ABSTRACT

DAY, JACOB C. Race, Social Networks, and the Coaching Carousel: The Interactive Effects of Race and Social Networks on College Football Coaches' Occupational Mobility and Status. (Under the direction of Michael D. Schulman).

Racial disparity among college football coaches has been well documented. Anecdotal and mass media accounts suggest that social networks are responsible for differences in occupational outcomes for black and white coaches. The relatively small amount of academic research on the issue relies upon additive assumptions regarding the relationship between race and social networks. As a result, previous research assumes that similar network structures and resources lead to similar occupational outcomes for black and white coaches (see Sagas and Cunningham 2005). The purpose of this study is to build upon previous work by testing these additive assumptions. Using Sagas and Cunningham's (2005) data on 328 assistant football coaches at the Division I-A level, OLS regression and race by network interaction terms are used to examine the interactive effects of race and social networks on college football coaches' occupational status and mobility. The results show that the proportion of same race ties, higher status ties, and strong ties have different effects on occupational mobility for white and black coaches.

Race, Social Networks, and the Coaching Carousel: The Interactive Effects of Race and Social Networks on College Football Coaches' Occupational Mobility and Status

by
Jacob C. Day

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APPROVED BY

Steve McDonald

Margaret A. Zahn

Michael D. Schulman
Chair of Advisory Committee

BIOGRAPHY

Jacob C. Day is a graduate student currently pursuing a PhD. in the Department of Sociology and Anthropology at North Carolina State University. He received his bachelor's degree in Sociology from Oregon State University. His research interests include the sociology of sport, work and organizations, deviance and social control, and delinquency program efficacy.

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Introduction

Entering the 2007 college football season, there are currently six black head coaches (5%) at the NCAA Division I-A (or Bowl Subdivision) level. In the most recent data collected by the NCAA, black coaches make up 24% of the total assistant coaches and only 6% and 9% of the offensive and defensive coordinators. These numbers are somewhat surprising considering that black athletes make up about 45% of the participants at the same level (DeHass 2004). When you couple these descriptive statistics with previous research suggesting that former student-athletes make up the largest group of potential coaches (Everhart and Chelladurai 1998), the demographic evidence appears to indicate that a large amount of racial disparity exists in the coaching profession at the highest level of college football.

In addition to demographic evidence, a relatively small number of academic studies examine the effects of race on the careers of college football coaches. Researchers have found that black coaches are underrepresented in higher status positions (Anderson 1993) and have significantly fewer promotions, lower status, and less satisfaction in their coaching careers than white coaches (Sagas and Cunningham 2005). Black coaches also perceive more barriers to head coaching opportunities and perceive race to be a greater barrier to career advancement than white coaches (Cunningham et al. 2006).

Anecdotal evidence and mass media accounts suggest that social networks play a significant role in producing this documented racial disparity (Nyman 2005; Lederman 2006). However, with few exceptions, academic research has not studied social networks in the coaching profession. Early academic work on the careers of college and football coaches implied the importance of social networks by suggesting that Turner's (1960) concept of

sponsored mobility is prevalent in the coaching profession (Loy and Sage 1978). Subsequent research qualified these early studies by conceptualizing the college football coaching profession as an occupational internal labor market (OILM) and applying White's (1970) vacancy chain model to demonstrate the interdependency of coaches' mobility in the labor market (Smith 1983; Smith and Abbott 1983).

While these early works postulated about the effects of contacts and networks on college football coaches' careers, they did not directly examine the effects of race and networks. Although social network theory and analysis is popular in the general sociology literature (Burt 1992; Granovetter 1973, 1995; Lin 1990, 1999, 2001), to my knowledge, Sagas and Cunningham (2005) offer the only published article examining the effects of social networks on college football coaches' careers. While their work was an important initial effort, their analysis examined the additive effects of race and social networks, thereby assuming that similar network structures and resources operate the same for both white and black coaches. However, it is also possible that similar network structures and resources operate to produce different levels of mobility and status for white and black coaches.

The purpose of this research is to build on the work of Sagas and Cunningham (2005) by examining the effects of race and social networks on college football coaches' careers. Using Sagas and Cunningham's (2005) ego-centered data on 328 assistant football coaches at the NCAA Division I-A level, I will examine the interactive effects of race and social networks on coaches' occupational mobility and status. As a result, the following research question guides my analyses:

1) *Do similar network structures and resources lead to different amounts of occupational mobility and status for white and black coaches?*

In answering this question, I will also address two additional research questions:

2) *Do social networks influence occupational mobility and status among college football coaches?*
3) *Do social networks produce the observed racial disparity in occupational mobility and status of college football coaches?*

Literature Review

Scholars have applied multiple theoretical perspectives to explain the mobility of college football coaches. These include Turner's (1960) contest vs. sponsored mobility (Loy and Sage 1978), White's (1970) vacancy chain model (Smith 1983; Smith and Abbott 1983), Becker's (1993) human capital theory (Cunningham and Sagas 2002; Sagas and Cunningham 2005), and social capital and social network theories (Sagas and Cunningham 2005). This body of work points to the fact that the labor market of college coaches represents an occupational internal labor market (OILM), where mobility is most prevalent between different programs (Smith 1983), is controlled primarily by the elite members of the labor market thereby requiring an existing coach's sponsorship in order to advance (Loy and Sage 1978), and is interdependent, requiring a position to be vacated by a coach before another coach can move up (Smith 1983; Smith and Abbott 1983). Finally, scholars argue that human capital has minimal effects on coaches' mobility (Cunningham and Sagas 2002, Loy and Sage 1978) and that racial differences in human and social capital do not explain the racial differences in mobility (Sagas and Cunningham 2005).

Although few studies specifically examine social networks, some researchers point to their potential importance for explaining mobility in the college football coaching profession.

First, the fact that the labor market of college football coaches represents an OILM indicates that mobility is primarily controlled by current job holders with few rules and regulations governing the market (Smith 1983; Smith and Abbott 1983). When informal rules and regulations govern mobility, social networks become more important determinants of mobility and thus more likely to produce inequality (Reskin 1993). Empirically, studies have found that inequality and segregation are more common in or across organizations that have less formal hiring and promotion policies (Tomaskovic-Devey 1993). Similarly, if sponsored mobility is the most prevalent type in the coaching profession, as Loy and Sage (1978) suggest, then having a resource-rich network of higher status ties is important to a coach's chances at promotion and status attainment.

While previous theory and research regarding the mobility of college football coaches has implied the importance of social networks to occupational mobility and status, much of it does not deal with the effects of race. In applying White's (1970) vacancy chain perspective, Smith (1983) and Smith and Abbott (1983) show that mobility within the coaching profession is interdependent. However, while the vacancy chain perspective is effective in describing the structure of college football coaches' labor market, it is less effective in explaining why individual coaches or social groups are mobile and others are not.

Smith's (1983) and Smith and Abbott's (1983) analyses were also admittedly limited to vacancies within the football coaching OILM (i.e. college football coaches across two academic years) and could not explain why the majority of the vacancy chains ultimately ended outside the OILM (i.e. the position was filled by someone who was not a college football coach the prior year). While it is possible for coaches at lower levels of college football (i.e. volunteer and graduate assistants) or from different levels outside of college

football (i.e. professional or high school) to move into a position from "outside" the OILM, it is highly unlikely that they move into the OILM from outside of a network of other coaches with whom they are connected.

Social Networks and Occupational Outcomes

Social networks have been an important topic of study in sociology for some time. Multiple authors have examined how the structure of contacts and nature of ties within one's network impacts his or her success in the job market. This impact occurs primarily in two ways: first, through promoting the transfer of information (Burt 1992; Granovetter 1973, 1995; Rees 1966) and second, through the influence contacts within a social network are able mobilize directly or indirectly for the job applicant (Davern 1999; Lin 1990, 2001; Lin, Ensel and Vaughn 1981; Lin, Vaughn and Ensel 1981; Poldony 1993, 2001).

Multiple theorists have explored the role of social networks leading to occupational outcomes through transmitting non-redundant information. With his "strength of weak ties" hypothesis, Granovetter (1973) argues that when it comes to the job market, weak ties are more beneficial than strong ties because they allow for the transmission of non-redundant information. Strong ties are not as effective at transferring information because they connect individuals who are similar and therefore privy to redundant information (Granovetter 1973; Burt 1992). Although Granovetter (1973) acknowledges the structural benefits of having weak ties that connect two different sets of strong ties (i.e. "local bridge"), Burt (1992) provides the most thorough theoretical statement on the structure of information processes with his concept of "structural holes." He argues that structural holes, a gap between two non-redundant contacts (i.e. two contacts who do not know one another), are the "causal

agent" that generates information benefits (Burt 1992). Weak ties, according to Burt (1992), are merely correlates that indicate a structural hole is likely, but not necessarily present.

In order to test the effects of information processes in coaches' social networks, I will use the following hypotheses to examine Granovetter's (1973) strength of weak ties hypothesis and Burt's (1992) concepts of redundancy by cohesion and redundancy by structural equivalence:

H_1: The strength of coaches' ties within their networks will have a negative effect on their occupational mobility and status.

H_2: The organizational diversity in coaches' networks will have a positive effect on their occupational mobility and status

H_3: The size of coaches' networks will have a positive effect on their occupational mobility and status.

While hypothesis one attempts to directly test Granovetter's influential hypothesis, hypotheses two and three indirectly test for the presence of a "structural hole" by determining the effect of the size of coaches' networks and the amount of contacts they have in different organizations on their occupational mobility and status.

Viewing social networks and their accompanying ties only as information transmitters may lead to an incomplete explanation of network processes. This is especially true for phenomena related to job performance and achievement such as mobility and status attainment. In order to account for this, Lin and his colleagues developed a social resources theory, taking into account the initial status of the job applicant, the statuses of her or his contacts, and the social resources that one is able to access, accumulate, and mobilize through her or his social network (Lin 2001). They provide a theoretical framework for

explaining a second way in which social networks lead to occupational outcomes: through mobilizing influence.

Mobilizing influence depends on one's access to high status contacts within their network. Lin and colleagues argue that higher status contacts are more likely to have influence over hiring, wage, and promotion decisions (Lin 1999; Lin et al. 1981a, 1981b). Similarly, Poldony (1993, 2001) shows how network contacts can provide indirect influence by serving as an "informational cue" to the quality of an individual. In other words, simply by being associated with a high status individual, one can develop a favorable reputation which leads to better occupational outcomes without their contact actively influencing the decision-making process. Multiple studies find support for the link between a high status contacts and getting a high status or more prestigious job (Lin et al. 1981a, 1981b; Lin and Dumin, 1986; De Graaf and Flap 1988; Montgomery 1991; Lai et al. 1998; Davern 1999; Marmaros and Sacerdote 2002). Accordingly, I will test Lin's "social resources hypothesis" in the sample of college football coaches:

H_4: The status of coaches' networks will have a positive effect on their occupational mobility and status.

While hypothesis four tests the crucial causal variable in Lin's social resources theory, it does not address the origins of high status contacts. With his "strength of position hypothesis," Lin suggests that where one starts in the social hierarchy, or their "positional advantage," has an important influence on the type and status of contacts one is able to access (Lin et al. 1981a, 1981b; Lin and Dumin 1986; Lin 1999).

One's positional advantage includes parents' income or status, one's educational attainment, and other background characteristics that place an individual at an advantage or

disadvantage compared to others in the job market. Multiple studies demonstrate the importance of positional advantage and show how high status contacts mediate the relationship between a high status starting position and a high status job (Lin et al. 1981a, 1981b; Lin and Dumin 1986; Lai et al. 1998). As a result, I will test both the direct and indirect effects of coaches' positional advantage

> H_5: *Coaches' education, organizational tenure, playing experience, and coaching experience will have a positive effect on coaches' occupational mobility and status.*
>
> H_6: *Coaches' networks (size, status, organizational diversity, tie strength,* and *homophily) will mediate the relationship between positional advantage and occupational mobility and status.*

Presumably, where one starts has an impact on her or his acquired contacts and accumulated social resources via the principle of homophily, or the tendency for interaction to take place between persons with similar attributes and characteristics (Lin et al. 1981a; McPherson, Smith-Lovin and Cook 2001). Studies demonstrate the homophily principle and how people group together by different characteristics including race, ethnicity, age, religion, education, status, and occupation (for a review see: McPherson et al. 2001). As a result, social networks tend to be homogeneous and those who start out at a high status are more likely to interact with others of high status. Similarly, researchers find that people of similar racial and ethnic backgrounds are more likely to interact and form networks (Ibarra 1993).

Race and Social Networks

Multiple studies show that racial inequality in occupational outcomes is at least partially attributable to social network processes (Baldi and McBrier 1997: Ibarra 1993, 1995; McGuire 2000; Smith 2000). Social networks are found to affect racial inequality through multiple mechanisms including positional advantage/disadvantage, tie strength, and racial homophily.

McGuire (2000) finds that structural factors like organizational rank, resource control, manager interaction with low level workers, and the number of women in one's network exclude women and minorities from high status positions. Smith (2000) finds that the value one receives from the social resources within their network depends on their structural location (similar to positional advantage). Therefore, high status individuals, who tend to be white men, benefit from weak influential ties, while low and mid status individuals, who tend to be women and minorities, do not.

Research on the differences in promotions between whites and minorities has produced mixed results. Although Baldi and McBrier (1997) find systematic differences in promotion determinants for whites and blacks, they do not measure social network effects. James (2000), on the other hand, included network measures in her analysis of financial service managers and found that social networks did not affect promotions but did mediate the relationship between race and psychosocial support. According to James, black managers received less psychosocial support because they had limited network resources.

In laying out a conceptual framework for racial and gender disparity in management positions, Ibarra (1993) argues that organizational factors constrain the benefits and resources available to minorities through networks. Ibarra (1995) later finds empirical support for this

framework by finding that when controlling for human capital variables, significant differences exist between whites and minorities in terms of homophily and tie strength within managerial networks.

In the literature on college football coaches, analyses examining race in relation to social networks have focused primarily on their additive effects. Using the same data as the present analyses, Sagas and Cunningham (2005) found a significant difference between white and black coaches in their mean levels of racial similarity (i.e. racial homophily) within their social networks. They included this variable with other human social capital variables with significant differences by race while controlling for race and age in a regression model predicting occupational mobility, status, and career satisfaction. Sagas and Cunningham (2005) found that racial similarity had a significant positive effect on occupational status and mobility. Based on an additive assumption regarding the relationship between race and social networks, they concluded that black coaches would benefit from fostering more same race network ties and that having few opportunities for developing same-race ties represents a structural barrier to the career advancement of black coaches.

As with other analyses relying on additive assumptions, Sagas and Cunningham (2005) assumed that racial differences in social networks produce different results for white and black coaches and that racial similarities in social networks produce similar results for white and black coaches. In other words, social networks mediate the effects of race. I will also test for the mediating effects in my analyses with the following hypothesis:

H_7: Coaches networks (size, status, organizational diversity, tie strength, homophily) will mediate the effect of race on occupational outcomes.

However, if the relationship between race and social networks is interactive rather than additive, we made need to revisit the conclusions drawn from previous work.

The Interactive Effects of Social Networks

Although most theory and research in the extant literature relies on additive assumptions regarding the relationship between race and social networks, some authors have begun to revise and test there additive nature. For example, Ibarra (1993, 1995) argues that due to the organizational and structural context in which individual managers' networks are embedded, minorities' networks can differ from whites' networks both in their structure and in the characteristics that are associated with occupational outcomes. She notes that because there are so few minority managers at high status levels within organizations, having a large amount of same-race ties may operate to produce worse results for black managers than for white managers (Ibarra 1993, 1995). Empirically, this type of argument suggests that the effects of racial homophily within one's network on her or his occupational outcomes is dependent on her or his race. In other words, it suggests an interactive effect of race and racially homophilous network ties.

Lin (2001) introduced theory regarding the interactive effects of social networks with his discussion of "capital deficits" and "return deficits." Capital deficits involve "different quality or quantity of capital" between different social groups as a result of their differences in investment or opportunities for developing social capital (Lin 2001). Return deficits, on the other hand, involve similar "quality or quantity of capital" producing different results for different social groups due to "…differential mobilization strategies, agent efforts, or institutional responses (Lin 2001, p. 121)."

Along with theoretical arguments for the interactive effects of social networks, empirical work demonstrates support for the interactive effects of social network variables on occupational outcomes (Ibarra 1993, 1995; Lin and Dumin 1986; Wegener 1991; Smith 2000). Researchers have found that the effect of tie strength on occupational outcomes is dependent on one's initial level of prestige as operationalized by father's occupational status (Lin and Dumin 1986), previous occupation (Wegener 1991), or socio-economic status (Smith 2000). Researchers have also found that similar levels of network range (i.e. structural non-equivalence) and network status affect the perceived network utility of black and white managers differently, increasing the perceived utility for white managers and having no effect or decreasing it for black managers (Ibarra 1995).

This literature provides both the methodological and theoretical impetus for my research. Theory suggests that similar network structures may result in different occupational outcomes (Ibarra 1993; Lin 2001), and previous research suggests that interactive models should be used in empirical studies (Ibarra 1995; Smith 2000; Wegener 1991). As a result, I will test the following hypotheses about the interactive relationships between social network variables and coaches' race:

H_8: Racial homophily will have a negative effect on occupational outcomes for black coaches and a positive effect for white coaches.

H_9: Network status will have a greater positive effect on occupational outcomes for white coaches than for black coaches.

H_{10}: Organizational diversity will have a greater positive effect on occupational outcomes for white coaches than for black coaches.

H_{11}: Network size will have a greater positive effect on occupational outcomes for white coaches than for black coaches.

H_{12}: Tie strength will have a greater positive effect on occupational outcomes for white coaches than black coaches.

Data and Methods

The data I will use to test these hypotheses are the same that Sagas and Cunningham (2005) used to examine the relative importance of human capital, social capital, and discrimination in producing racial differences in mobility, status, and career satisfaction among Division I-A assistant football coaches.

Sagas and Cunningham (2005) collected the data in 2002 through a mail survey of each of the nine full-time assistant coaches on every team at the Division I-A level (N = 1,026). One week after the initial mailing, they followed up with a postcard to thank and remind the coaches to respond. Their final response rate was 37.7% with 387 coaches returning surveys. Of these, 27 had incomplete responses and 32 coaches reported their race as "other" and thus were excluded from the analyses in this study. The working sample for this study includes 328 coaches, 224 who are white and 104 who are black.[1]

As with any data, those used in the present analyses are not without their limitations. First, the relatively low response rate (37.7%), although typical of mail surveys of similar populations,[2] raises concerns regarding the representative nature of the sample. However, as

[1] Due to incomplete or nonsensical responses on some key items, the analytical sample is 320 for analyses using *occupational mobility* as the dependent variable and 319 for analyses using *occupational status* as the dependent variable.

[2] Cunningham et al. (2001) had a 35.1% response rate from a survey of male intercollegiate assistant basketball coaches.

Sagas and Cunningham (2005) demonstrate, the sample is roughly equivalent to the general population of coaches in terms of race (31.7% of the coaches in this sample are black compared to 26.7% of the overall population of Division I-A assistant coaches; see DeHass 2003). Also, Sagas and Cunningham (2005) noted that there were no significant differences between early and late respondents on any of the variables. While I cannot definitively rule out non-random variation in those who responded and those who did not respond to the survey, the sample appears to provide an adequate demographic representation of the population that was surveyed.

Another potential limitation of the data is that they do not include direct measures of some important theoretical mechanisms regarding the processes of how social networks impact occupational mobility and status. As is common throughout the literature examining ego-centered social network data, these data do not include measures of information flow, only correlates like tie strength, the size of one's network, and the number of contacts one has in different organizations. As a result, I do not directly measure a key mechanism that networks are posited to provide (Granovetter 1973, 1995).

These data are also limited in that some measures may be too general to test phenomena specific to the college football coaching profession. For example, the dependent variable of *occupational status* is measured with the number of positions respondents are below their head coach. Because it does not indicate a coach's specific position on the staff, my substantive questions and conclusions are limited regarding how the structure of positions on a coaching staff may affect occupational status and mobility. Also, I am unable to examine the stacking and tracking phenomenon that previous literature has eluded to (see

Anderson 1993) where coaches are placed and funneled into high-potential or low-potential positions and careers.

Although these data are limited in certain areas, to my knowledge they provide the only source of ego-centered data on assistant college football coaches at the highest level of the profession. Further, the data provide more than adequate measures for examining important social network processes and the racial disparity among college football coaches.

Measures

Two dependent variables are the focus of this study's hypotheses. *Occupational mobility* is measured by a question that asked coaches how many promotions they had experienced over their careers as college football coaches. Promotions were defined for them in the survey as "Any increases in level and/or significant increases in job responsibilities or job scope." Answer categories are coded on a seven-point scale ranging from "none" to "11+" with the connecting categories moving up in increments of two (i.e. 1-2, 3-4, 5-6, 7-8, and 9-10).

Table 1 about here

Occupational status is measured by a question asking coaches about the status of their position relative to the head coach of the football program. Specifically, the question asks how many job levels they are below the head coach with responses coded into a five-point scale ranging from "right below" to "5+ below." For the sake of these analyses, the variable is reverse coded so a high number indicates a high position on a coaching staff (i.e. "right below" the head coach) and a low number indicates a low position.

Table 2 about here

The independent variables for my analyses fall into three general categories: positional advantage/human capital, social network, and demographic. The positional advantage/human capital indicators included in Sagas and Cunningham's (2005) data include measures of *education, organizational tenure, professional playing experience,* and *coaching experience. Education* is measured by asking the coaches about their highest degree attained with five possible responses ranging form "other" to "doctorate." For the purpose of my analyses, the education variable will be coded as a dichotomous variable indicating if they have or do not have a graduate degree. This is an important distinction in the college coaching profession because certain jobs require a master's degree to even be considered. Also, researchers commonly use education as a dichotomous variable throughout the literature on managers and coaches (Ibarra 1995; Sagas and Cunningham 2005).

Organizational tenure is measured by a single indicator of the number of years that the coach has been an employee in the current athletic department. Previous research on occupations in general has suggested that moderate length tenures (3-5 years) seems to be the optimal amount of time for generating network benefits (Granovetter 1995). According to Granovetter (1995), anything shorter hinders the development of contacts and anything longer may truncate one's network with redundant contacts.

Playing experience is indicated by one measure: *professional playing experience*. This is coded as a dichotomous yes/no variable indicating whether the coach played football at the professional level or not. Coaches who played at high levels should be in better positions to gain credibility, knowledge and contacts in the coaching ranks to help them in

their careers.[3] Coaching experience is indicated by three measures. *College coaching experience* is the number of years they have coached college football. *Professional coaching experience* and *high school coaching experience* are both coded as dichotomous variables indicating whether or not the respondents have ever coached at those levels. As with playing experience, coaching at multiple levels should place a coach in a better position to develop a network that can provide both information and influence to advance their careers.

Social network measures that are included in the Sagas and Cunningham (2005) data were gathered through a name generator that asked for information on up to 12 people who "…have acted to help your career by speaking on your behalf, providing you with information, career opportunities, advice, or psychological support or whom you have regularly spoken regarding difficulties at work, alternative job opportunities, or long-term goals." Measures in this name generator include the contacts' *race, status* (relative to the respondent), *organizational similarity* (relative to the respondent), and the perceived *tie strength* between the coach and his contact (see Seibert et al. 2001 for examples of similar network measures). Two additional measures that can be created from this name generator include *network size* and *racial homophily*.

A *Contact's race* is measured with three potential categories: "white," "black," or "other." *Racial homophily* represents the proportion of same race ties in a coach's network. I created this measure by adding the total number of contacts in the name generator that are the same race as the respondent and then dividing that by the number of total contacts. *Contact status* is indicated for each contact in the name generator by asking the responding

[3] *College playing experience* indicated by whether or not the coaches played college football or not was available in the data but not included in my analyses because of a lack of variability. In fact, over 95% of the coaches in the sample indicated that they played college football.

coach about the organizational level of their contacts. The responses are dichotomously coded as being at a "higher" or at a "same or lower" level than the respondent. *Organizational similarity* is indicated by the proportion of contacts in a coach's network that are in a different organization from him. It is created from dichotomous responses to a question about whether each contact listed is in the same or different athletic department as the responding coach. The *tie strength* between the coach and his contacts is measured in the name generator by asking the respondent to indicate how close he feels to each contact. The responses are coded into three categories, "especially close," "less close," and "distant." The tie strength variable in the analyses is the proportion of strong (i.e. "especially close") ties in the coaches' networks. Finally, a coach's *network size* is measured by adding up the total number of contacts he included in the name generator.

Two demographic measures, respondents' *age* and *race*, are included in my models. First, *age* is included as a control variable to take into account any effects of age on occupational outcomes. One would expect that age is related to previous occupational mobility and current status simply based on the fact that older coaches are more likely to have been in the coaching profession for a long time and have had more opportunities to move up. Also, as Sagas and Cunningham (2005) note, the black coaches in the sample are significantly younger on average than the white coaches. This makes age an important control variable for examining racial differences in occupational outcomes.

A Coach's *race* is a theoretically important variable in many of the hypotheses guiding this research. It is measured with three potential responses: "white," "black," or "other." As a result of the small number of coaches falling into the "other" category, both in

this data (N = 32) and in the entire population of Division I-A football coaches (DeHass 2004), my analyses are limited to white and black coaches only.

Analytical Techniques

Table 3 displays the descriptive statistics and bivariate correlation coefficients for the variables in my analyses. Using a series of nested OLS regression models to analyze these data allows me to determine the relative importance of demographic control, positional advantage/human capital, and network variables in explaining the variation in occupational mobility and status attainment. It also allows me to examine mediating and moderating effects of the variables in the models. In order to avoid issues of multicollinearity, I included the interaction terms proposed in hypotheses 8 through 12 separately into the full model. All continuous variables are centered on their means to reduce multicollinearity and to ease interpretation of the intercept and the interaction terms.

Table 3 about here

Results

Table 4 displays the results of OLS regression models predicting coaches' occupational mobility and status separately. Model one examines the independent effects of the demographic control variables of race and age. It shows that black coaches have significantly lower levels of mobility and status than white coaches. Also, the model demonstrates that the older a coach is, the more mobility he has experienced in his career and the higher status he has attained. Finally, according to model one, the variables of race and

age account for about 13% of the variation in occupational mobility and about 20% of the variation in occupational status.

Table 4 about here

Model two in Table 4 includes positional advantage/human capital indicators. For both occupational mobility and status, race still has a significant effect with black coaches experiencing lower levels of both. However, while the race effect on mobility is lower than in the control model, it has essentially the same effect on status in model two as it does in the control model. Also, age is only a marginally significant predictor of mobility and an insignificant predictor of status in model two.

Two positional advantage/human capital variables have significant effects on occupational mobility in model two and one has a marginally significant effect. Organizational tenure has a significant negative effect while college coaching experience has a significant positive effect. Education has a marginally significant positive effect on occupational mobility, with coaches who have graduate degrees experiencing higher levels of mobility on average than coaches without graduate degrees.

High school coaching is the only positional advantage/human capital variable that has a significant effect on occupational status in model two. Coaching in high school has a negative effect on occupational status, with those coaches who have coached at the high school level having lower status levels on average than those coaches who have not. College coaching experience has a marginally significant positive effect on occupational status. Adding the positional advantage variables in model two increases the explained variance in mobility by about 9% (Adjusted R^2: .2192) and by about 1% in occupational status (Adjusted R^2: .2295).

Model three in Table 4 includes the social network variables. Only one of them, network size, has a statistically significant effect on occupational mobility and occupational status. However, the direction of the effect is different for each dependent variable. Model three shows that network size has a small positive effect on occupational mobility and a small negative effect on occupational status. As a result of the limited additive effects of the social network variables, the results of model three for the control and positional advantage/human capital variables are similar to model two.

Model three shows that race has a statistically significant negative effect on both occupational mobility and status with black coaches experiencing significantly lower mobility and occupying significantly lower statuses than white coaches on average. Model three also shows that age has a marginally significant negative effect on mobility but no significant effect on status. The three significant positional advantage/human capital predictors of occupational mobility in model three (education, organizational tenure, and college coaching experience) are the same as the previous two with one exception; education changes from being marginally significant to significant. Also, the two significant predictors of occupational status are essentially the same as in previous models with one exception: high school coaching experience changes from being significant to marginally significant. Including all of the network variables in model three increases the explained variance in occupational mobility by about .39% and in occupational status by about 1.65%.

Table 5 displays the results of OLS regression models predicting occupational mobility with race by network interaction terms, and one model that includes the proportion blacks in one's network as a predictor of mobility.[4]

Table 5 about here

Three interaction terms are statistically significant. First, model one shows a statistically significant negative interaction effect between race and racial homophily. Figure one displays this effect graphically, demonstrating that for model one in table 5 the proportion of racially homophilous ties has a negative effect on black coaches' mobility and a positive effect on white coaches' mobility.

Figure 1 about here

Second, model two shows a statistically significant positive interaction effect between race and network status. Figure two displays this effect graphically, demonstrating that the proportion of higher status ties has a positive effect on black coaches' mobility and a negative effect on white coaches' mobility.

Figure 2 about here

Finally, model five includes a statistically significant interaction term between race and tie strength. Figure three displays this effect graphically, displaying a small difference in the positive effect of tie strength for black and white coaches.

Figure 3 about here

[4] I also tested the same interactive effects on occupational status. None of the interaction terms in those models were statistically significant and as a result are not reported here. Results from those analyses are available from the author upon request.

The results of model one in Table 5 indicate that a high proportion of black contacts (i.e. a black coaches with highly homophilous networks) decreases coaches' occupational mobility, and a low proportion of black contacts (i.e. white coaches with highly homophilous networks) increases coaches' occupational mobility. Following this, I included the proportion of black ties in a coach's network as an independent variable in model six. This model shows a statistically significant negative effect of the proportion of black ties in one's network on his occupational mobility. The effects of the other variables in model six are similar to the results of model four in table 5 with one exception: the effect of race on mobility, while still statistically significant and negative, is smaller (-.500 compared to -.725) in model six than in previous models that did not account for the proportion of black contacts in coaches' networks.

Discussion

The documented racial disparity among college football coaches has persisted along with attention to the issue from the media, coaches associations, and the NCAA. Much of this attention has focused of the role that social networks play in producing such disparity (Harrison and Yee 2006; Nyman 2005; Lederman 2006). However, with a few important exceptions, academic researchers have not addressed the issue (see Sagas and Cunningham 2005 for an exception). The academic research that has studied the racial disparity among coaches tends to rely on additive assumptions regarding the relationship between race and social networks. As previously noted, if the relationship between race and social networks is interactive some of the previous conclusions regarding the differential effects of social networks on occupational outcomes for black and white coaches may need revisiting. Using

Sagas and Cunningham's (2005) data on Division I-A assistant football coaches, I attempted to address these differential effects with 12 hypotheses, five of which specifically tested the interactive effects of race and social networks on occupational mobility and status.

Of the first six hypotheses regarding the direct and mediating effects of social networks, only hypothesis three was supported in terms of occupational mobility. Specifically, network size was shown to have a slight positive effect on coaches' mobility with larger networks being associated with slightly more promotions. However, hypothesis three was rejected in relation to occupational status, with larger networks being associated with less status. Based on this general lack of support, on first look, one could easily conclude that social networks are not important to the career outcomes of college football coaches.

Adding to this general lack of evidence is the fact that positional advantage/human capital variables were predicted to explain more variation in both occupational mobility and status than social network variables. Hypothesis five, which examined the effects of positional advantage/human capital, received partial support in my analyses of both occupational mobility and status. Educational attainment and college coaching experience both had significant positive effects on occupational mobility. Also, organizational tenure had a negative effect on mobility. This suggests support for Granovetter's (1995) contention that longer tenures within the same organization may truncate one's network, making the information within it more redundant and less useful for moving up in one's profession. In terms of occupational status, there were only marginally significant effects of college and high school coaching experience. However, they were in the direction one may expect, with college coaching experience being associated with higher status and high school coaching

experience being associated with lower status. This negative effect of having coached at the high school level may be due to the fact that it delays entry into the labor market of college football coaches.

In light of the social network variables having one additive effect, it is not surprising that hypotheses six and seven proposing the mediating effects of social networks were rejected in my analyses for both occupational mobility and status. Again, these findings lead to the initial interpretation that social networks are not important determinants of college football coaches' mobility. Adding to this is the fact that positional advantage/human capital variables have significant effects on occupational mobility and status suggesting that a certain amount of merit is involved in the mobility and status attainment of college football coaches. However, this conclusion is weakened by the fact that net of all positional advantage/human capital, network, and control variables in the model, race still has a significant effect, and along with age explains the majority of the variance in both mobility and status.

After finding similar results to the present analyses regarding the additive effects of race, human capital/positional advantage, and social network measures, Sagas and Cunningham (2005) suggested that their results supported a discrimination interpretation of the different mobility and status levels between white and black coaches. Similarly, the consistent race effect found in the present analyses is also indicative of a more active discrimination process known as social closure. Social closure is the process by which members of superordinate groups (i.e. white coaches) actively preserve their advantaged positions by excluding members of subordinate groups (i.e. black coaches) from preferred jobs and reserving them for other superordinate group members (Tomaskovic-Devey 1993).

However, while the results of the additive analyses may point to such discrimination and social closure explanations they do not directly test either of them and therefore fail to determine the actual process leading to such racial disparity. However, as the results of my interactive analyses suggest, the racial make-up of social networks may be one way that black coaches are excluded from mobility opportunities.

Although traditional network variables do not seem to have an additive effect in this sample, when I examined their interactive effects, a different story emerged. Two of the five interactive hypotheses regarding the effects of race and social networks were supported in my analyses on occupational mobility (all of them were rejected in the analyses on occupational status). The proportion of racially homophilous ties in coaches' networks negatively effects mobility for black coaches and positively effects mobility for white coaches. This finding supports hypothesis eight and is at odds with Sagas and Cunningham's (2005) conclusion based on additive assumptions that black coaches would benefit from fostering more same race ties. In fact, as Figure 1 demonstrates, same race ties appear to have a negative effect on black coaches' mobility.

Adding support to this conclusion are the results of model six in Table 5, that demonstrate that coaches who have a large proportion of black contacts in their network, regardless of if they are white or black, have less mobility than coaches with smaller proportions of black contacts. The effect of the proportion black in one's network also partially mediates the effect of coach's race on mobility. This suggests that the racial make-up of one's network is important to a coach's occupational outcomes. These findings coupled with the fact that about 39% of white coaches in the sample have no blacks in their network suggest one of the processes by which social closure may operate to produce less

mobility for black coaches than white coaches. Essentially, black coaches are being excluded from 39% of the white networks, and, as the mediating effect of the proportion black in one's network suggests, this may result in black coaches being excluded from mobility opportunities. However, the effect of the proportion black in coaches' networks is only a partial mediator of the race effect. Thus, there are likely other processes leading to discrimination and the social closure of black coaches from moving up in the coaching profession.

Hypothesis 12 is the other interactive hypothesis supported in the present analyses. It proposed that the effect of strong ties in coaches' networks would have a stronger positive effect on white coaches' occupational outcomes than black coaches' outcomes. However, the difference appears to be small. White coaches benefited only slightly more from strong ties than black coaches.

Although I find a significant interactive effect of network status and race on mobility, hypothesis nine is rejected because the effect is not in the direction proposed. In fact, my analyses show that black coaches benefit more from having a large proportion of higher status ties than white coaches. While this result contradicts the present study's hypothesis, it is in line with Burt's (1998) study on senior managers in a large U.S. corporation. He found that hierarchical networks are more important for managers who lack legitimacy (in his case women and entry-rank men) because they benefit most from borrowed social capital. The present study's finding that higher status networks benefit black coaches (who may have less legitimacy than white coaches) more than white coaches makes sense in relation to Burt's (1998) findings.

There are many possible theoretical interpretations for the interactive findings in this study. First, they lend some preliminary support to Lin's concept of "return deficits" where members of different social groups receive differential returns on similar quality or quantity of social capital thus leading to different outcomes. However, based on my analysis, I can only determine that black and white coaches are indeed receiving differential returns on similar levels of racial homophily, higher status ties, and strong ties. I cannot determine the processes leading to this. Lin (2001) proposes that these types of differential returns result from members of different social groups mobilizing their networks differently, differential effort by members of their network, or different organizational responses to similar types of networks.

Ibarra (1993, 1995) also deals with the interactive relationship between race and social networks but suggests that racial differences in the effects of social networks on occupational outcomes are due to the organizational context in which networks are embedded. She argues that minority managers' networks can differ from those of white managers' both in their structure and characteristics associated with occupational outcomes. Specifically, Ibarra argues that because of the paucity of minority managers at high status levels within organizations, having a large amount of homophilous ties may actually produce worse results for black managers than for white managers. Clearly, more research is needed in the coaching literature and the general social network literature to examine the processes leading to differential returns on social networks for members of different social groups

As with any research, the present study is not without its limitations. First, the data do not address the structure of the labor market or mobility within the college football coaching profession. According to Smith (1983) and Smith and Abbott (1983), not taking

into account the interdependent nature of mobility in the coaching profession is a major weakness of traditional mobility studies. However, if vacancies occur at a fairly consistent rate in college football, then examining differences in mobility over coaches' careers is not unduly affected by not accounting for vacancy chains. Also, as I previously mentioned, the vacancy chain model is limited when it comes to explaining differential mobility and status between different social groups. Another structural issue that my data do not take into account is the structure of the coaching staffs in which these coaches work. Previous research suggests that black coaches may get stacked into non-central coaching positions that have lower potential for mobility (Anderson 1993). These data do not include measures of the specific coaching position held by respondents and thus are limited by not controlling for a stacking and tracking explanation (Figure 4 in the appendix shows the basic organizational structure of college football coaching staffs).

Second, these data do not include measures of performance. This is a weakness in many mobility studies. By not accounting for coaches' performance on the job, I cannot rule out that differences in mobility and status are due to differences in individual performance. However, performance measures like wins and losses or defensive and offensive statistics/rankings, have demonstrated mixed results in literature dealing with coaching at the professional and collegiate level in predicting occupational mobility, commitment, and turnover intentions (Cunningham and Sagas 2004; Fee, Hadlock, and Pierce 2006). It may be that more organization-specific and subjective performance measures like quality of scouting reports produced, how a coach relates to the players, and additional performance attributes that are difficult to measure may be more important than objective measures.

These types of data are lacking in virtually all quantitative mobility studies, especially in those using a national sample such as the present study.

Finally, it should be clear that social networks are just one of many interpretations of the racial disparity in the college coaching profession in general and specifically among college football coaches. For example, in studying Division I-A basketball coaches, Cunningham and Sagas (2005) found support for Kanter's (1977) concept of homosocial reproduction and Turner et al.'s (1987) self-categorization theory. Specifically, they found that white head coaches employed a higher proportion of white assistants than black head coaches, and that black head coaches employed a higher proportion of black assistants than white head coaches. They also found support for Greenhaus, Parasuraman, and Wormley's (1990) concept of access discrimination. Specifically, that blacks represented a lower proportion of coaches than college basketball players who are assumed to be the largest pool of potential coaches. However, while their analyses drew on some important theoretical constructs, they did not include direct measures of those constructs and their study focused on basketball coaches rather than football coaches.

One theoretical perspective that has been supported among college football coaches is a stacking and tracking explanation. This explanation notes the documented racial segregation in position assignment in college football, with black players being overrepresented in non-central positions, and it demonstrates how this segregation is perpetuated when athletes move into the coaching profession. As a result of playing non-central positions, black athletes are often tracked into non-central coaching positions that have less opportunity for advancement. Anderson (1993) demonstrated this empirically on a sample of college football coaches. He showed that black coaches' current coaching position

was significantly related to the position they played in college. Not surprisingly, he also found that a higher percentage of black coaches were coaching non-central positions such as wide receivers, running backs, linebackers, and defensive backs.

Unfortunately, the data used in the present analyses do not allow for examining all of these different theoretical explanations and conceptual frameworks. Future theoretical and research efforts attempting to explain the mobility and status attainment of college football coaches should take these multiple explanations into account when developing theoretical models, research questions, and data collection instruments. By combining personal and career histories with objective and subjective measures of their networks, future research may be able to isolate the mechanisms underlying the racial disparity among college football coaches.

Conclusion

The present research examined the interactive effects of race and social networks in an attempt to offer a more complete explanation of the social network processes that lead to racial disparity among college football coaches. The results of the empirical analyses show that social networks play a role in producing the racial disparity that exists among college football coaches. Specifically, the results show that similar network structures and resources interact with race to produce different levels of mobility for black and white coaches. While more research is necessary to determine the extent of networks' role, finding that networks matter and particularly that similar network structures and resources can produce different mobility results for black and white coaches has implications for theory, research, and policy regarding the racial disparity among college football coaches.

As previously mentioned, the popular press, athletic officials, and coaches associations are well aware of the racial disparity among college football coaches and the potential impact networks play in producing it. As a result, there are programs and policies geared toward producing more opportunity for minority coaches in the college football coaching profession. These policy and program approaches tend to focus on improving individual coaches' marketability on the job market by focusing on skill building and providing networking opportunities (McKindra 2006).

An example of this type of program is the NCAA's annual "Men's Coaching Academy" that is geared at addressing the shortage of minorities in head coaching positions at the division I-A level. The stated focus of this workshop is on the skills involved with being a head coach and running a football program. These include communication skills, fiscal responsibilities, NCAA compliance, academic issues, and general aspects of program building such as staff management, game strategy, and maintaining relationship with senior officials at the university (McKindra 2006). Although the NCAA "Men's Coaching Academy" primarily focuses what individual coaches can do to improve their occupational outcomes, other organizations have begun to shift their attention towards the structure of hiring and promotion policies.

Colleges have not gone as far as implementing a policy similar to the NFL's "Rooney Rule," that requires franchises to interview at least one minority candidate for every head coach opening. However, the Black Coaches Association (BCA) has put out an annual hiring report card since 2004 for every head coaching position filled at the NCAA Division I-A and I-AA levels. The BCA grades institutions on five categories: 1) communication, 2) hiring/search committee, 3) candidates interviewed, 4) reasonable time, and 5) affirmative

action compliance (Harrison and Yee 2006). Essentially, the final grade reflects how inclusive the hiring process is, including the proportion of people of color on the search committee, the proportion of candidates of color interviewed, and the institutions documented compliance with affirmative action policies (Harrison and Yee 2006).

The labor market of college football coaches has few rules and regulations governing their mobility (Smith 1983; Smith and Abbott 1983). As a consequence of the informal nature of mobility among college football coaches, it is likely that social networks are an important part of the process. While the individual-level policy responses clearly attempt to address networking by giving individual coaches the opportunity to connect with high status individuals in the profession, they do not and likely cannot force individuals to form networks that adequately provide social resources such as information and influence. Similarly, formal policies like the "Rooney Rule" in the NFL and the grades handed out by the BCA Hiring Report Card cannot force institutions to hire a minority coach, although they do take a small amount of discretion away from who is considered for the position. While this does not necessarily reduce the impact of networks, it may increase the bridging between different networks, thereby increasing opportunity for minorities.

Formal hiring policies and evaluations of the structure of hiring practices demonstrate promise. However, they deal primarily with the hiring of head coaches. As the present and previous analyses have shown, racial disparity exists at the level of assistant coach. And if Reskin (1993) is correct that internal labor markets perpetuate racial disparity, especially when lower level jobs are segregated, then any attempts to address the disparity at the level of head coach will likely be unsuccessful without first addressing the disparity among assistant coaches.

In order to effectively address the racial disparity at the level of assistant coach, we must first come to a better understanding of the processes leading to it. It is my hope that the present study has advanced this understanding. The results have demonstrated that similar network structures and resources can produce different results for black and white coaches, and that the racial make-up of one's network has important effects on his or her mobility. While there is still much left to explain regarding the differences between black and white coaches' occupational mobility, the present study has demonstrated that social networks and their interactive effects with race are important aspects of the processes leading to this disparity.

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APPENDIX

Table 1: Coaches' Occupational Mobility by Coaches' Race

Mobility	Black	White	Total
No Promotions	22 (21.57)	10 (4.59)	32
1-2 Promotions	45 (44.12)	54 (24.77)	99
3-4 Promotions	25 (24.51)	83 (38.07)	108
5-6 Promotions	6 (5.88)	43 (19.72)	49
7-8 Promotions	3 (2.94)	16 (7.34)	19
9-10 Promotions	1 (0.98)	8 (3.67)	9
11+ Promotions	0 (0.00)	4 (1.83)	4
Total	102	218	320

Note: (Column percentages are in parentheses)

Table 2: Coaches' Occupational Status by Coaches' Race

Mobility	Black	White	Total
5+ Below	29 (29.29)	13 (5.91)	42
4 Below	14 (14.14)	12 (5.45)	26
3 Below	22 (22.22)	46 (20.91)	68
2 Below	19 (19.19)	72 (32.73)	91
Right Below	15 (15.15)	77 (35.00)	92
Total	99	220	319

Note: (Column percentages are in parentheses)

Table 3: Bivariate Correlations and Descriptive Statistics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1) Race	1.000															
2) Age	-.238*	1.000														
3) Education	-.207*	.258*	1.000													
4) Organizational Tenure	-.118*	.282*	.042	1.000												
5) Professional Playing Exp.	.319*	-.054	-.079	-.035	1.000											
6) College Coaching Exp.	-.290*	.818*	.216*	.292*	-.177*	1.000										
7) Professional Coaching Exp.	-.017	.166*	.047	-.115*	.045	.059	1.000									
8) High School Coaching Exp.	-.095†	.257*	.094†	-.026	-.064	.024	-.039	1.000								
9) Network Status	.010	.041	.027	.019	-.001	.032	.027	.062	1.000							
10) Tie Strength	.003	.023	.006	.018	-.071	-.000	.051	-.052	-.028	1.000						
11) Racial Homophily	-.655*	.186*	.201*	.062	-.274*	.242*	.010	-.017	-.049	.068	1.000					
12) Network Size	-.044	.070	-.038	-.049	-.098†	.099†	.015	.127*	-.118*	-.062	-.026	1.000				
13) Organizational Diversity	.044	.019	-.015	-.225*	-.065	.078	.041	-.028	-.061	-.007	.014	.148*	1.000			
14) Occupational Mobility	-.343*	.202*	.190*	-.069	-.139*	.338*	.039	-.055	-.028	.043	.253*	.146*	.104†	1.000		
15) Occupational Status	-.379*	.340*	.188*	.123*	-.065	.376*	.079	-.051	-.045	.011	.283*	-.127*	.047	.342*	1.000	
16) % Black in Network	.476*	-.042	-.067	-.075	.092†	-.166*	.004	.006	-.102†	.123*	-.279*	.068	.066	-.289*	-.243*	1.000
Mean	.319	40.79	.475	4.11	.219	14.66	.116	.431	.647	.707	.680	6.03	.715	2.90	3.52	.249
Standard Deviation	---	8.76	---	4.60	---	8.09	---	---	.280	.276	.281	3.34	.271	1.24	1.34	.236
Minimum	0.00	24.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Maximum	1.00	64.00	1.00	29.00	1.00	38.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00	7.00	5.00	1.00

Note: Table entries in upper panel are Pearson's *r* coefficients; * = p < .05; † = p < .10; Reference category for Race is "white"; for education is "non-graduate degree"; for professional playing experience is "did not play"; and for professional and high school coaching experience is "did not coach."

Table 4: OLS Regression Predicting Division 1A Assistant Football Coaches' Occupational Mobility and Status

	Model 1 Control		Model 2 HC/PA		Model 3 Network	
Independent Variables	Mobility	Status	Mobility	Status	Mobility	Status
Constant	3.162*	3.798*	3.049*	3.803*	3.045*	3.784*
	(.079)	(.081)	(.128)	(.137)	(.134)	(.142)
Race	-.833*	-.910*	-.713*	-.914*	-.725*	-.918*
	(.144)	(.148)	(.146)	(.156)	(.183)	(.195)
Age	.018*	.040*	-.028†	.021	-.027†	.020
	(.008)	(.008)	(.014)	(.015)	(.014)	(.015)
Education			.249†	.179	.271*	.156
			(.129)	(.138)	(.130)	(.137)
Organization Tenure			-.049*	.001	-.045*	.002
			(.014)	(.015)	(.015)	(.016)
Professional Playing Experience			.044	.217	.090	.196
			(.161)	(.174)	(.163)	(.174)
College Coaching Experience			.070*	.029†	.067*	.031†
			(.015)	(.016)	(.015)	(.016)
Professional Coaching Experience			.043	.102	.024	.119
			(.202)	(.213)	(.202)	(.211)
High School Coaching Experience			-.134	-.350*	-.159	-.272†
			(.140)	(.150)	(.142)	(.151)
Network Status					-.050	-.295
					(.222)	(.236)
Tie Strength					.253	-.034
					(.226)	(.240)
Racial Homophily					-.002	.012
					(.296)	(.317)
Network Size					.040*	-.062*
					(.019)	(.020)
Organizational Diversity					.152	.389
					(.239)	(.255)
Adjusted R^2	.1273	.2042	.2192	.2295	.2231	.2460
Model F	24.27*	41.79*	12.20*	12.84*	8.05*	8.98*

Note: N=320 (DV: Mobility); N=319 (DV: Status); Table entries are unstandardized regression coefficients (Standard Errors in parentheses); * = $p < .05$; † = $p < .10$; All continuous variables (i.e. Age, Organizational Tenure, College Coaching Experience, Network Status, Tie Strength, Racial Homophily, Network Size, and Organizational Diversity) are centered on their mean.

Table 5: OLS Regression Models Predicting Division 1A Assistant Football Coaches' Occupational Mobility

Parameters	Model 1 H_{10}	Model 2 H_{11}	Model 3 H_{12}	Model 4 H_{13}	Model 5 H_{14}	Model 6 *% Black*
Constant	2.964* (.137)	3.045* (.137)	3.042* (.134)	3.044* (.135)	3.026* (.133)	2.985* (.134)
Race	-.834* (.187)	-.693* (.183)	-.710* (.184)	-.724* (.184)	-.687* (.182)	-.500* (.197)
Age	-.020 (.015)	-.027† (.014)	-.027† (.014)	-.027† (.014)	-.028* (.014)	-.019 (.014)
Education	.275* (.128)	.276* (.129)	.271* (.130)	.272* (.130)	.264* (.128)	.279* (.128)
Organization Tenure	-.046* (.015)	-.046* (.015)	-.043* (.015)	-.045* (.015)	-.044* (.015)	-.046* (.015)
Professional Playing Experience	.050 (.162)	.063 (.163)	.079 (.163)	.091 (.163)	.119 (.161)	.047 (.161)
College Coaching Experience	.060* (.015)	.066* (.015)	.067* (.015)	.067* (.015)	.658* (.015)	.059* (.015)
Pro. Coaching Experience	.017 (.200)	.022 (.201)	.038 (.202)	.022 (.202)	.035 (.199)	.002 (.199)
HS Coaching Experience	-.172 (.141)	-.177 (.142)	-.154 (.143)	-.159 (.143)	-.151 (.141)	-.174 (.141)
Network Status	-.107 (.222)	-.360 (.275)	-.064 (.223)	-.048 (.223)	-.048 (.220)	-.120 (.221)
Tie Strength	.314 (.225)	.245 (.225)	.257 (.226)	.252 (.226)	.676* (.270)	.338 (.225)
Racial Homophily	.735† (.414)	.061 (.297)	.014 (.297)	.003 (.299)	.135 (.297)	.023 (.293)
Network Size	.047* (.019)	.039* (.019)	.040* (.019)	.042† (.025)	.039* (.019)	.046* (.019)
Organizational Diversity	.181 (.237)	.177 (.238)	.293 (.298)	.152 (.239)	.185 (.236)	.181 (.236)
Proportion Black						-.914* (.306)
Race*Racial Homophily	-1.508* (.598)					
Race*Network Status		.878* (.464)				
Race*Org. Diversity			-.380 (.483)			
Race*Network Size				-.005 (.039)		
Race*Tie Strength					-.133* (.480)	
Adjusted R^2	.2365	.2296	.2221	.2206	.2398	.2427
Model F	8.06*	7.79*	7.51*	7.45*	8.19*	8.30*

Note: N=320; Table entries are unstandardized regression coefficients (Standard Errors in parentheses); * = p < .05; † = p < .10; All continuous variables (i.e. Age, Organizational Tenure, College Coaching Experience, Network Status, Tie Strength, Racial Homophily, Network Size, and Organizational Diversity) are centered on their mean.

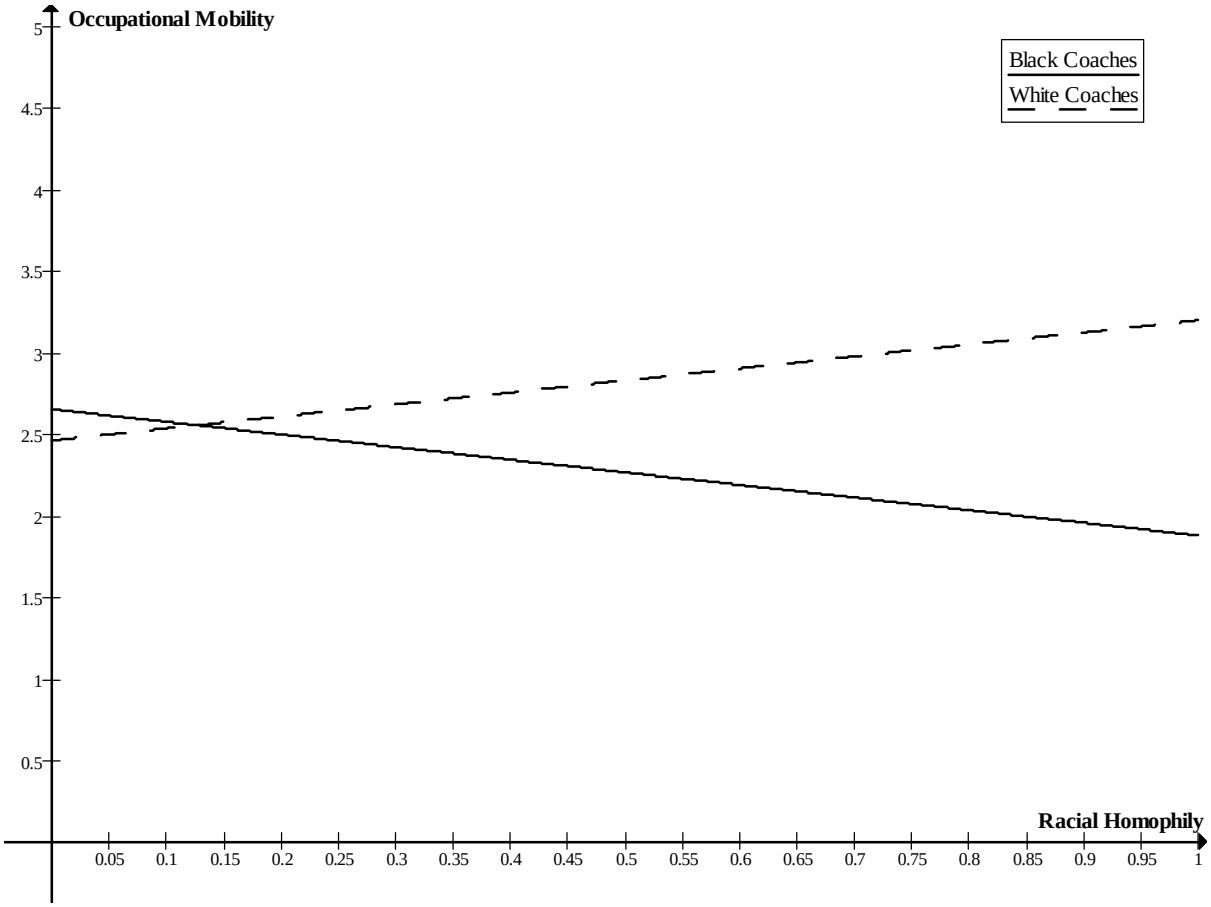

Figure 1: Predicted Value of Occupational Mobility by Racial Homophily for Black and White Coaches (N = 320)

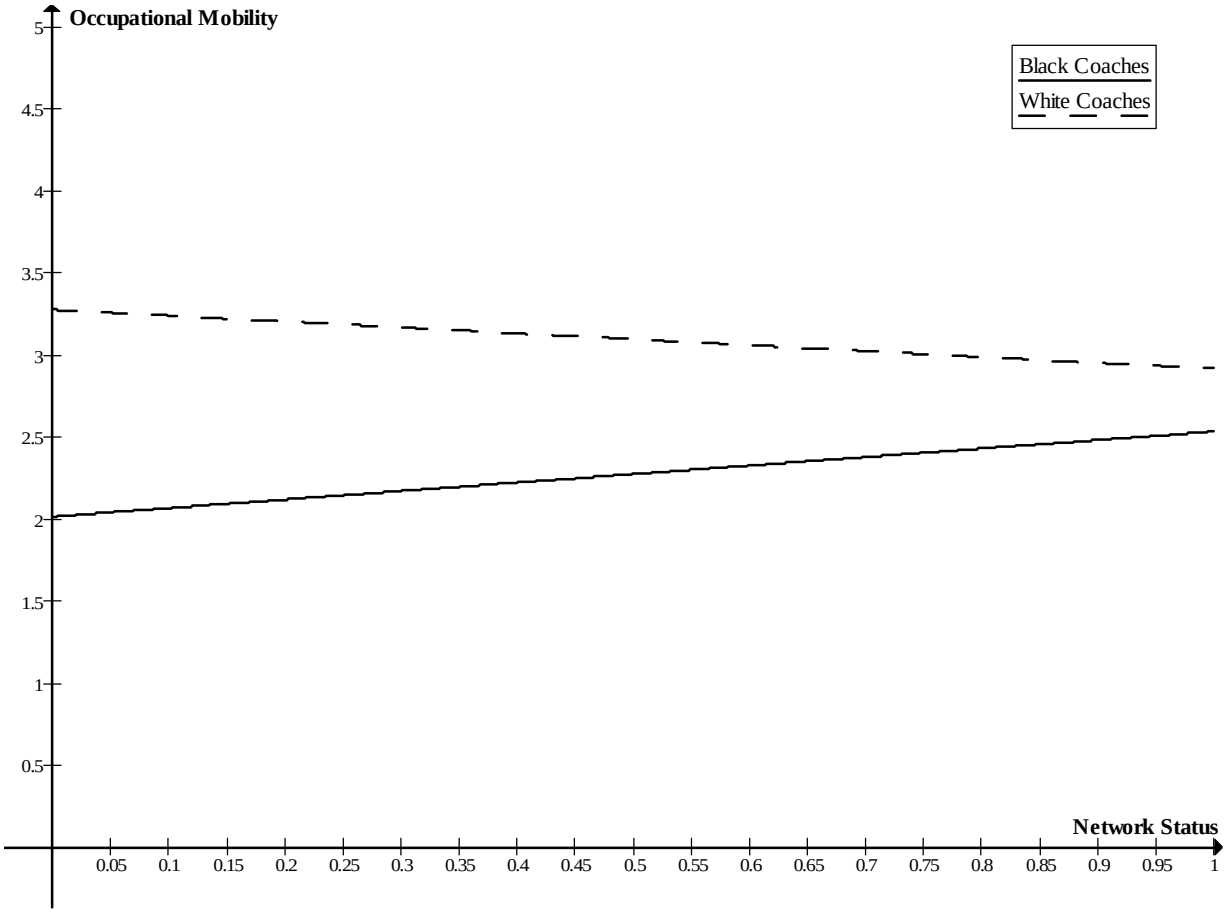

Figure 2: Predicted Value of Occupational Mobility by Network Status for Black and White Coaches (N = 320)

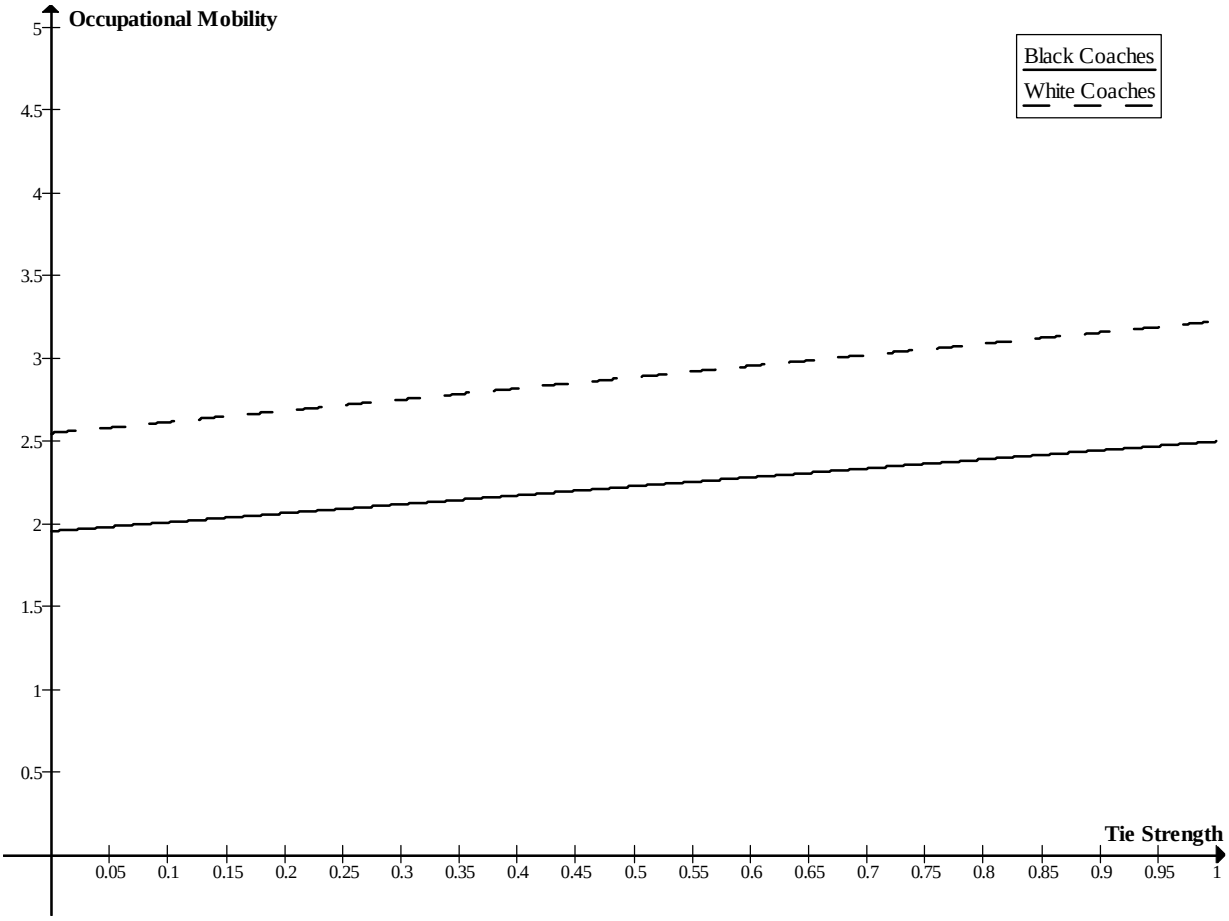

Figure 3: Predicted Value of Occupational Mobility by Tie Strength for Black and White Coaches (N = 320)

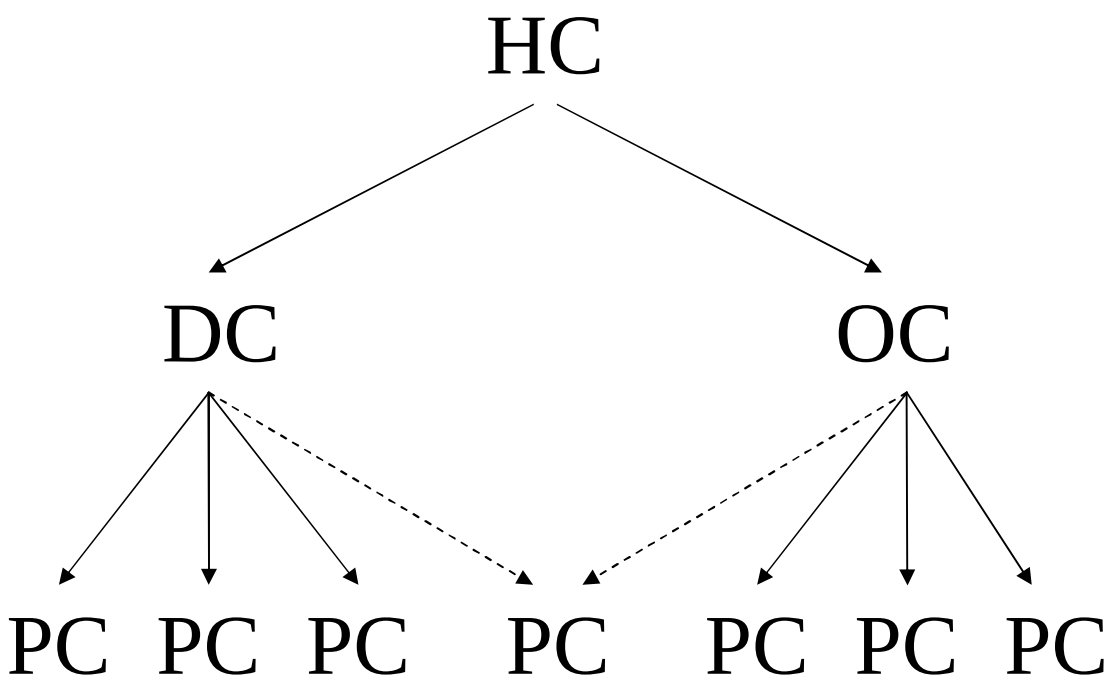

Figure 4: Organizational Structure of Division I-A College Football Coaching Staffs

Note: HC = Head Coach, DC = Defensive Coordinator, OC = Offensive Coordinator, PC = Position Coach, Dashed lines indicate a position coach who is on the offensive or defensive side of the ball depending on the team and the type of offense and/or defense they employ.

Division 1A coaching staffs include one head coach, nine full-time paid assistants, and two graduate assistants (as regulated by the NCAA, see bylaw 11.7.2). The head coach on a staff is the equivalent of a CEO; he oversees the entire program. The full-time assistant coaches are also separated into different levels of prestige, with the offensive and defensive coordinators acting as the divisional managers in charge of their offensive and defensive divisions respectively. Their lower level-managers include the various position coaches who are in charge of coaching one or two positions. The above figure does not account for hierarchy that exists among different position coaches (i.e. coaching central or non-central positions, the title of associate head coach, the title of recruiting coordinator, etc.). While there are typically at least three position coaches on the offensive and defensive sides of the ball the dashed line in the above figure represents the variability among teams with how they allocate there position coaches. Whether they have three or four position coaches on either offense or defense typically depends on the type of offense or defense that the team employs. Finally, the graduate assistants are essentially paid interns or aspiring coaches training to become full-time assistants while continuing their education. Figure four stops at the level of position coach and does not include graduate assistants or other peripheral positions on the staff.

There are also prestige differences among the different programs themselves. This can be seen in the average salaries of the head coaches between conferences. Head coaches in the "major" or BCS (i.e. Bowl Championship Series) conferences (ACC, Big East, Big Ten, Big 12, Pacific-10, and SEC) make more than three times the average of those in the smaller conferences (Conference USA, the Mountain West, Western Athletic, Mid-American, and Sun Belt) (Upton and Wieberg 2006). Even within these different conferences, head coaching positions at some schools are considered "better jobs" than others in terms of their resources, history, and prestige. Smith (1983) demonstrates how the prestige of a particular job in the college football OILM depends on the job itself as well as the program it is located in.