

DOES POSSESSING ELITE TECHNICAL EXPERIENCE LEAD TO FUTURE
LEADERSHIP SUCCESS? EVIDENCE FROM NCAA MEN'S BASKETBALL

by

MICHAEL SLONAKER

(Under the Direction of Steven H. Salaga)

ABSTRACT

Through the lens of upper echelon theory (UET), this study advances the literature on the theory of expert leadership (TEL) by examining the degree to which National Collegiate Athletic Association men's basketball organizational performance is associated with the technical experience of the head coach leading the organization. UET assumes organizational outcomes are driven by differentiation in the personal characteristics of key firm leaders, while TEL assumes leaders with high-level expert technical experience in the same industry will lead their organizations to greater levels of performance. The sample utilized is a sixteen-year panel of data on programs and head coaches from the top seven spending basketball conferences, spanning from the 2004-2005 season to the 2019-2020 season. The sample contains 1,390 observations embodying 214 unique head coaches. Fixed effects panel regressions is used to analyze program organizational performance. The study reveals that head coaches with NBA playing experience significantly influence their teams' performance as head coaches that reached the NBA as a player and played more seasons lead their teams to greater levels of success. Additionally, support is found for head coach playing brilliance being associated

with the future performance of the team the head coach leads, as measured by the performance metric PER. In contrast, the traditional performance metric VORP shows no statistically significant relationship to the organizational performance of the team led by the head coach. NCAA DI head coaching experience emerges as a consistently strong predictor of team success, highlighting the importance of familiarity with the elite college basketball environment. Additionally, financial resources play a crucial role, with higher spending linked to improved team outcomes. The study contributes to a deeper understanding of how different types of experience shape coaching success, guiding institutions in making evidence-based decisions for athletic program development.

INDEX WORDS: organizational performance, technical playing experience, head coach, college basketball, professional basketball

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A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial
Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2024

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December 2024

ACKNOWLEDGEMENTS

I would like to extend my sincere gratitude and appreciation to Dr. Steven Salaga, who has served as my academic advisor as I pursue my doctoral degree. He is a great mentor, and he constantly pours into his students. He is patient, encouraging, and always is responsive. I am thankful I have witnessed his extreme talents in our field and have a deeper appreciation for all he does in our industry. I also want to express my gratitude to Drs. Bryan McCullick and Clay Collins, who have sacrificed their time and talents to strengthen this dissertation. I also want to thank my co-workers who have been a support system during my time trying to balance being a student and employee. Particularly, Anna Williams and Dana Barnhart, thank you for always picking up any slack and being the Dream Team. Lastly, I want to express an immeasurable appreciation to all of my family for always being by my side and supporting me unconditionally, particularly my late grandparents, Edward and Ellen Boyne. Above all, my loving wife Heather, who has offered support and sacrifice during this academic journey. To my parents who have not only invested their everything into me, but also helping with my kids as I have completed this dissertation. Finally, to my three kids, I hope you find a vocation special to you that fills you with as much pride and happiness as I have found in academia. Will and Riley, you were the inspiration I needed to pursue this advanced degree, and Beau, who joined our family as I was working on this dissertation, you all make me happier than anything and I love you all infinity.

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INTRODUCTION

1.1 Impact of Chief Executive Officers on Firm Performance

In recent years, a relevant trend has emerged in college basketball, with an increasing number of former National Basketball Association (NBA) players taking on the role of head coach (HC) within collegiate programs. Notable examples of this trend include members of the 1992 Olympic Dream Team like Patrick Ewing being hired at Georgetown University, as well as Chris Mullin at St. John's University. This trend has emerged in the competitive collegiate sport landscape due to the importance of recruiting top-tier student athletes. Athletic directors (ADs), in their quest for superior team performance, seek coaches who can effectively guide and organize highly skilled players (Holmes, 2011). The HC position in elite sport is often viewed as analogous to the Chief Executive Officer (CEO) position in standard industries (Ndofor et al., 2009). Consequently, the personal attributes and leadership qualities of HCs are hypothesized to have a direct impact on achieving the desired performance outcomes (Smart & Wolfe, 2003). HCs are responsible for the culture and identity of the team which is established and sustained via their coaching behavior, style of play, and recruit identification (Johnson et al., 2017). Therefore, it stands to reason that a HC's background and personal characteristics would exert a substantial influence on the overall success of the organization.

The purpose of this study is to empirically examine the impact of HCs on organizational performance. Specifically, I focus on the degree of technical experience possessed by the HC as previous research (Goodall, 2006; Goodall, 2011; Goodall et al., 2011; Goodall & Pogrebna, 2015) has demonstrated enhanced organizational performance when firms were directed by leaders with high-level experience as a worker in the same industry in which they served as an

executive. This will be achieved by using data from men's college basketball, a setting which allows for the ability to quantify the factors specific to the HC and National Collegiate Athletic Association (NCAA) institution which employs the HC.

First, the question of whether firm performance is impacted by Chief Executive Officers (CEOs) has intrigued scholars in the fields of economics, finance, and management for decades (Mackey, 2008). There is a substantial literature that attempts to assess the influence of executives, particularly CEOs, on firm outcomes. The relationship between executive leadership and firm performance has undergone a significant evolution over time, ranging from the belief in substantial impact of the CEO on firm performance to the recognition of complexities in assessing how CEO impact is shaped by environmental and organizational constraints (Mackey, 2008).

Understanding a CEOs role is important to understanding the influence on the performance of their respective organizations. CEOs hold a central role in shaping the strategic direction, culture, innovation, and financial outcomes of their firms. CEOs are the key drivers of strategic decision-making within an organization. Their leadership qualities, vision, and ability to make critical decisions significantly impact the performance trajectory of the firm (Finkelstein et al. 2009). Effective CEOs align the organization's strategy with its goals, anticipate market trends, and respond to challenges. Their leadership style influences how employees perceive and engage with the work, which in turn affects overall productivity and performance outcomes. Research has consistently shown that CEOs with strong strategic decision-making capabilities positively correlate with improved financial performance and sustained growth (Eisenhardt & Bourgeois, 1988; Quigley & Hambrick, 2015).

CEOs play a vital role in shaping the organizational culture, which reflects the values, norms, and behaviors within the company. A positive organizational culture fosters innovation, collaboration, and employee engagement (Denison, 1990; Gui et al., 2024). CEOs who prioritize a culture of open communication, empowerment, and employee development create an environment that encourages creativity and sense of ownership among employees. This, in turn, enhances individual and collective performance, contributing to higher productivity and reduced turnover rates (Schein, 1990; Lee Y. & Kim J., 2022).

In a rapidly evolving business landscape, innovation is a critical determinant of long-term success. CEOs who champion innovation create an environment conducive to experimentation and risk-taking. They allocate resources to research and development, encourage cross-functional collaboration, and promote a mindset of continuous improvement (Hitt et al., 2007). CEOs who nurture innovation drive the introduction of new products, services, and processes, allowing their firms to remain competitive and responsive to changing customer demands (Tushman & O'Reilly, 1997).

In conjunction with the Chief Financial Officer, CEOs are ultimately responsible for financial decision-making, including resource allocation, investment strategies, and risk management. Their ability to allocate resources effectively impacts the firm's financial health and growth potential (Hambrick & Mason, 1984). CEOs who make sound financial decisions balance short-term profitability with long-term sustainability. Their expertise in managing financial risks, pursuing growth opportunities, and optimizing operational efficiency influences the organization's bottom line and shareholder value (Carpenter & Fredrickson, 2001).

While CEOs exert a substantial influence on firm performance, this relationship is influenced by various personal characteristics and their employment background and

experiences. CEO characteristics such as experience, tenure, and personality traits can moderate their impact (Adams et al., 2005). Additionally, external factors such as industry dynamics, market conditions, and regulatory environments mediate the effects of CEO decisions on firm performance (Finkelstein & Hambrick, 1996). The complexity of the relationship in how a CEO's leadership, decision-making, and vision shape the performance of the firm demands an understanding of CEO actions. Further research is required to unravel the intricate mechanisms through which CEOs drive performance.

Mackey (2008) challenged the notion of CEOs having only modest impact on their organizations. He revisited the percentage of variance in firm performance attributed to CEOs and identified contexts where CEO influence could be considerably larger. The author found environments with executive choice and industry-level heterogeneity enabling greater impact by a CEO. It is widely accepted that decision making models within firms vary. The decision-making process includes CEOs making major decisions individually to consensus-driven models with collective input from top executives. Adams, Almeida, and Ferreira (2005) examined how CEO influence affects decision variability and consequently firm performance. Their study, using data from firms on the Fortune 500 list in 1998, demonstrated that in firms where CEOs have significant decision-making authority, performance variability increases due to the range of potential outcomes. Researchers also explored the interplay between executive personality and firm performance. Bertrand and Schoar (2003) investigated whether managerial personalities contribute to unexplained investment strategy differences across firms and found different behavior based on birth cohorts and education level. Malmendier and Tate (2005) examined manager's personal traits and their influence on corporate investment policies, focusing on CEO overconfidence, which further enriched this perspective.

The interplay between executive characteristics and organizational variables is recognized as a key determinant of firm performance (Adams et al., 2005). While debates have persisted regarding the significance of top executives (Quigley & Hambrick, 2015), large-sample studies have increasingly assessed their impact in the economics, management, and finance literature (Mackey, 2008). Quigley and Hambrick (2015) defined the term “CEO effect” as the proportion of variance in performance explained by individual CEOs. They found that in the business landscape, the CEO effect increased substantially over decades of study as CEOs became seen as increasingly important. The evolving understanding that a manager’s effect on performance is contingent on organizational variables and has led to the development of frameworks and theories to better illuminate the role of CEOs in influencing firm performance. Overall, the literature demonstrates lead executives have sizeable impacts on firm performance in a variety of industries.

1.2 Impact of Chief Executive Officers on Firm Performance in Sport Industry

In the quest for competitive advantage, the sports industry has increasingly recognized the influence of CEOs in shaping firm performance. As the general business world has questioned how much impact the role of CEOs have on firm performance, an emerging focus in the sport industry has developed as organizations look for every competitive edge to gain an advantage over their opponents. The sport industry provides a rich landscape for labor market research, as the setting provides data on executive names, demographic information, salaries, performance statistics and employee-employer matches (Kahn, 2000). Garner, Humphrey, and Simkins (2016) provided a review of the seminal literature of human capital in the field of corporate finance, and compared and contrasted it to the human capital present in the sports

markets. A key conclusion of this study was that the employment market of corporate CEOs and the employment market for NCAA head coaches were similar in nature.

Sport industry research positions head coaches at the NCAA level as key organizational executives who are the CEO of their program (Dixon et al., 2023; Humphreys et al., 2016). As noted by Brown et al. (2007), when examining the labor market for college football coaches, the lack of any front office personnel allows the coach to control operations of the team. An important distinction in the NCAA model is that a head coach serves under a university president and athletic director, yet Brown and colleagues determined the HC is ultimately responsible for the conduct, success, or failure of the team. It is also noted that within a given level of NCAA competition (e.g., Division I, II, or III), head coaches have equivalent responsibilities at different universities, making the role expectations of the HC homogenous in collegiate athletics. HCs are a position analogous to the CEO of a large firm, and coaches at top programs earn salaries commensurate with corporate CEOs (Humphreys et al., 2016).

CEO's play a critical role in driving the performance and success of sport organizations, and the HC is viewed as a CEO in a competitive sports setting (Ndofor et al., 2009). CEO's strategic decision-making, management styles, and leadership qualities affect athlete performance, financial management, branding, and crisis management which provide insights into the distinct challenges and opportunities HCs face in the dynamic sport industry. At the NCAA level these head coaches as CEOs shape the direction of the organization (Humphreys et al., 2016). Coaches set and influence the short-term and long-term objectives of the program. As we understand the role of CEOs from Finkelstein, Hambrick, and Cannella (2009), the impact of the coach's decision affects team performance, financial growth, and competitive positioning.

Research findings on CEOs that are applicable to the sport industry to shed light on the intricate relationship between head coaches and firm performance. Perhaps the strongest theme from this body of work is that a CEO's management style has subsequent influence on organizational culture, with findings supporting the positive role of CEO transformational leadership in shaping firm performance (Jensen et al., 2020). An expectation exists that supports a positive relationship between CEO transformational leadership and the effect on a company's innovativeness (Jung et al., 2008). In sport, different leadership approaches can impact athlete performance (Kim & Cruz, 2016), fan engagement (Jensen et al., 2014), and overall business outcomes.

Another strong theme from the CEO effectiveness literature is the effect of CEO leadership qualities on employee dynamics. Wang et al. (2016) found that CEOs relationship-focused behaviors, particularly with respect to motivation, are related to employees attitudes, and these attitudes are related to firm performance. Coaches, through leadership qualities and motivational skills can affect athlete and team dynamics and motivation, which ultimately influence on-field performance and organizational success (Sage, 1973; West, 2016). Talent acquisition is also another important theme in CEO research as organizations are adopting innovative recruitment practices to find the correct skills sets and competencies, and CEOs are responsible for practicing due diligence in their talent acquisition strategy (Srivastava & Bhatnagar, 2008). The potential of a CEOs influence on athlete management, from roles such as recruiting, scouting, and developing sports talent (Magnusen et al., 2014), can be reasonably expected to impact team performance.

Assessing the impact of head coaches on organizational performance in the sport industry is worthy of investigation. By framing NCAA head coaches as CEOs, as seen in previous

research (Humphreys et al., 2016; Dixon et al., 2023), an establishment has been made that aligns with the corporate context. Following existing research of CEO and executive influence within the sports arena, I can utilize the existing frameworks of Upper Echelons Theory (UET) and Theory of Expert Leadership (TEL) to assess the relationship between the lead executive, determined to be the head coach, and empirically examine their impact on organizational performance to deepen the understanding of the impact of leadership in the sports industry (Juravich et al., 2017; Skinner et al., 2023; Goodall et al., 2011). Accordingly, for this dissertation, I treat NCAA men's basketball head coaches as equivalent to a CEO in a standard industry.

1.3 Theoretical Frameworks for Evaluating Leaders in Firm Performance

The question of how much CEOs impact firm performance has undergone a dynamic evolution. From early mentions in management, finance, and economic literature to contemporary large-sample studies, the role of CEOs in shaping organizational outcomes has been both contested and increasingly explored (Ou et al., 2018). The influence of CEOs on firm performance is not a one-size-fits-all phenomenon, but rather one that is intricately influenced by contextual factors, organizational structure, and industry dynamics. Due to the complexities of the CEO-firm performance relationship, researchers have used different frameworks to evaluate leader impact. UET is a prominent theoretical framework in organizational and leadership research that explores the relationship between top executives' personal characteristics and organizational outcomes.

UET was first introduced by Donald C. Hambrick and Phyllis A. Mason in their seminal paper published in 1984 (Hambrick & Mason, 1984). The theory seeks to explore the connection between the personal characteristics and backgrounds of top executives and the decisions and

strategies adopted by organizations. UET emphasizes that the people at the top of an organization bring their own unique perspectives, biases, and experiences to the decision-making process, which can have a significant impact on the organization's performance.

UET has broad applicability and been used in a variety of fields, including sport management, as scholars have delved deeper into its functions. Central to the UET is the belief that an organization's strategic direction and outcomes are influenced by the backgrounds, experiences, and personalities of its top executives (Hambrick & Mason, 1984). Executives' demographic attributes, such as age, education, technical experience, functional experience, and career tenure (Henderson et al., 2006) are considered crucial inputs that shape their cognitive frames.

Cognitive frames refer to models, beliefs, and schemas that individuals use to interpret and respond to complex situations (Hambrick, 2007). UET posits that executives' cognitive frames are influenced by their attributes, experiences, and values. These frames guide executives' perception of the external environment and the decision-making process (Yamak et al., 2014). The UET framework suggests that executives' cognitive frames influence their preferences for specific strategic choices (Hambrick, 2007). Different executives, based on their unique characteristics, may have different levels of tolerance for risk or innovation, while also potentially having different orientation towards short-term or long-term goals (Olson et al., 2006). As a result, strategic decisions are seen as reflections of executives' cognitive biases and interpretations (Abatecola & Cristofaro, 2020).

UET provides a plausible explanation for the diverse strategic behaviors observed across organizations. By considering the role of executives' attributes and cognitive frames, it can show why organizations pursuing similar goals may adopt different strategies (Hambrick, 2007). The

application of the UET framework into elite sport is appropriate, as sport organizations adopt many different strategies in the pursuit of similar goals. In team sports, the head coach is often the focus of analysis as they are the most important leader in influencing success and are deemed to be equivalent to a CEO (Humphreys et al., 2016). UET literature argues that executives interpret situations and make decisions based upon their own unique experiences that they have accumulated throughout their own personal journey (Hambrick & Mason, 1984). UET examines the impact of the top management team (TMT) executives, but most frequently, the CEO is the role of interest due to their perceived influence on firm outcomes (Wang et al., 2016). UET examines the individual characteristics of top executives as it relates to the organizational results that strategic actions and decisions produce (Hambrick, 2007). Investigating the relationship surrounding individual characteristics and organizational performance related to college sport programs can potentially inform the sport management literature as to how individual personal characteristics and experiences are associated with organizational performance.

As this dissertation explores the impact of the HC on sport organizational performance using the UET framework, a related theory focuses on the degree of technical experience accumulated and its impact on organizational performance. Amanda Goodall (2012) developed the Theory of Expert Leadership (TEL) to examine the impact of previously accumulated technical experience on future performance as a leader. Despite its suitability, TEL has been lightly used in the academic study of sport organization performance. TEL posits that leaders who possess a high level of technical expertise in their respective fields are more likely to be effective in guiding their organizations toward success (Goodall & Pogrebna, 2015). Technical expertise refers to a deep and comprehensive understanding of a specific field, subject, or technology, typically acquired through education, training, and hands-on experience (Goodall,

2012). Individuals with technical expertise possess specialized knowledge and skills that allow them to effectively solve complex problems, design solutions, and implement strategies within their area of expertise. This expertise is often characterized by a proficiency in understanding the underlying principles, tools, techniques, and best practices relevant to a particular domain (Goodall & Bäker, 2014). Goodall empirically tested the relevance of possessing technical experience in a variety of settings and found strong empirical support for the TEL framework, which will be covered in further detail in the literature review.

It is important to define technical expertise and functional experience in this setting. Wang et al. (2016) refer to functional experience relating to the practical knowledge, skills, and expertise that individuals acquire through performing specific tasks and responsibilities within a particular functional area of an organization or industry. Much like technical experience, it encompasses hands-on experience and proficiency in carrying out the duties and functions associated with a specific role or department. In the context of this dissertation, technical experience will be measured by quantifying the type and quality of prior playing experience in the sport of basketball, while functional experience will be measured by quantifying the type and amount of prior coaching experience in the sport of basketball.

Given the emergence of the TEL literature, it is important to operationally define an expert leader. These are leaders “with (1) inherent knowledge, acquired through technical expertise combined with high ability in the core-business activity; (2) industry experience, which stems from time and practice within the core-business industry; and (3) leadership capabilities, which include management skills and a leader’s innate characteristics” (Goodall & Pogrebna, 2015, p.125). TEL argues that leaders who possess specialized knowledge and skills within their domain are better equipped to make informed decisions, solve complex problems, and inspire

confidence among their followers (Goodall & Baker, 2014). As the theory has progressed, an emphasis has emerged on the importance of leaders not only having a deep understanding of their field, but also staying current with the latest developments and trends (Thoebes et al., 2023).

TEL has been applied in a variety of settings, including the sport industry when it was used to examine expert leaders in the NBA (Goodall et al., 2011) and Formula One racing (Goodall & Pogrebna, 2015). The degree of previous technical experience accumulated, or in other words, sport-specific playing experience, captured by both quality of playing experience at the highest level of competition in the sport and career tenure length, was later positively associated with the performance of the team they led. TEL states that expert leaders improve organizational performance through knowledge-based strategy, acting as a standard bearer, by creating the right environment, and by adopting the long view (Goodall, Kahn, & Oswald, 2011). Ultimately, TEL argues that expert leaders play a pivotal role in shaping an organization and driving innovation in their respective fields. As organizations continue to navigate complex and uncertain environments, UET and TEL provide a framework for understanding how leadership characteristics intersect with decision-making processes, which is ultimately measured by assessing organizational outcomes. By utilizing UET and TEL, scholars can develop studies aimed at gaining valuable insights into the intricate dynamics between leadership and organizational performance.

1.4 Purpose

This dissertation will investigate how the organizational performance of NCAA men's basketball programs is related to the personal characteristics and experiences of the head coach leading the program. Through the lenses of UET and TEL, this research will use demographic

and experiential data on HCs in the seven highest spending conferences in college basketball. This dissertation uses UET and TEL and applies it to the NCAA level to test its viability in this setting in order to determine how differentiation in executive leadership is associated with organizational success. Understanding how organizational performance is associated with specific personal characteristics and experiences possessed by leaders has clear practical relevance. For example, this information has potential feedback effects related to the labor market with respect to hiring, retention, and dismissal decisions. Athletic department budgets are not unlimited. Organizations in this setting need to spend effectively and seek to hire effective leaders (Humphreys et al., 2016). These organizations need to make effective, informed, and data-based decisions that could allow collegiate decision makers and their administrative teams to consider the personal characteristics and experiences of head coaches that will drive organizational performance.

When examining the extant sport management literature, it is apparent that the personal characteristics and experiences of the head coach has received little attention at the collegiate level. This omission is concerning as live media rights and consumer interest of high-level NCAA sports mirrors that of the professional industry (Seams, 2021). In order to investigate how lead executive characteristics are associated with firm performance in college basketball, I ask the following research question: Does employing a head coach who possesses elite functional experience (NBA playing experience) have an impact on program success?

This research seeks to add to sport management literature by extending the use of UET and TEL into the research examining NCAA athletics. The managerial implications of this dissertation topic could inform NCAA athletic departments and university presidents specifically as to whether HC leadership characteristics, including possessing elite technical experience, are

associated with the performance of the team they lead. Current NBA players, and their agents in charge of managing their career opportunities, can also learn from this study on how the development and promotion of their personal characteristics can position themselves, or their client, for different post career opportunities. The potential of this research may also be useful to NCAA search firms and hiring committees as they evaluate personal characteristics of potential hires.

This study will add to the literature on the viability of hiring former NBA players as head coaches. Goodall et al. (2011) examined hiring former NBA players, but in a different context. In their study, Goodall et al. (2011) studied NBA players with elite technical experience hired as NBA HC's and the impact on organizational performance at the same professional level of basketball. This study examines former NBA players as NCAA HCs and can inform to what degree HC personal characteristics and experiences are associated with program performance. The implications from this study could be used to support the NCAA in the hiring of minority candidates, a need former NCAA president Myles Brand expressed for the betterment of the organization (Diverse Issues in Higher Education, 2007). Only 24.2% of NCAA basketball HCs are minorities, despite 74.8% of players being from minority groups (Cunningham, 2020). In the NBA, black players make up 70.4% of the membership in the league (Statista Research Department, 2023). This dissertation will be applied to the college basketball setting, but opportunity will exist for future studies to follow this path of research to analyze the college football context by assessing whether organizational performance is enhanced when a former NFL player serves as the HC of the organization. Thus, I anticipate the findings of this study will provide valuable information for organizations and institutions across the NCAA sport context.

1.5 Market Structure and Economic Relevance of the NCAA

As the purpose of this dissertation is to examine the impact NCAA head basketball coaches have on team performance, it is imperative to understand the economic and societal impact of NCAA sports as a whole. NCAA sport offerings on college campuses include many different programs that differ in size and organizational resources. Individual universities decide how many sport offerings to participate in, as long as they are meeting NCAA guidelines respective to their division, while allocating resources at the discretion of the athletic director (Cooper & Weight, 2011). From an economic perspective, scholars have found the NCAA and university athletic departments to be an important setting to investigate (e.g., Fort, 2021; Mills & Winfree, 2016; Fort, 2016; Fort & Winfree, 2013). NCAA athletics is a financially relevant setting, especially in top-tier programs, that generates significant revenue through ticket sales, merchandise, television contracts, and sponsorships (Cooper & Weight, 2011).

The organizational structure of the NCAA is characterized by a hierarchical and complex system designed to govern and oversee major college athletics in the United States. The NCAA is composed of member institutions, primarily colleges and universities, which have voluntarily joined the association (Washington, 2004). NCAA membership is categorized into three divisions: Division I, Division II, and Division III. These divisions differ in terms of the level of athletic competition, scholarships, and financial resources available to student-athletes. Certain athletic conferences within Division I, known as autonomy conferences, have larger budgetary resources. The NCAA has economic relevance worthy of research, especially at the autonomy conference level. Based on financial data from August 2020 in the National Bureau of Economic Research, the NCAA generates \$8.5 billion annually (Garthwaite et al., 2020). In comparison to other sport enterprises, according to Forbes in the same year of 2020, professional leagues such

as the National Basketball Association (NBA) and Major League Baseball (MLB) generated \$10 billion per year and \$9.56 billion per year, respectively. Based on the 2021 Fortune 500 List, major entertainment corporations like Fox, Liberty Media, and Caesars Entertainment reported revenue between \$11 and \$13 billion. For comparison, non-entertainment companies with brand name appeal such as eBay, Boston Scientific, and Norfolk Southern all have similar reported revenues in the same Fortune 500 list as the NCAA's \$8.5 billion (Rapp, 2022).

The NCAA classifies their Division I schools in two categories, autonomy and non-autonomy (Weaver, 2015). The autonomy conferences have been defined as the Power 5 conferences that have the financial resources to provide more to athletes based on the larger scale of revenue generation. The NCAA generates revenue from sources such as television contracts, championships, and sponsorships (Fort & Winfree, 2013). This revenue is distributed among member institutions, with Division I institutions typically receiving a larger share. As such, this dissertation will examine the NCAA basketball programs that produce larger revenues.

As of Fall 2022, there were 358 Division I men's basketball programs. The NCAA has a broadcasting deal with CBS and Turner Sports for the rights to the NCAA tournament, which extends through 2032 and pays the NCAA \$1.1 billion per year (Lewis, 2021). Payout distribution of the broadcasting rights is executed through conference affiliations at the Division I level. The more teams from a conference that participate and advance to play more games in the NCAA men's basketball tournament, the higher the conference distributions rates, indicating organizational performance is financially rewarding in the college basketball setting (Caron, 2021).

The viewership and media ratings of NCAA sports is notable and economically relevant. In the 2022 college basketball season, viewership numbers show the highest rated game was

between the University of North Carolina and University of Kansas, which had 17 million television viewers. Seven games in the 2022 college basketball season exceeded 10 million television viewers. Three of these games had higher viewership numbers than any game in the NBA Finals, which topped out at 11.9 million viewers (Hughes, 2022).

Consumer demand for NCAA men's basketball rivals that of what is seen in the NBA. The media rights contract that the NCAA and the individual conferences negotiate with various networks and media entities show the product possesses substantial economic relevance. The NCAA negotiated a new television contract with CBS and Turner that lasts until the year 2032 for the rights to the men's NCAA basketball tournament, commonly referred to as March Madness. This contract goes into effect for the 2024 season and will bring a total of \$8.8 billion in revenue over the entirety of eight-year period for the NCAA. The previous media rights contract between CBS and Turner for the NCAA tournament began in 2010 and lasted 14 years for \$11 billion dollars (Brady, 2016). With the new contract, the NCAA saw an increase from \$785 million to \$1.1 billion per year for the rights to March Madness.

According to the NCAA Financial Research Dashboard in 2021, the institutions belonging to autonomy conferences had a median total revenue of \$101.24 million across their entire athletic departments. Institutions in nonautonomy conferences at the NCAA Division I level, had a noticeable reduction in median total revenue at \$35.24 million across their entire athletic departments. This nearly \$66 million difference in median total revenue provides justification to examine the largest total revenue programs in the NCAA (NCAA.org, 2021-a).

The autonomy conferences are labeled the Power 5 and comprised of 65 universities in the Atlantic Coast Conference (ACC), Big Ten Conference (Big10), Big Twelve Conference (Big 12), Pacific 12 Conference (Pac12), and the Southeastern Conference (SEC) (NCAA.org,

2021a). Athletic departments at the autonomy level have tremendous revenue growth and spend every dollar they generate. When examining revenue and expense data, Fort (2016) found an increase of 4.6 percent on the annual growth rate for college athletic departments, adjusted for inflation. Further, this growth rate is large relative to the typical growth rate of the economy overall (Fort, 2016). College athletic departments at the autonomy level have shown that revenues are increasing over time on a consistent basis.

Individual conferences have the ability to negotiate their own media rights packages. The SEC negotiated a ten-year deal with Disney that will start in 2024 worth \$3 billion for an annual payment of \$300 million to the conference. The SEC projections show that schools will receive approximately \$70 million each in the media rights revenue distribution model under this new Disney contract (Staples & Emerson, 2022). This deal combines the regular season media rights distribution of SEC football and men's basketball games (Carp, 2020). Previously in 2022, the SEC announced an annual revenue distribution of approximately \$55 million per school. The Big 10 signed seven-year media rights agreements with Fox, CBS, and NBC starting in 2024 that is worth \$7 billion over seven years for rights to the regular season and conference championships in football and men's basketball (Rittenberg, 2022). Previously in 2022, the Big 10 distributed \$57 million per school from their media rights contracts, with future estimates as high as \$90 million per school when conference expansion and new media rights deals are activated in 2024.

Robust consumer demand of NCAA sports is shown through ascending fan viewership and media rights contracts. Another important revenue stream for institutions that shows the economic relevance of collegiate sports is attendance. Approximately 27 million fans attended men's college basketball games in 2021-2022 (NCAA.org, 2022). In addition to the financial impacts of NCAA sports, the appeal to consumers as entertainment options bears stating to

further highlight the influence of NCAA sports on American culture. Collectively, NCAA sports draw hundreds of millions of television viewers through media contracts worth billions of dollars while attracting over 100 million fans in person annually (NCAA.org, 2021c). With this in mind, the NCAA model is a context with substantial economic relevance, consumer interest, and media interest. It is an important setting to examine to better understand organizational performance. The investigation of head coaches who have responsibilities similar to CEO's is warranted due to the significant financial impact of NCAA sports. As collegiate sport viewership and revenue continue to increase, the examination of these organizations and conferences represent an opportunity for researchers.

This dissertation analyzes the NCAA sport context and the sport of NCAA men's college basketball, with its substantial economic relevance, consumer interest, and media interest, to better understand organizational performance. Investigating the teams that comprise the highest spending conferences in college basketball allows for the ability to examine the relationship between head coach personal characteristics and team performance.

Specifically, I examine the accumulated technical experience possessed by NCAA men's basketball head coaches. Sport organizations function through the interpersonal relationships between coaches and student-athletes. The extent of the HC's effective managerial leadership will influence organizational performance (Soucie, 2014). This dissertation analyzes the performance outcomes of NCAA men's basketball programs by defining the head coach as the CEO of the program they are hired to lead. Understanding the characteristics of the individual head coaches employed in this research environment enhances our understanding of drivers of performance in college basketball. The findings discussed later in this dissertation suggest that while NBA playing experience, particularly years of playing experience and individual

performance, enhances a head coach's success in leading DI basketball program, other factors such as collegiate head coaching experience and team budget also play a crucial role.

LITERATURE REVIEW AND RESEARCH QUESTION DEVELOPMENT

2.1. Upper Echelons Theory in General Business

The premise of UET declares that executives decipher circumstances and make conclusions based upon their own unique experiences that they accrued throughout their own individual journey (Hambrick & Mason, 1984). Organizations have become very complex in the demands that they put on their leaders, but across all industries, executives are charged with making decisions that impact the success of their organization. Literature using the UET framework examines the individual characteristics of the top management team (TMT) and assumes these characteristics lead to decision-making that influences organizational results. Some studies examine multiple TMT members, while other focus on specific TMT members such as the CEO, Chief Operating Officer (COO), or Chief Financial Officer (CFO). UET is a framework used to guide studies which examine organizational decision-making and/or organizational outcomes and emphasize individual differences within leadership teams.

UET seeks to explain how the backgrounds, experiences, and cognitive frames of top executives shape the strategic outcomes and performance of organizations (Wang et al, 2016). UET places a strong emphasis on the diversity within TMTs, acknowledging that executive decision-making is not a one-size-fits-all process. By recognizing and studying individual differences, the theory contributes to a richer understanding of the dynamics within leadership teams and how this diversity influences organizational outcomes (Nielson, 2010). UET has played a pivotal role in guiding research in organizational behavior and strategic management. Scholars use UET in studies that investigate the relationships between executive characteristics

and organizational outcomes, contributing to a deeper understanding of leadership dynamics (Wang et al, 2016).

When addressing the application of UET as a framework in empirical papers, it is important to examine the typical personal characteristics researchers consider. These attributes include age, gender, education, functional experience, and technical experience, among others (Hambrick, 2007). However, it is crucial to emphasize that the specific characteristics examined may vary depending on the context under study and the available data. This variability allows for a nuanced understanding of how different factors influence leadership effectiveness within various organizational settings (Wang et al., 2016). This nuance will connect with TEL in the subsequent section, which predominantly focuses on technical experience, a key component often explored in UET literature. Thus, research investigating expert leadership can be viewed as an extension of the broader UET literature, shedding light on the interplay between technical expertise and effective leadership practices.

In this section, I summarize the literature on upper echelons in organizations. Organizations analyze all facets of their business model in order to better understand their operations and execute it in the most efficient manner. It follows that the top executives and decision makers in these organizations became a major focus of organizational research. In 1984, Hambrick and Mason set out to answer the key question, “Why do organizations act as they do?” (p. 193). It became clear that top executives decide their organizations’ actions, viewing their situations and decisions through highly personalized lenses and playing a pivotal role in shaping major organizational outcomes (Carpenter et al., 2004; Hambrick, 2018; Mackey, 2008). This is the central tenet of UET confirmed by many studies, “pointing to the conclusion that if we want to understand strategy, we must understand strategists” (Hambrick, 2018, p. 1783). UET has

been applied not only in the study of management but also in psychology and economics (Carpenter et al., 2004). Only recently has it been employed in the sport management field. Indeed, sport lags behind other environments in terms of literature examining HR decision-making and organizational performance (Juravich, 2017, p. 468).

The basic logic of UET is that executives' experiences, values, and personalities greatly influence their interpretations of the situations they face, which affects their choices (Hambrick, 2007). Organizations become reflections of their top executives because executives use their own experiences, values, personalities, and other human factors to evaluate opportunities and threats facing the organization, parse alternatives, and predict various outcomes (Hambrick, 2018). Given that the psychological constructs that inform executives' decision making are unobservable, UET provides a valuable way to measure the cognitive processes that ultimately result in strategic outcomes (Carpenter et al., 2004). The theory's linear framework has three central tenets: (1) strategic choices made in firms are reflections of the values of the powerful leaders, (2) the values of such actors come from observable characteristics like education, age, and work experience, and (3) substantial organizational outcomes will be associated with the observable characteristics of those of the top leaders (see Figure 2.1) (Hambrick & Mason, 1984).

Prior to the emergence of UET, the dominant theory (derived from population ecology) held that executives had little effect because they were influenced by external forces and constrained by workplace conventions and norms (Hambrick, 2007). Hambrick and Finkelstein (1987) argued that both of these conditions were true and introduced the moderating concept of managerial discretion when there was an absence of constraint. This provided an important update to the original theory and showed that UET's effectiveness at predicting organizational

outcomes was proportional to the amount of discretion an executive could exercise: “If a great deal of discretion is present, then managerial characteristics will become reflected in strategy and performance. If, however, discretion is lacking, executive characteristics do not matter much” (Hambrick & Finkelstein, 1987, p. 370). In the research context of this dissertation, leadership discretion is clearly present, hence, the expectation is that the personal characteristics of the HC will be associated with performance.

In 2005, Hambrick, Finkelstein, and Mooney introduced a second moderator: executive job demands (Hambrick et al., 2005). This moderator explained that executives’ jobs differ drastically based on their scope, the structure of the organization, and industry in which they are located. “Executives who are under heavy job demands will be forced to take mental shortcuts and fall back on what they have tried or seen work in the past; thus, their choices will reflect their backgrounds and dispositions” (Hambrick, 2005, p.478). Alternatively, executives who face lighter job demands can make more objective choices that are in line with conventions and norms of their industry (Hambrick, 2007). HCs in the NCAA sport field face heavy job demands; thus, the expectation is their strategic choices will reflect back on their personal characteristics.

UET has since given rise to two key caveats that are used in research (Hambrick, 2007). Within the UET framework, leaders can be examined in isolation or in combination with other leaders. The first concept is that individuals do not normally make decisions unilaterally; rather, decisions are made in consultation with a top management team (TMT), a small group of senior executives who share similar titles or positions. Hambrick and Mason introduced the term TMT in their seminal paper, *Upper Echelons: The Organization as a Reflection of Its Top Managers*, published in 1984, and the term became a key concept in organizational research, particularly in the context of UET (Hambrick & Mason, 1984). The upper echelons perspective does not require

a researcher to focus on the TMT, but it is important to acknowledge executive groups and their composition. Attention to executive groups, rather than individuals, can produce better explanations of organizational outcomes (Hambrick, 2007). In the context of this dissertation, the HC has autonomy to drive the strategy of the organization, and therefore, I will focus solely on the HC in isolation given their decision-making authority with respect to program decisions.

The second caveat determines that including executives' demographic characteristics is valid when analyzing their decision-making process (Hambrick, 2007). These characteristics (e.g., education, age, tenure at firm, type of industry) can be incomplete and imprecise, but are acceptable due to the impossibility of obtaining psychometric data on top executives (Hambrick, 2007). UET is a very common framework used to investigate the impact of executives on firm outcomes. As of 2016, over one thousand studies used UET to examine how CEO characteristics were associated with outcomes (Wang et al., 2016). In a meta-analysis of those studies, Wang and colleagues found that the formal education, previous career experience, and positive self-concept of CEOs were positively associated with the strategic actions taken by their firms. Additionally, CEO age, tenure, formal education, and prior career experience showed a positive correlation with the future performance of the firm (Wang et al., 2016, p. 54). This meta-analysis summarized and analyzed research from over 300 studies including Finkelstein and Hambrick (1990), Henderson et al. (2006), Wong and Deubert (2010), Lee (2018), and Lee et al. (2018), all of which used UET to analyze CEO characteristics and the executive impact on firm performance.

UET has substantially enriched our understanding of the diversity of cognitive foundations of organizational decision-making. UET draws attention to the cognitive process involved in decision-making. It explores how executives' mental models, reasoning frameworks,

and information processing capabilities influence their perceptions of strategic issues (Miller et al., 1998). UET suggests that these cognitive processes mediate the relationship between executive personal characteristics and organizational actions. The application of UET has remained popular in many business settings and industries. Most of the TMT demographic data relates to the highest management levels, such as CEO, COO, Senior Director, or other senior management positions that are responsible for the strategic and tactical management of a significant piece of the company. Studies vary in their definitions of the executives or TMT. UET has been used in the context of a variety of industries, including apparel, chemical, food, furniture, industrial equipment, and restaurant franchisee operation, among many other fields (Marcel, 2009).

It is worth noting that UET is widely utilized and has given rise to various specialized applications. UET serves as a versatile framework for examining both leadership dynamics where multiple leaders exist, such as through TMT, or individual leadership behaviors. This dissertation specifically applies the UET perspective to analyze an individual leader. Moreover, UET serves as a means to indirectly probe the cognitive processes underlying decision-making. Given the practical challenges of directly measuring cognitive processes, UET suggests that demographic and experiential factors can serve as proxies for the strategic decision-making capabilities of leaders (Hambrick, 2007). This study will adhere to the UET framework by utilizing demographic and experiential variables as substitutes for cognitive processes. In summary, UET aims to provide a theoretical lens through which researchers and practitioners can explore and comprehend the intricate connections between the personal attributes of top executives and the strategic decisions and performance of organizations.

2.2 Upper Echelons Theory in the Sport Context

The application of research using the UET framework in the sport industry remains in its infancy. There have been studies in the sport sector that sought to apply UET to corporate social responsibility dimensions (Won et al., 2018) and diversity within an organization (Lee, 2018). While these studies are useful to the sport industry, only a few scholars have used the UET lens when analyzing the specific senior management positions within the sport industry.

Sport scholarship does include some empirical work that examines the impact of management on firm performance (e.g., Smart et al., 2008; Soebbing & Washington, 2011), but does not directly use UET. Smart et al. (2008) argued that HCs are indispensable figures in MLB organizations, wielding significant influence over strategic planning, player development, team culture, and in-game decision-making. HC leadership, expertise, and impact on organizational performance were vital to achieving success in this competitive professional sport context. Soebbing and Washington (2011) examined how college football teams performed after a head coaching change. The findings quantified personal characteristics of these head coaches and found that there was a positive relationship between head coaching tenure in these hirings and team performance. One of the first sport studies to use demographic variables examined the General Manager (GM) population in Major League Baseball from 1989 to 2009 (Wong & Deubert, 2010). The authors examined a combination of experience variables from the industry as well as demographic data. For instance, one experience variable examined was whether the GM had playing or coaching experience at the professional level, which includes major and minor league systems. This study illustrated that, over the 20-year period studied, educational background became more important while the need to have playing experience declined (Wong

& Deubert, 2010). However, this study did not link GMs' educational background to their teams' performance.

Sport scholarship does include research examining the impact of management on firm performance which explicitly uses the UET framework. Juravich et al. (2017) acknowledge head coaches are key actors in shaping the performance of a sport organization and called for more empirical research examining the link between upper management employees and team performance, noting that "research in the field of sport lags behind other contexts in terms of studies examining HR decision-making and organizational performance" (p. 468). Juravich et al. (2017) explored the general manager level in the NBA integrating UET into the sport management literature. They examined individual contextual variables of GMs and their relationship to organizational performance. They found that GM technical experience and education were positively related to winning and efficiency (Juravich et al., 2017).

Hayduk and Walker (2021), explored the ownership level of Major League Baseball (MLB) to see if owners with substantial marketing expertise could drive attendance and online search traffic to their brand and organization. They found that ownership expertise in marketing generated significantly more attendance, but not significantly greater online traffic (Hayduk & Walker, 2021). Hayduk (2022) also remained at the MLB ownership level and used the UET framework in a study that examined if owners who are business intelligence experts could make their sport organizations more profitable. It was found that profit margin increases were attained by spending more efficiently on labor, not by generating more revenue.

Peeters et al., (2020) also investigated MLB executives using the UET framework, but instead focused on the joint impact of managers at different hierarchical levels. They independently quantified the contribution of upper managers, the General Manager (GMs), and

middle managers, the Manager or head coach of the team. It was found that higher quality managers tend to be matched together and achieve higher match quality during their joint employment. It also found that lower match quality is found when pairs are matched together with deviating educational attainment. A key finding using the UET framework from this study is that match quality is partly inherent and manager cooperation across hierarchical levels may not improve through learning on the job (Peeters et al., 2020).

UET has been applied to the collegiate sport setting when evaluating athletic directors (Skinner et al., 2023), but not yet to the head coach, where, arguably, hiring a head coach is the most important HR decision in the NCAA sport field, given that he or she sets the strategy and culture that will determine the on-field success of a collegiate sport organization. Skinner et al. (2023) focused on the impact of athletic directors' personal characteristics and experiences on organizational performance and athletic department revenues. They found the ability to acquire better playing talent within their organization drove the differentiation in organizational performance and revenue. They failed to uncover significant evidence that athletic director personal characteristics and technical experience are associated with organizational performance.

The early work on UET in the sport management literature has focused on owners or GMs, and rarely the head coach. In an early attempt to match human resources and strategy among NCAA basketball teams, Wright et al. (1995) used survey data and performance metrics to determine whether coaches' preferred strategies influenced the characteristics they sought in recruits. The HC position in NCAA sport has been an overlooked executive position given the importance of the position in influencing organizational strategy and outcomes. Therefore, this research adds to the literature in this aspect of executive leadership in college sport.

2.3 Theory of Expert Leadership Literature

Assessing how head coach characteristics and accumulated functional experience are associated with team performance in this dissertation will be motivated by the Theory of Expert Leadership (TEL). According to this theory, expert leaders possess three key attributes: inherent knowledge gained through technical expertise and proficiency in the core-business activity, industry experience acquired through time and practice within the relevant industry, and leadership capabilities encompassing management skills and innate traits (Goodall & Pogrebna, 2015, p.125). TEL has been applied multiple times in the professional sport setting. TEL states expert leaders enhance organizational performance by employing knowledge-based strategies, serving as role models, fostering conducive environments, and embracing a forward-thinking perspective (Goodall, Kahn, & Oswald, 2011).

TEL emerged as a challenge to the assertion by some scholars that effective leadership arises not from acquired expertise, but from an executive's intrinsic motivation. That is, previous experience and industry-specific training were not considered necessary; rather, an executive who is sufficiently motivated and organized can learn what they need in order to succeed. The TEL argues that firms should consider the potential executives' characteristics and their industry-specific characteristics before making a selection, as it suggests both that leaders have considerable influence on organizational performance and that experts need to be led by other experts who have a deep understanding of their industry (Goodall & Bäker, 2015).

TEL attempts to determine whether experts in a given area are more effective leaders of workers in that same given area. Amanda Goodall developed the hypothesis, designing a conceptual framework (Goodall & Bäker, 2015) to explain how expert leaders influence organizational performance and applied it in many different settings, including universities

(Goodall, 2006, 2009; Goodall et al., 2014), Formula 1 racing (Goodall & Pogrebna, 2015), and hospitals (Goodall, 2011). This framework (see Figure 2.2) illustrates that experts in that specific industry make different decisions and take different actions than professional managers do that may not have industry specific background. Furthermore, demonstrated industry specific expertise signals confidence and credibility to those both inside and outside the organization. Thus, “leaders should have expert knowledge in the core business of the organizations they are to lead, holding constant the background level of management and leadership experience” (Goodall & Pogrebna, 2015, p. 3). *Core-business activity* is the most important or central endeavor generating an organization’s success or profit (Goodall & Pogrebna, 2015). It is important also to note the assumption here that the level of management experience is being held constant. It is clear that not all experts will make good managers and leaders. As expressed in Goodall and Pogrebna (2015), expert knowledge should be viewed as a first-order requirement when naming an executive, but hiring committees must recognize that management skills are also a necessary prerequisite.

In recent years, corporations have tended to hire CEOs who are generalists rather than specialists, that is, leaders with a background in management were selected over those with technical expertise (Goodall & Bäker, 2015). The healthcare industry is an extreme example: almost all hospital CEOs now are professional managers, not doctors (Goodall et al., 2011). Researchers have been investigating the empirical evidence supporting this trend and questioning whether improved performance occurs when leaders possess industry experience as workers in the relevant field. Expert leaders, as opposed to professional managers that may not have industry specific backgrounds make strategic decisions based on experience. Intense focus on a given industry for many years allows an expert leader to amass a deep knowledge base, or

domain knowledge. Because they are intrinsically motivated by the core-business activity, expert leaders tend to take a longer view (Goodall & Bäker, 2015).

TEL studies have also found that expert leaders often began their careers at the worker level; thus, “having been one of them, expert leaders understand the culture and value system of core workers, and also their incentives and motivations” (Goodall & Pogrebna, 2015, p. 127). As a result, expert leaders are more likely than professional managers to create a work environment with proper hiring procedures, employee evaluation, and attainable goals. Organization performance is enhanced because employees can be more creative, leading to higher job satisfaction and lower turnover (Shalley et al., 2000).

In addition, organizational success requires creativity, which requires risk-taking because new ideas often stem from unanticipated situations. Taking advantage of risk requires tolerating failure (Watkins & Marsick, 1993), and expert leaders who started as workers are more likely to accept failure (Alvesson, 1993). Currently, managerial processes that lack creativity are common across many industries because professional managers do not understand how to assess, monitor, or give feedback to workers (Goodall & Bäker, 2015). If managers do not share expert knowledge with the workers, trust between leaders and workers breaks down with the result that employee evaluation can become a negative experience instead of a positive one. Workers also tend to view leaders who came up through the ranks as equals, further increasing an environment of trust (Shalley, 1991).

It is evident from this discussion of UET and TEL that the two frameworks overlap. In fact, UET motivated the development of the TEL (Goodall, 2016). The primary difference between the two is that UET quantifies and evaluates the personal characteristics and experiences of a single executive leader (or the characteristics of the TMT), whereas TEL

analyzes a leader specifically on their level or degree of technical experience (Goodall & Pogrebna, 2015). It is important to note that it is difficult to measure the impact of a leader who is in charge of thousands of employees. Therefore, studies using TEL are dependent on the industry studied and the quality of data that can be gathered. TEL is more appropriate to use in environments that have smaller, knowledge-intensive settings where performance outputs and CEO characteristics can be measured (Goodall et al., 2011).

Given that TEL is most effective when applied in contexts requiring highly skilled professionals, it should prove to be a fitting framework for analyzing leadership in the sport industry. In the sport realm, participation demands ever-increasing abilities in order to compete, as the player progresses from youth and interscholastic sport to collegiate sport, and finally to professional sport. Coaches—individuals who lead teams or individual athletes, are particularly suitable for this type of research.

In the 2011 study titled, “Why Do Leaders Matter? Expert Knowledge in a Superstar Setting” by Goodall and colleagues, TEL was introduced in the sport context (Goodall et al., 2011). The researchers aimed to investigate the correlation between a coach’s excellence as a former player and their performance as a leader in the same context, specifically examining whether there is a connection between a coach’s playing career brilliance and their winning percentage and playoff success. Utilizing data from the NBA spanning from 1996 to 2003, the researchers generated 219 coach-game observations involving 68 coaches. Subsequently, they calculated winning percentages, categorizing coaches into three groups: those who never played in the NBA, those who played, but were not All-Stars, and those who were former NBA players and became All-Stars. The study revealed that a coach’s past skill as a player strongly predicted their success as a team leader. Coaches with NBA playing experience compared to those without

led their teams to higher winning percentages, and former All-Star coaches demonstrated the highest winning percentages among the sampled group (see Figure 2.3). These findings illustrated in Figure 2.4, are consistent with Goodall and colleagues previous research on expert leaders in various non-sport industry settings.

TEL was applied in a sport context again when Goodall and Pogrebna (2015) conducted a study of the Formula 1 World Constructors' Championship. In Formula 1 racing, each team can enter two cars into multiple races each season, and cumulative point totals determine a champion. The researchers compared team leaders who had experience as drivers, managers, mechanics, or engineers. The most successful team leaders in Formula 1 racing were those who started their careers as drivers. Furthermore, the more years the team leader had competed as a driver, the more organizational success their team achieved. For instance, a team leader with 15 years of experience as a competitive driver was a stronger team leader than one who had five years of experience as a competitive driver, yet the team leader who had driven for five years was a stronger leader than those who had been managers, mechanics, or engineers. The results suggest that leaders with inherent knowledge of the core-business activity, combined with industry experience, lead their organizations to better outcomes.

In the application to sport, a closely related field of research literature is present from those that study coaching and physical education. This research stream does not directly use the TEL, but it does examine leader expertise while narrowing the focus to its relationship with coaching. The origins of this research began with general expertise examinations, defining sport as a major domain. While using a different approach, the similarities to TEL emerged as some researched narrowed the focus to examine how expertise as a worker translated to leadership impact.

At the general level, Ericsson and Smith (1991) studied expertise in general in fields related to physics, medicine, music, athletics, performance artists, etc. in order to understand and account for what distinguishes outstanding individuals in a domain from less outstanding individuals in that domain. They noticed in all human endeavors there always appear to be people who perform at a higher level than others and stand out from the majority. This seminal paper contributed to the understanding of the knowledge of general expertise, as the authors analyzed the performance in different domains under standardized conditions in order to identify what made performance superior. Previous expertise literature was broad, whereas this study limited expertise to a set of standardized tasks wherein superior performance could be reproduced.

Ericsson (2006) defined sixteen major domains of expertise, which included the domain of sport. He examined the scientific knowledge of expertise and expert performance to show how experts differ from non-experts in terms of development, training, reasoning, and knowledge. As this study aimed to define the specificity of expertise, it was found that expertise in playing sports was not equivalent to coaching the sport. Another early qualitative study by DeMarco and McCullick (1997) organized the traits of expert coaches across many sports and examined organization, perceptions, and problem solving. They provided a blueprint of characteristics that expert coaches possess, such as, extensive specialized knowledge, organizing that knowledge hierarchically, being highly perceptive and elite problem solvers, as well as exhibiting automaticity during analysis and instruction of their sport. Côté et al., (1995) found that expert gymnastic coaches employed a cognitive model to determine and plan for athletes' potential. These two studies suggest expert coaches have the ability to organize knowledge hierarchically, which aligns with Ericsson and Smith (1991) in that humans have universal limits tied to

memory capacity and speed of processing. Expert performers, and thus coaches with domain-specific skills built through many years of training and practice, are able to circumvent these limits to operate at a higher level.

The expertise coaching literature also explored if coaches gained an advantage in how they organized knowledge and developed goals for their athletes from playing the sport themselves. Erickson et al., (2007) found that playing experience was necessary, but not sufficient in itself, for one to become a coach that experiences high levels of organizational success. LeUnes (2007) found that lessons gained from playing experience may differ depending on the sport, thus each sport could be studied in a unique lens. Schempp et al., (2010) advanced the literature which supported the notion that playing experience plays a role in the success of coaches, but noticed there was not specific research addressing the relationship between professional playing experience and success as a professional coach. Their study has similarity to this dissertation topic as it does apply to basketball, although it remained at the professional level. They concluded that professional playing experience was not a predictor of professional level coaching success in the NBA. This research stream, while very similar to TEL, is worth highlighting as it addresses a similar set of questions. TEL provides a lens through which to examine leadership expertise and organizational success, while the coaching expertise literature field relates more closely to coaching psychology and pedagogy.

2.4 Relevance of Head Coach as Driver of Performance

Selecting a CEO is a signal event in an organization's history and induces a strategic reorientation of core values or culture with the expectation of enhanced performance associated with their managerial discretion (Mackey, 2008). A top executive plays a crucial part in realigning the organization with its environment (Ndofor et al., 2009). Firms with low levels of

managerial discretion are not likely to have CEO turnover events very often, whereas firms with high levels of managerial discretion view the CEO position as more critical to the firm's success, and thus experience higher turnover (Mackey, 2008). Because coaches have a high level of managerial discretion (Allen & Chadwick, 2012), measuring the impact of leaders on firm performance is important in the sport industry and is an appropriate subject of study.

Managerial discretion of a CEO impacts organizational performance. Hambrick and Finkelstein (1987) introduced managerial discretion being related to the environment, the organization, and/or, the individual. Managerial discretion is the latitude of managerial action available to a CEO in a given situation (Hambrick & Finkelstein, 1987). The higher discretion gives the leaders more options in their decision making, thus allowing them to influence organizational outcomes. Wangrow et al. (2015) primarily focused their research on the manager's characteristics and its impact on their levels of discretion. They found that leader's matter and selecting the right CEO for the discretion they have should affect performance and organizational effectiveness (Wangrow et al., 2015).

The two positions in North American professional sport that have the most managerial discretion are the General Manager (GM) and the head coach. At the professional level, a GM has the most discretion off the field of play, as they select the labor and set the player rosters. The head coach has the most discretion in decisions on how to use the labor force appropriately in terms of their talent and in determining offensive and defensive strategies, lineups, and playing time (Salaga & Juravich, 2020). At the intercollegiate level, the head coach is responsible for all of these decisions in recruiting and managing the roster off the field, while also making in-competition strategic decisions. This high level of managerial discretion that

NCAA head men's basketball coaches possess as CEO of their program should theoretically drive organizational performance.

Selecting the right leader reduces cost and mitigates the risk of the new leader failing (Stoddard & Wyckoff, 2009). The success of athletic directors, who select team leaders for various sport programs at the intercollegiate level, is measured by the success of the coaches they select. A failure in leadership selection impacts top-line revenues, bottom line profits, and overall market value (Stoddard & Wyckoff, 2009). Proper management of human resources, especially during leadership selection, is of utmost importance if an organization is going to reach its strategic goals.

Sports, being a multi-billion-dollar industry, provides an ideal context for the study of CEO selection. The objective of organizations in team sport is to win as many games as possible, and all teams and organizations want to be as successful as possible given their level of investment (Cannella & Rowe, 1995; Rascher et al., 2021). All of the organizations play by the same rules in competition, and the sport industry is similar to standard industries as the overarching goal is to achieve a high level of organizational performance. Wins and losses provide easily obtained, quantifiable data points that are comparable across types of sport (Avery et al., 2003), making these statistics a logical starting point for analyzing leader success. Analyzing the sport industry is advantageous because data on organizational performance, leadership characteristics, etc. are easily attainable through quantifiable data points that are not generally available in the non-sport setting (Kahn, 2000). This data, in turn, can be used to inform decisions about leadership selection.

The selection of a CEO significantly shapes organizational success (Quigley & Hambrick, 2015), mirroring the empirical evidence that the HC impacts team and organizational

outcomes (Goodall et al., 2011). The CEO or HC selection determines a governing set of beliefs regarding how to achieve organizational success (Ndofor et al., 2009). This is an important consideration with respect to a head coach's personal characteristics and values and should be expected to affect the team and organizational outcomes. In a study of 229 changes of head coaches in college basketball from 2004–2009, Bosch (2014) examined the effects of tenure, job level experience, and insider/outsider status (e.g., whether or not the new coach was hired from within the organization). Bosch's results are directly relevant to sport organizations needing to hire a CEO of their program. He found that the head coach position should not be filled by promoting an assistant coach from within; rather, the incoming coach should already have head coaching experience at the collegiate level, preferably at a super-conference school (where budgets are highest). Furthermore, leader effectiveness was positively correlated with coaches who had 16 to 20 years of total coaching experience, thus suggesting accumulated functional experience matters as a driver of performance.

In examining leadership selection within the context of NFL head coaching, insights from Roach (2016) shed light on the significance of prior coaching experience, highlighting its nuanced impact on team performance. While it does not relate to playing and technical experience of the head coach, it does have useful insight on previous functional coaching experience and what that means for performance expectation levels. Roach (2016), analyzed data from football at the highest level (NFL). Sport franchises often value prior head coaching experience as they evaluate head coaching candidates. The author found that team performance worsens when a coach is on their second or third head coaching spell, suggesting accumulated functional experience is not statistically associated with performance in this context (Roach, 2016, p.311). Salaga and Juravich (2020), found the amount of accumulated coaching experience

possessed by the head coach is not statistically related to raw and relative success in the National Football League (NFL). As we assume functional experience to be important as a driver of performance, the literature seems to be context specific, as both studies examining professional football suggest the accumulated functional experience of the HC is not a statistically significant driver of performance. Roach's (2016) study implies that human capital acquired through head coaching experience is largely firm specific. For this reason, more research is needed on the lead executive in the sport context of NCAA men's basketball.

Head coaches at the intercollegiate level are responsible for planning, obtaining resources, motivating players, hiring assistants, and delegating authority in scheduling and training (Bosch, 2014)—that is, they have a high level of managerial discretion. NCAA Division I coaches are well paid; often, they are among the highest paid employees at academic institutions. A USA Today database in 2023 showed 70 Division 1 head coaches are contracted to receive over a million dollars annually, with John Calipari leading the way at \$8,533,483 (USA Today, 2023). By comparison, according to the Chronicle of Higher Education database in 2023, university presidents earn less than \$400,000 on average, with Eric Barron of Pennsylvania State University being the top-earning public college president at \$2 million (O'Leary & June, 2023). Given the public nature of sport and the high stakes financial commitment to head coaches, their leadership is scrutinized and evaluated according to how their team is performing at any given moment. College basketball head coaches feel pressure from athletic personnel, university administration, alumni, and fans (Johnson et al., 2017). It should not be surprising, then, that college basketball teams evaluate leadership constantly as athletic directors seek organizational success by having the right leader in place. For example, in the 2015–16 season, there were 351 Division 1 Men's Basketball teams, 40 of which hired new coaches at the end of

their season (Goodman, 2015). This means that 11% of programs experienced a leadership selection process, which is a common percentage every year in college basketball.

A head coach in elite NCAA sport acts much like a CEO of a high-profile firm in any industry that is answerable to multiple stakeholders (Turner & Hawkins, 2016). A head coach needs to manage relationships with university administration, the athletes underneath their guidance, NCAA compliance officials, the athletic conference to which they belong, alumni, fans, and the media (Bosch, 2014). At the same time, they need to keep their offensive and defensive strategies innovative and continually develop their athletes' talent and on-the-court skills.

While lacking empirical testing, I argue that a basketball team will become a reflection of the characteristics inherent in their head coach, if that head coach is successful or unsuccessful, just as a company will reflect the characteristics of its CEO if they are successful or unsuccessful in driving organizational performance. However, it is unlikely that either CEOs or college basketball coaches will think, behave, or perform uniformly over their tenures (Henderson et al., 2006). Instead, their worldview, personal characteristics, and skill sets will evolve. The pace at which coaches are able to adapt and evolve will determine team success during their tenure. If you extend the UET framework into the current setting, it suggests that personal characteristics of key leaders are influential in driving performance of NCAA men's basketball coaches as it will impact their managerial decision making and drive their teams' performance.

2.5 Research Question Development

This dissertation examines the relationship between head coach technical experience and organizational performance within NCAA Division I men's basketball. Drawing from the theoretical frameworks of UET and TEL, this study aims to extend the existing literature on the

practical importance of technical experience by assessing its applicability in a collegiate sports setting. By using data collected from head coaches in the top seven highest-spending conferences, this research explores the degree to which head coach personal characteristics influence team performance. The findings contribute to the understanding of leadership dynamics in collegiate athletics and provide insights on enhancing organizational performance.

The concept of expert leadership has garnered attention in organizational research, suggesting that individuals with extensive technical experience exhibit superior leadership capabilities (e.g., Goodall & Bäker, 2015; Goodall & Pogrebna, 2015). Technical experience has been defined as the leader's background as a worker in the primary business discipline (Wang et al., 2016). Goodall et al. (2011) provided insights into this phenomenon, particularly within the context of professional sports organizations, such as the NBA. Their work demonstrated a positive correlation between the accumulated technical expertise of lead executives and organizational performance metrics, shedding light on the role of technical experience in shaping organizational success.

However, while existing research has laid a solid foundation in understanding expert leadership within elite-level professional sports organizations, there remains a gap in our understanding of its applicability across different tiers of competition. This research seeks to address this gap by examining whether the principles of expert leadership identified in the NBA context hold true in Division I NCAA men's basketball. By extending the analysis to encompass organizations operating at varying levels of competition quality (i.e., NCAA versus NBA), I am testing if accumulated high-level technical experience of the lead executive in a given setting is positively associated with organizational performance, even if the executive is leading an

organization at a lower level of competition quality, which has not been examined in previous research.

Goodall et al. (2011) provided valuable insights into the relationship between expert leadership and organizational performance in the NBA. Their findings underscored the importance of accumulated technical experience in driving strategic decision-making which impacted organizational performance within professional sports organizations. The authors found an association between leaders with expert knowledge gained through technical experience and organizational success. Furthermore, Goodall et al. (2011) highlighted the role of expert leaders in shaping organizational culture and facilitating effective talent management practices. Through a comprehensive analysis of executive tenure, technical experience, educational background, and prior industry experience, the study examined leadership technical expertise and its implications for organizational performance outcomes. This study seeks to build upon their work by extending the analysis to include collegiate basketball organizations competing in the NCAA, thus providing a more comprehensive understanding of the dynamics of expert leadership in diverse sporting contexts.

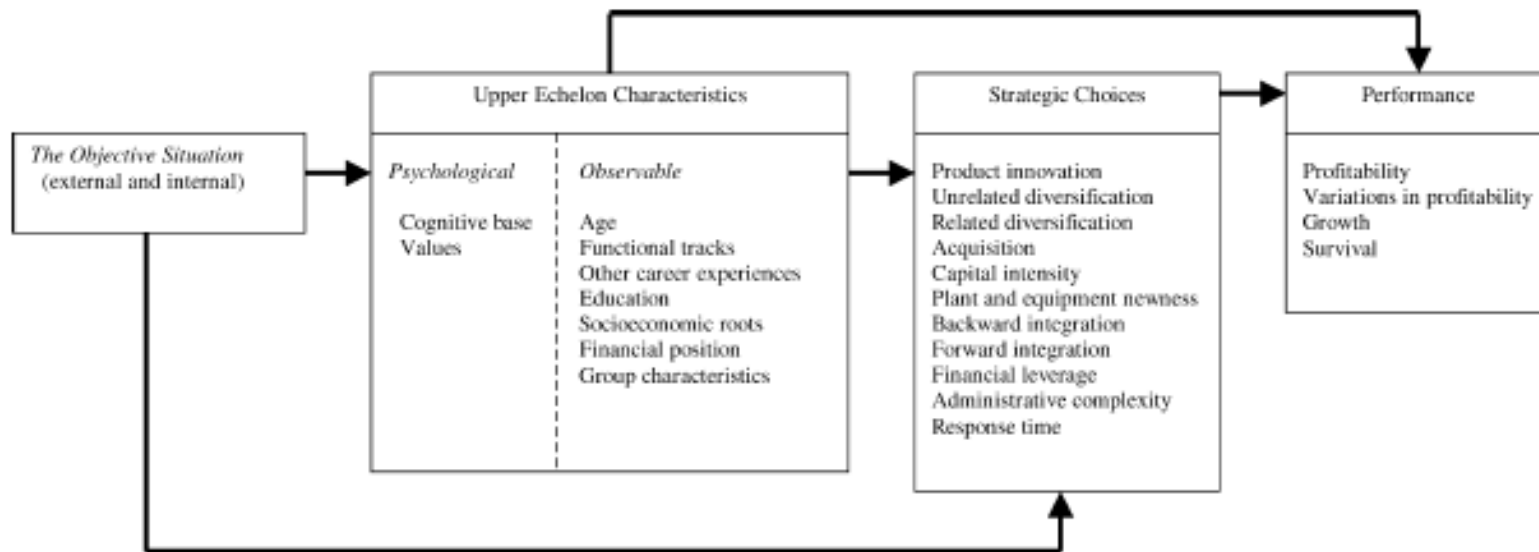
Many college head basketball coaches are former basketball players themselves. The TEL literature surmises that head coaches with professional playing experience would be impacted by the strategies of the organizations for which they played, thus they have the ability to understand the specifics of the industry, which allows them to be a more effective leader in that same industry in the future (Goodall et al., 2011). As a result, those head coaches with professional playing experience are expected to mimic similar approaches of expert leadership which they gained through this high-level accumulated technical experience. College basketball head coaches with elite technical experience, (i.e., individuals that competed as an NBA

professional athlete), are expected to be better prepared to implement innovative game strategies, skill development for student-athletes, and new approaches to the recruitment and roster construction of the program. As a result, basketball programs run by head coaches with higher levels of technical experience are expected to be more successful than teams which are not led by those with NBA player experience. Therefore, the research question of this dissertation is:

RQ: Is head coach technical (professional playing) experience associated with the organizational performance of the team the head coach leads in NCAA Division I men's college basketball?

Figure 2.1

Upper Echelons Theory Framework



M.A. Carpenter et al. / Journal of Management 2004 30(6) 749-778

Figure 2.1. Hambrick and Mason's (1984) upper echelons perspective of organizations.

Figure 2.2

Framework of Expert Leader Decision Making

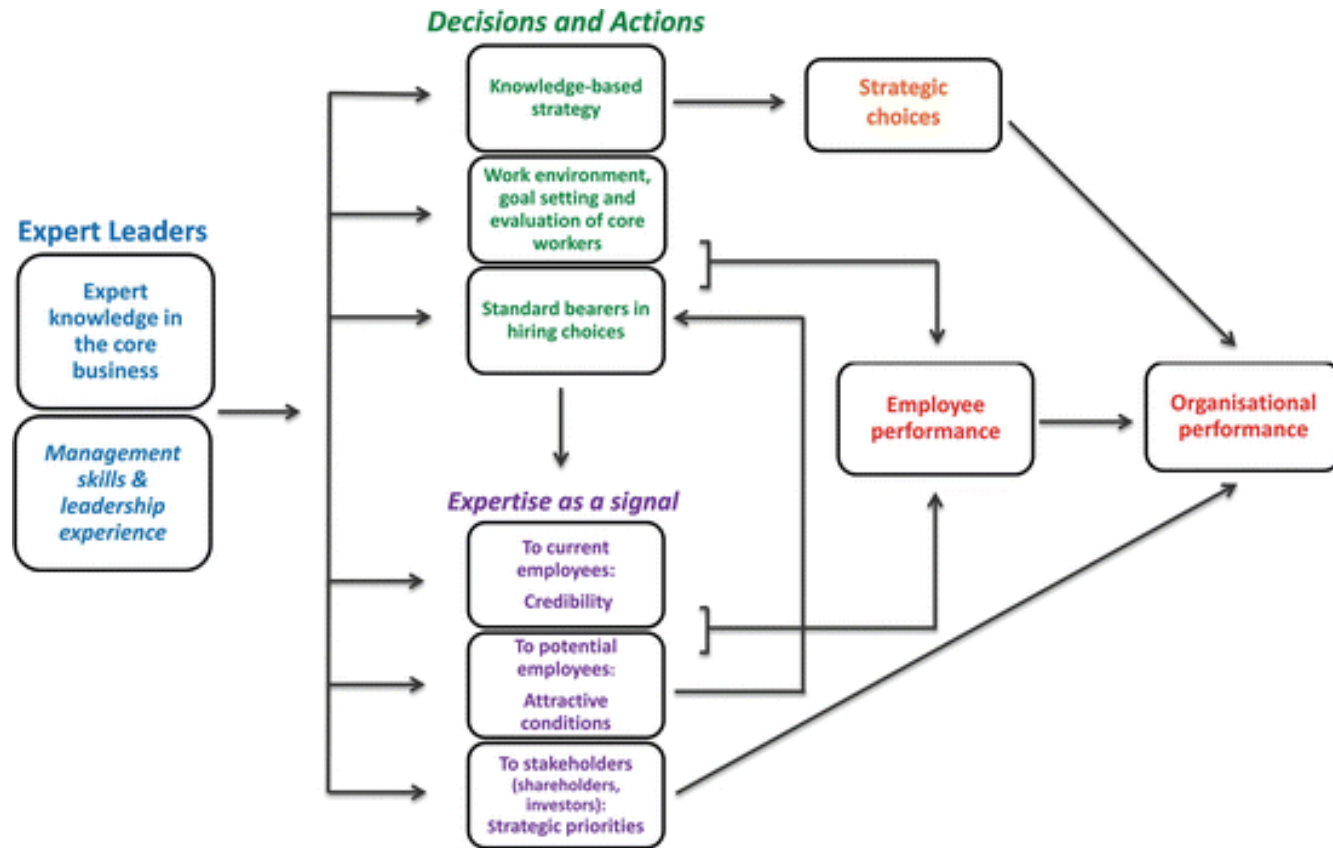


Figure 2.2. Goodall A.H., Bäker A. (2015). A Theory Exploring How Expert Leaders Influence Performance in Knowledge-Intensive Organizations

Figure 2.3

Regular season winning percentage and playoff success by coach playing expertise, before and after arrival of new coach.

	Never played in NBA	Played in NBA, never an all star	Was NBA all star
A. Regular season winning percentage			
Year $t - 3$	0.455	0.458	0.459
Year $t - 2$	0.436	0.439	0.482
Year $t - 1$	0.404	0.387	0.464
Year t (coach's first year)	0.354	0.391	0.495
Year $t + 1$	0.462	0.423	0.516
Year $t + 2$	0.410	0.509	0.476
Year $t + 3$	0.415	0.529	0.510
Average before coach's arrival	0.432	0.428	0.469
Average after coach's arrival	0.410	0.463	0.499
B. Playoff success			
Year $t - 3$	0.765	0.692	1.077
Year $t - 2$	0.824	0.500	0.846
Year $t - 1$	0.588	0.346	0.846
Year t (coach's first year)	0.000	0.500	0.615
Year $t + 1$	0.588	0.769	1.000
Year $t + 2$	0.588	1.154	0.769
Year $t + 3$	0.529	1.115	1.231
Average before coach's arrival	0.725	0.513	0.923
Average after coach's arrival	0.426	0.885	0.904

Note: Playoff success takes on 6 values: 0 = missed playoffs; 1 = lost in first round; 2 = lost in second round; 3 = lost in third round; 4 = lost in finals; 5 = won championship.

Figure 2.3. Goodall et al. (2011) *Journal of Economic Behavior & Organization*, p 275

Figure 2.4

Illustration of regular season winning percentage and playoff success by coach playing expertise

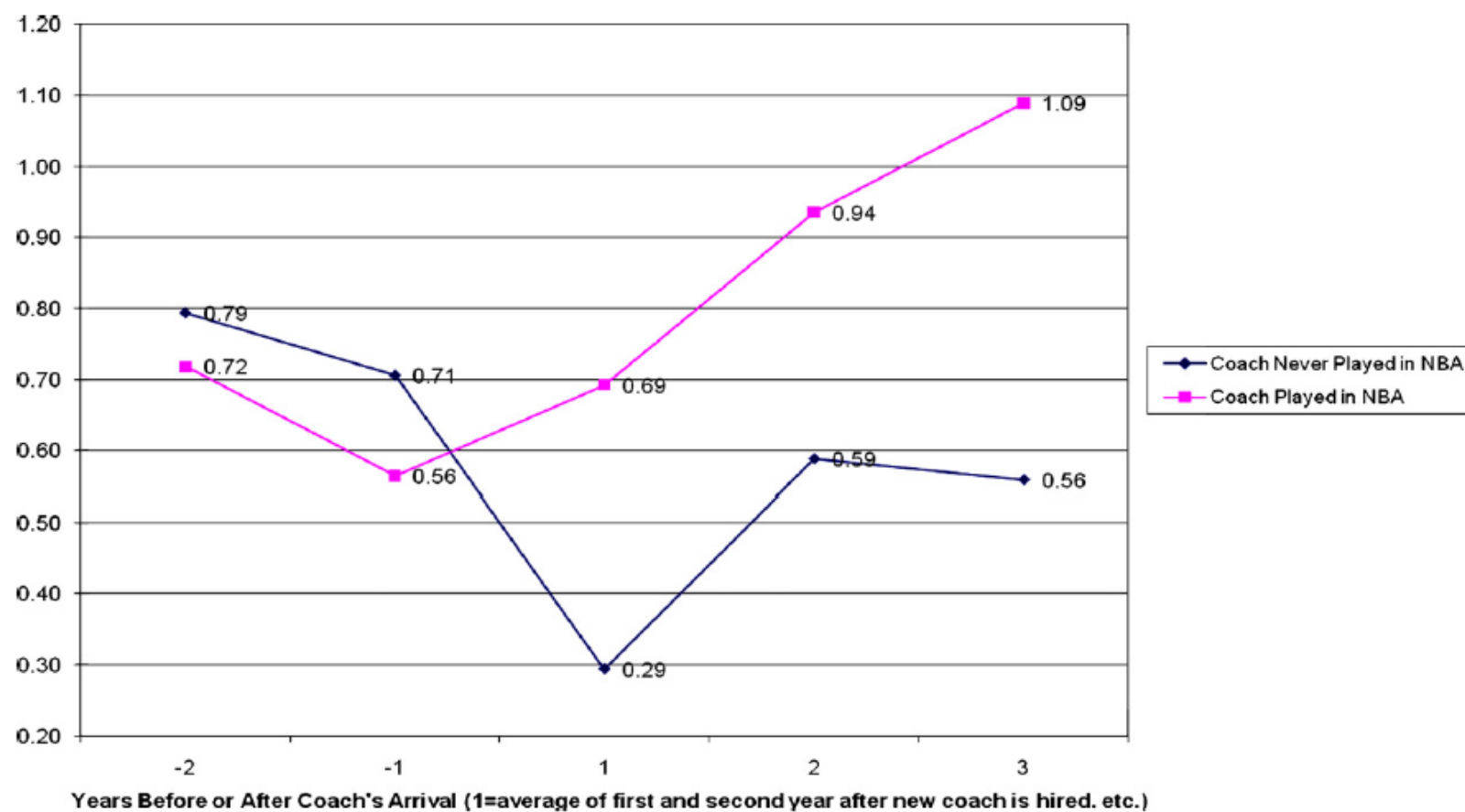


Figure 2.4. Goodall et al. (2011) *Journal of Economic Behavior & Organization*, p 274

METHODOLOGY AND DATA JUSTIFICATION

3.1 Introduction of the Model

This section introduces the model used to investigate the relationship between personal characteristics of college basketball coaches, particularly their NBA playing experience, and organizational performance within the NCAA setting. The objective is to assess the degree to which HC technical experience (expert leadership¹) is associated with the organizational performance of the team the head coach manages. This study quantifies head coach expert leadership in several ways to assess its relationship with organizational performance. Table 3.1 in the appendix provides a comprehensive list of all variables used in the analyses and explanations will be given of why the variables were selected to be used in the data analysis.

3.2 Data

The quantitative analyses will be conducted using the Stata 18 Software package. Data were collected from publicly available sources, including university and public websites, from the 2004-2005 season through the 2019-2020 season from institutions in the seven major basketball conferences as of the end of the 2019-2020 season (Atlantic Coast Conference (ACC), American Athletic Conference (AAC), Big East Conference, Big Ten Conference (Big 10), Big 12 (Big XII) Conference, Pacific 12 Conference (Pac-12), and the Southeastern Conference (SEC)). The data set consists of 1,390 observations, which occur at the team-season level. Data exist for 87 NCAA Division I basketball institutions, which results in comprehensive information for 214 unique HCs. Each season year is assigned by the year the national championship was played. For example, specific games in the 2004-2005 season could have

¹ The management literature uses synonymous terminology. When an organizational executive possesses high level technical experience in the same industry which they serve as a leader, this is referred to as “expert leadership”.

taken place in either year, yet the championship was played in March 2005, thus, the 2004-2005 season is labeled as 2005 in the data.

The sample was selected based on the seven major basketball conferences, including the ACC, AAC, Big XII, Big East, Big Ten, Pac-12, and the SEC, and is justified by their participation in the NCAA Division I Men's Basketball National Tournament. These conferences secure more bids and are most likely to compete for the 68 spots in the postseason tournament. There are 32 conferences that participate at the Division I level, and the individual conferences decide their own selection process that receives an automatic bid to the NCAA Tournament. High performing teams receive at-large bids to the tournament based on a committee of experts' selections. These at-large bids are more readily secured by teams within the seven conferences in this study. It is important to note that all 15 national championship-winning programs during the study period were affiliated with one of the selected seven conferences, further underscoring their relevance. While the AAC and Big East may not be traditional Power Five conferences, and are excluded in the college football model, their national championship victories in 2011, 2013, 2014, and 2016, along with multiple wins in the NCAA Tournament highlight their prominence within college basketball. Chapter 1.5 of this dissertation examined NCAA men's basketball conference affiliation and participation in postseason tournaments. Figure 3.2 provides further justification with a visual aid to illustrate that these conferences are the highest spending conferences in college basketball.

Confusion among conference affiliation might also be present as college athletics has experienced a few shifts in membership, known as conference realignment. During the timespan of the data set, many of the conferences have increased their membership pool by adding new institutions. This has caused a disbanding or re-shuffling of some lower Division I conferences

as the more powerful conferences recruited institutions to find the right fit for membership based on media rights markets, brand value, and commitment to financial expenditures in college athletics. The ACC, SEC, Big Ten, Big 12, and Pac 12 all increased in membership size to include like-minded institutions in their conference. For example, Boston College joined the ACC in 2005-2006. The previous year, they had been in the Big East. They will be labeled for the Big East for the 2005 season in the data set. Only institutions in these seven conferences as of the completion of the 2020 season will be included in the data set.

This becomes more relevant for the AAC. Many of their members belonged to Conference USA at one time. East Carolina is an example of this scenario, as they belonged to Conference USA from 2001-2014 (CoachesDatabase.com, 2021). But as of the completion of the 2020 season, they are an AAC member and included in this data set. For years 2005-2014 in the data set, East Carolina will be labeled as Conference USA, but not all members of Conference USA from 2005-2014 will be analyzed in the data set unless they joined and maintained membership in one of the seven selected conferences by the end of the 2020 season. To illustrate, members of NCAA basketball conferences including the Atlantic 10, Atlantic Sun, Conference USA, Horizon, Missouri Valley, Mountain West, and WAC are not included in the data set, but specific institutions that previously were members of these conferences, and later joined one of the seven examined conferences in the sample are included.

Due to the substantial heterogeneity in college basketball programs, only the highest spending programs are included in the sample given their financial relevance and increased probability of achieving success. The NCAA Tournament is a widely followed event, known for its Cinderella stories and underdog triumphs. Although famous for first round upsets, winning games generally carries a spending minimum. For example, Butler was the only program in the

2017 Sweet Sixteen with expenses totaling less than \$7 million (Ching, 2018). As seen in Figure 3.1 from David Ching's 2018 Forbes article, the average expenses of teams that won two games in the NCAA tournament were \$9,577,733.88. The 2017 NCAA Tournament provides a prime example of spending among these selected seven conferences, as every team in the Sweet Sixteen belongs to a conference in this data set. Not every season in the data will provide that absoluteness, but it is clear it will provide the majority of participants in the advance stages of the NCAA Tournament. "If you want to participate in the tournament, your chance of receiving an invitation is miniscule unless you meet one of two criteria: You win the auto bid from your conference, or you devoted considerable resources to hoops, thereby improving your win total enough to garner an at-large bid" (Ching, 2018). As shown in Figure 3.1 and Figure 3.2, the member schools of the selected conferences in this data set meet the appropriate spending measures to qualify for the highest levels of commitment to organizational success in NCAA Men's Basketball.

3.3 Data Justification

The data set incorporates independent variables encompassing expert leadership measures, program characteristics, HC personal characteristics, and HC functional experiences. In order to study the impact of technical experience (expert leadership) on organizational performance, the dissertation will use data from sports-reference.com/cbb and coachesdatabase.com/college-basketball-programs for performance data covering the 2004-05 season to 2019-2020 season. These sources have information on coaches' careers as well as team success and other team characteristics. They also have information on NBA players careers and provide analytic metrics to measure their playing success.

A primary data concern will be the values assigned for the 2019-2020 season which was impacted by the COVID-19 pandemic. Regular season conference play was finished when many of the conferences made the decision to suspend, and later cancel the season. The majority of conference tournaments were canceled, and the NCAA Tournament selection process never took place. Auto-bids were not officially awarded. Although a concern, it was decided to not treat the 2019-2020 season differently than any other season in this dataset, as the dependent variable measuring organizational performance, simple rating system (SRS), was still a reliable measure of organizational performance during this season. Postseason success is not used as a dependent variable for organizational performance in this dissertation, but it is important to note that it does affect the HC's resume. It is possible that coaches might have experienced a resume boost by appearing in an NCAA Tournament, which would directly affect their tenure at their institution.

Another data sample concern is how to measure and account for interim coaches. There could be many issues that could lead to a program having an interim coach, from mid-season health issues to a mid-season or late-season firing. Frequently, when a coaching change is being implemented by an institution, they feel the need to make the decision prior to the conclusion of the season so they have a full candidate pool to choose from as other institutions might be choosing from the same tier of available coaches. In cases where organizational performance is low, it is common to see a head coach fired at the end of the conference regular season, and an interim coach is put in charge for the postseason conference tournament. The decision was made to only assign one season-year per team. An example of this can be found when examining the 2009 University of Alabama basketball team. Instead of having two 2009 Alabama seasons listed in the data set, there will only be one. Mark Gottfried was the head coach at the start of the season but resigned in late January. Philip Pearson was named the interim coach. In the data,

only Mark Gottfried will be listed for the 2009 season. In other words, each team-season is specific to the HC that started the season as they were responsible for developing the roster and implementing the organizational approach for the season. If a coach experienced health issues during a season and took a short leave of absence, the same procedure will take place within the data set. The decision has been made to not include data related to interim head coaches in this data set.

The NCAA has oversight over compliance issues related to the governance of college basketball. Many programs have faced penalties for violations of the rules of amateurism in college basketball. Rule violations have been the cause for the end of a head coach's tenure as punishment can cause a setback in organizational performance. Ending a HC's tenure is not always the certain outcome, as it remains the discretion of university administrators. It is common practice for the NCAA to vacate wins or erase postseason accomplishment for programs that allowed players who were ineligible to play because of rules and governance violations. This provides a potential issue with the data calculation, as it is possible for the NCAA to later change the recorded outcome. It is also possible a season of forfeits can significantly alter the values and attributes of organizational success attributed to a head coach. The decision was made to include all original team-level outcomes for a season, even if the NCAA later vacated or changed the historical record books. For consistency in the data, I will use the outcomes as they actually occurred and not factor in postdated NCAA enforcement procedures.

Another justification for using original season data before NCAA violations lies in the example of John Calipari. He was the head coach of Memphis from 2000-2009. In the 2007-08 season, he led Memphis to the national championship game (CoachesDatabase.com, 2021). The

NCAA later vacated all of the wins due to an academic eligibility issue of one of their star players. For historical purposes, it did not change the reputation of John Calipari as a head coach. He left Memphis for Kentucky after the NCAA violations, which has a much greater financial commitment to the sport of Men's Basketball. Using a vacated record for John Calipari in 2007-08 would not capture the coaching acumen that is attributed to him. Fans, consumers, and administrators of the sport watched that Memphis team play and attribute their team success to the organizational culture that John Calipari created.

3.4 Empirical Methodology

The empirical modeling assumes organizational performance is a function of HC technical experience (expert leadership), HC functional experience, HC demographic characteristics, and factors specific to the institution. Due to the repeated observations by institutions over time, panel regression is suited for this purpose as it allows for the ability to incorporate both cross-sectional and time series dimensions, making it possible to capture both group-specific effects (team) and time-specific effects (year). This approach enables me to control for unobserved heterogeneity that may exist across teams and seasons, while evaluating the impact of the independent variables on the outcome of interest. Panel regression enhances the efficiency of parameter estimation by accounting for the panel structure of the data, leading to more robust and reliable results (Torres-Reyna, 2007).

When using a panel regression approach, a Hausman test is necessary to help determine whether the random effects or fixed effects approach is more appropriate for a given dataset. This test assesses the consistency of the estimators under the null hypothesis that both models are consistent, thus allowing researchers to choose the most efficient and unbiased model for their analysis (Amini et al., 2012). By comparing the coefficients estimated from both models, the

Hausman test provides insights into whether the presence of unobserved entity-specific effects biases the fixed effects model, making the random effects model a better choice. Therefore, conducting a Hausman test enhances the reliability and validity of the results, ensuring robust conclusions (Torres-Reyna, 2007).

Organizational performance is measured by the dependent variable *SRS* (which will be detailed in greater detail below) and several measures of head coach expert leadership are assessed in separate models, as is also noted in further detail below. I use a fixed effects panel regression approach given statistically significant Hausman (1978) tests when the independent variables of interest are *HC: Played in NBA* ($p=.0015$), *HC: Years Played in NBA* ($p=.0088$), *HC: NBA PER* ($p=.0046$), *HC: NBA VORP* ($p=.0135$), respectively. The proposed model will examine the relationship between expert technical experience and organizational performance after controlling for the influence of the selected independent variables. The basic form of the empirical modeling is as follows:

$$\begin{aligned}
 & OrgPerformance_{jt} \\
 &= \beta_0 + \beta_1 expertleadervariable_{it} + \beta_2 HC: Years Other Pro Playing_{it} \\
 &+ \beta_3 HC: Years DI College HC_{it} + \beta_4 HC: Years Other College HC_{it} \\
 &+ \beta_5 HC: Years DI College Asst_{it} + \beta_6 HC: Years Other College Asst_{it} \\
 &+ \beta_7 HC: Years NBA HC_{it} + \beta_8 HC: Years NBA Asst_{it} \\
 &+ \beta_9 HC: Years Other Pro Coaching_{it} + \beta_{10} HC: Age_{it} + \beta_{11} HC: Age^2_{it} \\
 &+ \beta_{12} HC: White_{it} + \beta_{13} HC: Nonwhite_{it} + \beta_{14} HC: WSJ University Rank_{it} \\
 &+ \beta_{15} HC: PG_{it} + \beta_{16} HC: G_{it} + \beta_{17} HC: F_{it} + \beta_{18} HC: C_{it} \\
 &+ \beta_{19} HC: noposition_{it} + \beta_{20-34} conference_{jt} + \beta_{35} expensezscore_{jt} + \alpha_j \\
 &+ \delta_t + u_{jt}
 \end{aligned}$$

The HC will be indexed as i , the team will be j , and the season year will be t . β_0 is the intercept term, while $\beta_1 - \beta_{35}$ are the coefficients of the independent variables. α_j represents team-specific fixed effects capturing unobserved heterogeneity across teams, while δ_t represents conference-specific fixed effects (Greene, 2020). u_{jt} represents the error term. Here, *OrgPerformance* represents the dependent variable which will be described below. *ExpertLeaderVariable* is the independent variable of interest, which will be tested using multiple measures as described below.

3.5 Dependent Variable

Organizational performance has been utilized as the dependent variable in many sport management studies (e.g., Brown et al., 2007; Frick & Simmons, 2008; Allen & Chadwick, 2012; Juravich et al., 2017; Skinner et al., 2023). For this dissertation, the dependent variable will be *SRS*. All dependent variable data will be collected from the college basketball database at <https://www.sports-reference.com/>. *SRS*, or Simple Rating System, is a statistical measure created by the sport reference website that quantifies a number value to teams in college basketball as a way to measure organizational success. *SRS* is a rating that considers average point differential and strength of schedule. The assigned value quantifies how many points better a team was than the average team in a given season. An average team would have an *SRS* of 0.0. Within the data set, the highest recorded *SRS* was the 2015 University of Kentucky team with a value of 28.72. East Carolina University recorded the lowest *SRS* value in the data set with a value of -10.37 in 2007. Every team's rating is their average point margin, adjusted up or down depending on the strengths of their opponents. Every team's rating depends on every other team's rating as well. *SRS* is a predictive system designed to answer questions like which team is stronger, and which team is more likely to win a game if two teams were matched up, as long as

it occurred in the same season (BasketballReference.com, 2023). Teams with higher *SRS* values would be predicted to win against opponents with lower *SRS* values, thus, *SRS* is an appropriate measure of organizational success when analyzing a team in a given season.

SRS is an appealing metric to use because it incorporates strength of schedule into its rating system. Overall win and loss percentages could be deemed a metric of organizational success, but teams do not play the same quality of competition. For instance, a team with a new coach may schedule a low-ranked strength of schedule to increase winning percentage and alter perception of organizational success. They may schedule out-of-conference games with teams from lower quality conferences that do not have equal organizational resources. In these games, it is commonplace for the more accomplished conference teams to pay guarantee fees to lower ranked conference teams to come play them (Jones & Black, 2021). It is the expectation that more frequently than not, the accomplished conference team is “buying” these wins from lower ranked conference teams. Some higher ranked teams will schedule a harder out-of-conference schedule, which will alter their overall winning percentage, in hopes of providing more rigorous competition for the sake of being more prepared for the post-season. *SRS* has the ability to account for strength of schedule, as winning percentage does not account for this, and makes it a suboptimal choice for a dependent variable when analyzing organizational success in this context.

Other variables capturing organizational performance were collected within this data set, but ultimately not used in the methodology. Postseason participation data was collected measuring NCAA Tournament appearances, Sweet Sixteen appearances, Elite Eight appearances, Final Four appearances, and national championships. Postseason participation and success is an important retention variable for head coaches when addressing their job security.

As expectations and performance rise, fan bases demand more postseason success from their coaches. However, I determined postseason success is not an appropriate dependent variable as it is not an all-encompassing metric for organizational success in college basketball, as it is difficult to appropriately measure program performance relative to expectations. For instance, if a team has been finishing in last place for consecutive years in their conference, then sufficient organizational success could be seen as finishing in the middle of the conference in a given year when a new coach is hired, even if postseason participation did not occur. Accordingly, it was deemed that postseason attributes would be too narrow of a dependent variable.

3.6 Independent Variables of Interest

The independent variables of interest are HC technical experience characteristics which represent the degree of expert leadership possessed by the HC. The literature specific to expert leadership does reveal there may be many ways to measure expert leadership (Goodall, 2016; Thobes et al., 2023). Accordingly, I measure the degree of expert leadership possessed by the HC in four distinct ways: 1) whether or not the head coach played in the NBA, 2) the tenure length the head coach was a player in the NBA, 3) the head coach career player efficiency rating (PER) in the NBA, and 4) the head coach career value over replacement player (VORP) in the NBA. To individually assess the impact of each expert leadership measure, a separate panel regression model will be estimated using each independent variable of interest.

The NBA represents the highest level of competition in the sport of men's basketball, therefore, I use measures specific to this professional league to measure the level of functional experience (expert leadership) possessed by the HC. Baker et al. (2019) sought to understand the development of the field of sport expertise and found various athletes being superior to others who have ascended to the top level of professional sport. They developed the term eminence to

define players who reach a level of achievement higher than those at the elite stage of their sport. Baker et al. (2019) proposed having clearer delineations between skill levels in sport, as it is important to understand differences between groups and will improve study design. While I do not argue every player with NBA playing experience has reached the eminence stage of the basketball industry, I do note from Baker et al. (2019) that athletes who have reached the highest level of basketball (NBA) have had an extensive period of deliberate practice which has given them longer periods of time for athlete development, motor skill acquisitions, and industry knowledge. Baker and Farrow (2015) found time duration in their sport, acquisition of skill and content knowledge led to higher playing brilliance. I argue that there is a wider range of basketball skill and ability acquired by former players at the college basketball level than the NBA level. The narrow focus of the high-skill setting of the NBA allows for a more standard evaluation of playing brilliance compared to coaches who may have only acquired collegiate playing experience. The NBA setting also provides accurate data on playing performance that is difficult to capture across time in the collegiate setting.

The first independent variable of interest is *HC: Played in NBA* and is an indicator variable equal to one if the head coach played basketball in the NBA. If a head coach appeared in at least one game in at least one season, they were assigned a value of one. If a head coach did not appear as a player in the NBA, they were assigned a value of zero. The second independent variable of interest is *HC: Years Played in NBA*. For those coaches with NBA playing experience, the variable is equal to the number of seasons the head coach was a player at the NBA level, while coaches without NBA playing experience were assigned a value of zero. The third and fourth independent variables of interest collected were *HC: NBA PER* and *HC: NBA*

VORP, respectively, and they both measure the playing brilliance of NBA players. Head coaches that did not play in the NBA were assigned a value of zero.

PER is an analytic measure, short for player efficiency rating, that attempts to quantify a player's contributions into one number, which sums up all of a player's positive accomplishments, subtracts the negative accomplishments, and returns a per-minute rating of a player's performance (Basketballreference.com, 2023). According to Sport-reference.com's glossary, www.basketball-reference.com/about/glossary.html, PER accounts for both offensive and defensive metrics in a positive and negative fashion. On offense, common basketball scoring statistics are used like baskets made and shots attempted, but it also includes positives like offensive rebounds, as well as negatives, such as turnovers. On defense, credit is given to players that collect steals or blocked shots, as well as defensive rebounds.

VORP, short for value over replacement player, is a box score estimate of the points per 100 team possessions that a player contributed above a replacement level player and is translated to an average team and prorated to an 82-game NBA season (BasketballReference.com, 2023). According to Sport-reference.com's glossary of terms, *VORP* does not account for intangibles that organizations may find valuable. It is limited to statistics that are found within a box score, which are heavily skewed toward offense. This measure could be considered biased against elite defenders because they are less recognized in box score statistics. *VORP* is a valuable statistical measure to show how much better a player is than a league replacement level player, often found playing limited minutes within the NBA. *VORP* was unable to be collected for Larry Brown, the oldest coach in the data set. Larry Brown did have an NBA playing career, and PER was able to be collected, while *VORP* was not a measurable metric during his playing career.

Within the 1,388 observations, *PER* and *VORP* had a correlation coefficient of 0.5827, suggesting a moderate positive correlation. As one variable increases, the other tends to increase as well, but there are other factors, such as how each measure weights offensive and defensive statistics, which influence the relationship. These two independent variables of interest will help establish different ways of measuring the playing brilliance of the head coach. [Sport-reference.com](https://www.sport-reference.com) was the data source for number of NBA years accrued and career *PER* and *VORP* statistics.

3.7 Control Variables

3.7.1 Other Head Coach Technical Experience

Data were also collected to quantify how many years of professional playing experience was acquired by a head coach outside of the NBA. International playing experience is an alternative measure of technical experience that represents a level of play below that of the NBA. There are wide ranges in levels of quality and skill across other professional basketball leagues, making it challenging to utilize as an independent variable of interest. However, it is important to control for this technical experience in the modeling to assess whether other professional playing experience may serve as an alternative measure of expert leadership not accounted for by NBA playing experience. Any game played within a season year for a professional basketball organization outside of the NBA counts as the accrual of one season. The cumulative total of years played outside of the NBA in professional basketball was totaled for head coaches with this alternative measure of technical experience (*HC: Years Other Pro Playing*) and was collected through [sport-reference.com](https://www.sport-reference.com), team websites and general Google searches. Head coaches who only played in the NBA, as well as head coaches who did not play any level of professional basketball, were assessed a value of zero for this variable.

3.7.2 Head Coach Functional Experience

As TEL focuses on technical experience in the independent variables of interest, UET highlights the importance of other head coach characteristics, such as functional experience. In studying functional experience, a meta-analytic investigation of UET by Wang et al. (2015) found support that greater accumulated executive-level experience is positively related to higher organizational performance. Kor (2003) presented the groundwork that top management team (TMT) members' functional experience levels help organizations acquire new strategies that present strategic growth opportunities in the given industry. Juravich et al. (2017) suggested within the sport context that general managers who accumulate more functional experience in other front office positions are better equipped for their role as general manager. The UET research lays out the expectation that accumulated functional experience will positively impact organizational performance.

It is assumed these functional experiences from their past will impact their abilities to understand their program organizational practices and management, the strategies of the game, and the evaluation process of the players. Previous coaching experience and tenure were gathered as independent variables pertaining to functional experience. These variables serve as an indication of the cumulative years during which the sampled head coach occupied a higher-level executive role before the commencement of their respective season, while accounting for the difference between being a head coach and an assistant coach. Functional experience variables were collected within professional basketball, as well as within the examined setting of collegiate basketball.

For this dissertation, functional experience will encompass their accumulated experience by level as a coach, which serves as a proxy for their accumulated functional experience. For a

head coach in this sample, this will include years as an assistant coach or head coach, which can include experience at non-DI universities, DI universities, or professional levels. Thus, functional experience is intended to account for all relevant work experience gained by the head coaches analyzed. *HC: Years NBA HC* represents the number of years of NBA head coaching experience possessed by the head coach leading into the season of interest. *HC: Years NBA Asst* accounts for the number of years of NBA assistant coaching experience possessed by the head coach leading into the season of interest. Similar to recognizing the technical experience of playing in professional leagues, *HC: Years Other Pro Coaching* is the number of years of other professional coaching experience outside of the NBA and NCAA. As this is not a common occurrence within the data, both head coaching and assistant coaching functional experience in lower-level professional basketball are accumulated together for the total number of years. Head coaches who have not coached at any level of professional basketball were assigned a value of zero for these three variables.

Within the setting of collegiate basketball, distinct functional experience metrics were collected at the Division I level for head coach and assistant coaching experience, as well as separate variables for head coaching and assistant coaching experience at the Division II, Division III, junior college (JUCO), or NAIA levels. It is important to control for the varying levels of NCAA and other collegiate-level competition in the modeling to assess if there are differences in the functional experience being acquired that affects organizational performance at the highest levels of Division I basketball.

HC: Years DI College HC is the number of years of NCAA Division I head coaching experience for a head coach leading into the season of interest. For example, when examining West Virginia head coach Bob Huggins leading into the 2007-2008 season, he had accumulated

22 years of Division I head coaching experience. While still the head coach for West Virginia in 2020, his years of Division I head coaching experience were equal to 34 years. *HC: Years DI College Asst* is the number of years of NCAA Division I assistant coaching experience for a head coach entering into the season of interest. *HC: Years Other College HC* is the total number of years spent as a head coach at the Division II, Division III, JUCO, or NAIA level, while *HC: Years Other College Asst* is the total number of years as an assistant at the collegiate level outside of Division I. The total years of Division I experience is accumulated together, while Division II, Division III, JUCO, and NAIA experience are grouped together, as they are both sub-tier levels within collegiate athletics. This information for functional experience variables was sourced from team websites and coachesdatabase.com.

3.7.3 Head Coach Personal Characteristics

The importance of personal characteristics of the CEO position is well defined in the UET research literature. In following the UET literature, I account for the demographics of the head coach. Specifically, I control for independent variables relate to age, race, educational experience, and athletic background in the sport of basketball.

Backes-Gellner et al., (2011) found that average workforce age is negatively linked to quantitative organizational performance. Studies by Chuang et al. (2009) and West and Anderson (1996) found support for the idea that TMTs comprised of younger and more educated employees are more likely to adopt new strategies. Using the example of age, Mohamed et al. (2014) argued that older executives through experience became more rational than their younger peers. Corporate economic research showed that older CEO's select safer investment options to protect their career reputations and the status quo (Serfling, 2014). Wang et al. (2016) produced a study that confirmed older CEOs push firm performance down due to outdated strategies. In the

sport context, Juravich et al. (2017) did not find general manager age to be significantly associated with team performance or efficiency.

The age (*HC: Age*) during the year of analysis of each head coach of the sample was collected and included as an independent variable. *HC: Age* is equal to the observation year minus the coach birth year. This will be used to determine HC age in the season of interest. For example, Jeff Capel was hired by Pittsburgh at the start of the 2018-2019 season. This would classify as the 2019 season, as this is when the postseason occurred for this particular season. Jeff Capel was born in 1975. Thus, his coaching age in his first season would be 44. If we examined the 2020 season, his coaching age at season would be 45 (2020 minus 1975). I include a squared age term (*HC: Age2*) to account for potential nonlinear effects of the head coaches age on outcomes (Skinner et al., 2023). The data on age was collected from coachesdatabase.com.

The UET literature commonly accounts for the racial background of executives. Race can influence an executive's cognitive frames, thus affecting their strategic decisions and leadership styles. Race can play a role in shaping these executives' experiences, worldviews, and approaches to problem-solving and decision making (Hambrick & Mason, 1984). Richard et al. (2021) suggests that racial diversity among top management teams can lead to a broader range of perspectives and ideas, potentially enhancing creativity and innovation within the organization.

The race of the head coach was included as an independent variable. Racial categories will be attributed as Black, Hispanic, White, or Other. The HC will be coded as equal to one if the head coach is the ethnicity identified and will be coded as zero otherwise with the classifications determined by the author. Data were collected from team websites with available photo evidence and general *Google* searches. After analysis of the summary statistics, the Hispanic and other races categories exhibited very low representation. The categories for Black,

Hispanic, and Other were combined into a *HC: Non-White* designation allowing for the ability to compare *HC: White* versus *HC: Non-White* head coaches. This is a common approach in the UET literature when classifying race (Sosik et al., 2012, Kang et al., 2024).

Previous work indicated the quality of a CEOs education influences their strategic decision-making (Ting et al., 2015). Wally and Baum (1994) found that executives with high educational achievement were more efficient in strategic decision-making than their colleagues. Thus, more highly educated coaches are expected to make more effective decisions relative to their peers. Juravich et al. (2017) found this to hold in the sport context finding a positive relationship between GM education and organizational performance, while Peeters et al. (2020) found an educational match between the GM and HC was positively associated with organizational performance in Major League Baseball.

HC: WSJ University Rank was collected as it is commonly used to assess whether the rigor and prestige of a head coach's academic background is a predictor of organizational success (Skinner et al., 2023). Industry standard in the NCAA is that a college diploma is required for executive leadership positions. Each HC represented in the data earned an undergraduate diploma, thus the college the head coach attended was obtained and ranked in academic quality. Head coach educational rank was coded by listing the college they attended as an undergraduate student using the university ranking in the 2021 Wall Street Journal's College Ranking List. Within the ranking metrics that Wall Street Journal used, institutions ranked 1-400 were ranked in ascending order, with 1 being the most prestigious score. Institutions outside of the top 400 hundred were assigned level rankings by the hundreds. For example, University of Rhode Island was ranked in the 401-500 level. They were assigned a score of 401 in the data set. Accordingly, for any institution above 400, this variable was coded equal to 401, 501, and 601,

respectively. Any university that was not ranked by Wall Street Journal was given a score of 701. The WSJ ranking does not include the U.S. Military Academy – Army. This is a known prestigious academic institution that was not deserving of a 701-level assignment. It is more on par with its peer institution, the Naval Academy, which ranked 83 in the 2021 Wall Street Journal ranking, and thus was assigned the same score in the data. Data were collected from team websites and general Google searches to see which institutions the head coach received their undergraduate diploma.

Accounting for the position the head coach played as a player in college could be associated with the later success of the head coach based on the common skills they acquired during their playing career. The athletic background in basketball of a head coach was collected to see if they had participated in college basketball when they were a student in college. Basketball position groupings are assigned different skill related tasks during gameplay. Point guards in the game of basketball tend to communicate play calls and strategies from their head coach as they are assigned with bringing the ball up the floor. Head coaches who appeared on a college basketball roster were classified by the primary position they played. The primary position they played as a player will be identified by indicator variables: *HC: PG* for point guard, *HC: G* for guard, *HC: F* for forward, and *HC: C* for center. For a coach that did not play basketball at a high enough level to determine their position, they will be coded as one under the *HC: No Position* variable. Since all head coaches in the sample had finished their professional playing careers, these values remained the same for the entire range of data.

During the variable selection process, it was considered if position played should include both college and professional position groupings. It was decided to just classify position played as the primary position played as a player throughout their full playing career. Position groups

are related to height and skill sets that are not likely to change drastically from the college level to the professional level. Creating an additional variable seemed most likely to duplicate and not add additional value to the data set as a personal characteristic. Therefore, position played was reduced to one variable, rather than two for the *HC: PG*, *HC: G*, *HC: F*, and *HC: C* positions. Additionally, the inclusion of duplicate position groups could cause a multicollinearity issue. This occurs when one variable in a multiple regression model can be linearly predicted from others independent variables. Valid results may not be able to be achieved from an individual predictor when predictors are redundant with respect to others (Mendenhall & Sinich, 2012).

3.7.4 Program Characteristics

The research question assumes head coach personal characteristics and experiences are related to organizational performance. The premise is that the teams with the most highly skilled basketball players will attain the highest level of performance. In discussing the head coach's role within the organization, it reinforces the TEL research that indicates that members of an organization are drawn to the experiences of their leader. The expert leader at an institution, thus, has the ability to attract recruits based on their expert experiences. Organizational performance is also expected to be impacted by the athletic department's economic investment in winning and other program-specific factors which may influence the ability for the coaching staff to acquire playing talent.

Head basketball coaches are given a budget by university administration. The amount of money spent on the basketball program at an institution relative to their peer institutions could create organizational success and competitive advantages, as outlined in Ch. 1.5. In a dynamic environment, institutional differences in spending will affect organizational performance (Yamak et al., 2014). One of the biggest uncertainties that a head coach faces is the budget allocations for

men's basketball at their university. This is not in the control of the HC and is determined by other members of the TMT at a university, most likely, the athletic director. In a dynamic industry like college basketball, there is not a set budget across conferences or a cap on athletic spending. It is a discretionary measure that impacts organizational success that is outside of the head coach's scope. Despite the head coach's ability to develop unique approaches to acquiring player talent based on their experiences and backgrounds, the process of roster-construction will be impacted by athletic directors via spending on recruiting and facilities that attract highly talented players. A necessary part of the expenses of a college basketball program is the recruiting budget used to evaluate and connect with top-level recruits.

The amount of money spent on the basketball program at an institution relative to their peer institutions could create organizational success and competitive advantages. NCAA athletic departments are required by the Equity in Athletics Disclosure Act (EADA) to submit annual financial information so the general public is informed about issues related to gender equity. [This website](#) houses data on expenses spent on each sport at an institution, which is where the data were collected on how much money each program spent on men's basketball in a given year (U.S. Department of Education, 2024). From this raw data, a z-score was created for use in the empirical modeling (*Expenses ZScore*). The z-score of *Team Expenses* allows us to create a common scale across all sixteen seasons of data in the sample. Each season has a different mean, which rises over time; thus, the z-score allows for the ability to quantify where a value falls in relation to the mean of its population and across values from different distributions (seasons). *Expenses ZScore* spent on men's basketball is used as a control variable because it could influence the outcome of organizational success. Maryland basketball did not report team expenses on men's basketball to the EADA website in the 2005 or 2006 seasons (U.S.

Department of Education, 2024). The information was also not present on their athletic or institution website, thus one less institution was used when calculating the mean for these two seasons.

The modeling also includes team fixed effects and conference fixed effects. Universities differ vastly in the facilities and resources provided for the athletes on campus. Stadium environment, practice facilities, housing, nutrition, etc. could all play a significant factor in how universities invest in organizational success that may be outside of the head coach's control. These fixed effects control for variation between each basketball program (*Team*) and the conference they are affiliated with during said season (*Conference*). It is possible that conference affiliation, with similar men's basketball expenses, scheduling of quality games, and strong athletic branding by their athletic departments, can play a role in obtaining highly skilled basketball players, and hence organizational performance. Thus, it is important to include team fixed effects and conference fixed effects to control for variation both between institutions and conferences.

3.8 Heteroscedasticity

The existence of heteroscedasticity is a potential concern in regression analysis. If present, it can invalidate statistical tests of significance of the independent variables. These tests of significance assume that the model errors all have the same variance. Biased standard errors are created when heteroscedastic data is provided, thus leading to biased inference. An unbiased estimate for the relationship between the predictor variable and the outcome is still provided by the model, but the hypothesis tests could possibly be wrong (Mendenhall & Sinich, 2012). The detection method for heteroscedasticity that will be used will be clustering standard errors by entity.

The modeling will cluster standard errors by team as the designated entity. Clustered standard errors are used in panel data analysis to adjust for potential correlations within groups of observations (Stock & Watson, 2008). When standard errors are clustered by entity, in this case by institutions or conference membership, it is acknowledged that observations within each cluster may not be independent, which is a key assumption in the model. Within a given entity, observations are likely not independent. For example, teams in the same conference may operate on similar expense metrics. If these intra-cluster correlations are ignored, it can lead to underestimated standard errors (Stock & Watson, 2008). Also, in panel data, when there are multiple observations for the same entities over time, there is often serial correlation in the residuals. This violates standard econometric model assumptions which require observations to be independent (Abadie et al., 2023). Clustering standard errors by entity corrects for this issue. Clustering by entity makes the statistical inference more robust, especially when dealing with heteroscedasticity (Stock & Watson, 2008). By clustering, the variance will differ across entities, but the variance is assumed to be constant within an entity, which is more realistic in empirical data settings (Abadie et al., 2023). Clustering standard errors by entity is a technique in econometrics to ensure accurate and reliable inference.

Figure 3.1

Average Expenses of NCAA Tournament Teams – 2017

Seed	Program	Record	Expenses	Per win
16	New Orleans	20-12	\$983,254	\$49,162.70
13	Winthrop	26-7	\$1,433,504	\$55,134.77
13	East Tennessee State	27-8	\$1,565,348	\$57,975.85
13	Vermont	29-6	\$1,763,482	\$60,809.72
16	Texas Southern	23-12	\$1,429,460	\$62,150.44
14	Florida Gulf Coast	26-8	\$1,725,354	\$66,359.77
12	Princeton	23-7	\$1,579,073	\$68,655.35
16	N.C. Central	25-9	\$1,847,936	\$73,917.44
15	North Dakota	22-10	\$1,645,344	\$74,788.36
15	Northern Kentucky	24-11	\$1,829,151	\$76,214.63
15	Jacksonville State	20-15	\$1,616,369	\$80,818.45
14	New Mexico State	28-6	\$2,391,115	\$85,396.96
16	South Dakota State	18-17	\$1,656,066	\$92,003.67
16	UC-Davis	23-13	\$2,211,257	\$96,141.61
12	Middle Tennessee	31-5	\$2,992,258	\$96,524.45
13	Bucknell	26-9	\$2,544,585	\$97,868.65
16	Mount St. Mary's	20-16	\$1,987,585	\$99,379.25
12	UNC-Wilmington	29-6	\$2,981,003	\$102,793.21
14	Kent State	22-14	\$2,348,157	\$106,734.41
14	Iona	22-13	\$2,514,963	\$114,316.50
15	Troy	22-15	\$2,628,993	\$119,499.68
7A	St. Mary's	29-5	\$3,467,559	\$119,571.00
12	Nevada	28-7	\$3,396,777	\$121,313.46
11	Rhode Island	25-10	\$4,713,547	\$188,541.88
10	Wichita State	31-5	\$6,380,482	\$205,822.00
4A	Butler	25-9	\$5,489,704	\$219,588.16
11A	USC	26-10	\$5,775,866	\$222,148.69
6A	Cincinnati	30-6	\$6,970,262	\$232,342.07
10A	VCU	26-9	\$6,100,756	\$234,644.46
7A	Dayton	24-8	\$5,637,549	\$234,897.88
1	Gonzaga	37-2	\$8,874,752	\$239,858.16
6	SMU	30-5	\$7,269,481	\$242,316.03
5A	Notre Dame	26-10	\$6,793,853	\$261,302.04
4A	Florida	27-9	\$7,207,469	\$266,943.30
3A	Oregon	33-6	\$9,229,004	\$279,666.79
5	Iowa State	24-11	\$6,858,775	\$285,782.29
9A	Seton Hall	21-12	\$6,011,447	\$286,259.38
4A	Purdue	27-8	\$8,099,562	\$299,983.78
10A	Oklahoma State	20-13	\$6,012,456	\$300,622.80
6A	Creighton	25-10	\$7,665,992	\$306,639.68
2	Arizona	32-5	\$9,852,596	\$307,893.63
6A	Maryland	24-9	\$7,442,558	\$310,106.58
1A	North Carolina	33-7	\$10,293,415	\$311,921.67
3A	UCLA	31-5	\$9,856,861	\$317,963.26
11A	Xavier	24-14	\$7,835,880	\$326,495.00
5A	Minnesota	24-10	\$7,997,511	\$333,229.63
3A	Baylor	27-8	\$9,097,264	\$336,935.70
4A	West Virginia	28-9	\$9,453,611	\$337,628.96
7	Michigan	26-12	\$8,800,186	\$338,468.69
1	Villanova	32-4	\$11,120,378	\$347,511.81
11A	Kansas State	21-14	\$7,354,065	\$350,193.57
8A	Wisconsin	27-10	\$9,564,602	\$354,244.52
8A	Northwestern	24-12	\$8,549,357	\$356,223.21
7A	South Carolina	26-11	\$9,282,730	\$357,028.08
1A	Kansas	31-5	\$11,126,047	\$358,904.74
8A	Miami, Fla.	21-12	\$7,547,589	\$359,409.00
5A	Virginia	23-11	\$8,555,125	\$371,961.96
8A	Arkansas	26-10	\$9,790,947	\$376,574.89
9A	Vanderbilt	19-16	\$7,168,389	\$377,283.63
11A	Wake Forest	19-14	\$7,905,826	\$416,096.11
3A	Florida State	26-9	\$11,029,101	\$424,196.19
9A	Virginia Tech	22-11	\$9,892,883	\$449,676.50
11A	Providence	20-13	\$9,081,267	\$454,063.35
9A	Michigan State	20-15	\$10,975,215	\$548,760.75
2	Kentucky	32-6	\$19,180,059	\$599,376.84
10A	Marquette	19-13	\$11,803,633	\$621,507.00
2A	Louisville	25-9	\$17,065,364	\$682,614.56
2	Duke	28-9	\$19,507,686	\$696,703.07

Teams in bold won at least two tournament games

Teams whose seeds are marked with 'A' received at-large bids

Figure 3.1. Ching, D. (2018, March 7). *NCAA Tournament's Biggest Spenders Usually Rank Among Its Biggest Winners, Too.*

Figure 3.2
Conference Average Men's Basketball Budgets

Conf	Teams	Avg Bball Budget	Conf	Teams	Median Bball Budget
1 ACC	15	11,709,746	1 Big 12	10	10,435,649
2 SEC	14	10,692,875	2 ACC	15	10,295,048
3 Big 12	10	10,540,855	3 SEC	14	9,707,167
4 Big East	11	9,955,518	4 Big Ten	14	9,392,628
5 Big Ten	14	9,873,142	5 Big East	11	9,325,922
6 Pac 12	12	8,488,075	6 Pac 12	12	7,801,293
7 American	11	6,544,750	7 American	11	6,487,460
8 Atlantic 10	14	4,991,756	8 Atlantic 10	14	4,763,875
9 WCC	10	4,887,821	9 Mountain West	10	4,228,825
10 Mountain West	10	4,184,686	10 WCC	10	4,104,754
11 C USA	14	2,993,993	11 C USA	14	3,071,935
12 Colonial	10	2,946,175	12 Colonial	10	2,862,357
13 MVC	10	2,917,494	13 MVC	10	2,609,762
14 Big West	9	2,571,588	14 MAAC	11	2,508,228
15 MAAC	11	2,515,193	15 Big West	9	2,438,136
16 WAC	9	2,499,423	16 WAC	9	2,333,990
17 MAC	12	2,451,796	17 MAC	12	2,239,096
18 Horizon	10	2,335,314	18 Horizon	10	2,194,393
19 Patriot	8	2,180,220	19 Patriot	8	2,099,483
20 Sun Belt	12	2,146,970	20 Sun Belt	12	2,089,545
21 A Sun	9	1,965,670	21 SoCon	10	1,929,165
22 America East	9	1,961,071	22 America East	9	1,882,325
23 SoCon	10	1,844,797	23 A Sun	9	1,857,283
24 Summit	9	1,787,236	24 Big Sky	11	1,729,001
25 OVC	12	1,772,761	25 Summit	9	1,720,634
26 Big Sky	11	1,764,014	26 NEC	10	1,655,880
27 NEC	10	1,699,258	27 Big South	11	1,460,137
28 Big South	11	1,649,107	28 Ivy	8	1,379,815
29 Ivy	8	1,405,585	29 OVC	12	1,352,217
30 Southland	13	1,308,076	30 Southland	13	1,194,442
31 MEAC	11	1,186,372	31 MEAC	11	1,079,602
32 SWAC	10	989,082	32 SWAC	10	873,612

Note: the data excludes Air Force, Army, Navy, and LIU.

Figure 3.2. Root, J. (2020, April 17). *Fun with Finances: Basketball Budgets - Three-Man-Weave*.

Table 3.1*Variable Descriptions*

Variable	Description
<i>Dependent Variable</i>	
<i>SRS</i>	Simple Rating System
<i>Independent Variables of Interest</i>	
<i>Technical Experience Variables</i>	
<i>HC: Played in NBA</i>	indicator variable; 1 = head coach played basketball in NBA; 0 = otherwise
<i>HC: Years Played in NBA</i>	Number of seasons head coach was a player at the NBA level
<i>HC: NBA PER</i>	head coach career "player efficiency rating" metric as an NBA player (from basketballreference.com)
<i>HC: NBA VORP</i>	head coach career "value over replacement player" metric as an NBA player (from basketballreference.com)
<i>Control Variables</i>	
<i>Other Technical Experience</i>	
<i>HC: Years Other Pro Playing</i>	# of years of other professional playing experience outside of NBA
<i>Head Coach Functional Experience Variables</i>	
<i>HC: Years DI College HC</i>	# of years of CBB DI head coaching experience for head coach at season
<i>HC: Years Other College HC</i>	# of years of CBB D2, D3, NAIA, JUCO head coaching experience for head coach at season
<i>HC: Years NBA HC</i>	# of years of NBA coaching experience for head coach at season
<i>HC: Years DI College Asst</i>	# of years of DI CBB assistant at season
<i>HC: Years Other College Asst</i>	# of years of D2 or D3 CBB assistant at season
<i>HC: Years NBA Asst</i>	# of years of NBA assistant at time of hiring
<i>HC: Years Other Pro Coaching</i>	# of years of other professional coaching experience outside of NBA and NCAA
<i>Head Coach Personal Characteristics</i>	
<i>HC: Age</i>	head coach age in years at time of season; use following calculation: (season year - coach birth year)
<i>HC: Age2</i>	squared age term
<i>Race</i>	Race of head coach (ex - white, black, hispanic, asian, etc.)

<i>HC: White</i>	1=head coach is the ethnicity identified; 0 = otherwise
<i>HC: Non-White</i>	1=head coach is the ethnicity identified; 0 = otherwise
<i>College Attended</i>	name of college the head coach attended
<i>HC: WSJ University Rank</i>	Wall Street Journal College Ranking
<i>Position Played</i>	head coach primary position played as a player (ex - PG, G, F, C)
<i>HC: PG</i>	1 = head coach played point guard as a player, 0 = otherwise
<i>HC: G</i>	1 = head coach played guard as a player, 0 = otherwise
<i>HC: F</i>	1 = head coach played forward as a player, 0 = otherwise
<i>HC: C</i>	1 = head coach played center as a player, 0 = otherwise
<i>HC: No Position</i>	1=coach did not play basketball at a high enough level to determine their primary position; 0=otherwise
<i>Program Characteristics</i>	
<i>Team</i>	Name of college basketball program identified by institution
<i>Conference</i>	Conference affiliation for corresponding year based on membership
<i>SeasonYear</i>	Season that championship was played, i.e. 2014-2015 Final Four in 2015, so labeled 2015
<i>Team Expenses</i>	Dollar amount spent on basketball program by institution in fiscal year (from EADA.gov)
<i>Expenses ZScore</i>	Standardized score indicating how much given value of expenses differs from standard deviation

RESULTS

4.1 Summary Statistics

Table 4.1 provides summary statistics for all variables used in the regression analysis. Of the 1,390 season-year observations in this study, 159 teams (11.4%) had a head coach who played in the NBA (*HC: Played in NBA*). Team-seasons led by 31 unique HCs with NBA playing experience represent a relatively small percentage of the sample when compared to the 88.6% of the observations with a HC who did not play in the NBA. The dependent variable, or simple rating system metric (*SRS*), shows an average rating of 10.865 with a standard deviation of 6.649. Because the sample contains programs only in the most resourced conferences, the average *SRS* value is greater than zero, a value which is representative of an average team quality.

Specific to the technical experience variables of interest, the mean of number of seasons (*HC: Years Played in NBA*) played by the HC in the NBA was 0.799, with a standard deviation of 2.786. The mean of *HC: Years Played in NBA* illustrates that the average HC in the sample played less than one year in the NBA. It is important to note that the calculation of this variable in the summary statistics includes HCs who never reached the NBA as a player. The head coach *PER* for the duration of NBA career (*HC: NBA PER*), which is a per minute rating system, shows a mean of 1.320 with a standard deviation of 3.913. *HC: NBA PER* does not assign negative values to former NBA players. The max *PER* of an individual in the study was 21, while the minimum 0 was applied to coaches without NBA playing experience. Alternatively, *HC VORP* for the duration of NBA career (*HC: NBA VORP*) has the ability to assign negative values to head coaches that played in the NBA. HCs who never reached the NBA are assigned a value of zero and *HC: NBA VORP* had a mean of 0.528.

Head coach functional experience variables indicate that it is more common to acquire prior coaching experience at the Division I level. Leading into a given season, HCs averaged 12.338 prior years of head coaching experience at the Division I level (*HC: Years DI College HC*) and 8.712 years of assistant coaching experience at the Division I level (*HC: Years DI College Asst*). The average HC in the sample had less than one season year of functional head or assistant coaching experience at other levels of basketball including in the NBA, other professional leagues, NCAA Division II, NCAA Division III, JUCO, or NAIA basketball.

Head coach personal characteristics show that the average age (*HC: Age*) of a Division I college basketball coach in the seven highest spending conferences is 50.967 with a standard deviation of 8.351. The oldest coach at the start of a season year was 76, with the youngest being 32. As previously stated in Chapter 1.4, only 25.7% of HCs observed in this study are classified as Non-White (*HC: Non-White*). On average, HCs in the sample graduated from a university with a Wall Street Journal ranking of 312.264, which is approximate to California State University – Long Beach, with a ranking of 313. Over half the sample (51.2%) played the position of guard (*HC: G*) at the collegiate level or higher. Point guards (*HC: PG*) made up 20.2% of the sample, while 11.7% played forward (*HC: F*) and 2.2% played center (*HC: C*), respectively. 14.7% of HCs in the sample did not acquire technical experience of playing basketball at the collegiate or professional level.

Table 4.2 illustrates summary statistics for any head coach who appeared in an NBA contest on the left side, while the right side is used as a direct comparison for differences in coaches in the sample with no NBA playing experience. Notable differences do appear, which further justify the worthiness of regression analysis for a deeper understanding of the interplay

between program characteristics, HC personal characteristics, and HC functional experiences on the dependent variable of organizational performance in this study.

When examining Table 4.2, the summary statistics show differences in the dependent variable between head coaches who played in the NBA compared to those that did not. HCs that played in the NBA led programs with an average simple rating system (*SRS*) value of 9.779, while HCs without NBA playing experience led higher performing programs with an average simple rating system (*SRS*) value of 11.006. This means that on average, HCs with NBA playing experience lead lower performing teams than HCs lacking NBA experience. Table 4.3 ranks the top 50 *SRS* scores from individual teams between 2004-2005 and 2019-2020. Only two unique head coaches with NBA playing experience (Tony Bennett and Billy Donovan) led three of the top 50 (6%) performing team-seasons in the sample.

Table 4.2 shows that on average, head coaches with NBA playing experience are hired younger, (49.679 years versus 51.143 years), more likely to be Non-White at (52.2% versus 22.8%), more likely to have played point guard, (47.2% versus 16.7%), and have much less previous Division I head coaching experience (7.509 years compared to 12.961 years) at the start of the season analyzed. When examining the summary statistics of the program characteristics, coaches with NBA playing experience are employed at schools that spend more on men's basketball on average at \$7,029,690 per year versus \$6,908,504 per year.

4.2 Estimation Results – Organizational Performance (*SRS*)

Tables 4.4, 4.5, 4.6, and 4.7 present the results of fixed-effects panel regressions, where the dependent variable is *SRS*. All models specify standard errors clustered by team and specify team and conference fixed effects.

4.2.1 Estimation Results – Independent Variable of Interest: HC: Played in NBA

Table 4.4 shows results from the model which examines the relationship between head coach characteristics and team success as measured by SRS when *HC: Played in NBA* is the independent variable of interest. The HC having played in the NBA is associated with a statistically significant increase in SRS ($\beta = 2.691, p < 0.05$). If a HC played in the NBA as a player, they lead their program to an SRS value which is 2.691 points higher, all else equal. For example, in the 2019-2020 season, data from the sample showed the average team had an SRS score of 11.997. Evidence from the sports-reference.com/cbb database ranks a value of 11.997 as the 53rd best team in the nation in 2019-2020. If a HC playing in the NBA is worth 2.691 SRS points, the value of 14.688 ($11.997 + 2.691$) would rank as the 36th best team in the nation in 2019-2020, enhancing a program by seventeen spots in the national rankings based on mean scores. This estimation result suggests that teams coached by former NBA players perform better, all else equal, with a notable positive impact on team success.

The additional HC technical experience variable, *HC: Years Other Pro Playing* has a negligible and insignificant effect ($\beta = 0.003, p = 0.99$), indicating no statistical relationship between years of other professional playing experience and SRS. Specific to HC functional experience, *HC: Years DI College HC* is statistically significant ($\beta = 0.291, p < 0.01$), showing that the number of years spent as a head coach in Division I college basketball is positively associated with team success. The effect of *HC: Years Other College HC* is statistically significant ($\beta = 0.279, p < 0.10$), suggesting a positive relationship between the number of years spent as a head coach in other college settings and organizational performance, although the effect is not as strong as possessing Division I HC experience. *HC: Years NBA HC* is also significant ($\beta = 0.366, p < 0.01$), indicating that when a DI HC accumulates previous head

coaching experience in the NBA it is positively associated with their team's SRS performance. When examining *HC: Years DI College Asst*, the coefficient is positive but not statistically significant ($\beta = 0.122, p = 0.18$), suggesting no significant effect of DI assistant coaching experience on team success. Similarly, the effect of other college assistant coaching experience (*HC: Years Other College Asst*) is insignificant ($\beta = 0.178, p = 0.35$). There is a negative, but insignificant relationship between NBA assistant coaching experience (*HC: Years NBA Asst*) and SRS ($\beta = -0.177, p = 0.29$), suggesting that this type of functional experience does not significantly contribute to team success at the DI level. Finally, the coefficient of *HC: Years Other Pro Coaching* is also insignificant ($\beta = 0.133, p = 0.70$).

The findings from this model specific to HC personal and program characteristics show both *HC: Age* ($\beta = 0.510, p < 0.10$) and its quadratic term, *HC: Age²*, ($\beta = -0.006, p < 0.05$) are statistically significant, implying a non-linear relationship where the positive effect of age on SRS increases until it reaches a turning point where it diminishes at higher ages. In regard to race, the non-white variable (*HC: Non-White*) shows no significant effect ($\beta = -0.054, p = 0.77$), indicating no statistical relationship between HC race and team success in this model. Regarding education, *HC: WSJ University Rank* is not statistically significant ($\beta = 0.000, p = 0.90$), showing no statistical relationship between the university rank of the undergraduate institution attended by the HC and team success. Of the position played variables, only playing as a forward (*HC: F*) is statistically significant ($\beta = -2.059, p < 0.10$), indicating a potential negative effect on team success for HCs who were former forwards. Lastly, from a program characteristic perspective, expenses (*Expenses ZScore*) are positively associated with team success ($\beta = 0.762, p < 0.10$), indicating that teams with greater spending perform better on average, as measured by SRS.

The model outlined in Table 4.4 explains approximately 22.15% of the variance in team SRS ($R^2 = 0.2215$) when *HC: Played in NBA* is the independent variable of interest. The HC having technical playing experience in the NBA has a statistically significant, positive effect on SRS. Overall, the results suggest that head coaching experience in the NBA and DI college basketball have the most substantial positive impact on team success, while other factors like HC race, non-NBA professional playing experience, and previous assistant coaching roles appear to be less influential. HC age also has a non-linear relationship with team success, while expenses contribute positively to team performance.

4.2.2 Estimation Results – Independent Variable of Interest: HC: Years Played in NBA

Table 4.5 displays results from the model which examines the relationship between the number of years a HC has played in the NBA and organizational performance as measured by SRS, where *HC: Years Played in NBA* is the independent variable of interest. The number of years a HC played in the NBA has a statistically significant positive effect on team performance ($\beta = 0.208, p < 0.10$). The average team in the sample has an average SRS score of 11.997, which the sports-reference.com/cbb database ranks as the 53rd best team in the nation in 2019-2020. The effect size indicates a 0.208 increase in SRS for a one-season increase in NBA playing experience possessed by the HC. Using the 2020 season-year average SRS value of 11.997, the value of 12.205 ($11.997 + 0.208$) would rank as the 48th best team in the nation, enhancing a program by five spots in the national rankings. Extrapolated further, five years of NBA playing experience possessed by the HC would be equivalent to an increase in team performance by 1.04 (0.208×5) SRS points. In 2019-2020, five years of NBA playing experience would enhance a team to a 13.037 SRS value, ranking 43rd in the nation. In other words, in the 2019-2020 season, a HC with five years of NBA playing experience is expected to gain five ranking spots of value

when compared to a HC with zero years of NBA playing experience. This estimation result suggests that when a HC spends more years playing in the NBA, they later lead their NCAA DI team to a higher level of team success.

When examining HC functional experience variables, *HC: Years DI College HC* has a statistically significant positive effect on SRS ($\beta = 0.293, p < 0.01$). Head coaches with more years of HC experience in Division I college basketball tend to lead more successful DI teams. Also, *HC: Years Other College HC* is statistically significant ($\beta = 0.265, p < 0.10$), indicating that HC experience in other college coaching levels is positively associated with team success, though to a lesser extent than Division I experience. HC coaching experience in the NBA (*HC: Years NBA HC*) is also positive and significantly associated with team performance ($\beta = 0.399, p < 0.01$), showing that prior head coaching in the NBA is positively associated with their team's SRS. Neither assistant coaching experience in Division I ($\beta = 0.094, p = 0.29$) nor other college settings ($\beta = 0.145, p = 0.43$) show a statistically significant relationship with SRS. The coefficient for *HC: Years NBA Asst* is negative but not statistically significant ($\beta = -0.199, p = 0.23$), indicating no statistical influence of NBA assistant experience on team performance.

When examining personal and program characteristics, both *HC: Age* ($\beta = 0.511, p < 0.10$) and *HC: Age²* ($\beta = -0.006, p < 0.05$) are significant, suggesting that age has a non-linear relationship with SRS. Initially, age contributes positively to team success, but this effect diminishes at higher ages. With race, the effect of the head coach being *Non-White* is negative but not significant ($\beta = -0.506, p = 0.46$), showing no statistically significant impact of race on team performance. When examining which position the HC played, the only statistically significant effect is for head coaches who played as forwards (*HC: F*), ($\beta = -1.924, p < 0.10$), indicating a negative effect on team success. Other positions, such as point guard (*HC: PG*),

guard (*HC: G*), and center (*HC: C*), have no statistically significant relationship with *SRS*.

Lastly, expenses are positively associated with team performance ($\beta = 0.729, p = 0.11$), suggesting that teams with higher spending may have better *SRS* performance, though this result is not statistically significant.

The model with *HC: Years Played in NBA* as the independent variable of interest (Table 4.5) explains approximately 23.47% of the variance in team *SRS* ($R^2 = 0.2347$). The HC's years playing experience in the NBA has a statistically significant, positive effect on *SRS*. In summary, the most influential contributors to team success are the years of head coaching experience possessed by the HC in both the NBA and Division I college basketball. Factors such as assistant coaching experience, race, and position played during the coach's career (except forward) show no statistical relationships.

4.2.3 Estimation Results – Independent Variable of Interest: HC: NBA PER

The regression in Table 4.6 investigates the relationship between *HC: NBA PER* and team performance. The career PER of a head coach is positive and significantly associated with team success ($\beta = 0.209, p < 0.05$), suggesting that higher PER during a HC's NBA playing career is positively related to team performance. Evidence from the sports-reference.com/cbb database ranks the 11.997 average *SRS* score as the 53rd best team in the nation in 2019-2020. The coefficient value of 0.209 is equivalent to a one-unit increase (1.0) in PER. If *HC: NBA PER* is worth 0.209 *SRS* points, the value of 12.206 ($11.997 + 0.209$) would rank as the 48th best team in the nation in 2019-2020, enhancing a program by five spots in the national rankings, given a one-unit increase in PER. If a HC had a five unit increase in PER, this would suggest an increase of 1.045 *SRS* points, resulting in a national ranking of 43rd ($11.997 + 1.045 = 13.042$) in

the 2019-2020 season-year. When a team employs a HC with a higher NBA PER value from their NBA playing career, the HC contributes positively to a team's DI basketball success.

When examining Table 4.6 for technical and functional experience variables, *HC: Years Other Pro Playing* shows a small and insignificant effect ($\beta = 0.039, p = 0.81$), indicating that the number of years spent playing in other professional leagues does not contribute significantly to team success when measured by *SRS*. When examining functional experience, years spent as a Division I college head coach has a statistically significant positive effect on *SRS* ($\beta = 0.301, p < 0.01$), showing that this experience strongly contributes to organizational performance. Also, *HC: Years Other College HC* is statistically significant ($\beta = 0.285, p < 0.10$), suggesting that experience in other college coaching roles also positively impacts team performance, though the effect is less robust than DI experience. Head coaching experience in the NBA is another strong predictor of team success, with a statistically significant positive coefficient ($\beta = 0.388, p < 0.01$). Despite these previously mentioned functional experience variables showing significance, neither assistant coaching experience in DI ($\beta = 0.129, p = 0.16$) nor other college settings ($\beta = 0.185, p = 0.31$) has a statistically significant effect on *SRS*. The effect of NBA assistant coaching experience is negative but not statistically significant ($\beta = -0.184, p = 0.27$). *HC: Years Other Pro Coaching* also does not show any significant relationship with *SRS* ($\beta = 0.133, p = 0.70$).

Both *HC: Age* ($\beta = 0.495, p < 0.10$) and *HC: Age²* ($\beta = -0.006, p < 0.05$) are statistically significant, indicating a non-linear relationship between age and *SRS*. *Age* has a positive effect on team success initially, but this effect diminishes at older ages. The *HC: Non-White* variable shows no significant effect ($\beta = -0.583, p = 0.40$), indicating that race does not have a statistically significant influence on team success in this model. Only head coaches who played

as forwards (*HC: F*) have a statistically significant negative effect on *SRS* ($\beta = -1.899, p < 0.10$), suggesting that head coaches with playing experience as forwards may negatively affect team success. Other positions, such as point guard (*HC: PG*), guard (*HC: G*), and center (*HC: C*), show no statistically significant relationship with *SRS*. Lastly, when examining program characteristics, *Expenses ZScore* is positively associated with team success ($\beta = 0.737, p < 0.10$), implying that teams with higher spending achieve better *SRS* outcomes.

The model in Table 4.5 explains approximately 22.70% of the variance in team *SRS* ($R^2 = 0.2270$). The head coach's *PER* value in the NBA has a statistically significant, positive effect on *SRS*. In summary, when *HC: NBA PER* is the independent variable of interest, the most influential factors contributing to team success are head coaching experience in DI college basketball and the NBA. Other factors, such as assistant coaching experience, race, and playing position, show no statistical significance.

4.2.4 Estimation Results – Independent Variable of Interest: HC: NBA VORP

Lastly, Table 4.7 examines the relationship between *HC: NBA VORP* and team performance. The career *VORP* of a HC has a small and statistically insignificant effect on team success ($\beta = 0.005, p = 0.92$). This suggests that a coach's performance in the NBA, as measured by *VORP*, has no meaningful impact on the team's *SRS*.

The other technical experience variable, *HC: Years Other Pro Playing*, has a statistically insignificant effect ($\beta = 0.022, p = 0.90$), indicating that the number of years spent playing in other professional leagues does not contribute significantly to team success. As in the previous models, the functional experience variable, *HC: Years DI College HC*, has a statistically significant and positive effect ($\beta = 0.212, p < 0.01$), showing that HCs with more years of DI college head coaching experience tend to lead more successful teams. *HC: Years Other College*

HC is positive, but not statistically significant ($\beta = 0.149, p = 0.30$), indicating no statistical relationship between experience in other college head coaching roles and team success. NBA head coaching experience has a positive, but statistically insignificant relationship with *SRS* ($\beta = 0.179, p = 0.32$), suggesting that this type of experience does not strongly influence team performance in this model. Both assistant coaching experiences in DI ($\beta = -0.004, p = 0.95$) and other colleges ($\beta = 0.044, p = 0.81$) show no significant relationship with team success. The effect of NBA assistant coaching experience is negative, but not statistically significant ($\beta = -0.220, p = 0.17$). Also, *HC: Years Other Pro Coaching* has a negligible and insignificant effect ($\beta = -0.027, p = 0.94$), showing no meaningful impact on *SRS*.

Results in Table 4.7 produce results which are consistent with the previous models with respect to personal and program characteristics. *HC: Age* has a statistically significant positive effect on *SRS* ($\beta = 0.721, p < 0.01$), while *HC: Age*² is negative in this model, but is also statistically significant ($\beta = -0.008, p < 0.01$). This suggests that age has a non-linear relationship with team performance. The effect of age on *SRS* is initially positive but diminishes as age increases. The *HC: Non-White* variable shows no significant effect ($\beta = -0.336, p = 0.62$), indicating no meaningful impact of HC race on team success. The only significant position effect is for HCs who played as forwards (*HC: F*), with a statistically significant negative effect ($\beta = -1.972, p < 0.10$). This suggests that HCs who played as forwards may have a modest negative effect on team success. Other positions, such as point guard (*HC: PG*), guard (*HC: G*), and center (*HC: C*), show no significant statistical relationship with *SRS*. Finally, and in similarity to the previous results, higher expenses are associated with better team success ($\beta = 0.783, p < 0.10$), implying that teams with higher spending achieve improved performance in *SRS*.

The model in Table 4.7 explains approximately 24.40% of the variance in team SRS ($R^2 = 0.2240$). In summary, when *HC: NBA VORP* is the independent variable of interest, the NBA VORP value of the HC does not have a statistically significant effect on SRS. Overall, the most influential factors influencing team success in this model are the head coach's DI college head coaching experience and their age. Other technical professional playing or functional coaching experience does not have a significant effect on SRS in Table 4.7.

4.2.5 Summary of Estimation Results

When examining the independent variables of interest, there is a positive and statistically significant relationship between the indicator variable identifying HCs who played in the NBA and SRS, indicating HCs who have NBA technical playing experience lead more successful teams. For every season year the HC appeared in the NBA as a player, a statistically significant increase in SRS is expected. This suggests that HCs who possess more years of NBA technical playing experience lead their DI teams to higher levels of organizational performance. In the regression using *HC: NBA PER*, the analytic measure PER is significantly related to team success, indicating that HCs who had strong NBA careers, (as measured via PER) tend to lead more successful teams. Conversely, in the regression using *HC: NBA VORP*, the VORP metric has no statistically significant impact on SRS, suggesting that this specific performance measure of NBA playing performance during the coach's NBA career does not translate into future head coaching success.

Across the four models, DI college head coaching experience (*HC: Years DI College HC*) consistently emerges as a statistically significant and positive predictor of team success, highlighting the importance of this experience. Similarly, age shows a non-linear effect, where team success initially improves with age, but diminishes as HCs get older, as evidenced by the

significant *HC: Age* and *HC: Age*² terms in most models². Other functional experience factors, such as NBA head coaching and assistant coaching experience, generally show weaker and often insignificant relationships with *SRS*, particularly for assistant coaching roles. In all models, except one (*HC: Years Played in NBA*) spending (as measured by *Expenses ZScore*) is statistically significant, suggesting that teams with higher budgets tend to perform better. Additionally, the impact of the coach's race (*HC: Non-White*) and the positions they played (e.g., center, guard) have no significant influence on team performance, with the exception of former forwards, who appear to have a slightly negative impact on team success³.

² There is a survivorship bias in the estimated age effects. This occurs when individuals or groups have passed some sort of selection process while ignoring those who did not (Nikolopoulou, 2024). In this case, HCs who are more successful continue in HC positions as they age older, while unsuccessful coaches are not included in the sample and do not accumulate tenure opportunity as they age.

³ Removing the position variable indicators from the regression models does not change the results in a meaningful way.

Table 4.1
Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
<i>Dependent Variable</i>					
SRS	1,390	10.865	6.649	-10.37	28.72
<i>Independent Variables of Interest</i>					
<i>Technical Experience Variables</i>					
HC: Played in NBA	1,390	0.114	0.318	0	1
HC: Years Played in NBA	1,390	0.799	2.786	0	19
HC: NBA PER	1,390	1.320	3.913	0	21
HC: NBA VORP	1,386	0.528	3.833	-3.5	50.1
<i>Head Coach Technical and Functional Experience</i>					
HC: Years Other Pro Playing	1,390	0.305	1.228	0	12
HC: Years DI College HC	1,390	12.338	8.747	0	44
HC: Years Other College HC	1,390	0.841	2.509	0	15
HC: Years NBA HC	1,390	0.342	1.965	0	29
HC: Years DI College Asst	1,390	8.712	4.765	0	24
HC: Years Other College Asst	1,390	0.639	1.494	0	15
HC: Years NBA Asst	1,390	0.367	1.656	0	15
HC: Years Other Pro Coaching	1,390	0.117	0.728	0	9
<i>Head Coach Personal Characteristics</i>					
HC: Age	1,390	50.967	8.351	32	76
HC: Age ²	1,390	2667.321	885.122	1024	5776
HC: White	1,390	0.743	0.437	0	1
HC: Non-White	1,390	0.257	0.437	0	1
HC: WSJ University Rank	1,390	312.264	229.336	5	701
<i>Position Played</i>					
HC: PG	1,390	0.202	0.402	0	1
HC: G	1,390	0.512	0.500	0	1
HC: F	1,390	0.117	0.322	0	1
HC: C	1,390	0.022	0.148	0	1
HC: No Position	1,390	0.147	0.355	0	1
<i>Program Characteristics</i>					
Team Expenses	1,390	6922367	3222301	1228643	22900000
Expenses ZScore	1,390	0.000	0.994	-1.94347	7.084743

Table 4.2

Summary Statistics Comparing Coaches who did not play in NBA against those who did play in NBA

Coaches that played in NBA						Coaches that did not play in NBA					
Variable	Obs	Mean	Std. Dev.	Min	Max	Variable	Obs	Mean	Std. Dev.	Min	Max
Dependent Variable						Dependent Variable					
SRS	159	9.779	6.627	-9.310	25.460	SRS	1,231	11.006	6.642	-10.37	28.72
Independent Variables of Interest						Independent Variables of Interest					
Technical Experience Variables						Technical Experience Variables					
HC: Played in NBA	159	-	-	-	-	HC: Played in NBA	1,231	-	-	-	-
HC: Years Played in NBA	159	6.987	4.972	1	19	HC: Years Played in NBA	1,231	0	0	0	0
HC: NBA PER	159	11.541	3.988	3	21	HC: NBA PER	1,231	0	0	0	0
HC: NBA VORP	155	4.725	10.594	-3.5	50.1	HC: NBA VORP	1,231	0	0	0	0
Head Coach Technical & Functional Experience						Head Coach Technical & Functional Experience					
HC: Years Other Pro Playing	159	0.862	1.022	0	3	HC: Years Other Pro Playing	1,231	0.233	1.233	0	12
HC: Years DI College HC	159	7.509	6.092	0	22	HC: Years DI College HC	1,231	12.961	8.845	0	44
HC: Years Other College HC	159	0.428	1.833	0	12	HC: Years Other College HC	1,231	0.894	2.578	0	15
HC: Years NBA HC	159	1.509	5.164	0	29	HC: Years NBA HC	1,231	0.191	0.856	0	6
HC: Years DI College Asst	159	4.755	3.669	0	17	HC: Years DI College Asst	1,231	9.222	4.651	0	24
HC: Years Other College Asst	159	0.000	0.000	0	0	HC: Years Other College Asst	1,231	0.721	1.568	0	15
HC: Years NBA Asst	159	1.019	2.915	0	15	HC: Years NBA Asst	1,231	0.283	1.394	0	13
HC: Years Other Pro Coaching	159	0.157	0.382	0	2	HC: Years Other Pro Coaching	1,231	0.111	0.761	0	9
Head Coach Personal Characteristics						Head Coach Personal Characteristics					
HC: Age	159	49.679	6.959	38	76	HC: Age	1,231	51.143	8.502	32	76
HC: Age ²	159	2516.157	753.947	1444	5776	HC: Age ²	1,231	2686.846	899.089	1024	5776
HC: White	159	0.478	0.501	0	1	HC: White	1,231	0.772	0.420	0	1
HC: Non-White	159	0.522	0.501	0	1	HC: Non-White	1,231	0.228	0.420	0	1
HC: WSJ University Rank	159	208.723	209.192	5	601	HC: WSJ University Rank	1,231	325.638	228.480	5	701
Position Played						Position Played					
HC: PG	159	0.472	0.501	0	1	HC: PG	1,231	0.167	0.372	0	1
HC: G	159	0.283	0.452	0	1	HC: G	1,231	0.541	0.498	0	1
HC: F	159	0.201	0.402	0	1	HC: F	1,231	0.106	0.308	0	1
HC: C	159	0.044	0.206	0	1	HC: C	1,231	0.019	0.138	0	1
HC: No Position	159	0	0	0	0	HC: No Position	1,231	0.166	0.372	0	1
Program Characteristics						Program Characteristics					
Team Expenses	159	7029690	2611241	2198198	16000000	Team Expenses	1,231	6908504	3293612	1228643	22900000
Expenses ZScore	159	-0.135	0.793	-1.94347	2.440541	Expenses ZScore	1,231	0.018	1.016	-1.8504	7.084743
N=159						N=1,231					

Table 4.3

Top 50 SRS Rankings from 2005-2020

Rank	Team	Season	Head Coach	SRS	Played in NBA
1	Kentucky	2015	John Calipari	28.72	
2	North Carolina	2005	Roy Williams	28.42	
3	Duke	2019	Mike Krzyzewski	26.9	
4	Kansas	2008	Bill Self	26.9	
5	Villanova	2018	Jay Wright	26.64	
6	North Carolina	2007	Roy Williams	26.41	
7	Ohio State	2011	Thad Matta	25.84	
8	North Carolina	2009	Roy Williams	25.46	
9	Virginia	2019	Tony Bennett	25.46	x
10	Duke	2010	Mike Krzyzewski	25.21	
11	Duke	2015	Mike Krzyzewski	24.97	
12	Kansas	2020	Bill Self	24.96	
13	Michigan State	2019	Tom Izzo	24.93	
14	Indiana	2013	Tom Crean	24.92	
15	North Carolina	2017	Roy Williams	24.84	
16	Louisville	2013	Rick Pitino	24.82	
17	Kentucky	2012	John Calipari	24.73	
18	Louisville	2014	Rick Pitino	24.69	
19	Kansas	2010	Bill Self	24.68	
20	Wisconsin	2015	Bo Ryan	24.61	
21	Duke	2011	Mike Krzyzewski	24.51	
22	West Virginia	2017	Bob Huggins	24.45	
23	Duke	2018	Mike Krzyzewski	24.43	
24	Arizona	2015	Sean Miller	24.33	
25	North Carolina	2008	Roy Williams	24.17	
26	Illinois	2005	Bruce Weber	24.11	
27	Kansas	2011	Bill Self	24.1	
28	Villanova	2016	Jay Wright	24.08	
29	Ohio State	2012	Thad Matta	23.95	
30	North Carolina	2019	Roy Williams	23.94	
31	Florida	2013	Billy Donovan	23.88	x
32	Kentucky	2017	John Calipari	23.88	
33	Kansas	2016	Bill Self	23.87	
34	Florida	2007	Billy Donovan	23.82	x
35	Villanova	2017	Jay Wright	23.8	
36	Memphis	2008	John Calipari	23.73	
37	Kansas	2017	Bill Self	23.53	
38	North Carolina	2016	Roy Williams	23.44	
39	Purdue	2018	Matt Painter	23.41	
40	Arizona	2014	Sean Miller	23.36	
41	Villanova	2015	Jay Wright	23.13	
42	Duke	2005	Mike Krzyzewski	23.01	
43	Texas Tech	2019	Chris Beard	22.79	
44	Kansas	2007	Bill Self	22.62	
45	Michigan State	2016	Tom Izzo	22.59	
46	Louisville	2005	Rick Pitino	22.56	
47	Duke	2020	Mike Krzyzewski	22.55	
48	Louisville	2017	Rick Pitino	22.47	
49	Michigan State	2018	Tom Izzo	22.41	
50	Florida	2017	Mike White	22.4	

Table 4.4

Estimation Results (Independent Variable of Interest: HC:
Played in NBA)

DV = SRS	Coef.	Robust Std. Err.	t
<i>HC: Played in NBA</i>	2.691**	1.242	2.17
<i>HC: Years Other Pro Playing</i>	0.003	0.151	0.02
<i>HC: Years DI College HC</i>	0.291***	0.075	3.87
<i>HC: Years Other College HC</i>	0.279*	0.163	1.72
<i>HC: Years NBA HC</i>	0.366***	0.115	3.18
<i>HC: Years DI College Asst</i>	0.122	0.091	1.33
<i>HC: Years Other College Asst</i>	0.178	0.185	0.96
<i>HC: Years NBA Asst</i>	-0.177	0.164	-1.08
<i>HC: Years Other Pro Coaching</i>	0.133	0.341	0.39
<i>HC: Age</i>	0.510*	0.282	1.81
<i>HC: Age²</i>	-0.006**	0.003	-2.33
<i>HC: Non-White</i>	-.0544	0.707	-0.77
<i>HC: WSJ University Rank</i>	0.000	0.001	0.11
<i>HC: PG</i>	-1.299	0.841	-1.54
<i>HC: G</i>	-0.611	0.674	-0.91
<i>HC: F</i>	-2.059*	1.080	-1.91
<i>HC: C</i>	-0.395	1.919	-0.21
<i>Expenses ZScore</i>	0.762*	0.423	1.80
<i>Constant</i>	-2.451	6.944	-0.35
Team and Conference FE		Yes	
<i>n</i>		1,390	
<i>R²</i>		0.2215	

Note: Fixed effects panel model. Standard errors clustered by team.

HC = head coach. Values of 0.000 are greater than 0.0001 but do not equal zero.

*p < .10. **p < .05. ***p < .01.

Table 4.5

Estimation Results (Independent Variable of Interest: HC: Years Played in NBA)

DV = SRS	Coef.	Robust Std. Err.	t
<i>HC: Years Played in NBA</i>	0.208*	0.109	1.91
<i>HC: Years Other Pro Playing</i>	0.039	0.163	0.24
<i>HC: Years DI College HC</i>	0.293***	0.087	3.37
<i>HC: Years Other College HC</i>	0.265*	0.152	1.74
<i>HC: Years NBA HC</i>	0.399***	0.125	3.18
<i>HC: Years DI College Asst</i>	0.094	0.088	1.07
<i>HC: Years Other College Asst</i>	0.145	0.185	0.79
<i>HC: Years NBA Asst</i>	-0.199	0.166	-1.20
<i>HC: Years Other Pro Coaching</i>	0.093	0.364	0.26
<i>HC: Age</i>	0.511*	0.280	1.82
<i>HC: Age²</i>	-0.006**	0.003	-2.38
<i>HC: Non-White</i>	-0.506	0.687	-0.74
<i>HC: WSJ University Rank</i>	-0.000	0.001	-0.02
<i>HC: PG</i>	-1.022	0.838	-1.22
<i>HC: G</i>	-0.528	0.660	-0.80
<i>HC: F</i>	-1.924*	1.082	-1.78
<i>HC: C</i>	-0.195	1.796	-0.11
<i>Expenses ZScore</i>	0.729	0.444	1.64
<i>Constant</i>	-2.023	6.981	-0.29
Team and Conference FE		Yes	
<i>n</i>		1,390	
<i>R²</i>		0.2347	

Note: Fixed effects panel model. Standard errors clustered by team.

HC = head coach. Values of 0.000 are greater than 0.0001 but do not equal zero.

*p < .10. **p < .05. ***p < .01.

Table 4.6

Estimation Results (Independent Variable of Interest: HC:
NBA PER)

DV = SRS	Coef.	Robust Std. Err.	t
<i>HC: NBA PER</i>	0.209**	0.088	2.38
<i>HC: Years Other Pro Playing</i>	0.039	0.158	0.25
<i>HC: Years DI College HC</i>	0.301***	0.080	3.78
<i>HC: Years Other College HC</i>	0.285*	0.149	1.92
<i>HC: Years NBA HC</i>	0.388***	0.119	3.26
<i>HC: Years DI College Asst</i>	0.129	0.091	1.42
<i>HC: Years Other College Asst</i>	0.185	0.182	1.02
<i>HC: Years NBA Asst</i>	-0.184	0.167	-1.10
<i>HC: Years Other Pro Coaching</i>	0.133	0.344	0.39
<i>HC: Age</i>	0.495*	0.278	1.78
<i>HC: Age²</i>	-0.006**	0.003	-2.36
<i>HC: Non-White</i>	-0.583	0.692	-0.84
<i>HC: WSJ University Rank</i>	0.000	0.001	0.09
<i>HC: PG</i>	-1.185	0.845	-1.40
<i>HC: G</i>	-0.524	0.667	-0.79
<i>HC: F</i>	-1.899*	1.078	-1.76
<i>HC: C</i>	-0.260	1.865	-0.14
<i>Expenses ZScore</i>	0.737*	0.428	1.72
<i>Constant</i>	-1.964	6.884	-0.29
Team and Conference FE		Yes	
<i>n</i>		1,390	
<i>R²</i>		0.2270	

Note: Fixed effects panel model. Standard errors clustered by team.

HC = head coach. Values of 0.000 are greater than 0.0001 but do not equal zero.

*p < .10. **p < .05. ***p < .01.

Table 4.7

Estimation Results (Independent Variable of Interest: HC:
NBA VORP)

DV = SRS	Coef.	Robust Std. Err.	t
<i>HC: NBA VORP</i>	0.005	0.045	0.11
<i>HC: Years Other Pro Playing</i>	0.022	0.172	0.13
<i>HC: Years DI College HC</i>	0.212***	0.078	2.71
<i>HC: Years Other College HC</i>	0.149	0.142	1.05
<i>HC: Years NBA HC</i>	0.179	0.179	1.00
<i>HC: Years DI College Asst</i>	-0.004	0.071	-0.06
<i>HC: Years Other College Asst</i>	0.044	0.185	0.24
<i>HC: Years NBA Asst</i>	-0.220	0.158	-1.39
<i>HC: Years Other Pro Coaching</i>	-0.027	0.368	-0.07
<i>HC: Age</i>	0.721***	0.262	2.74
<i>HC: Age²</i>	-0.008***	0.003	-2.93
<i>HC: Non-White</i>	-0.336	0.668	-0.50
<i>HC: WSJ University Rank</i>	-0.000	0.001	-0.25
<i>HC: PG</i>	-0.926	0.846	-1.10
<i>HC: G</i>	-0.434	0.658	-0.66
<i>HC: F</i>	-1.972*	1.078	-1.83
<i>HC: C</i>	-0.039	1.725	-0.02
<i>Expenses ZScore</i>	0.783*	0.461	1.70
<i>Constant</i>	-7.053	6.681	-1.06
Team and Conference FE		Yes	
<i>n</i>		1,386	
<i>R²</i>		0.2440	

Note: Fixed effects panel model. Standard errors clustered by team.

HC = head coach. Values of 0.000 are greater than 0.0001 but do not equal zero.

*p < .10. **p < .05. ***p < .01.

DISCUSSION

5.1 Summary of Research

The focus of this dissertation was to analyze the head coach and organizational performance relationship in the context of NCAA men's basketball. Through this analysis, the intent was to gain understanding of how the HC's background and experiences, specifically possessing elite technical basketball playing experience, impact the performance of the basketball program they lead. Using 16 seasons of data, I estimate four separate panel regression models each specifying a unique independent variable of interest capturing the technical experience possessed by the HC (*HC: Played in NBA*, *HC: Years Played in NBA*, *HC: NBA PER*, *HC: NBA VORP*). The dependent variable in all models is organizational performance (*SRS*). Additionally, the models include control variables related to functional experience (previous coaching experience at the collegiate and NBA setting) and personal characteristics (age, race, education, and basketball position played), as well as program characteristic variables (*Team Expenses*, *Expenses ZScore*). In the discussion section of this dissertation, I begin with a summary of findings followed by a discussion of findings as they relate specifically to my research question. Finally, I finish with a discussion of the implications of this dissertation for UET, TEL, and sport management research.

5.2 Summary of Findings and Discussion

The focus of this dissertation was determining if and to what extent HC technical (NBA professional playing) experience is related to organizational performance in NCAA Division I men's college basketball. The quantitative analysis revealed a statistically significant and positive relationship between the technical experience possessed by the HC and their team's SRS rating in three of the four models. Specifically, the models examining if a HC played in the

NBA, the number of years a HC played in the NBA, and the PER rating of a HC in the NBA show a statistically significant and positive relationship. When using the HC's VORP rating during their NBA playing career as a measure of HC technical experience, a small and statistically insignificant effect on team success was found. Overall, these findings support the UET and TEL literature that, similar to CEOs whose industry-specific experience can enhance company performance, the technical backgrounds of HCs significantly impact their team's performance outcomes.

The TEL literature refers to technical expertise as a deep and comprehensive understanding of a specific field, subject, or technology, typically acquired through education, training, and hands-on experience (Goodall, 2012). TEL argues that expert leaders, through acquisition of technical experience, play a pivotal role in shaping an organization and driving innovation in their respective fields. As Goodall and co-authors found, the degree of previous technical experience accumulated, which in these cases is sport-specific playing experience at an elite level, was positively associated with the performance of the team they led in NBA (Goodall et al., 2011) and Formula One Racing (Goodall & Porgrebna, 2015). The positive and statistically significant results from this dissertation in college basketball also align with the findings from previous TEL research studies when examining the degree of technical experience acquired.

The findings specific to the independent variables of interest offer several key insights regarding the influence of a HC's previous technical experience, particularly playing in the NBA, on their success in DI basketball coaching. Previous TEL studies have found that expert leaders often began their career at the worker level, giving them a deeper understanding of leading core workers (Goodall & Pogrebna, 2015). With that in mind, HCs with NBA playing

experience show a statistically significant positive relationship with the success of their teams, measured by *SRS*. The modeling suggests that reaching the pinnacle of the profession as a worker appears to be beneficial in that it is associated with the future performance of the team the individual leads. Specifically, for each additional season that a HC spent as a player in the NBA, there is a corresponding and statistically significant increase in the team performance. When examining Formula One Racing, Goodall and Pogrebna (2015) found the most successful leaders of racing teams started their careers as drivers, and the more years spent as a driver led to more organizational success as a leader. This is beneficial to the TEL research literature, as my study also suggests that technical playing experience in the NBA and acquiring more years as a player contributes positively to the effectiveness of HCs in DI basketball.

Goodall et al. (2011) investigated the relationship between the coach's excellence as a former player and their performance as a leader. They grouped NBA HCs into three categories based on their playing career performance: Never played in NBA, Played in NBA, All-Star NBA player. They found that former All-Star NBA players who later became NBA head coaches led their teams to the highest winning percentages. As such in my study, HCs who had stronger NBA careers, as measured by PER, lead more successful teams in NCAA DI basketball. As discussed in Chapter 3, PER adjusts for pace of play, playing time, defensive metrics and normalizes data across NBA seasons ([Basketballreference.com](https://www.basketballreference.com), 2023). This finding indicates that the quality of a coach's performance during their NBA careers is a predictor of future coaching success, specifically when using PER as the analytical measure of basketball playing brilliance.

On the other hand, the VORP metric, which measures a player's overall value in the NBA compared to a replacement-level player, does not have a statistically significant impact on

the organizational performance of the team the HC leads in DI basketball. This suggests that VORP, as a specific performance measure, does not translate into future coaching success. As stated in Chapter 3, VORP has limitations when considering the quality of a player's defense and minutes played, which can impact the overall value score assigned to the player (Basketballreference.com, 2023). My study uses two widely recognized advanced basketball analytics that measure a player's performance in the NBA, but they do differ in how performance is calculated. PER is a rating system measuring production per minute of play, while VORP measures player value in comparison to a replacement-level player. It is notable that there are different ways to measure playing brilliance and my results suggest these different measures can produce different results.

Across multiple models, DI college head coaching experience consistently emerges as a positive and statistically significant predictor of team success. This highlights the importance of high-level collegiate head coaching experience as a critical factor in determining a HCs effectiveness. It is also logical that successful HCs are retained by their programs, therefore appearing in the sample more often. HCs who are not as successful do not serve as HC for long and have trouble emerging as a qualified candidate for a future HC job. Athletic directors and hiring committees should understand that HCs that possess NBA playing experience have more organizational success if they have already acquired functional experience as a DI collegiate HC. Collegiate assistant coaching experience was not found to have a statistically significant impact, as well as having very small effect sizes. This is interesting as many HCs without NBA playing experience start their respective coaching careers at the assistant level at the same point that NBA players start their playing careers. It appears that the market does not require that former

NBA players do not need to spend as much time as an assistant to qualify themselves for head coaching positions in DI NCAA basketball.

Other functional experience variables, such as NBA head coaching and NBA assistant coaching experience, generally show weaker and often insignificant relationships with team performance. As we assume functional experience to be important as a driver of performance, prior studies have examined functional experience in sport (Wong and Deubert, 2010; Goodall et al., 2011; & Juravich et al., 2017). There have been studies examining professional football that have pushed back on this assumption and suggest accumulated functional experience of the HC is not a statistically significant driver of performance (Bosch, 2014; Roach, 2016). The sport context of NCAA men's basketball was a noted gap in the research field, as functional experience has been mostly examined at the professional sport level. The professional sport landscape gives the most managerial discretion to the general manager (GM) and HC positions (Salaga & Juravich, 2020). At the collegiate level, the GM is removed from the decision-making model, thus giving the HC even more discretion in the oversight of roster management and strategic decisions. My study shows that having more elite-level functional experience and familiarity with the rules and regulations of the NCAA is an important driver of organizational performance. Thus, HCs should not be considered for high-major DI basketball jobs just on their NBA resume alone, but also on their time spent acquiring functional head coaching experience at the DI collegiate level, as it is also important to organizational performance.

This study adhered to the UET framework by utilizing demographic variables as substitutes for cognitive processes, as established by Hambrick (2007). The four personal characteristic variables in this study examined age, race, education level, and basketball position played. In Wang et al.'s (2016) meta-analysis of studies using the UET framework, age and

formal education showed a positive correlation with future firm performance. In this dissertation, the age of HC shows a non-linear relationship with team performance. Team success tends to improve as HCs age up to a certain point, after which performance starts to diminish as coaches grow older. Executives under heavy job demands are forced to take mental shortcuts and fall back on what they have tried or seen work in the past (Hambrick, 2005), thus age is also inherently captures experience that can shape organizational performance in this context. It is logical that as HCs age, they acquire more experience that will benefit them in competition. Also, as basketball strategy and operations change over time, HCs that are older may not be as innovative in their strategic decision making. Program administrators looking for enhanced organizational performance in DI NCAA basketball should consider HC age to give them a competitive advantage, but the HC should not have aged past a certain point where they do not continue to innovate and begin to falter with respect to strategic decision making.

Specific to the UET literature, there was a lack of statistically significant evidence that HC educational quality was associated with organizational performance when measured by *SRS*. In the panel regressions, there were consistent negligible effects of *HC: WSJ University Rank*. This is in contrast to the evidence from Wang et al. (2016) which found a positive correlation with formal education and organizational outcomes. In the sport context, Juravich et al. (2017) found a positive relationship between education level and technical experiences when examining the impact of GMs in the NBA. Also, Peeters et al. (2020) found that GMs matched with HCs in MLB that had differences in educational level produced lower quality organizational outcomes. It is possible that executives at the CEO level in standard industries or at the GM level in sport organizations may have more business-focused degrees that prepared them well for their chosen industry. In the current sample, many HCs (85.3%) were student-athletes in college and may

have been steered toward majors that do not have as much applicability to coaching due to the time and stress demands that present conflict between education and athletic experiences on college campuses. Future research could focus on the academic foundations, specifically undergraduate major obtained, if a scholar wanted to examine these differences further.

Richard et al. (2021) suggested that racial diversity among top management teams can lead to a broader range of perspectives and ideas, potentially enhancing creativity and innovation within the organization. In the summary statistics found in Table 4.2, it is notable that non-White individuals (*HC: Non-White*) make up 52.2% of the population of former NBA players who are hired to lead NCAA programs in this study, showing a greater propensity to hire minority candidates. In comparison, non-White individuals (*HC: Non-White*) only make up 22.8% of HCs who did not play in the NBA. It appears that elite NBA technical experience is a valued personal characteristic that helps qualify minority candidates for NCAA DI basketball head coaching positions by program administrators. In this study, race does not significantly influence organizational performance as *HC: Non-White* has a very small, negative effect on *SRS* across the four models. It was a possible implication that this study could be used to support NCAA DI programs in the hiring of minority candidates, as 70.4% of the NBA is comprised of black players in comparison to only 24.2% of NCAA basketball HCs in this study being classified as non-White. In the case of this sample, the relationship between HC race and organizational performance was not significantly significant.

Also, the position played by the HC as a player (except for forwards) does not significantly influence team success in this study. Former forwards seem to have a slight negative effect on performance. This finding is interesting as the point guard position communicates play calls and strategies from the HC during game play. Data from Table 4.2

shows that 47.2% of HCs with NBA playing experience in this sample played PG, yet position played in this study has minimal impact on *SRS* at the collegiate basketball level.

Budget size, measured by *Expenses ZScore*, is consistently a significant predictor of team success, indicating that teams with higher financial resources tend to perform better. It is possible that variation in organizational performance is largely accounted for by institutional factors, such as spending on the specific sport. Relatedly, the Equity in Athletics Data Analysis (EADA) confirms that coaching salaries are a key expense of individual team budgets. For example, Michigan State University had one of the higher expenses in the data sample in 2019-2020 at \$16,395,751 million on men's basketball. The HC, Tom Izzo, had a total salary of \$4,191,070 million, with an additional estimated \$1.2 million on his assistant coaches and support staff (U.S. Department of Education, 2024). This is notable as Table 4.2 shows that coaches with NBA playing experience are hired at schools that spend more on men's basketball on average at \$7,029,690 per year versus \$6,908,504 per year. Further research of institutional budgets could provide valuable, particularly to assess whether or not coaches with NBA playing backgrounds command higher salaries, which could account for differences in how the budget may be used. Particularly, recruiting expense budgets may need to be extrapolated from the *Expenses ZScore* to evaluate differences with respect to organizational performance and its impact for HCs. Likewise, established HCs with proven success at the collegiate level will command higher salaries, thus increasing expenses at successful universities. The results of this study suggest that larger budgets are positively related to team performance, but it is also true that more successful coaches will command higher salaries, resulting in increased budgets. Understanding the complexities of the variables associated with budgeting and competitive advantages in NCAA sport could be beneficial to future research in this context.

In summary, the research question of this dissertation was to determine if and to what extent HC technical (NBA professional playing) experience was related to organizational performance in NCAA Division I men's college basketball. The findings suggest that reaching the NBA as a player, acquiring additional years of playing experience in the NBA, and the quality of individual performance (PER) as an NBA player, enhances the performance of the team the HC leads in DI basketball. Conversely, not all measures of NBA playing brilliance, like VORP, are indicators of enhanced organizational success at the DI NCAA level for HCs. Other factors such as DI collegiate head coaching experience and team budget also play crucial roles in organizational success. On the contrary, not all forms of previous functional experience, such as collegiate assistant coaching or NBA coaching experience, are reliable indicators of future team performance.

5.3 Strengths, Limitations, and Extension

The first strength of this research is related to the theories (UET and TEL) as a basis for the conceptual model and research question that were developed and tested. Specifically, this dissertation served as an introduction of the combination of UET and TEL to the NCAA sport management context. Performance research in the sport context using the frameworks of UET and TEL to explain organizational behavior has shown that the sport context mimics other industries at the executive level. However, there is still scant research using UET and TEL to study the personal traits of sport industry leaders and how they are similar to or different from executives in other areas. Scholars of UET (e.g., Hambrick, 2007) and TEL (e.g., Goodall & Pogrebna, 2015) have called for future research to use their frameworks to study organizations with different characteristics, such as I have done here in the NCAA basketball context.

Through the use of UET as a theoretical framework, this dissertation demonstrated an approach to investigate individual leaders (HCs) while using their backgrounds and experiences as proxies for how they would make decisions in the context of their organization. Adding to the TEL literature in the context of NCAA sport, this study focuses on a specific personal characteristic, technical experience, for testing and analysis. The sport context provides a vast amount of data on the individual, teams, and conference outcomes; thus, we can assess how these executives and their personal characteristics impact the organization they lead.

An additional strength of this study was adding to the literature by further examining how HC personal characteristics are associated with the performance of the team they led, which has received little attention at the collegiate level. The NCAA is a complex organizational structure, but is also a very financially relevant setting. A key strength of this study was positioning the HC as analogous to the CEO position in standard industries (Ndofor et al., 2009). Once this study firmly established the HC/CEO equivalency, it became apparent to reason that a HC's background and personal characteristics would exert a substantial influence on the overall success of the organization. Future researchers exploring the college sport setting can use general business management studies, along with the extant sport management literature, to explore the NCAA setting in a richer fashion. Through this study, by framing NCAA HCs as CEOs, an establishment has been made that aligns with the corporate context.

Another strength of this study was the use of SRS as the dependent variable to measure organizational performance. Previous sport management literature has typically measured performance around win-loss percentage (Dirks, 2000; Humphreys et al., 2016). The college basketball context is a hard field to measure organizational performance, as win-loss percentages are not always captured with strength of schedule or strength of conference from season to

season (Kang & Salaga, 2022). Using post-season measures to capture organizational success is also complicated due to the format of the NCAA tournament being one game matchups, compared to the NBA which employs longer series between teams in postseason play. In theory, advantages are given to better teams over longer series, as they can overcome one game of decreased performance, which the NCAA context is known for in its postseason play. Using an advanced analytic measure, SRS, provided a more comprehensive depiction of performance that encapsulated the overall season relative to peer basketball programs. SRS uses average point differential and strength of schedule which is a reasonable way to compare one team to another. The use of SRS in measuring organizational performance overcame limitations found in other sport management studies, especially those studies conducted in the college setting (Dirks, 2000).

Despite the strengths of this dissertation, this research does have a few limitations. First, while SRS is a strength in measuring organizational performance, I do not have a way to measure expectations of a fan base or administration. It is possible in some cases that HCs have shorter tenure spells because of unmeasurable and unique performance expectations, and are not given enough time to turn performance around. As this study shows, a HC possessing elite technical experience is shown to increase organizational performance, yet it may not be to the degree that a unique institution was hoping for when making the hire. It is possible that some HCs increased the SRS of the program, while also not being retained for not meeting their institutions organizational expectations. Factors such as an institutional tradition, facility and marketing investment, and lifetime organizational performance were not included in this study primarily due to data availability issues. Leadership succession and tenure length were not outcome measures that were investigated in this study, but may be worthy of exploration for

future researchers. Empirical testing for performance expectations that are unique to individual institutions will remain a challenge in the NCAA context.

Another limitation of this study is a possible over-reliance on functional experience, specifically with assistant coaching experience. This study showed that with age, team success tends to improve as HCs age up to a certain point, after which performance starts to diminish as coaches grow older. It is also possible that too much assistant coaching experience at some point hinders a coach's career as they do not make enough of an impression to be hired as a HC. This study was more highly focused on technical experience, and could be considered as limited in its approach to the details surrounding functional experience. In the same regard, this study could be limited in the way the calculation of the years of experience that a player in the NBA acquired. Season years were calculated without an examination of the quality of the individuals experience. For example, another researcher could examine if the player played for a Hall of Fame coach, played for a winning NBA team in each season year, or the stability of how many franchises a player may have played for in their career. A higher-level examination of the quality of technical experience at the pinnacle of the profession, the NBA, could be an aspect another researcher wants to inspect in a deeper manner.

Lastly, another limitation to the study may be the uniqueness of sport as it applies to the UET framework. UET has been applied frequently in the strategic choice – organizational performance relationship in general business settings. While standard businesses are in economic competition, sport teams are in constant competition directly on fields of play with posted, measurable outcomes. Future research, especially in a qualitative manner, could be beneficial to deepen the understanding of the NCAA sport context and its impact on individual decision making. Thus, future research may address this issue by interviewing players to understand their

motivations in attending certain universities. Did they decide their institution choice because they were attracted to the technical experience of the HC or did institutional factors such as academics, housing, facilities, etc. impact their decision-making process? Also, assistant coaches and athletic directors could be interviewed to examine what organizational or strategic advantages and disadvantages they saw present from coaches with NBA playing experience. Institutional variables that I cannot control for are likely influencing my estimated models at some level and future research examining the role of HC at the NCAA level could further examine ancillary factors associated with organizational performance.

This research has a few potential extensions related to testing or examining similar relationships in other types of NCAA sport contexts. At the time of the writing of this dissertation, two HCs who possess prior elite technical experience in the respective fields are receiving considerable amounts of media coverage for their programs and institutions. Deion Sanders, a Hall of Fame NFL player was hired at the University of Colorado, while Dawn Staley, a member of the Naismith Basketball Hall of Fame is the HC at the University of South Carolina. An interesting extension of this research would be to compare the gender differences in coaches with elite technical experience from the WNBA to the results of this study. Observationally, the trend of hiring coaches with elite technical experience has also reached college football, and researchers might find notable differences in the sport context that are worthy of examination. It is apparent that the trend of hiring coaches who possess elite technical experience has permeated into other sports within the NCAA context and would be a worthy extension of this research.

Finally, another extension in the research could be found in defining organizational performance differently. For example, this paper established the economic relevance of the NCAA context. A marketing or finance researcher may choose to establish organizational

performance of a HC in context of possible social media metrics that can be monetized or possibly by attendance data. While consumer demand was not used as an outcome variable in this study, it is possible that a HC with a brand value associated with the NBA could drive revenue through attendance and consumer interest, even if on-court performance metrics of the program were low in national ratings. In this case, the program may be satisfied for a certain time period with increased revenue, even if on-court organizational performance is low. Marketing and finance research may extend the research on technical experience by changing the parameters of organizational performance in the college setting.

5.4 Conclusion and Implications

This dissertation offers several important contributions to the current sport management literature. From a theoretical standpoint, the application of UET and TEL as a basis for this research offers a strong foundation of examining the HC – organizational performance relationship. The empirical approach used HC and team data and utilized panel regression to test the research question. Findings show that the technical experience possessed by NCAA DI basketball HCs, much like that of CEOs in the corporate world, is integral and a statistically significant determinant of team performance.

The study concludes that employing a HC who possesses previous NBA playing experience can be a competitive advantage in NCAA DI men's basketball. Perhaps the technical and tactical knowledge gained from competing at the NBA level can significantly enhance a coach's ability to lead and strategize in a collegiate environment. Also, the substantial positive impact of possessing previous DI HC experience reinforces the idea that familiarity with the collegiate game, player development processes, recruiting, and the nuances of managing younger

athletes are vital for achieving sustained success. This functional experience provides HCs with a deeper understanding of the unique challenges and strategies specific to college basketball.

This study also highlights the impact of financial resources, where higher expenses correlate strongly with better team performance. This finding implies that while technical and functional experience is critical, the availability of resources to support talent recruitment, training facilities, and hiring staff also plays a crucial role in shaping successful outcomes.

The implications of these findings extend beyond academic research and offer valuable insights for programs and administrators in collegiate athletics. The lack of statistically significant influence of demographic factors such as race, education, and position played suggest that these factors might not play as pivotal a role in determining a HC's strategic capabilities or leadership effectiveness. This finding supports a broader narrative of focusing on technical and functional experience when evaluating coaching potential.

Institutions looking to hire new HCs that value candidates with elite technical experience background should prioritize candidates with substantial NBA playing experience, particularly those who had efficient and impactful careers when measured by PER. This aligns with the idea that skills honed as a player can directly translate into strategic acumen as a coach, making these candidates more capable of developing winning teams. On the other hand, while my results suggest previous NBA playing experience is an asset, the consistent statistical significance of DI head coaching experience implies that universities should also continue to value and develop coaching talent from within the collegiate ranks.

The findings of this study open several avenues for future research. Further exploration is needed into the specific attributes that enable successful transitions from NBA playing careers to collegiate coaching roles. Comparative studies examining organizational performance from

different collegiate settings could also offer deeper insights into the multifaceted nature of coaching performance. The conclusions from this research ultimately underscore the importance of adopting a multi-dimensional approach to evaluating HCs, taking into account both technical playing experience and specialized collegiate coaching expertise. Having a more holistic understanding can guide athletic programs in making more informed, strategic decisions to build sustained success in DI basketball. In conclusion, this research provides a foundation for examining how HCs and their technical experience impact organizational performance in the NCAA men's basketball sport context. This dissertation integrates the TEL literature into the college sports context in the evaluation of the relationship between HC technical experience and organizational performance.

ABBREVIATION GLOSSARY

Abbreviation	Definition
AAC	American Athletic Conference
ACC	Athletic Coast Conference
AD	Athletic Director
Big10	Big Ten Conference
BigXII	Big Twelve Conference
CEO	Chief Executive Officer
CFO	Chief Financial Officer
COO	Chief Operating Officer
EADA	Equity in Athletics Data Analysis
HC	Head Coach
JUCO	Junior College (two-year university or colleges)
MLB	Major League Baseball
NAIA	National Association of Intercollegiate Athletics
NBA	National Basketball Association
NCAA	National Collegiate Athletic Association
NFL	National Football League
Pac12	Pacific Twelve Conference
PER	Player Efficiency Rating – per minute rating adding positive accomplishment and subtracting negative to measure player performance (from basketballreference.com)
SEC	Southeastern Conference
SRS	Simple Rating System – value assigned based on average point differential and strength of schedule (from basketballreference.com)
TEL	Theory of Expert Leadership
TMT	Top Management Team from UET literature
UET	Upper Echelon Theory
VORP	Value Over Replacement Player - metric as an NBA player (from basketballreference.com)

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