

Head coach tenure in college women's soccer. Do race, gender, and career background matter?

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Abstract

This study aims to analyse the tenure of head coaches in college women's soccer in the United States and puts the focus on the influence of race and gender. The analysis includes individual characteristics of coaches (educational and professional background), team performance, institutional characteristics, and geographical differences (at the state level) from 1977 until 2015. The main results show that African American coaches and women have a significantly shorter tenure in these college institutions. Other factors related to the background of coaches and the characteristics of institutions also play a significant role. The findings are relevant for coaches from minority groups and athletic departments, who are interested in equity in sport. Future research may use an alternative approach to investigate the causes of tenure disparity in college women's soccer.

Keywords: *discrimination, education, gender, race, tenure*

Introduction

In many countries, minorities still face stereotypes and prejudices that determine their role in society. Discrimination against racial minorities and women in positions of power in sports is gradually increasing its relevance in the literature (Bimper Jr and Harrison 2017; Burton 2015). Group preferences and discrimination in sports affect several areas that the literature firstly identify in the education system. Head coaches need numerous prerequisites to be hired, which often involve high-quality education and sport-specific preparation. The literature considers coach education courses a hostile place for coaches that do not fit the traditional white-male profile (Bradbury, Sterkenburg, and Mignon 2018; Lewis, Roberts, and Andrews 2018).

Unfortunately, race and gender discrimination are also detected in the hiring process. White-male coaches are overrepresented in head coaching positions; and research finds specific biases against the progression of coaches from minority groups that cannot access the “white old-boys’ network” (Norman, Rankin-Wright, and Allison 2018; Rankin-Wright, Hylton and Norman 2019; Sartore and Cunningham 2007; Volz 2013). In college women’s soccer¹, both African Americans² and women are underrepresented in head-coaching positions. Figure 1 shows the percentage of women coaches (dotted line) and African American coaches (solid line) on the y-axis and the year on the x-axis.

¹ We use the terms soccer as in “FIFA football” and football as in “American football”.

² This article uses the terms from the US census bureau: White or White American and Black or African American to refer to coaches’ racial groups.

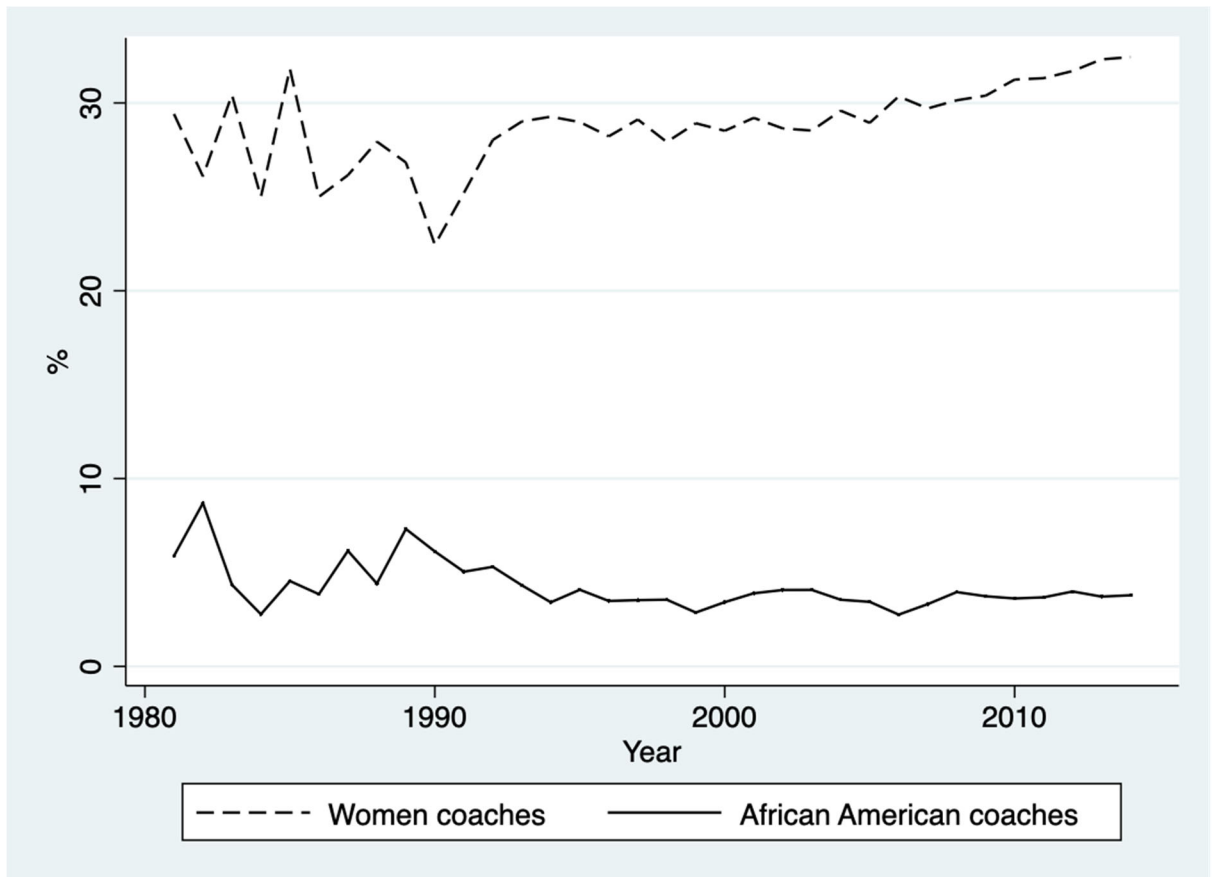


Figure 1. Percentage of women and African American coaches.

In this study, the focus is on the coaches who have already accessed the system. One way to investigate biases and discrimination when evaluating the work of coaches from minorities is analysing tenure³ and the probability of being fired. In sports, the performance of teams should be the main determinant of coach tenure. Nonetheless, preferences towards certain groups may have an influence. Research discusses how prejudices and bias (conscious or not) limit the progression opportunities of black coaches (Collins 2007; Bradbury et al. 2018) and women coaches (Norman 2014; Gurney, Lopiano, and Zimbalist 2017; Norman et al. 2018) in the white-male hierarchical structure of the sport workplace⁴.

³ Coach tenure – defined as the years that a coach has been employed by a club or school – reflect the success of a coach and is a frequently discussed topic in men’s sports (e.g., Humphreys, Paul, and Weinbach 2016; Pieper, Nüesch, and Franck 2014).

⁴ The term “workplace” refers to the whole sport environment, not being a specific tangible place where one works as an office. Coaches, athletes, agents, physical trainers, directors, and managers take part in the sport workplace.

To the best of our knowledge, no research provides empirical evidence of race and gender tenure differences in all divisions of college women's soccer in the US. College women's soccer is a relevant setting for this research due to several reasons. First, the setting is overlooked in the literature and the number of coaches from minorities allow a meaningful empirical analysis. Second, the power position of coaches from minorities in this context is relevant and varies. In the US, the cultural position and dominance of African Americans in soccer is not as influential as it is in other sports⁵, but women embrace the growth of women's soccer worldwide (Goodman 2019)⁶.

Finally, the performance of teams in some college sports and divisions is not relevant in the media, which is prone to uncover group preferences and discrimination (Nessler, Gomez-Gonzalez, Dietl, and del Corral 2017). Women's college soccer has often a lower stadium attendance and TV-viewership than other college sports, such as basketball or football (Markovits and Hellerman 2003).

The aim of this study is to analyse the tenure of coaches to find a potential bias against women and black coaches, as previous studies report perceived discrimination (e.g., Gurney et al. 2017; Norman et al. 2018). This study uses data from college women's soccer in the US for the period 1977-2015. The analysis includes individual characteristics of coaches (educational and professional background) and institutions, and team performance to isolate the influence of race and gender on tenure. Moreover, the data allow the analysis to include geographical differences at the state level, which is interesting to test if historical discrimination patterns exists in sports.

In the subsequent sections, the article reviews the literature and develops the conceptual framework to derive the hypotheses, describes the data and methods, shows the results, and puts the findings into context. Finally, the article discusses the implications for minorities and educational institutions interested in equity in sports, reports the limitations of the analysis, and concludes.

⁵ Basketball is often associated with African Americans who predominantly occupy the roster of teams (Lapchick and Baker 2016). Other sports such as baseball are more representative for White Americans (Ogden and Hilt 2003). However, soccer is not strongly associated culturally to a particular race.

⁶ USA women's national team has a leading position in the FIFA Women's World Ranking.

Conceptual framework

Minorities in the sport workplace

College sport institutions are dominated by white males in the US (Gurney et al. 2017; Hawkins 2013). The general sport landscape is similar in Europe, where the underrepresentation of women and other racial and ethnic minorities in governance, administration, and coaching positions is noticeable (Bradbury, Amara, Garcia, and Bairner 2011; Walker and Bopp 2010). In US college women's soccer, women and African American coaches demonstrate, first, an explicit interest in soccer and, second, the expertise level needed to surpass the requirements for coaches. These conditions should prevent further discrimination, especially if performance differences do not exist once these coaches have accessed the job.

However, research demonstrates that the traditional underrepresentation of minorities has negative implications for the experiences of coaches in the workplace (e.g., Borland and Bruening 2010; Collins 2007; Gurney et al. 2017). Many of these studies find the hierarchical structure of the “white old boys’ network” to be a barrier for the career advancement of coaches from minorities (Bradbury et al. 2018; Norman et al. 2018; Rankin-Wright et al. 2019).

The functioning of the network and the mechanisms by which white males have managed to keep a prominent role within sports coaching may find foundation in similarity/attraction and social categorization theories. Research in management discusses the creation of groups of the “us and them” nature based on values associated with certain attributes, e.g., race and gender (Byrne 1971; van Knippenberg, De Dreu, and Homan 2004). Employees in organizations tend to favour colleagues from the “us” group. The next subsections specifically describe the role of black and women coaches.

The case of black coaches

Research finds education courses to be the first obstacle that black coaches encounter when decided to pursue a professional career. Coaches report marginalization and subtle forms of racism (e.g., inappropriate language and words to refer to racial groups) while accessing and attending this type of courses in England, France, the Netherlands (Bradbury et al. 2018) and the UK (Rankin-Wright et al.

2019). These manifestations are still present in the coaching workplace, where the technical competencies of minority coaches are constantly questioned, and their contributions do not receive the same credit than these of their white counterparts (Bradbury et al. 2018; Hawkins 2013).

Critical race theory has been used for a number of research papers within the sports context since Hylton (2010) to explain how race is a social construct that affects behaviour (Delgado and Stefancic 2001). People associate racial attributes with social values, attitudes, and actions, that affect judgment and bias the evaluation of members from the “outside group”. In sports, and more specifically in the US college context, racist ideologies traditionally conceive black professionals as physically superior and intellectually inferior (Hawkins 2013). This prejudice can distort the evaluation of black coaches and lead to unfounded discrimination, e.g., in tenure.

Although college sport is a regulated education setting expected to avoid any kind of discrimination, previous research analysing tenure by race find some evidence. For example, while Kopkin (2014) find that black coaches are more likely to be fired, especially in the first 3 years of tenure in college football, Holmes (2011) find this probability to be higher only after the 7 year. In college basketball, LaFave, Nelson, and Doherty (2018) find institutional characteristics to play a major role in the tenure of black coaches. Beyond the empirical results, research shows that coaches from racial minorities are more likely to view race as a barrier for career advancement in college sport (Borland and Bruening 2010; Cunningham, Bruening, and Straub 2006; Gurney et al. 2017).

The majority of studies on college sport in the US focus on basketball and football. Prejudices of competency and coaching ability are expected to have a stronger impact in soccer due to the minor cultural position of African Americans. Moreover, black coaches, regardless of the sport, are a threat to the hegemonic (intellectual) position of white coaches in NCAA institutions (Hawkins 2013). Therefore, the following hypothesis is formulated:

Hypothesis 1. African Americans head coaches have a shorter tenure than White Americans in college women's soccer.

The case of women coaches

Research argues that women have been marginalized from leadership positions in sports (Sartore and Cunningham 2007; Walker and Bopp 2010). Women need to surpass several obstacles to reach a coaching position. The first limiting experiences are reported again in the coaching education system. Schlesinger and Weigelt-Schlesinger (2012) and Lewis et al. (2018) show that women face mistrust, inappropriate conducts, and recurrent comments regarding competence in coach courses in Germany and the UK, respectively.

Prejudices against women coaches have their origin in the traditional conception of sport (Walker and Bopp 2010). Masculinity, associated with strength and toughness, has been systematically assumed to be necessary for a successful coaching career in sports (Litchfield 2015). Men who control the institutions in the sport workplace have the power to enhance masculine attributes and marginalize women. McKay (1997) refers to this issue as gendered power structures embedded in sport.

However, research does not find consistent evidence that some personality traits are necessarily better than others to lead a team (Eagly and Carli 2007). Still, the lack of masculine attributes negatively determine the role of women coaches. If teams coached by women fail to perform or adjust to certain standards, the stereotypical thinking will blame the gender of the coach regardless of other factors. Therefore, women coaches constantly face the stereotype threat that questions their competence (Spencer, Steele, and Quinn 1999).

This hostile scenario is likely to have an influence on the representation and career development of women coaches (Norman et al. 2018; Robertson 2016). While men can access coaching positions in both men's and women's sports, women mostly coach women's teams, in which they are also outnumbered (Darvin, Pegoraro, and Berri 2018; Walker and Bopp 2010). For example, in women's soccer, Gomez-Gonzalez, Dietl, and Nesslerer (2018) find that women only represent 30% of the coaches in Norwegian and 20% in Germany and France. In other sports, the numbers are even lower; Fasting, Sisjord, and Sand (2017) find that only 14% of the coaches are women at the elite level in Norway. According to social categorization and similarity/attraction theories (Byrne 1971; van Knippenberg et al. 2004), this underrepresentation is the result of men's preferential access to influential positions as people tend to choose similar others.

Studies at the micro level of analysis focus on the human and social capital of women coaches (Burton 2015). In college sports, Sagas and Cunningham (2004) find that social capital usually benefit men coaches. Moreover, the negative gender stereotypes (Walker and Bopp 2010) and the organizational culture (Norman et al. 2018) that exist in sports hold women coaches back. Women coaches often feel that they have to prove themselves as effective coaches to prevent men from trivializing their position (Norman 2010).

The analysis of tenure provides further insights about the negative experiences of women in coaching positions. The study of Wicker, Cunningham, and Fields (2019) is the only empirical precedent examining gender discrimination in the dismissal of coaches in women's college soccer. The authors analyse the period 2007-2017, focus on the dismissals of coaches when the performance of teams competing in top conferences is poor, and find no significant differences by gender. However, the authors find that women are more likely to be appointed as new coaches in low-performing teams.

In this line, Gurney et al. (2017) report that coaches perceive better working opportunities for men in NCAA institutions. For example, the majority of coaches believe that it is easier for men to achieve multiyear contracts (52%), and almost 50% of women coaches report being paid less for doing the same job as other coaches, while only 27% of men coaches do. Moreover, women are twice as likely to believe that their performance evaluation is different due to gender. Gender stereotypes and perceived discrimination in college sports are expected to be reflected in tenure differences in women's soccer. Therefore, the following hypothesis are formulated:

Hypothesis 2. Women head coaches have a shorter tenure than men in college women's soccer.

Data and methods

This paper includes all publicly available data about NCAA women's soccer coaches since 1980⁷. The NCAA organizes student athlete competition in North America. It is the largest student athlete organization in the US. Data is scraped from <http://web1.ncaa.org/stats/StatsSrv/careersearch> and colleges and schools' official websites.

The tenure is the dependent variable in the regression model. One observation is how long a coach has been employed at a given year. For example, if a coach starts at a school in 2000 and leaves in 2001, then his/her tenure for the first year is 1 and for the second year 2. The data consists of several variables, which address coaches' characteristics, performance, and the surroundings of a coach.

The main explanatory variables regarding coaches' characteristics are race and gender. The majority of coaches in the sample are White American men (68.66%). The percentage of women coaching women's soccer teams in the sample is 30.17%. The composition of the sample is similar other women's sport competitions.

In addition, the analysis incorporates the education background of coaches. This information is interesting as the education of a coach can influence the knowledge a coach has gained during undergraduate studies or sport-specific undergraduate studies. A well-established assumption in the management literature is that the level of education is essential for the allocation in the job market (Serneels 2008) and is correlated with better firm performance⁸ (e.g., Bhagat, Bolton, and Subramanian 2010). This relationship is controversially discussed in sports and there is a lack of consensus (Cushion 2007). While some argue that the educational background benefits the development and performance of coaches (e.g., Sherwin, Campbell, and MacIntyre 2017; Stoszkowski and Collins 2016), others discuss that the technical aspects of coaching are gained with experience, regardless of the method of entry into coaching (e.g., Cushion, Armour, and Jones 2003).

The analysis also includes the influence that being a local coach has on tenure. This variable identifies if the coach received the education at the current employing institution i.e., the coach studied

⁷ Before 1980, teams were not organized inside the NCAA system. For the analysis, we also use all available information from the previous three years.

⁸ Bhagat et al. (2010) use a variety of measures for firm performance, i.a., return on assets or stock return.

at the university and afterwards worked as a coach for the team. Following in-group bias theories, a positive influence of being local is expected. Theories suggest favouritism toward in-group target members in the evaluation processes (Castelli, Tomelleri, and Zogmaister 2008; Lewis and Sherman 2003), but there is no empirical evidence in the context of sports coaches. A local coach might have advantages as the coach could know about e.g., time consuming administrative duties, university related regulations regarding scholarships, local talents, or constraints when using athletic facilities.

Two variables are created regarding teams' performance. The first measurement is the winning percentage in the current season. This is a well-established measure in the literature of sports management (cf., Dietl, Lang, and Nessler 2017; Idson and Kahane 2000). Thus, this variable represents a valid alternative for universities to assess the performance of a coach. If a coach is consistently under- or over performing the employer might want to change how long a coach is employed.

The second measurement is the winning margin. This variable compares the actual performance of a coach with respect to the performance of the previous year (i.e., difference between the current and the previous years' winning percentage). A high winning percentage when the winning margin is zero means that a coach does not perform better compared to the previous year (the same is true for a low winning percentage). Both winning margin and winning percentage are included as the literature shows that they have a clear influence on tenure (e.g., Humphreys et al. 2016; Pieper et al. 2014).

The characteristics of institutions might also influence the tenure of head coaches in athletic departments⁹. The number of students enrolled at each university/college is employed for this purpose. A larger institution might be able to provide their coaches with a larger pool of potential athletes and superior sport facilities. It may represent the best possible *proxy* based on the current data. Pope and Pope (2009) find a significant positive influence of the number of applications in NCAA Division I schools on sports success. Similarly, a binary variable that identifies whether the coach works in a

⁹ LaFave et al. (2018) find historically black colleges and universities (HBCU) to be a significant determinant of coach tenure in college basketball, which diminishes the effect of race. In our analysis, we cannot include this variable as HBCU universities represent less than 1% of the sample.

flagship institution, i.e., an older or more important education institution of a state, is also included. Every state has only one flagship institution.

The inclusion of control variables such as coach background, local coach dummy¹⁰, team performance and institutions' characteristics are crucial to identify differences by race and gender discrimination. These variables allow the isolation of the influence of gender and race on tenure when coaches face similar circumstances. In other words, one would just infer whether a coach has suffered a discriminatory practice when comparing two coaches with similar performance and team characteristics in an analogous setting. Without these controls, the analysis would fail to identify other factors that could be responsible for a shorter tenure (e.g., if black coaches systematically win fewer games). Therefore, these control variables are included even if they do not relate explicitly to the hypotheses proposed in this paper. Finally, the analysis controls the influence that other variables such as year, division, or state have on tenure.

The division in which teams compete may play a significant role. There are three divisions (Divisions I, II, or III) with different characteristics. Division III schools are not allowed to offer their students any athletic scholarships. In Division II, schools can offer partial athletic scholarships and different in-state quotas apply. Finally, in Division I schools can offer the highest number of athletic scholarships and the number of students who are enrolled in athletic activities is larger than in both Division II and III (Grant, Leadley, and Zygmunt 2014). Christiano (1988) explains that to some extent racial inequalities depend on levels of performance, and previous studies find evidence of racial evidences across divisions in college basketball (Nessler et al. 2017). Researchers also examine the differences in the divisions regarding for example revenues and expenses (Fulks 2000). These divisions are also a selection process for coaches. Teams in higher divisions are, on average, more competitive and compete for the best possible coach. Accordingly, divisions are included as a control variable.

The geographical distribution of racial discrimination in the US is a point of discussion in cross-cultural studies. The data includes the geographical locations of colleges and universities allowing to

¹⁰ Local coach dummy is a binary variable distinguishes whether a coach received the education at the current employing institution or not.

test the evolution of discrimination in different states. Previous studies find unequal treatment and prejudices against African Americans to be more pronounced in southern states (Dixon and Rosenbaum 2004; Kuklinski, Cobb, and Gilens 1997). Although little is known about the geographical distribution of racial inequality within the sports context, a similar pattern might be expected.

Table 1 provides an overview of the data used in the analysis for 1. the full sample, 2. female coaches, and 3. African American coaches. The empirical approach is an Ordinary Least Square (OLS) regression with robust standard errors, which analyses the influence of the race and gender of the coach and the rest of control variables on tenure. The regression analysis is used to understand how the different variables influence each other. Regression analysis is frequently mentioned as an appropriate statistical measurement in political science (e.g., Cohen, West, and Aiken 2014; Hinkle, Wiersma, and Jurs 1988). The specific model is as follows:

$$tenure_{it} = \alpha_0 + \delta \cdot race_i + \beta \cdot gender_i + \rho \cdot \mathbf{W}_i + \tau \mathbf{Z}_{it} + \phi \mathbf{V}_{it} + \varepsilon_{it}$$

i is a coach. t is a year. $tenure$ is the years a coach has been employed by a school. $race$ is a binary variable that distinguishes between African and White American coaches. $gender$ is a binary variable that distinguishes between men and women coaches. \mathbf{W} is a set of control variables with respect to the coach, viz., local coach, undergraduate education, sports education, and was a professional player. \mathbf{Z} is a set of control variables with respect to the performance of the coach, viz., winning margin and winning percentage. \mathbf{V} is a set of control variables with respect to the school of the coach, viz., flagship institution status and number of enrolled students. ε is a random error term.

The data regarding the school's sport information is gathered from the NCAA homepage. All additional data comes from the integrated postsecondary education data system.

Table 1. Descriptive statistics

Variables	Full sample		Females		African American	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Coach tenure	5.89	5.30	5.62	5.31	4.66	3.73
Male	0.70	0.46	-	-	-	-
White American	0.96	0.19	-	-	-	-

Local coach	0.14	0.35	0.13	0.33	0.14	0.35
Coach has no education	0.02	0.14	0.01	0.08	0.02	0.15
Coach has undergraduate sports education	0.30	0.46	0.47	0.50	0.23	0.42
Coach was a professional player	0.11	0.31	0.08	0.28	0.36	0.48
Team winning margin*	0.01	0.16	0.01	0.16	0.01	0.17
Team winning percentage	0.52	0.20	0.49	0.20	0.47	0.21
Total institution enrolment*	9,379	12,070	10,732	12,582	9,469	9,858
Flagship institution status	0.02	0.12	0.02	0.14	0.01	0.10
Year	1977 - 2015		1978 – 2015		1980 - 2015	
Observations	14,752		4,451		546	

*Both variables have a smaller simple size, 12,208 (3,608 for females and 440 for African Americans) and 11,218 (3,339 for females and 403 for African Americans) respectively.

Results

The explanatory variables are included sequentially in the model to test the specific influence on tenure.

The first regression includes only the race of the coaches. Gender is included in the second model. The third regression adds coaches' characteristic, i.e., background, education, and previous player experience. Afterwards, the fourth model incorporates team performance variables and the fifth integrates the characteristics of the institutions. Finally, the sixth, seventh, and eighth regression models include year, state and division fixed effect that could alter the results, respectively. Table 2 shows the complete results.

Table 2. Regression analysis. Dependent variable – Coach tenure

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
White American	1.281*** (0.166)	1.429*** (0.168)	1.466*** (0.172)	0.997*** (0.192)	0.739*** (0.213)	0.531** (0.217)	0.614*** (0.225)	0.607*** (0.229)
Male		0.472*** (0.096)	0.456*** (0.095)	0.007 (0.103)	-0.094 (0.112)	-0.067 (0.109)	0.183* (0.108)	0.206* (0.106)
Local Coach			1.268*** (0.134)	0.826*** (0.140)	0.888*** (0.154)	0.795*** (0.148)	0.833*** (0.141)	0.975*** (0.141)
Coach has undergraduate education			0.028 (0.096)	-0.100 (0.102)	-0.006 (0.109)	0.005 (0.105)	-0.065 (0.104)	-0.058 (0.103)
Coach has undergraduate sports education			0.220** (0.102)	0.131 (0.108)	0.092 (0.114)	0.128 (0.110)	0.201* (0.108)	0.246** (0.108)
Coach was a professional player			0.326** (0.149)	-0.054 (0.159)	-0.120 (0.163)	0.027 (0.157)	0.337** (0.159)	0.268* (0.158)
Team winning margin				5.831*** (0.300)	5.747*** (0.327)	5.883*** (0.317)	5.764*** (0.310)	5.854*** (0.306)
Team winning percentage				6.971*** (0.257)	6.632*** (0.280)	7.620*** (0.280)	7.550*** (0.279)	7.877*** (0.276)
Total institution enrollment					0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000** (0.000)
Flagship institution status					1.480*** (0.300)	0.235 (0.305)	0.087 (0.298)	0.230 (0.293)
Year FE						Y	Y	Y
State							Y	Y
Division								Y
Constant	4.661*** (0.160)	4.189*** (0.186)	3.870*** (0.197)	2.094*** (0.239)	1.977*** (0.270)	-1.036** (0.487)	- (0.537)	- (0.530)
Observations	14,752	14,752	14,752	12,208	9,261	9,261	9,261	9,261
R-squared	0.002	0.004	0.011	0.071	0.081	0.141	0.190	0.201

Note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses

All models identify that White Americans coaches have a longer tenure throughout the analysis (p<0.01), although the model shows slight changes in the magnitude of the coefficients.¹¹ The outputs also provide some evidence of gender bias as male coaches have significantly longer tenure than their women counterparts in most of the models. These results remain significant in the last model (eighth regression), which includes all set of control variables, and therefore, is the most complete.

¹¹ A robustness check is carried out confirming that the results do not suffer from omitted variables bias. The approach follows Xu, Frank, Maroulis, and Rosenberg (2019). Authors can be contacted if elucidations are needed.

Being a local coach has a strong positive effect on tenure in all models ($p < 0.01$). This means that coaches that studied in the same institution for which they coach enjoy a longer tenure. Moreover, the findings indicate that an undergraduate education does not guarantee a larger tenure, but a sport specific undergraduate education does ($p < 0.05$). Furthermore, a former professional playing experience also has a positive influence on tenure ($p < 0.10$).

Team performance variables also show the expected results: a significant positive effect of team winning percentage on coaches' tenure ($p < 0.01$) and a significant negative effect of the winning margin ($p < 0.01$). These results are reasonable as bad performing teams, or teams that greatly differ from previous years (worse results), tend to look for a change (i.e., a new coach) that could reverse the situation. Finally, Figure 2 displays the US map (at a state level) to show geographical difference regarding coaches' race and tenure. The third regression from Table 2 is used to generate the figure.¹²

Figure 2.

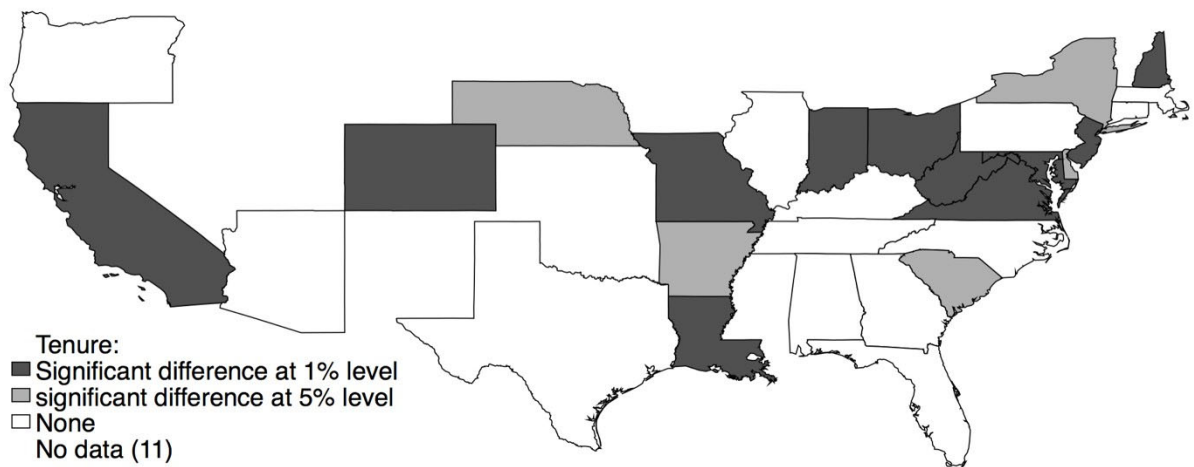


Figure 2. Geographical difference regarding coaches' race and tenure.

The figure shows a statistically significant difference in tenure in fifteen states (thirteen states present statistically significant differences at the 1% level, while two states show at the 5% level) and

¹² Please note that if using e.g. the fourth regression (or any other subsequent regression), the number of observations is insufficient to show results in other seven states.

no statistically significant difference in tenure in other seventeen states. For the rest of states, the current data is not enough to interpret the results, or the number of African American coaches working at the universities is not sufficient to make a statistical comparison. This finding suggest that the tenure difference is not evenly distributed or concentrated in one area (e.g., southern or western states) since all geographical areas are affected.

Discussion and implications

This article provides two main results. First, White American coaches have a significantly longer tenure than African Americans in college women's soccer over the analysed period. Second, women that work as head coaches in this setting also have shorter tenure. These results provide evidence that both women and African American coaches are laid off earlier, after controlling for performance, and a set of characteristics of coaches and institutions. Therefore, the findings support both Hypotheses 1 and 2.

The current findings regarding shorter tenure for African American coaches might be related to the "whiteness" structure of NCAA institutions, where racial prejudices may well determine behaviour (Hylton 2010). Cunningham and Sagas (2005) identify difficulties to access coaching positions for minorities, which are connected to a reduced diversity of administrators in sports. Moreover, Cunningham (2010) and Cunningham et al. (2006) notice that African American also face biases that undermine effort, commitment and career advancement.

The results from this study are in line with previous findings in college sports. In football, Kopkin (2014) and to some extent Holmes (2011) show that African American coaches are more likely to be fired. In basketball, LaFave et al. (2018) further discuss that the differences in probabilities of contract termination by race that exist are due to the higher employment rate of African Americans at historically black colleges and universities (HBCU). The results are relevant as college soccer is overlooked in the literature, and it reports a different degree of race diversity in comparison with football or basketball.

The lack of differences in coaching performance that research yields should be enough to prevent racial minorities from suffering an unfair treatment in the workplace. However, discrimination is still present in the sports workplace. Rankin-Wright, Hylton, and Norman (2016) argue that organizational

practices still reinforce race inequalities which are perceived by coaches in the UK, and is corroborated by Bradbury et al. (2018) in France, the Netherlands, and the UK and by Cunningham, Sagas, and Ashley (2001) in the US.

With regard to geographical differences, the analysis does not find a clear distribution of tenure differences between the two racial groups in the US. Previous studies that put the emphasis on understanding the geographical distribution of racial discrimination in the US, find that anti-black prejudices and stereotypes are stronger in the south (Dixon and Rosenbaum 2004; Kuklinski et al. 1997). However, no similar results are found. Indeed, several states show no tenure differences at all (e.g., Texas, Oregon, and Washington).

Regarding gender differences, the reported under-representation of women in leadership and coaching positions (Burton 2015; Pfister 2010) would preliminary suggest a gender bias in sports. The barriers that women face during the coaching education (Schlesinger and Weigelt-Schlesinger 2012), and the characteristics and stereotypes of a male-dominated sports workplace (e.g., Walker and Bopp 2010) have an influence. Several studies discuss that women try to avoid male-dominated occupations and positions due to a fear of being judged and treated poorly (Spencer et al. 1999). This stereotype threat exists in sports, and influences performance evaluation and career advancement of women.

Our results provide empirical evidence that gender differences indeed exist among coaches in women's college soccer. To some extent, the inclusion of a set of control variables, i.e., coach background, team performance, and institution features, isolates the influence of gender on tenure. Hence, the output shows that under similar conditions women have shorter tenure, confirming that gender differences exist in college women's soccer in the US. This finding supports the notion that women cannot benefit from social capital the way men do in the sport workplace (Burton 2015; Sagas and Cunningham 2004).

Wicker et al. (2019) examine top performing conference in college women's soccer and find no significant differences between men and women coaches being dismissed after teams' poor performance. The results suggest that gender differences still exist when using a larger dataset that includes more conferences and divisions. Nessler et al. (2017) find that lower divisions, where performance is not as visible and crucial, are more prone to uncover biases.

The results from this study coincide with the self-reported perceptions of women that work as head coaches in NCAA teams. Gurney et al. (2017) discuss the negative perceptions of women coaches in this setting with regard to double standards in performance evaluations, difficulties to advance in the workplace, and ability to discuss contract issues such as salaries, retention, or promotions. The results show that women coaches have a shorter tenure compared to men coaches and supports the need to work in the lines of action that the literature proposes (Robertson 2016).

The control variables included in the analyses provide insights with regard to the characteristics of coaches that increase tenure. Local coaches have significantly longer contracts in NCAA women's soccer, being in line with in-group bias theories in other contexts (Castelli et al. 2008; Lewis and Sherman 2003). The education level of coaches also plays a role in tenure. Coaches with a sport-specific education have a longer tenure in college women's soccer, corroborating previous studies (McIlroy 2015; Sherwin et al. 2017). Similarly, a former professional career increases coaching tenure as well. Previous research shows a positive correlation between ex-player coaches and team performance and efficiency (del Corral, Maroto, and Gallardo 2015; Goodall, Kahn, and Oswald 2011).

As expected, the performance of teams is also a significant determinant of coaches' tenure. Better performing teams increase tenure, as this is the primary remit of coaches and the main goal of sports teams (Dietl et al. 2017; Idson and Kahane 2000). Moreover, the size of the institutions regarding the number of students enrolled also plays a significant positive role. In this line, Pope and Pope (2009) find that the number of students' applications in NCAA Division I schools improves sports success.

In short, the main results show evidence that coaches from minorities have shorter tenure in college women's soccer. The findings corroborate the unfairness perceived by women coaches (Gurney et al. 2017) and the racial disproportions and inequities that persist in college sports (Bimper Jr and Harrison 2017). Identifying biases is the first step for organizations and governing bodies to act (Goldsmith 2003; Van Sterkenburg 2012). In the current analysis, coaches are employees at universities and are subject to Title IX, which regulates equal treatment regardless of race or gender. Universities and NCAA institutions need to further investigate the causes of tenure differences that is found in women's soccer. Organizations that fight for the rights of coaches from minority groups and gender

equity, such as Black Coaches Association (BCA) and Women's Soccer Coaches Community should also take part.

Limitations and future research

The implications of the results depend on the notion that coaches cannot decide the length of their tenure and athletic departments always determine whether to extend a contract or not. However, coaches can also choose. Unfortunately, this information is not usually publicly available, and the analysis cannot include it. A different methodological approach would be necessary to find out when and why coaches voluntarily decide to terminate their contract. Other factors embedded in the society regarding the expected role of women, e.g., childcare and domestic duties, can indeed have a negative influence on the tenure of women coaches (Litchfield 2015).

Another limitation of the paper concerns the career plans of coaches. Most coaches in Division I and II pursue a professional career. However, several coaches in Division I and II, and many coaches in Division III consider other options. This means that some coaches are working only temporarily in college sport and seek employment in a different industry. Unfortunately, this study cannot distinguish between coaches who want to pursue a career in women's soccer and these who do not.

The geographical analysis shows that not all states include women's soccer programs. The sample has a gap of 18 states. In this sense, a more complete dataset would clarify the geographical distribution of racial discrimination in college sports. Moreover, no information was available regarding the talent of the team members that can partly determine the performance of a coach. However, college teams should not greatly differ as the NCAA prohibits payments to athletes.

A shortcoming of the paper is the exclusive use of regression analysis to examine tenure differences. The results provide empirical support for differences in college sports, where women coaches report double standards (Gurney et al., 2017). However, interviews to coaches (and other employees at the organizational level) in college women's soccer would provide more details about the causes of the difference. Hopefully, future research can use the information from this study to specifically address the issue of tenure difference in women's college soccer.

Borland and Bruening (2010) qualitatively examine the barriers that black women working in collegiate basketball encounter and provide some solutions. Recent contributions emphasize the invisibility of black women coaches, who have to cope with the stereotypes and legislative burden that women and racial minorities have traditionally faced (Carter-Francique and Olushola 2016; Rankin-Wright and Norman 2017). Unfortunately, this paper cannot include this analysis as the number of African American women coaches (and other racial minorities) working in this setting is too small.

Concluding remarks

The results from this study show that the tenure of coaches in women's college soccer in the US includes biases. The analysis reports that African American and women coaches have shorter tenure. The results are robust as the analysis control for the performance of teams and the characteristics of coaches and institutions that may have an influence. The results have negative implications for minorities and institutions that aim to promote equal opportunities.

The findings are relevant for research that focuses on the role of coaches from minorities. More empirical analyses are needed to identify racial and gender biases that may exist in other sport settings. Especially, scholars should examine whether sport coaches and athletes from minorities also face barriers at the amateur level. The perceived discrimination of coaches from minorities reported in the literature and the evidence from this study can negatively affect performance, commitment and career decisions.

Finally, the analysis also identify other factors that have an influence on the tenure of coaches and have implications for people who want to pursue a coaching career in college women's soccer. The article finds that coaches with sport-specific undergraduate education, local coaches and coaches who are former professional players enjoy longer tenure.

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