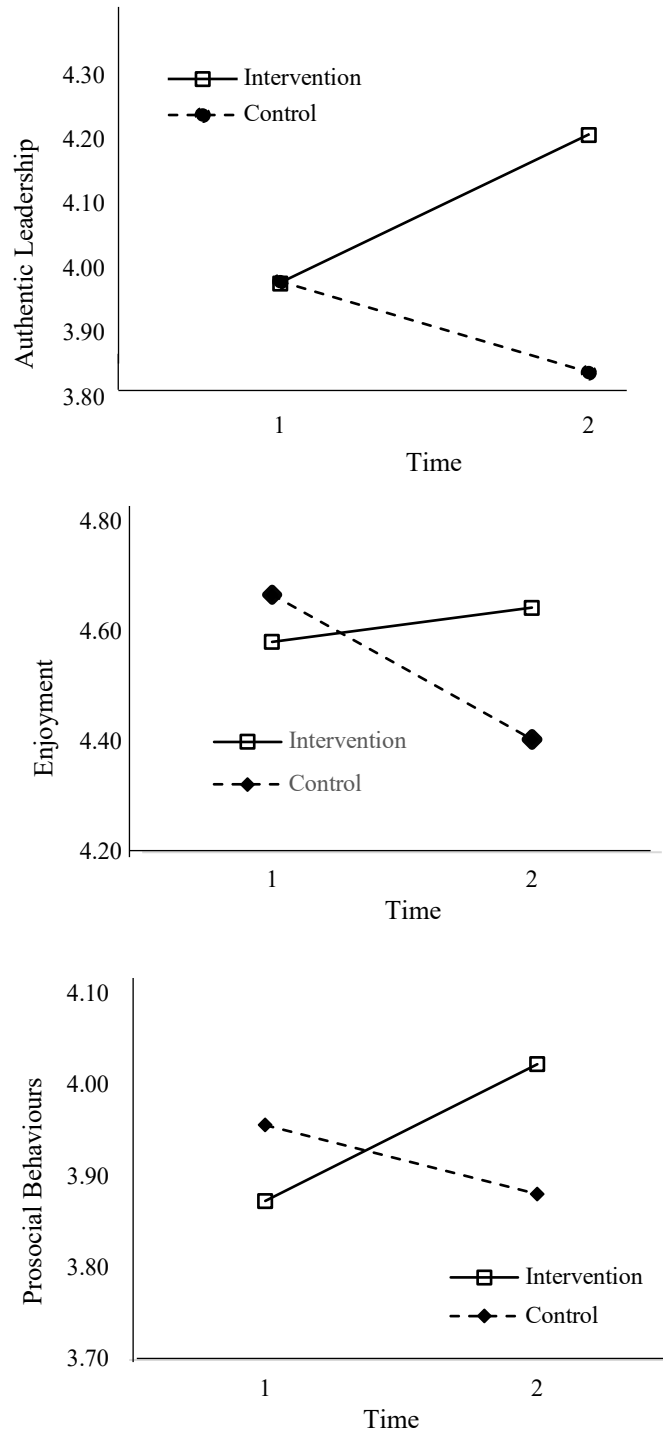
Table 5.4*Mixed MANOVA Results for Athlete Variables (N = 123)*

Variable	Effects ($F(1, 121), ES$)								
	Within-Subjects			Between-Subjects			Interaction		
	Time			Group			Group x Time		
	F	ES	p	F	ES	p	F	ES	p
Authentic Leadership	1.24	.01	.28	4.45	.04	.04	5.37	.04	.02
Trust	.52	.00	.47	2.13	.02	.15	.23	.00	.64
Team Culture	17.28	.13	.00	.99	.01	.32	.33	.00	.56
Cohesion	.46	.03	.50	.23	.00	.64	3.74	.03	.06
Coach-Athlete Relationship	6.60	.05	.01	.14	.00	.71	.93	.01	.34
Enjoyment	2.41	.02	.12	.11	.00	.74	4.95	.04	.03
Commitment	1.33	.01	.25	1.00	.01	.32	2.62	.02	.10
Prosocial Behaviour	.14	.00	.71	.01	.00	.92	4.38	.04	.03

Note. ES = effect sizes are partial eta squared (η_p^2): .02, .13 and .25 are considered small, medium and large effects, respectively (Cohen, 1992).

Figure 5.3

Authentic leadership, enjoyment, and prosocial behaviour as a function of group and time



Note. This figure shows athletes' perceptions of their coaches' authentic leadership, enjoyment and prosocial behaviour over time as a function of intervention group.

The range for the authentic leadership, enjoyment and prosocial behaviour variables is 1-5.

For the variables which showed a significant interaction effect we also compared the Time by the intervention Group, using pairwise comparisons based on estimated marginal means to examine whether the mean of the variables was different or the same for the two groups at Time 1 and 2. As can be seen in Table 5.3, the intervention group showed that authentic leadership, enjoyment and prosocial behaviours were not different at the first time point, but were respectively different at follow-up. Pairwise comparisons showed that, at Time 2, athletes in the intervention group reported significantly higher authentic leadership, enjoyment, and prosocial behaviour than athletes in the control group. Commitment was not found to be significantly different at the first or second Time point.

The Mixed MANOVAs which showed a significant Group x Time interaction, were also followed up by an ANCOVA. As can be seen in Table 5.5, in Time 2, athletes reported significantly higher authentic leadership, enjoyment and prosocial behaviour, when controlling for Time 1 scores of each variable. However, Time 2 commitment was not significantly different between groups, when controlling for Time 1 commitment.

Table 5.5*ANCOVA Results for Time 2 Scores Controlling for Time 1 scores*

Variable	Group				<i>F</i> (1, 122)	η^2
	Intervention		Control			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Authentic Leadership	4.20	.07	3.87	.07	10.95**	.08
Enjoyment	4.63	.55	4.46	.54	4.31*	.04
Prosocial Behaviour	4.01	.53	3.87	.48	43.63*	.05

Note. ** $p < .01$; * $p < .05$

Discussion

To date, a limited amount of research has been carried out on authentic leadership in sport which has shown that authentic leadership is related to several positive athlete outcomes such as trust, cohesion, enjoyment, and commitment (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018). However, these studies have been cross-sectional and cannot establish causal relationships. Authentic leadership is a highly relevant model of leadership in sport and may be positively related to additional outcomes which have not yet been investigated (e.g., Avolio et al., 2004; Gardner et al., 2005). Therefore, this study aimed to develop an intervention designed to increase coaches' use of authentic behaviours and evaluate the impact of this on athlete outcomes.

Effects of Intervention on Outcomes

In line with our hypothesis, athletes of coaches in the intervention group rated their coaches' authentic leadership to be higher from pre to post intervention, compared to the control group, suggesting that the intervention was successful in promoting coaches use of authentic behaviours. Similarly, also in line with our hypothesis, athletes of coaches who received the intervention reported greater enjoyment compared to the control group, from pre to post intervention. The findings of the impact of the intervention on athletes' enjoyment extends the results of a cross-sectional study in sport (Bandura & Kavussanu, 2018) and Chapters 2, 3, and 4. Our study is the first to show that by demonstrating more frequent authentic leadership behaviours, coaches can actually increase enjoyment in their athletes. The increase in enjoyment, in the intervention group, in comparison to the control group, is a significant finding as this variable is highly influenced by factors in the social environment, such as the type of leadership coaches display, and plays an important role in continued sports participation (Scannlan et al., 1993). The results enhance our understanding of the relationship between authentic leadership and athletes' enjoyment, by suggesting that when

coaches display authentic behaviours, such as those highlighted in our coaching programme, they are able to produce greater enjoyment amongst their athletes. The mechanism through which this occurs is not entirely clear, however, previous research suggests, this could be due to authentic coaches spreading their own positive emotions to their followers (Gardner et al., 2005; Ilies et al., 2005).

Our results also supported our hypothesis that athletes in the authentic leadership condition would report more frequent prosocial behaviours after the intervention, compared to the control group. This finding supports and extends previous research (e.g., Hannah et al., 2011), which found that authentic leadership was positively related to soldiers' prosocial behaviours as well as the results of Chapter 3. The findings suggest that an authentic coaching intervention is effective in increasing prosocial behaviours, by increasing coach's demonstration of authentic leadership behaviours such as showing their true ethical self to followers and asking their followers to do the same. Therefore, coaches should be encouraged to show authentic behaviours in their coaching practice in order to increase athletes' prosocial behaviour toward their teammates. In turn, this could lead to other desirable outcomes such as group cohesion, and performance.

Whilst we found that the intervention groups scores for trust, cohesion, team culture, commitment and coach-athlete relationships either remained the same or increased over time, compared to the control group; contrary to our hypotheses, these variables were not found to be significantly different from the control group from pre to post intervention. These findings are contrary to the results found in Chapter 3 and 4. These null findings could be due to our study not including a long enough time between data collection points. Variables such as trust and coach-athlete relationships develop over time, as followers identify and begin to trust their leader (Avolio et al., 2004). Thus, trust and coach-athlete relationships may not have been influenced sufficiently by the small-time frame used in this study. Similarly, team

culture and cohesion develop over time as they require the team's values to change; and this may not be adequately captured with time points relatively close together. However, the results of this study still provide important initial evidence of the effectiveness of an authentic leadership coaching intervention (Cruickshank & Collins, 2013).

Overall, the results of the study demonstrate that our authentic coaching intervention was effective in increasing athletes' perceptions of their coaches use of authentic leadership and reported enjoyment and prosocial behaviours. These findings suggest that authentic leadership is a potentially viable addition to coach education programmes. This research is important because there is a substantial need for theoretically driven and coherent coach education models (Vella et al., 2013). Authentic leadership can provide a theoretically sound approach to sport leadership as it could lead to positive athlete outcomes. Furthermore, the results suggest authentic leadership behaviours should be encouraged amongst coaches.

Practical Implications

The results of this study demonstrated that it is feasible to implement an authentic coaching programme and that this promotes beneficial outcomes to sports participation and more moral and ethical sports behaviours. Therefore, the results suggest that authentic leadership models could be incorporated in future coach education models and that such an authentic coaching intervention, which encourages coaches to demonstrate authentic behaviours more frequently, through teaching coaches how to develop a greater understanding of themselves, be open with their followers, include their athletes in decision making, and display moral behaviours in-line with their inner values, should be developed further and implemented within coach education in order to produce positive athlete outcomes.

Limitations and Future Research Directions

Despite the interesting findings, our study was not without limitations. Firstly, only a small sample of coaches were included as this was the first study that has developed and examined the feasibility of an authentic leadership intervention for coaches. This may have been responsible for the null findings in several of our outcomes. Future research needs to include a larger sample and a wider range of coaches, from different sports or age ranges, to increase the generalisability of the results. Secondly, a large number of coaches declined to participate in the study. This may have been due to conflict with coaches' commitments, inconvenience of location of workshop, and lack of effective recruitment strategies. Future research should consider promoting the benefit of the intervention more to coaches and using more effective recruitment strategies.

Finally, the data collected from the coaches and athletes in relation to authentic leadership provided some preliminary evidence of fidelity, in terms of whether the intervention worked in changing coaches' authentic behaviours. However, future research should complete a full process evaluation to examine why the intervention worked. This will help to highlight the essential elements of the intervention and help to develop a logic model and consequently develop a theory of behaviour change. This could include coaches completing more in-depth coaching logs, post workshop feedback forms to provide qualitative and objective measures of the intervention success, and methods to assess fidelity of the delivery. The intervention should then be evaluated using a full-scale randomized control trial over a longer period of time in order to increase confidence in the results and to examine the casual mechanisms between the proposed relationships.

Conclusion

Our findings extend the current literature on authentic leadership in sport by demonstrating that it is feasible to deliver an authentic leadership coaching intervention in order to increase coach's demonstration of authentic behaviours. Importantly, such an

intervention can lead to greater enjoyment and more frequent prosocial behaviour toward one's teammates. Furthermore, authentic leadership may provide a good theoretical foundation for future coach education programmes.

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Endnotes

¹ 3 coaches who were allocated to the intervention group were unable to make the intervention session due to prior commitments, and so they were moved to the control group to avoid removing them completely from the study.

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CHAPTER 6

General Discussion

This thesis extensively investigated the role of authentic leadership in sport and its impact on athlete outcomes. This was done by assessing the relationships between authentic leadership and a range of athlete outcomes, via self-report questionnaires, over various cross-sectional, longitudinal and experimental studies. In addition, this thesis detailed the development of an intervention designed to educate coaches on and increase their use of authentic leadership behaviours, which was found to promote several positive outcomes in athletes. This chapter starts by providing an overview of the overall thesis purposes and for each individual study. This is followed by a discussion of the main findings from the four studies in relation to the authentic leadership models and relevant literature. This chapter then outlines the practical implications of the present research, its limitations, and recommendations for future research, before ending with an overall conclusion. Within each chapter specific practical implications, limitations, and future directions, have been addressed and so in this chapter only the most important implications, limitations, and future directions will be reiterated, but not discussed in depth.

Overview of the Thesis Purposes and Studies

The overall aim of this thesis was to extend existing research on authentic leadership in sport by investigating the role of authentic leadership on a range of athlete and team outcomes. Within this aim, the thesis had 4 specific purposes: (a) whether authentic leadership is empirically distinct from transformational leadership as well as what it adds to transformational leadership in terms of predicting athletes' enjoyment and commitment; (b) whether coaches' changes in authentic leadership is related to changes in athlete outcomes directly and indirectly through changes in trust and cohesion; (c) whether, compared to those in a neutral or low authentic leadership condition, participants in a high authentic leadership condition report higher trust, enjoyment, commitment, and moral outcomes; (d) whether it is

possible to develop an authentic coaching intervention and whether the intervention would be successful in promoting positive athlete outcomes.

Four studies were conducted to investigate these four purposes and collectively related to the overall aim of the thesis. Study 1 (presented in Chapter 2) examined whether authentic leadership is distinct from transformational leadership, and whether it explains variance in athletes' enjoyment and commitment beyond that explained by transformational leadership. Study 2 (presented in Chapter 3) examined whether changes in authentic leadership are related to changes in athlete outcomes directly, and indirectly through changes in trust and cohesion. Study 3 (presented in Chapter 4) examined the effects of an authentic leadership manipulation on athletes' trust, achievement, and moral outcomes, via randomly allocating participants to either a high or low authentic leadership, or a neutral condition. Finally, Study 4 (presented in Chapter 5) developed an authentic coaching intervention and examined the effectiveness of the intervention by measuring changes in athlete outcomes from pre to post intervention and compared to the control group.

Overview of Findings

For the following sections several of the different outcomes of each study are grouped together for the sake of clarity. This section begins with looking at the results of Study 1, as this relates to contrasting two leadership models and the predictive power of authentic leadership over transformational leadership. Next, the results relating to the impact of authentic leadership on intervening variables, such as trust, cohesion and team culture will be discussed together in the same section. This is because these variables are all interconnected to one another i.e., as trust increases, positive team cultures and more cohesive teams may also be created, which increases trust further (Gardner et al., 2005). The next section will look at enjoyment and commitment together as according to Scanlan et al's. (1993) Sport Commitment Model these variables are seen as highly correlated to one another. The final

section will look at the influence of authentic leadership and all of the different moral outcomes collectively. This is because prosocial behaviours, ethical decision making, and guilt are all moral variables which are interrelated.

Contrasting Authentic and Transformational Leadership

The first aim of the thesis was to distinguish authentic leadership from transformational leadership. The results of Study 1 indicated that authentic leadership was distinct from transformational leadership. In relation to Walumbwa et al. (2008), these findings suggest that while authentic leadership shares some conceptual overlap with transformational leadership the two models are distinct from one another, due to the two models containing separate core components. Therefore, the results suggest there is merit in investigating each theory of leadership separately. The results also indicate that authentic leadership adds to transformational leadership in terms of predicting athlete outcomes, such as enjoyment and commitment. No previous study in sport has attempted to investigate what authentic leadership adds to dominant leadership theories in terms of athlete outcomes, and so this chapter attempted to fill this gap in the literature. The results suggest that the core components of authentic leadership, i.e., the high levels of self-awareness, relational transparency, and a highly developed moral component, are expected to promote higher athlete commitment and enjoyment. This is important because these two variables are vital in continued sports participation which has been shown to decline with age (Gratton et al., 2011; Slater & Tiggemann, 2011). Therefore, by investigating authentic leadership as a separate model to transformational leadership, researchers may help to address this issue by investigating the links between authentic leadership and these athlete outcomes further.

The following section will look at the impact of authentic leadership on several intervening variables (i.e., trust, team culture, and cohesion) in the relationships between authentic leadership and other athlete outcomes.

Trust, Team Culture, and Cohesion

Through two different research designs it was shown that changes in authentic leadership was positively related to changes in athletes' trust over time (Study 2); and that participants in a high authentic leadership condition rated higher levels of trust than those in the neutral or low authentic leadership condition (Study 3). These results suggest that firstly, the relationship between authentic leadership and trust positively changes over the course of a season, and secondly, that high levels of perceived coach authentic leadership is likely to instil high levels of trust in athletes.

These findings provide support to models of authentic leadership which suggest that authentic leaders are able to create trusting relationships with their followers (Avolio et al., 2004). Models of authentic leadership suggest that trust is a key variable authentic leaders are expected to influence (e.g., Avolio et al., 2004; Gardner et al., 2005). Authentic leaders may instil higher levels of trust through demonstrating the four components of authentic leadership (e.g., Avolio et al., 2004; Gardner et al., 2005; Ilies et al., 2005). For example, by showing high levels of relational transparency, authentic leaders are likely to form open and trusting relationships with their followers, and through displaying high levels of internalized moral perspectives, authentic leaders may be seen as role models (Ilies et al., 2005). These suggestions relate to social learning principles (Bandura, 1977) and social identity theory principles (Tajfel, 1974), as by acting as role models and being open to followers, followers may copy the behaviours of their authentic leader and identify with their values which promotes trusting relationships (Avolio et al., 2004).

The positive relationships shown between authentic leadership and athletes trust, as demonstrated in this thesis, are also in line with previous research which has shown that authentic leadership is positively related to followers' trust (Bandura & Kavussanu, 2018; Clapp-Smith et al., 2009; Houchin, 2011). However, this previous research on the

relationship between authentic leadership and athletes' trust has been cross-sectional and so could not capture how the relationships may change over time or the casual relationships between authentic leadership and trust. This thesis therefore extends the previous literature in sport by providing the first evidence for how these relationships change over a sports season and by investigating the influence of an authentic leadership manipulation on this relationship. The results which showed changes in authentic leadership to be related to changes in trust from pre to post season, which supports authentic leadership models that suggest that the trusting relationships between authentic leaders and their followers may develop and strengthen over time (Avolio et al., 2004). The results of this thesis also demonstrated that participants in a high authentic leadership condition reported higher trust compared to those in the neutral or low authentic leadership condition. These findings therefore increased our confidence in the results by enabling us to establish more of a causal relationship between authentic leadership and trust.

The results of the thesis illustrate the need for coaches to consistently show authentic leadership behaviours over time in order to lead to changes in positive athlete outcomes, such as trust. Furthermore, the findings suggest that coaches should be encouraged to show high levels of authentic behaviours as this may be related to higher levels of athlete trust. Trust is a crucial element in a leader being considered effective and is considered an essential element of high-quality coach-athlete relationships, and so these findings are of great significance (Avolio et al., 2004; Jowett, 2007).

The results of this thesis also provided evidence that changes in authentic leadership were positively related to changes in cohesion over a sports season. This supports models of authentic leadership which suggest that authentic leaders create more cohesive teams as a result of them providing their followers with a high level of social support and being transparent in their interactions with followers, which results in followers socially identifying

with their leader and team (Ashford & Mael, 1989; Avolio et al., 2004). Social identification leads followers to operate in a similar manner to their leader, which establishes a team culture of authenticity and promotes cohesion amongst the team. This idea is again derived from social identity theory (Tajfel, 1974). Furthermore, authentic leaders promote cohesion, by providing social support in the form of including their followers in team decisions and promoting open discussions (Bandura et al., 2019).

The results of this thesis also support two studies conducted in sport (e.g., Bandura et al., 2019; Houchin, 2011). The results suggest that athletes who had a coach who displayed high levels of authentic leadership over time, rated that they perceived higher levels of cohesion. Thus, the results of this study, and the previous literature, highlight the importance of coaches showing high levels of authentic leadership consistently over time, to produce more cohesive athletes.

Despite the apparent link between authentic leadership and trust, cohesion, and team culture, we did not find that the authentic coaching intervention (Study 4) resulted in a significant difference in reported trust, cohesion and team culture from athletes in the intervention group, compared to the control group. Whilst we found that the intervention groups scores for trust, cohesion, and team culture did increase over the sports season, compared to the control group, this increase was not significantly different and so contrary to our hypotheses. This could be because trust develops over time as the relationships between authentic leaders and their followers develops and strengthens. The results of Study 2 found that changes in authentic leadership were related to changes in athletes' trust and cohesion over a five-month period of time. This suggests that perhaps the 2 months of the pilot study was too short of a time frame to capture changes in trust and cohesion. Furthermore, we did not find that team culture significantly changed from pre to post season (Study 2) or during the pilot study. These null findings could be because outcomes such as team culture and

cohesion develop over time as the team's values change. This is because authentic leaders create positive team cultures by being open with their followers, creating trusting relationships, and being concerned with their followers' development by providing opportunities, which overtime may become the culture of the team (Gardner et al., 2005). Thus, the influence of authentic leadership on team culture may not have been accurately captured with the small-time frame. Future research should investigate the influence of authentic leadership on these outcomes over a longer period of time to investigate this further.

Enjoyment and Commitment

Through four different research designs, it was found that: authentic leadership positively predicted athletes' enjoyment and commitment, beyond that explained by transformational leadership (Study 1); authentic leadership both directly related to changes in athletes' enjoyment as well as indirectly through changes in cohesion over a sports season (Study 2); athletes in a high authentic leadership condition reported higher enjoyment and commitment, compared to participants in the low authentic leadership and neutral conditions (Study 3); and finally that athletes of coaches in the authentic coaching intervention group reported higher enjoyment and commitment post intervention, compared to the control group (Study 4). We did not however find that changes in authentic leadership resulted in changes in commitment (Study 2). These null results could be because it can take a long time to change individuals' values, which may not have been adequately captured with just two time points relatively close together (Cruickshank & Collins, 2013). Collectively the findings presented in this thesis suggest that high levels of authentic leadership are related to higher reported enjoyment and commitment.

The findings of this thesis, in relation to the impact of authentic leadership on followers' enjoyment and commitment, supports several models of leadership (e.g., Avolio et

al., 2004; Gardner et al., 2005). Firstly, our results support the suggestion that authentic leadership may be directly related to athletes' enjoyment and commitment. Authentic leaders may directly promote follower enjoyment and commitment by emotional contagion processes, positively modelling and social learning principles, and through supporting followers' self-determination (Avolio et al., 2004; Gardner et al., 2005; Ilies et al., 2005). Secondly, our results support the suggestion that authentic leadership may be indirectly related to followers' enjoyment, via team cohesion. Authentic leaders indirectly influence athletes' enjoyment via identification processes which results in high levels of trust and cohesion, creating positive leader-follower relationships, which collectively result in followers feeling more commitment and positive emotions (Gardner et al., 2005; Ilies et al., 2005; Miniotaite & Bučiūnienė, 2013).

The results of this thesis support previous studies in sport which have also found that authentic leadership is positively related to athletes' commitment and enjoyment via cohesion (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018). This previous research in sport has however been cross sectional and thus cannot demonstrate how these variables change over time or the casual relationships between authentic leadership and athletes' commitment and enjoyment (e.g., Bandura et al., 2019; Bandura & Kavussanu, 2018; Houchin, 2011). Several authors suggest authentic leadership and therefore follower outcomes are likely to change over time, as the relationship between authentic leaders and their followers develops (e.g., Avolio et al., 2004). The studies presented in this thesis are the first in sport to provide initial evidence of how changes in authentic leadership are positively related to changes in enjoyment, via changes in cohesion, as well as provide initial causal evidence by demonstrating the positive effects of a high authentic leadership manipulation and athletes' enjoyment and commitment. Thus, the research provided in this thesis fill the gaps in the current authentic leadership literature by demonstrating how the relationships may change

over time and the initial causal relationships between authentic leadership and athletes' enjoyment and commitment.

Furthermore, the results presented in this research are the first to demonstrate how authentic leadership may predict athletes' enjoyment and commitment, beyond that explained by the dominant leadership, thus highlighting the importance of investigating authentic leadership in sport. Finally, no study in either the sport or any other domain, has developed an intervention designed to increase coaches' demonstration of authentic leadership behaviours or examined the impact of such an intervention on athlete variables. We found initial evidence of the effectiveness of an authentic coaching intervention in increasing athletes' commitment and enjoyment, emphasising the potential positive impact of such an intervention on athletes' enjoyment and commitment and thus highlighting the benefits of promoting authentic leadership to coaches.

The findings presented in this thesis collectively suggest that athletes of coaches who display high levels of authentic leadership or are perceived to be highly authentic, produce athletes who rate themselves to have high enjoyment and commitment. The results of this thesis are important because both commitment and enjoyment are vital psychological outcomes in sport as they can impact on athletes' dedication to continued sports participation, which has been shown to decrease with age (Gratton et al., 2011; Scanlan et al., 1993; Slater & Tiggemann, 2011). Furthermore, positive emotions are expected to play an important role within the authentic leadership process, with authentic leaders having a substantial impact on their followers' positive emotions (Avolio et al., 2004). The results presented in this thesis highlight the importance of authentic leaders in producing athletes who demonstrate higher enjoyment and commitment, both directly and indirectly via creating cohesive team environments. The results also provide initial evidence of the success of an authentic leadership intervention in promoting these outcomes in athletes. Overall, the findings suggest

that coaches should be encouraged to show high levels of authentic behaviours as this may be related to higher enjoyment and commitment of athletes.

Moral Outcomes

The results of this thesis also demonstrated the positive relationship between authentic leadership and athletes' prosocial behaviours. Through two different research methods it was found that changes in authentic leadership were found to be positively related to changes in athletes' prosocial behaviours both directly and indirectly via changes in trust and cohesion over a sports season (Study 2) and athletes of coaches in the intervention group reported higher prosocial behaviours, from pre to post intervention, compared to athletes of coaches in the control group (Study 4). Furthermore, through another research method, authentic leadership was also shown to be negatively related to antisocial variables, with athletes in the high authentic leadership condition reporting lower likelihood of aggression, and higher anticipated guilt for acting aggressively compared to participants in the low authentic leadership and neutral conditions (Study 3). We did not however find that athletes in the high authentic leadership reported lower likelihood of cheating, and higher anticipated guilt for cheating compared to participants in the low authentic leadership and neutral conditions (Study 3).

The relationships between authentic leadership and athletes' moral behaviours and moral decision making, as demonstrated in this thesis, support models of authentic leadership (e.g., Gardner et al., 2005). These models suggest authentic leaders promote moral behaviours in followers due to their highly developed moral component, which causes the leaders to display moral behaviours in line with their moral values and act as moral exemplars (Walumbwa et al., 2008). Furthermore, authentic leaders may influence their followers' prosocial behaviours indirectly through establishing a team norm to act morally and by creating more cohesive groups which motivate followers to act in ways that support

team values, such as engaging in more frequent prosocial behaviours to appease teammates (Bruner et al., 2014). Finally, authentic leadership may promote high moral standards in followers that would cause followers to feel greater guilt for choosing to engage in antisocial behaviours, which go against their moral values (Bandura, 1991). Thus, taken together with models of authentic leadership, the results of this thesis highlight the importance of coaches displaying high levels of authentic leadership, consistently over time, in order to promote more prosocial behaviours amongst athletes and promote more moral decisions.

The positive relationship between authentic leadership and followers' prosocial behaviours supports a study conducted in soldiers (Hannah et al., 2014). However, the research presented in this thesis is the first in sport to investigate the link between authentic leadership and moral athlete outcomes. Furthermore, the indirect role of changes in authentic leadership on followers' prosocial behaviours, via changes in trust and cohesion support previous research (e.g., Bandura et al., 2019). However, this research has largely been cross-sectional and so cannot determine how these relationships change over time. Study 2 was the first study in sport to demonstrate that changes in trust and cohesion indirectly influenced the relationship between changes in authentic leadership and changes in athletes' prosocial behaviours. These findings suggest that as followers begin to trust their leaders more and as more cohesive teams are created, authentic leaders shape the team environment in order to promote more prosocial behaviours (Bruner et al., 2014). These finding suggests that by demonstrating authentic behaviours over time, coaches may increase the cohesion of the team and trust, which may result in athletes demonstrating more prosocial behaviours. The positive relationships that were found between authentic leadership and prosocial behaviours are important because antisocial behaviours are common in sport, and so the results suggest promoting authentic leadership amongst coaches may help to address this problem by promoting more prosocial behaviours (Cianci et al., 2014).

Furthermore, this thesis also demonstrated the impact of authentic leadership on athletes' likelihood of acting aggressively, which is in line with a previous experimental study that found that participants in a high authentic leadership condition were less likely to make an unethical decision, and more likely to feel guilty about making an unethical decision, compared to those in a low authentic leadership condition, in the face of temptation (Cianci et al., 2014). The experimental study presented in this thesis is the first in sport to examine the impact of an authentic leadership manipulation on athlete moral decision making, such as the likelihood to engage in aggression and cheating, and the anticipated guilt they would feel if they were to engage in those behaviours. These findings are important because a leadership style which promotes moral behaviours, reduces antisocial behaviours, and intensifies feelings of guilt for acting aggressively is likely to further discourage such behaviours in sport. Thus, this research has important implications for coaches as coaches should be encouraged to display authentic leadership behaviours more frequently, in order to potentially promote more moral decision making in athletes.

Despite the suggestion that authentic leaders would promote moral decision making in followers, we did not find that those in the higher authentic leadership condition reported lower likelihood of engaging in the cheating scenario presented in Chapter 3. These null findings could be because a short-term intervention may not have an influence on cheating attitudes. This is in line with the findings of Braun and Hornuf (2015) who found that a short authentic leadership intervention did not have an effect on the extent to which participants cheated. In addition, the cheating scenario related to faking an injury which is a common behaviour in sport and viewed as acceptable in some sports (e.g., soccer), and does not result in harmful consequences to another person. Thus, it may have been seen as less severe than the aggression scenario which related to intentionally injuring an opponent.

The findings presented in Study 2, 3, and 4 collectively indicate that authentic leaders may create more moral athletes capable of demonstrating more prosocial behaviours and making more moral decisions. Furthermore, high levels of authentic leadership may decrease the likelihood of athletes engaging in aggressive behaviours, while increasing the guilt they anticipate they would feel if they engaged in antisocial behaviours. Overall, the findings suggest that coaches should be encouraged to show high levels of authentic behaviours as this may be related to more moral outcomes for athletes and reduce antisocial outcomes.

In summary, Study 1 is the first study to demonstrate what authentic leadership adds to dominant leadership models in sport (i.e., transformational leadership), in terms of athlete outcomes such as enjoyment and commitment. Study 2 presented novel findings by being the first longitudinal study of authentic leadership in sport to demonstrate how authentic leadership is both directly related to changes in athletes' enjoyment and prosocial behaviours over a sports season, as well as indirectly related via changes in trust and cohesion from the start to end of the season. Study 3 is the first study in sport to demonstrate that an authentic leadership manipulation is possible and that athletes in a high authentic leadership condition would report higher trust, commitment, enjoyment, and anticipated guilt for aggression, and lower aggression compared to participants in a low authentic leadership and neutral condition. Finally, Study 4 is the first study in sport that examined the feasibility and effectiveness of an authentic coaching intervention. The novel findings of Study 4 suggest an authentic coaching intervention is effective in increasing athletes' reported enjoyment and prosocial behaviours. Collectively the results presented in this thesis revealed the positive impact coaches demonstrating high levels of authentic leadership may have on a range of important athlete outcomes such as trust, cohesion, enjoyment, commitment, and moral behaviours, and highlight the importance of coaches demonstrating authentic behaviours in their coaching practice.

Applied Implications

The main implication of this thesis is that it provided evidence of the positive relationships between authentic leadership and a range of important athlete variables such as trust, cohesion, enjoyment, commitment and moral behaviours. This is a significant implication because variables such as trust, cohesion, commitment, and enjoyment are important variables in determining continued sports participation (Hodge & Lonsdale, 2011). Therefore, the thesis highlights that coaches should be encouraged to display authentic leadership behaviours in order to promote higher trust, happier and more committed athletes. By increasing these variables authentic coaches are likely to create sustained sports participation, as athletes are happier and more committed to their coach and therefore not likely to drop-out of sport, consequently promoting higher levels of lifelong participation (Price & Weiss, 2013; Turnnidge & Cote, 2016). This is vital given the decrease in sports participation with age (Price & Weiss, 2013).

Furthermore, the results of this thesis which demonstrated positive relationships between authentic leadership and athletes' prosocial behaviour could imply that by promoting authentic leadership in coaches it could be possible to create athletes who display more moral behaviours and reduce the number of immoral behaviours in sport. This is because coaches are expected to be moral influences for athletes and are able to create the norms for the group (Guivernau & Duda, 2002). Consequently, promoting coaches to demonstrate more frequent authentic leadership behaviours could help to reduce the levels of antisocial behaviours currently occurring in sport as well as have wider societal impacts.

Another important implication of this thesis is that it provided initial evidence for the feasibility of an intervention designed to increase coaches use of authentic leadership behaviours and demonstrated the positive impact of such an intervention on athlete outcomes such as enjoyment, commitment, and prosocial behaviours. Due to the initial success of the

intervention, there is the potential that with further development and refinement, this authentic coaching intervention could be interject into coach education programmes to prompt coaches to increase their demonstration of highly authentic behaviours in order to widely disseminate the positive effects of authentic leadership.

Strengths and Limitations

A strength of this thesis is that it used a strong theoretical underpinning and existent frameworks, e.g., the different models of authentic leadership and previous literature of authentic leadership formed the basis of the research questions in each study. For example, the thesis used Walumbwa et al's. (2008) definition and models such as Avolio et al. (2004) to justify the inclusion of variables such as trust, and the mediating role that trust may have on follower outcomes such as commitment. Furthermore, the studies presented in Chapters 4 and 5 were based on previous studies conducted in other domains and then modified to a sports setting using focus groups with coaches and pilot studies (e.g., Cianci et al., 2014; Vella et al., 2013).

A second strength of this thesis is the variation in study design, the measures used, and the analysis techniques employed. Each study built and progressed on the previous study by either using a different research design or including more variables to build a better understanding of authentic leadership in sport. A combination of cross-sectional, longitudinal, experimental and intervention research was used to investigate the relationships between authentic leadership and a variety of athlete outcomes, and to examine whether authentic leadership could be manipulated, and the efficacy of an authentic leadership intervention. The different analysis techniques used in each study was relevant to the respective studies and increased confidence in the results.

A final main strength of the thesis is the multi-study approach used in certain chapters, which helped to sufficiently address the different research questions presented in

the chapters. For example, in Chapter 5, focus groups were conducted, and then pilot studies, before conducting the intervention on a small sample of coaches. This helped to develop the material and increase our confidence in the feasibility of such an intervention. Altogether, the studies presented through the different chapters in this thesis provide substantial insight into authentic leadership in sport and its role on athlete outcomes.

Despite the strengths of the thesis, it is not without limitations. The first broad limitation of the thesis is that the majority of the athlete participants were of university age and recruited from the west midlands area. Therefore, the results may not be representative of athlete responses from different age ranges or populations from different countries. Coaches are seen to have varying levels of importance to athletes at different ages; for example, coaches are seen as much more influential amongst youth athletes (Turnnidge & Cote, 2016). Similarly, the majority of the participants came from amateur or regional level teams, and so we cannot make inference about the influence of authentic leadership on athletes of a professional level.

A second limitation of this thesis is that the data was mainly collected via questionnaires. To limit issues with validity and reliability only questionnaires which have been found to be valid and reliable by previous studies were used. However, while questionnaires may be more reliable, they have limited validity due to participants responses being restricted to close-ended questions (Rowley, 2014). Furthermore, authentic leadership is dependent on the perception of followers; as one cannot be considered authentic unless they are perceived to be so by their followers (Avolio et al., 2004). Therefore, in this thesis only athletes' perceptions were measured. However, besides Chapter 5, no coach measures were taken, and so the studies relied totally on athletes' perceptions of their coach and their reported outcomes. Coaches may perceive their own leadership and their relationship with

their athletes differently and so the studies could have been improved by also including coach measures and different data collection measures such as observations of coaching sessions.

Future Directions

Within each chapter there are numerous future directions which have been proposed. While several of these future directions were addressed with subsequent studies presented in the latter chapters, there are still potential avenues of future research which were not addressed in this thesis and will consequently be addressed in this section.

Firstly, several variables and models were not investigated due to the vast number of variables authentic leadership is believed to influence. For example, several models highlight the importance of the identification processes in mediating the influence of authentic leadership on different athlete variables (e.g., Avolio et al., 2004). Authentic leaders are expected to promote both personal and social identification because they openly show their authentic values to their followers allowing followers to identify with their leader, and this may in turn increase followers' commitment and wellbeing (Avolio et al., 2004). Therefore, it would be interesting for future research to incorporate measures of identification in order to investigate these potential relationships.

Furthermore, as the majority of the participants used in the studies presented in this thesis were university age athletes, who competed in university or regional leagues around the west midlands area of an amateur level, it may be interesting to see how authentic leadership may influence participants with different characteristics and competitiveness levels, such as youth athletes and professional athletes.

A further future direction would be to include a variety of different measurement variables and data collection techniques, in order to improve the limited validity of closed-ended questions (Rowley, 2014). Furthermore, future research could use different data collection techniques such as observations of coaches' behaviours or open-ended questions,

and also include the coaches' perspective to create a more in-depth picture of authentic leadership in sport (Nelson et al., 2014).

Finally, future research should undertake a full-scaled randomized control trial of the authentic coaching intervention which was initially undertaken in Study 4. Authentic leadership has been found to be related to numerous positive outcomes, such as commitment, enjoyment, trust and prosocial behaviours, which could help improve athletes' motivation to continued sports participation and promote prosocial behaviours (e.g., Bandura & Kavussanu, 2018). However, currently there exists no intervention designed to increase coaches' authentic leadership, besides the intervention proposed in this study. Study 4 began to initially test this intervention however a fully-randomized control study with a large sample is needed to increase confidence in these results (Hoffman et al., 2014). Future research should build on the intervention presented in Study 4 and use Côté and Gilbert's (2009) model of coaching effectiveness, in order to improve coaches' professional knowledge, interpersonal knowledge, and intrapersonal knowledge of authentic leadership, and investigate the effectiveness on the intervention on a range of athlete outcomes using a full RCT.

Conclusion

In conclusion, the purpose of the present thesis was to extend existing research on authentic leadership in sport and develop a better understanding of the impact of authentic leadership on a range of athlete outcomes. This was examined through four studies. Through these four studies, this thesis provides a comprehensive assessment of the impact of authentic leadership in sport and highlights the positive impact this leadership model has on numerous positive athlete outcomes. This thesis also highlights the potential mediators of the relationships between authentic leadership and various athlete outcomes. Finally, this thesis demonstrated the effectiveness of a pilot authentic coaching intervention study. The results of this thesis suggest that coaches should place a greater emphasis on demonstrating high levels

of authentic leadership behaviours in order to positively impact on a range of important outcomes for athletes and the team. Future research is needed to examine other potential mechanisms through which authentic leaders influence their followers, such as identification processes, in order to create a full understanding of authentic leadership in sport. Finally, future researchers should develop the authentic coaching intervention further and evaluate its impact with a fully RCT, in order to disseminate the influence of authentic leadership to a wider population of coaches.

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APPENDICIES

Appendix 1a-1e Questionnaires for Study 1

1a Prosocial Behaviours

*Please indicate **how often YOUR TEAMMATES** engaged in the behaviours listed below **TOWARD YOU** while playing this season by circling the relevant number.*

This season, my teammate...	<i>Never</i>	<i>Rarely</i>	<i>Some times</i>	<i>Often</i>	<i>Very Often</i>
1. Gave me positive feedback	1	2	3	4	5
2. Encouraged me	1	2	3	4	5
3. Gave me constructive feedback	1	2	3	4	5
4. Congratulated me for good play	1	2	3	4	5
5. Supported me	1	2	3	4	5

1b Transformational Leadership

The following statements describe situations found in many teams. Rate how true these statements are in your team

	Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
1. My coach makes others feel good to be around them.	0	1	2	3	4
2. My coach expresses with a few simple words what we could and should do.	0	1	2	3	4
3. My coach enables others to think about old problems in new ways.	0	1	2	3	4
4. My coach help others develop themselves.	0	1	2	3	4
5. Others have complete faith in my coach.	0	1	2	3	4

6. My coach provides appealing images about what we can do.	0	1	2	3	4
7. My coach provides others with new ways of looking at puzzling things.	0	1	2	3	4
8. My coach lets others know how I think they are doing.	0	1	2	3	4
9. Others are proud to be associated with my coach.	0	1	2	3	4
10. My coach helps others find meaning in their work.	0	1	2	3	4
11. My coach gets others to rethink ideas that they had never questioned before	0	1	2	3	4
12. My coach gives personal attention to others who seem rejected.	0	1	2	3	4

1c Enjoyment

*Please think about your experiences **in this team**, and circle the **number** that best answers the following questions*

1. Do you enjoy playing for this team?	1	2	3	4	5
	not at all		Somewhat		very much
2. Are you happy playing for this team?	1	2	3	4	5
	not at all		Somewhat		very much
3. Do you have fun playing for this team?	1	2	3	4	5
	not at all		Somewhat		very much
4. Do you like playing for this team?	1	2	3	4	5
	not at all		Somewhat		very much

1d Commitment

Please circle the number that best answers the following question

1. How dedicated are you to continue playing for this team?					
1	2	3	4	5	
not at all dedicated	a little dedicated	sort of dedicated	dedicated	very dedicated	
2. How hard would it be for you to quit playing for this team?					
1	2	3	4	5	
not at all hard	a little hard	sort of hard	hard	very hard	
3. How determined are you to keep playing for this team?					
1	2	3	4	5	
not at all determined	a little determined	sort of determined	determined	very determined	
4. What would you be willing to do to keep playing for this team?					
1	2	3	4	5	
nothing at all	a few things	some things	many things	a lot of things	

1e Authentic Leadership

Below are some statements about your coach. Please think about your experiences with your coach this season, and indicate how often each of these statements **fits your coach's coaching style** by circling the relevant number

<i>My coach...</i>	Not at all	Once in a while	Sometime times	Fairly often	Frequently if not always
1. Says exactly what he or she means	1	2	3	4	5
2. Admits mistakes when they are made	1	2	3	4	5
3. Encourages everyone to speak their mind	1	2	3	4	5
4. Tells you the hard truth	1	2	3	4	5
5. Displays emotions exactly in line with feelings	1	2	3	4	5

6. Demonstrates beliefs that are consistent with actions	1	2	3	4	5
7. Makes decisions based on his or her core values	1	2	3	4	5
8. Asks you to take positions that support your core values	1	2	3	4	5
9. Makes difficult decisions based on high standards of ethical conduct	1	2	3	4	5
10. Solicits views that challenge his or her deeply held positions	1	2	3	4	5
11. Analyses relevant data before coming to a decision	1	2	3	4	5
12. Listens carefully to different points of view before coming to conclusions	1	2	3	4	5
13. Seeks feedback to improve interactions with players	1	2	3	4	5
14. Accurately describes how others view his or her capabilities	1	2	3	4	5
15. Knows when it is time to re-evaluate his or her position on important issues	1	2	3	4	5
16. Shows he or she understands how specific actions impact players	1	2	3	4	5

Appendix 2a-2g Questionnaires for Study 2

1a Prosocial Behaviours

Please indicate **how often YOUR TEAMMATES** engaged in the behaviours listed below **TOWARD YOU** while playing this season by circling the relevant number.

This season, my teammate...	<i>Never</i>	<i>Rarely</i>	<i>Some times</i>	<i>Often</i>	<i>Very Often</i>
6. Gave me positive feedback	1	2	3	4	5
7. Encouraged me	1	2	3	4	5
8. Gave me constructive feedback	1	2	3	4	5
9. Congratulated me for good play	1	2	3	4	5
10. Supported me	1	2	3	4	5

1b Cohesion

Below are some statements about **your feelings toward your team**. Please read each statement and circle the number that best reflects your feelings

	Strongly Disagree			Neutral			Strongly Agree		
1. We all share the same commitment to our team goals	1	2	3	4	5	6	7	8	9
2. I invite my teammates to do things with me	1	2	3	4	5	6	7	8	9
3. As a team, we are all on the same page	1	2	3	4	5	6	7	8	9
4. Some of my best friends are on this team	1	2	3	4	5	6	7	8	9
5. I like the way we work together as a team	1	2	3	4	5	6	7	8	9
6. I do not get along with the members of my team	1	2	3	4	5	6	7	8	9
7. We hang out with one another whenever possible	1	2	3	4	5	6	7	8	9

8. As a team, we are united	1	2	3	4	5	6	7	8	9
9. I contact my teammates often (phone, text messaging, internet)	1	2	3	4	5	6	7	8	9
10. This team gives me enough opportunities to improve my own performance	1	2	3	4	5	6	7	8	9
11. I spend time with my teammates	1	2	3	4	5	6	7	8	9
12. Our team does not work well together	1	2	3	4	5	6	7	8	9
13. I am going to keep in contact with my teammates after the season ends	1	2	3	4	5	6	7	8	9
14. I am happy with my team's level of desire to win	1	2	3	4	5	6	7	8	9
15. We stick together outside of practice	1	2	3	4	5	6	7	8	9
16. My approach to playing is the same as my teammates	1	2	3	4	5	6	7	8	9
17. We contact each other often (phone, text message, internet)	1	2	3	4	5	6	7	8	9
18. We like the way we work together as a team	1	2	3	4	5	6	7	8	9

1c Team Culture

The following statements describe situations found in many teams. Rate how true these are for your team.

	False	Often False	Sometimes true, sometimes false	Often True	True
1. Athletes generally treat each other with respect and fairness	1	2	3	4	5
2. Athletes help each other even if they are not friends	1	2	3	4	5
3. Athletes and the coach trust each other	1	2	3	4	5
4. The coach generally treats their athletes with respect and fairness	1	2	3	4	5

5. Athletes want to help each other	1	2	3	4	5
6. Athletes are really interested in athletes and want to help	1	2	3	4	5
7. Athletes learn to become more responsible	1	2	3	4	5
8. Athletes and coaches openly discuss problems	1	2	3	4	5
9. The Coach give athletes a say in team decisions	1	2	3	4	5
10. Athletes learn to care for other people	1	2	3	4	5
11. Athletes learn how to express opinions.	1	2	3	4	5
12. Athletes learn how to listen to other people's ideas better	1	2	3	4	5
13. Athletes learn how to take other people's points of view	1	2	3	4	5
14. Athletes learn to stop and think about things before speaking/acting	1	2	3	4	5

1d. Enjoyment

*Please think about your experiences **in this team**, and **circle the number that best answers the following questions***

1. Do you enjoy playing for this team?	1	2	3	4	5
	not at all		Somewhat		very much
2. Are you happy playing for this team?	1	2	3	4	5
	not at all		Somewhat		very much
3. Do you have fun playing for this team?	1	2	3	4	5
	not at all		Somewhat		very much
4. Do you like playing for this team?	1	2	3	4	5
	not at all		Somewhat		very much

1e Commitment

Please circle the number that best answers the following question

1. How dedicated are you to continue playing for this team?					
1	2	3	4	5	
not at all dedicated	a little dedicated	sort of dedicated	dedicated	very dedicated	
2. How hard would it be for you to quit playing for this team?					
1	2	3	4	5	
not at all hard	a little hard	sort of hard	hard	very hard	
3. How determined are you to keep playing for this team?					
1	2	3	4	5	
not at all determined	a little determined	sort of determined	determined	very determined	
4. What would you be willing to do to keep playing for this team?					
1	2	3	4	5	
nothing at all	a few things	some things	many things	a lot of things	

If Trust

Please think about your experiences **with your coach this season** and indicate your level of agreement with the following statements. Please respond **honestly**.

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. I trust and respect my coach	1	2	3	4	5	6	7
2. I can talk freely to my coach about difficulties I am having on the team and know that he/she will want to listen	1	2	3	4	5	6	7
3. If I shared my problems with my coach, he/she would respond constructively and caringly	1	2	3	4	5	6	7
4. I can freely share my ideas, feelings and hopes with my coach	1	2	3	4	5	6	7
5. I would feel a sense of loss if my coach left	1	2	3	4	5	6	7

6. My coach approaches his/her job with professionalism and dedication	1	2	3	4	5	6	7
7. Given my coach's past performance, I see no reason to doubt his/her competence	1	2	3	4	5	6	7
8. I can rely on my coach not to make my job (as a player) more difficult because of poor coaching	1	2	3	4	5	6	7
9. Other players consider my coach to be trustworthy	1	2	3	4	5	6	7

1g Authentic Leadership

*Below are some statements about your coach. Please think about your experiences with your coach this season, and indicate how often each of these statements **fits your coach's coaching style** by circling the relevant number*

<i>My coach...</i>	Not at all	Once in a while	Sometimes	Fairly often	Frequently if not always
17. Says exactly what he or she means	1	2	3	4	5
18. Admits mistakes when they are made	1	2	3	4	5
19. Encourages everyone to speak their mind	1	2	3	4	5
20. Tells you the hard truth	1	2	3	4	5
21. Displays emotions exactly in line with feelings	1	2	3	4	5
22. Demonstrates beliefs that are consistent with actions	1	2	3	4	5
23. Makes decisions based on his or her core values	1	2	3	4	5
24. Asks you to take positions that support your core values	1	2	3	4	5
25. Makes difficult decisions based on high standards of ethical conduct	1	2	3	4	5

26. Solicits views that challenge his or her deeply held positions	1	2	3	4	5
27. Analyses relevant data before coming to a decision	1	2	3	4	5
28. Listens carefully to different points of view before coming to conclusions	1	2	3	4	5
29. Seeks feedback to improve interactions with players	1	2	3	4	5
30. Accurately describes how others view his or her capabilities	1	2	3	4	5
31. Knows when it is time to re-evaluate his or her position on important issues	1	2	3	4	5
32. Shows he or she understands how specific actions impact players	1	2	3	4	5

Appendix 3a Experimental Manipulations

High Authentic Leadership

Your coach, like most typical managers, is mostly concerned with the team meeting targets and rewards athletes for showing personal progress. However, this coach *is also capable* of telling you the hard truth. This coach *regularly* seeks feedback from you, in order to develop a strong interaction between the two of you. Furthermore, they *show they understand* how their specific actions may impact you and the other athletes. This coach *accurately* describes their own capabilities, strengths and weaknesses. They *speak to you honestly* and *admit* when they have made a mistake. They *encourage* everyone on the team to speak their mind and they *frequently* display their own true emotions. They display actions *consistent* with their moral beliefs and as a result they *make decisions based on their core values* and ask that you do the same. They *make difficult decisions* based on a high standard of ethical conduct. *They take into account* everyone's opinions, even if they challenge their position. Finally, *they analyse* all relevant information before coming to a conclusion and *know* when it is time to re-evaluate their position.

Low Authentic Leadership

Your coach, like most typical managers, is mostly concerned with the team meeting targets and rewards athletes for showing personal progress. However, this coach is *rarely* capable of telling you the hard truth. This coach also *rarely* asks for your feedback, in order to improve the interactions between the two of you. They *rarely* show they understand how their specific actions may impact you and the other players. They *inaccurately* describe their own capabilities, strengths and weaknesses. They *do not* speak to you honestly and *do not* admit when they have made a mistake. They *rarely* show they understand how their specific actions may impact you and the other players. They *inaccurately* describe their own capabilities, strengths and weaknesses. They *do not* speak to you honestly and *do not*

admit when they have made a mistake. They *rarely* encourage everyone on the team to speak their mind and they *infrequently* display their own true emotions. They display actions *inconsistent* with their moral beliefs, *do not* make decisions based on their core values and *do not* ask that you do the same. They *do not* make difficult decisions based on a high standard of ethical conduct. They *do not* take into account everyone's opinions, even if they challenge their position. Finally, they *do not* analyse all relevant information before coming to a conclusion and *do not* know when it is time to re-evaluate their position.

Neutral Leadership

Sports coaching in Britain began in the 18th century, within athletics and boxing. Trainers at this time approached their sport as both a science and an art, and great importance was placed on judgment. However, the social divide in Britain during the 18th century was reflected in the relationships between athletes and coaches. At this time, other countries began to use coaches in high schools and universities; consequently, they experienced greater sporting success than Britain. When other countries began experiencing more sporting success, due to their enthusiasm for sports coaching, Britain in the post war era, began to have a more positive attitude towards sports coaching. The rise of the Soviet Union's sporting success in the 1950s, was another key influence in the British government's support for sports science and coaching. This call for change came via a report from the University of Birmingham called "Britain in the world of sport". By the 1960s science and coaching were interlinked. In the 1980s coaches felt threatened by the emergence of sports scientists, however the two groups now work in partnership in the 21st century. This history has shaped sports coaching today. Consequently, the coach you are asked to imagine you play for is like most typical coaches. They are mostly concerned with the team meeting targets and reward athletes for showing personal progress.

Appendix 3b Cheating and Aggression Scenarios

Cheating Scenario

You are in the final minute of a match with your team leading by one goal. You and an opposing player are running after the ball. You make contact with the opposing player, though he/she manages to take possession of the ball and heads toward your goal. The only way to stop him/her from attempting a shot on goal is to fake an injury, hoping the officials will temporarily stop play.

Aggression Scenario

During a match you are marking an opponent who is getting the better of you. When the referee is not looking you have the opportunity to deliberately foul an opponent and risk injuring your opponent.

Appendix 3c-3g Questionnaire for Study 3

3c Aggression and Cheating likelihood

Below are some statements about situations that may happen in your match. Please indicate how likely you are to engage in the following behaviours by circling the relevant number.

<i>Would you engage in the following behaviours</i>	Very unlikely										Very likely
1. You are in the final minute of a match with your team leading by one goal. You and an opposing player are running after the ball. You make contact with the opposing player, though he/she manages to take possession of the ball and heads toward your goal. The only way to stop him/her from attempting a shot on goal is to fake an injury, hoping the officials will temporarily stop play.	1	2	3	4	5	6	7	8	9	10	
2. During the match you are marking an opponent who is getting the better of you. When the referee is not looking you have the opportunity to deliberately foul an opponent and risk injuring your opponent.	1	2	3	4	5	6	7	8	9	10	

3d Anticipated guilt for engaging in Aggression and Cheating

Below are some statements about your level of guilt if you choose to or did not choose to engage in the previous behaviours. Please indicate how strongly you agree or disagree with each statement by circling the relevant number

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. I would feel guilty for choosing to injure the opponent	1	2	3	4	5	6	7
2. I would feel guilty for faking an injury	1	2	3	4	5	6	7

3e Commitment

Imagine that you are playing for the coach described previously in the PowerPoint and indicate how committed you would be to play for such a coach. Please circle the number that best answers the following question

1. How dedicated would you be to continuing playing for this coach				
1 not at all dedicated	2 a little dedicated	3 sort of dedicated	4 dedicated	5 very dedicated
2. How hard would it be for you to quit playing for this coach				
1 not at all hard	2 a little hard	3 sort of hard	4 hard	5 very hard
3. How determined would you be to keep playing for this coach				
1 not at all determined	2 a little determined	3 sort of determined	4 determined	5 very determined
4. What would you be willing to do to keep playing for this coach				
1 nothing at all	2 a few things	3 some things	4 many things	5 a lot of things

3d Enjoyment

Imagine that you are playing for the coach described previously in the PowerPoint and indicate how much you would enjoy playing for such a coach. Please circle the number that best answers the following questions.

1. Would you enjoy playing for this coach?				
1 not at all	2	3 Somewhat	4	5 very much
2. Would you be happy playing for this coach?				
1 not at all	2	3 Somewhat	4	5 very much
3. Would you have fun playing for this coach?				
1 not at all	2	3 Somewhat	4	5 very much
4. Would you like playing for this coach?				
1 not at all	2	3 Somewhat	4	5 very much

3e Trust

*Based on the description of your coach described in the PowerPoint please indicate your level of agreement with the following statements. Please respond **honestly**.*

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. I would trust and respect my coach	1	2	3	4	5	6	7
2. I would be able to talk freely to my coach about difficulties I am having on the team and know that he/she will want to listen	1	2	3	4	5	6	7
3. If I was to share my problems with my coach, he/she would respond constructively and caringly	1	2	3	4	5	6	7
3. I would freely share my ideas, feelings and hopes with my coach	1	2	3	4	5	6	7
4. I would feel a sense of loss if my coach left	1	2	3	4	5	6	7
5. My coach approaches his/her job with professionalism and dedication	1	2	3	4	5	6	7
6. I would rely on my coach not to make my job (as a player) more difficult because of poor coaching	1	2	3	4	5	6	7
7. Other players consider my coach to be trustworthy	1	2	3	4	5	6	7

3f Prosocial Behaviours

*Below is a list of behaviours likely to occur during a match. Please indicate how often you would engage in these behaviours by circling the relevant number. Please respond **honestly**.*

<i>How often would you engage in the following behaviours?</i>	Never	Rarely	Sometimes	Often	Very Often
1. Ask officials to stop play for an injured team-mate	1	2	3	4	5
2. Help an injured team-mate	1	2	3	4	5

3.	Apologise to a team-mate after a mistake	1	2	3	4	5
4.	Give positive feedback to a team-mate	1	2	3	4	5
5.	Help a team-mate off the floor	1	2	3	4	5
6.	Encourage a team-mate	1	2	3	4	5
7.	Give constructive feedback to a team-mate	1	2	3	4	5
8.	Congratulate a team-mate for good play	1	2	3	4	5

3g Authentic Leadership

Based on the description of your coach described in the PowerPoint please indicate how often each of these statements *fits your coach's coaching style*, by circling the relevant number

Your coach	Not at all	Once in a while	Sometimes	Fairly often	Frequently if not always
1. Says exactly what he/she means	1	2	3	4	5
2. Admits mistakes when they are made	1	2	3	4	5
3. Encourages everyone to speak their mind	1	2	3	4	5
4. Tells you the hard truth	1	2	3	4	5
5. Displays emotions exactly in line with feelings	1	2	3	4	5
6. Demonstrates beliefs that are consistent with actions	1	2	3	4	5
7. Makes decisions based on his/her core values	1	2	3	4	5
8. Asks you to take positions that support your core values	1	2	3	4	5
9. Makes difficult decisions based on high standards of ethical conduct	1	2	3	4	5
10. Solicits views that challenge his/her deeply held positions	1	2	3	4	5

11. Analyses relevant data before coming to a decision	1	2	3	4	5
12. Listens carefully to different points of view before coming to conclusions	1	2	3	4	5
13. Seeks feedback to improve interactions with players	1	2	3	4	5
14. Accurately describes how others view his/her capabilities	1	2	3	4	5
15. Knows when it is time to re-evaluate his/her position on important issues	1	2	3	4	5
16. Shows he/she understands how specific actions impact players	1	2	3	4	5

Appendix 4a The TIDieR checklist

Item number	Item	Where located **	
		Primary paper (page or appendix number)	Other † (details)
	BRIEF NAME		
1.	Provide the name or a phrase that describes the intervention.	___ 149 ___	_____
	WHY		
2.	Describe any rationale, theory, or goal of the elements essential to the intervention.	___ 151-157 ___	_____
	WHAT		
3.	Materials: Describe any physical or informational materials used in the intervention, including those provided to participants or used in intervention delivery or in training of intervention providers. Provide information on where the materials can be accessed (e.g., online appendix, URL).	___ 157-172 ___	_____
4.	Procedures: Describe each of the procedures, activities, and/or processes used in the intervention, including any enabling or support activities.	157-166, 170-173	_____
	WHO PROVIDED		
5.	For each category of intervention provider (e.g., psychologist, nursing assistant), describe their expertise, background and any specific training given.	___ 159 ___	_____
	HOW		
6.	Describe the modes of delivery (e.g., face-to-face or by some other mechanism, such as internet or telephone) of the intervention and whether it was provided individually or in a group.	___ 159, 171 ___	_____
	WHERE		
7.	Describe the type(s) of location(s) where the intervention occurred, including any necessary infrastructure or relevant features.	___ 171 ___	_____
WHEN and HOW MUCH			

8.	Describe the number of times the intervention was delivered and over what period of time including the number of sessions, their schedule, and their duration, intensity or dose.	___ 159, 171 ___	_____
TAILORING			
9.	If the intervention was planned to be personalised, titrated or adapted, then describe what, why, when, and how.	158-162, 171-172	_____
MODIFICATIONS			
10.†	If the intervention was modified during the course of the study, describe the changes (what, why, when, and how).	___ N/A ___	_____
HOW WELL			
11.	Planned: If intervention adherence or fidelity was assessed, describe how and by whom, and if any strategies were used to maintain or improve fidelity, describe them.	___ 159-160 ___	_____
12.†	Actual: If intervention adherence or fidelity was assessed, describe the extent to which the intervention was delivered as planned.	___ 177-181 ___	_____

** **Authors** - use N/A if an item is not applicable for the intervention being described.
Reviewers – use ‘?’ if information about the element is not reported/not sufficiently reported.

Appendix 4b Coach Questionnaire for Study 4

4b Authentic Leadership

Below are some statements about your coaching. Please think about your experiences with your athletes **this season**, and indicate how often each of these statements **fits your coaching style** by circling the relevant number.

<i>Generally, this season when I coach, I...</i>		Not at all	Once in a while	Sometimes	Fairly often	Frequently if not always
1.	Say exactly what I mean	1	2	3	4	5
2.	Show I understand how specific actions impact my athletes	1	2	3	4	5
3.	Listen carefully to different points of view before coming to conclusions	1	2	3	4	5
4.	Solicit views that challenge my deeply held positions	1	2	3	4	5
5.	Demonstrate beliefs that are consistent with my actions	1	2	3	4	5
6.	Seek feedback to improve my interactions with athletes	1	2	3	4	5
7.	Make decisions based on my core values	1	2	3	4	5
8.	Ask my athletes to take positions that support my core values	1	2	3	4	5
9.	Display emotions exactly in line with my feelings	1	2	3	4	5
10.	Tell my athletes the hard truth	1	2	3	4	5
11.	Analyse relevant data before coming to a decision	1	2	3	4	5
12.	Make difficult decisions based on my high standards of ethical conduct	1	2	3	4	5

13. Admit mistakes when they are made	1	2	3	4	5
14. Accurately describe how others view my capabilities	1	2	3	4	5
15. Know when it is time to re-evaluate my position on important issues	1	2	3	4	5
16. Encourage everyone to speak their mind	1	2	3	4	5

Appendix 4b-4g Athlete Questionnaire for Study 4

4b Commitment

Please think about your experiences **in your team this season**, and **circle** the **number** that **best answers** the following questions.

1. How dedicated are you to continue playing for your team?	1	2	3	4	5
	not at all dedicated	a little dedicated	sort of dedicated	dedicated	very dedicated
2. How hard would it be for you to quit playing for your team?	1	2	3	4	5
	not at all hard	a little hard	sort of hard	Hard	very hard
3. How determined are you to keep playing for your team?	1	2	3	4	5
	not at all determined	a little determined	sort of determined	determined	very determined
4. What would you be willing to do to keep playing for your team?	1	2	3	4	5
	nothing at all	a few things	some things	many things	a lot of things

4c Trust

Based on your experiences **with your coach this season** please indicate your level of agreement with the following statements. Please respond **honestly**.

<i>Based on my interactions with my coach this season I feel that....</i>	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. I trust and respect my coach	1	2	3	4	5	6	7
2. I can talk freely to my coach about difficulties I am having on the team and know that he/she will want to listen	1	2	3	4	5	6	7
3. If I shared my problems with my coach, he/she would respond constructively and caringly	1	2	3	4	5	6	7
4. I can freely share my ideas, feelings and hopes with my coach	1	2	3	4	5	6	7
5. I would feel a sense of loss if my coach left	1	2	3	4	5	6	7
6. My coach has approached his/her job with professionalism and dedication	1	2	3	4	5	6	7
7. I can rely on my coach not to make my job (as a player) more difficult because of poor coaching	1	2	3	4	5	6	7
8. Other players consider my coach to be trustworthy	1	2	3	4	5	6	7

4d Prosocial Behaviours

Please think about your experiences with your team **this season** and indicate how often you engaged in the behaviours listed below, by circling the relevant number. Please respond **honestly**.

<i>How often did you engage in the following behaviours this season?</i>	Never	Rarely	Sometimes	Often	Very Often
9. Asked officials to stop play for an injured team-mate	1	2	3	4	5
10. Helped an injured team-mate	1	2	3	4	5
11. Apologised to a team-mate after a mistake	1	2	3	4	5
12. Gave positive feedback to a team-mate	1	2	3	4	5
13. Helped a team-mate off the floor	1	2	3	4	5
14. Encouraged a team-mate	1	2	3	4	5
15. Gave constructive feedback to a team-mate	1	2	3	4	5
16. Congratulated a team-mate for good play	1	2	3	4	5
17. Supported a team-mate	1	2	3	4	5

4e Authentic Leadership

Below are some statements about your coach. Please think about your experiences with your coach **this season**, and indicate how often each of these statements **fits your coach's coaching style** by circling the relevant number.

<i>Your coach.....</i>	Not at all	Once in a while	Sometimes times	Fairly often	Frequently if not always
1. Says exactly what he/she means	1	2	3	4	5
2. Asks you to take positions that support your core values	1	2	3	4	5
3. Encourages everyone to speak their mind	1	2	3	4	5
4. Solicits views that challenge his/her deeply held positions	1	2	3	4	5
5. Displays emotions exactly in line with feelings	1	2	3	4	5
6. Knows when it is time to re-evaluate his/her position on important issues	1	2	3	4	5
7. Makes decisions based on his/her core values	1	2	3	4	5
8. Admits mistakes when they are made	1	2	3	4	5
9. Demonstrates beliefs that are consistent with actions	1	2	3	4	5
10. Tells you the hard truth	1	2	3	4	5
11. Shows he/she understands how specific actions impact players	1	2	3	4	5
12. Listens carefully to different points of view before coming to conclusions	1	2	3	4	5
13. Seeks feedback on how to improve interactions with players	1	2	3	4	5
14. Accurately describes how others view his/her capabilities	1	2	3	4	5
15. Makes difficult decisions based on high standards of ethical conduct	1	2	3	4	5

16. Analyses relevant data before coming to a decision	1	2	3	4	5
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4d Enjoyment

Please think about your experiences **in your team this season**, and **circle the number that best answers** the following questions.

1. Do you enjoy playing for your team?	1	2	3	4	5
	Not at all		somewhat		Very much
2. Are you happy playing for your team?	1	2	3	4	5
	Not at all		somewhat		Very much
3. Do you have fun playing for your team?	1	2	3	4	5
	Not at all		somewhat		Very much
4. Do you like playing for your team?	1	2	3	4	5
	Not at all		somewhat		Very much

4e Team Culture

The following statements describe situations found in many teams. Rate how true these are for **your team this season**.

	False	Often False	Sometimes true, sometimes false	Often True	True
1. Athletes generally treat each other with respect and fairness	1	2	3	4	5
2. Athletes help each other even if they are not friends	1	2	3	4	5
3. Athletes and the coach trust each other	1	2	3	4	5
4. The coach generally treats their athletes with respect and fairness	1	2	3	4	5
5. Athletes want to help each other	1	2	3	4	5
6. Athletes are really interested in athletes and want to help	1	2	3	4	5
7. Athletes learn to become more responsible	1	2	3	4	5
8. Athletes and coaches openly discuss problems	1	2	3	4	5
9. The coach gives athletes a say in team decisions	1	2	3	4	5

10. Athletes learn to care for other people	1	2	3	4	5
11. Athletes learn how to express opinions	1	2	3	4	5
12. Athletes learn how to listen to other people's ideas better	1	2	3	4	5
13. Athletes learn how to take other people's points of view	1	2	3	4	5
14. Athletes learn to stop and think about things before speaking/acting	1	2	3	4	5

4f Cohesion

I. Below are some statements about **your feelings toward your team**. Think about your experiences with your team this season. Please read each statement and circle the number that best reflects your feelings.

	Strongly Disagree		Neutral					Strongly Agree	
19. We all share the same commitment to our team goals	1	2	3	4	5	6	7	8	9
20. I invite my teammates to do things with me	1	2	3	4	5	6	7	8	9
21. As a team, we are all on the same page	1	2	3	4	5	6	7	8	9
22. Some of my best friends are on this team	1	2	3	4	5	6	7	8	9
23. I like the way we work together as a team	1	2	3	4	5	6	7	8	9
24. I do not get along with the members of my team	1	2	3	4	5	6	7	8	9
25. We hang out with one another whenever possible	1	2	3	4	5	6	7	8	9
26. As a team, we are united	1	2	3	4	5	6	7	8	9
27. I contact my teammates often (phone, text messaging, internet)	1	2	3	4	5	6	7	8	9
28. This team gives me enough opportunities to improve my own performance	1	2	3	4	5	6	7	8	9
29. I spend time with my teammates	1	2	3	4	5	6	7	8	9
30. Our team does not work well together	1	2	3	4	5	6	7	8	9
31. I am going to keep in contact with my teammates after the season ends	1	2	3	4	5	6	7	8	9
32. I am happy with my team's level of desire to win	1	2	3	4	5	6	7	8	9

33. We stick together outside of practice	1	2	3	4	5	6	7	8	9
34. My approach to playing is the same as my teammates	1	2	3	4	5	6	7	8	9
35. We contact each other often (phone, text message, internet)	1	2	3	4	5	6	7	8	9
36. We like the way we work together as a team	1	2	3	4	5	6	7	8	9

4g Coach-Athlete Relationships

Below are some statements about your relationship with your coach. Please think about your experiences with **your coach this season**, and indicate your level of agreement with each statement, by circling the relevant number.

<i>Generally, this season...</i>	Strongly disagree				Neutral				Strongly agree
1. I feel close to my coach	1	2	3	4	5	6	7		
2. I feel committed to my coach	1	2	3	4	5	6	7		
3. I feel that my sport career is promising with my coach	1	2	3	4	5	6	7		
4. I like my coach	1	2	3	4	5	6	7		
5. I trust my coach	1	2	3	4	5	6	7		
6. I respect my coach	1	2	3	4	5	6	7		
7. I feel appreciation for the sacrifices my coach has experienced in order to improve his/her performance	1	2	3	4	5	6	7		

8. When I am coached by my coach, I feel at ease	1	2	3	4	5	6	7
9. When I am coached by my coach, I feel responsive to his/her efforts	1	2	3	4	5	6	7
10. When I am coached by my coach, I am ready to do my best	1	2	3	4	5	6	7
11. When I am coached by my coach, I adopt a friendly stance	1	2	3	4	5	6	7

Appendix 4h Coach Results

Manipulation check: Coaches in the intervention group reported lower authentic leadership ($M = 3.68$, $SD = .59$) compared to the control group ($M = 4.44$, $SD = .71$) at Time 1 and, higher authentic leadership ($M = 4.33$, $SD = .35$) compared to the control group ($M = 4.18$, $SD = .35$) at Time 2.