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Coaching Transition and Nature of Change: An Examination of NCAA DI Team Sports

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NCAA Division I team sport head coaches typically end their coaching roles by taking a more prestigious and lucrative position, or by being fired. These differences in the nature of the leadership change suggest differences in programmatic conditions at the time of change. How a leader leaves the program undoubtedly reverberates through the program resulting in coaches, players, administrators, and fans with varying levels of satisfaction. While literature is replete with the impact of leadership changes, there is little evidence to distinguish among nature of change, and strong evidence that a negative head coaching change precedes athletic and academic decline. Thus, this study investigated 414 NCAA Division I team–sport head coaching changes using a variety of athletic and academic variables to determine what best predicts specific types of coaching changes. Results indicated athletic success has the strongest relationship and is most predictive, as expected, particularly in revenue sports. Other noteworthy findings, however, revealed female coaches have less negative coaching changes than males, and that hiring an alum or having a high Academic Progress Rate predicted a negative change. These findings reveal there are variables beyond winning that influence the nature of change and establish patterns that could assist administrators in times of transition.

Intercollegiate athletic head coaches, particularly at the most elite levels of competition, are routinely scrutinized for their team's performances. The most successful coaches often find themselves moving to larger and more lucrative positions, while less successful coaches are regularly fired. The nature of a coaching transition is indicative of the current health of the program, and ultimately how the program will perform for a new coach (Cunningham & Dixon, 2003; Johnson et al., 2012, 2013, 2015, 2017, 2018). If stakeholders knew what was most associated with the nature of change, beyond winning games, they could better plan for specific types of transitions that are likely to follow distinct types of changes.

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Defining the nature of change for intercollegiate head coach transitions has been implemented in several studies by Johnson et al. (2012, 2013, 2015, 2017, 2018). In those studies, the nature of change was used as one of many independent variables examined in relation to academic variables (2013), individual sports of football (2013, 2015) and basketball (2018), and winning (2012, 2015, 2017). These studies all defined a positive coaching change as"leaving for a more prominent coaching position after success, retired voluntarily with a history of success, or was promoted to athletic director because of accomplishments" (Johnson et al., 2018, p. 150). Negative change was defined as "fired, resigning after a lack of success, scandal, or other negative circumstances where resignation or termination occurred" (Johnson et al., 2018, p. 150). Despite some significant relationships found between nature of change and other variables, nature of change has never been the dependent variable under investigation. Considering there is evidence of its impact post-transition, it is prudent to determine whether this variable can aid stakeholders to improve the ramifications of coaching change.

Thus, the purpose of this study was to investigate the nature of head coaching changes and patterns of coaching transition by providing empirical data that may influence administrative decisions for the betterment of college athletes. Given the aforementioned literature, and acknowledging the complicated nature of college athletics, one overarching research question guided this study: What variables are most related to nature of head coaching change? The following hypotheses were created:

H_1: Winning will have the strongest relationship to nature of change.

H_2: Winning will be most predictive of nature of change.

H_3: APR scores and alumni status will have significant relationships to nature of change, but less significant than winning.

Review of Literature

Theoretical Underpinnings

Leadership literature has many findings about the causes of leadership changes and the contexts under which these changes occur. The earliest theoretical approaches surrounding leadership research were found in traditional business environments where CEOs were evaluated based on their effectiveness following a change (Lieberson & O'Connor, 1972). Unfortunately, studies of internal and external leadership choices had mixed findings leading to conclusions that had little practicality (Giambatista et al., 2005). Sport differs from business environments but is an ideal context to investigate leadership behavior due to the similarity of teams and leagues, as well as the public accessibility of data (Johnson et al., 2017; Wolfe et al., 2005).

Coaches face constant scrutiny due to the public's continual consumption of sport. The head coach takes accountability for the outcome of games and serves as the figurehead who shoulders blame from the public when the team performs poorly (Rowe et al., 2005). This point is particularly relevant in college athletics where coaches plan strategically for the long term in their recruiting efforts, but still face the pressure from various stakeholders to excel in the short term (Johnson et al., 2017;

Rechner & Dalton, 1991; Soebbing & Washington, 2011). Coaching performances are constantly monitored by fans, donors, parents, and administration. The public regularly speculates about the stability of coaching positions.

There have been numerous leadership theories that explain performance and succession. Following a new coaching hire, Common Sense Theory (Grusky, 1963) suggests that replacing an underperforming coach with a new coach should lead to more success (Dohrn et al., 2015; Maxcy, 2013). Ritual Scapegoating Theory (Gamson & Scotch, 1964) implies that coaches are the ones who are blamed, but the program experiences only marginal changes after coaching turnover (Dohrn et al., 2015; Johnson et al., 2017). Vicious Cycle Theory (Grusky, 1960) proposes that firing coaches results in a continuous cycle of hiring, underperforming, and rehiring, instead of an improved team performance.

Differing from the preceding theories that predict performance after a coaching change has occurred, there are two competing theories rooted in business and used to investigate a specific length of tenure. Human Capital Theory suggests that as individuals acquire knowledge and experience within a job, their performance will improve and tenure will increase (Schmidt et al., 1986). In contrast, Job Design Theory (Hackman & Oldham, 1976) predicts that any improvements in experience would be countered by feelings of increased boredom and decreased intrinsic motivation. Job Design Theory is generally supported by research (Ng & Feldman, 2013), but the concepts have not been tested in sport contexts where in high-profile sports, coaches routinely move from job to job mostly based on competition results.

Tenure, Success, & Change

Hot seats and *short leashes* are colloquial terms used in discussions about coaching tenure to justify retaining or firing a coach (Johnson et al, 2018; Miller, 2018). Much of those discussions revolve around the athletic outcomes. On–field success has been a predictor of coaching change at the college and professional levels throughout history (Cook & Glass, 2013; Fee et al., 2006; Goff et al., 2019; Humphreys et al., 2016; Johnson et al., 2012; Roach, 2013). Empirical evidence shows that winning is directly correlated with coaching tenure where total wins or win percentage as the most prevalent dependent variable (Fee et al., 2006; Johnson et al., 2013, 2017, 2018; Tracy et al., 2018).

Vicious Cycle Theory suggests that firing a coach due to losing may be a mistake that causes an organization continued underperformance. Roach (2013) found that NFL teams perform worse for the two seasons immediately after firing their head coach. Goff et al. (2019), however, noted that head coaching change in professional sport did have a slight increase in wins per season, but the increase was too small to be deemed significant. They also explained the skill of the existing coach in comparison to other available coaches is essential for decision–making.

Collegiate sport is certainly a multifaceted system where education plays a significant role and where winning is valued. Not surprisingly, in a quantitative analysis of 414 coaching changes in seven NCAA Division I team sports from 2010 to 2020, Johnson et al. (2023) found that a coach's winning percentage at a particular school

has a significant positive correlation with the length of their tenure at that school. However, the pedigree of the program (as measured by the school's winning percentage in the short term and long term before that coach's arrival) does not have a significant correlation with the length of that coach's tenure.

Similar to Roach's (2013) evaluation of professional football, Soebbing and Washington (2011) found that after a coaching change in college football there is a short–term drop in winning followed by stable improvement over time. This indicates further that coaching decisions based on winning should be reevaluated depending on the institution's goals. Moreover, in a qualitative case study of an NCAA team that had experienced a coaching change, Forsythe et al. (2019) noted student–athletes' experiencing a coaching change identified a shift in thinking and increase in anxiety.

When examining winning relative to tenure, Humphreys et al. (2016) examined winning percentage relative to point spreads in betting markets (rather than conventional winning percentages) of 102 Division I football programs from 1980-2004. They noted that even when a team lost, there was a "performance compared to expectations" (p. 489). They explained that meeting expectations is important to remain the head coach, even if those expectations include losing at times. Based on those expectations, the evaluation of coaches aligns closely with tenure. Johnson et al. (2013) found that negative changes (i.e., coach fired) increase as winning percentages decrease. Tracy et al. (2018) found that years one spent winning as a head and assistant coach are significant predictors of attaining one's head coaching position, in a study of 200 first-time NCAA Division I football coaches from 1998-2014. Thus, winning is a crucial factor regarding coaching tenure, so any study must acknowledge these findings and include winning as an independent variable.

Variables Beyond Winning

Winning is at the center of college athletics, but other variables are also likely to influence the nature of change of head coaches. Collegiate sport is within a system of higher education where other sociocultural variables will impact the tenure of coaches positively or negatively. Academic performance, eligibility requirements, commercialization of sport, and the progressive nature of a college campus make the context of coaching collegiate athletics unique (Knight Commission, 2021; Sperber, 2001; Weiner, 2009). Additionally, variables such as sport and sex could influence how a coach transitions in or out of a position. For example, Johnson et al. (2023) found that revenue sports and men's sports have significantly shorter and more negative coaching tenures compared to Olympic sports and women's sports when measured by number of games. However, when measuring by number of seasons, football actually had longer coaching tenures than Olympic sports and women's sports. The types of variables are certainly worth considering in addition to the following concepts.

Academics

Within the context of higher education, coaches must consider academic programs and institutional reputations when recruiting players. The Academic Progress

Rate (APR) is the metric used by the NCAA to determine academic performance. Using individual academic eligibility and retention scores, the NCAA calculates an overall team score. Head coaches presumably determine guidelines for their players' academic responsibilities. Some coaches have performance bonuses in their contracts if their team reaches a particular APR benchmark, and they are presumably deemed responsible if their team fails to meet the benchmark. A team's academic performance has impacted coaching tenure, but these instances are rare, as Avery et al. (2016) found in a quantitative analysis of 697 coaching changes in NCAA Division I basketball and football. APR may not have as large of an impact on coaching tenure directly, but there are many plausible connections between winning and academic performance. Johnson et al. (2013) found that the top third of football teams in terms of winning percentage had a much higher APR score on average than the teams with lower winning percentages. Even though higher APR scores are associated with a higher winning percentage, Avery et al. (2016) found that APR is used more commonly for negative coaching changes rather than a promotion or increase in salary. This implies that APR should be considered but may not be rewarded on the same scale as winning. Johnson et al. (2023) also found that APR does not have a significant correlation with the length of a coach's tenure, a curious finding given the mission of higher education. Rubin and Huml (2023) reaffirmed the impact of a coaching change in a qualitative study of 16 academic advisors at NCAA Division I institutions. They concluded that coaching changes can have a noticeable impact on the culture related to academic performance, and the nature of that impact (positive or negative) is often evident from the time of change.

Alumni

There is an assumption that coaches who are alumni will have existing relationships within and attached to the university that will support the coach and their decisions. The Social Learning Theory developed by Krumboltz et al. (1976) shows that experience in a context allows for easier adaptation and increased familiarity within the occupation. In an athletic department, this could mean that an alumnus may enjoy a longer buffer period and/or increased loyalty, compared to coaches who are not alumni. This phenomenon was supported by Nesseler et al. (2021) in a quantitative analysis of women's collegiate soccer coaches from 1977 to 2015 – specifically, that coaches with such alumni status experienced a longer tenure than their counterparts who were not alumni. Johnson et al. (2023) found that alumni status had a significant positive correlation with the length of a coach's tenure in a variety of sports. Similarly, in a study about FBS football assistant coaches, Tracy et al. (2018) found that playing and coaching at their alma mater was the strongest predictor of retaining the head coaching position. A coach's alumni status was more predictive than previous winning seasons or playoff experience. In slight contrast, a different study of football coaches by Allen and Chadwick (2012) found being an alumnus in professional football (coaching the same team one had previously played for) did not influence tenure as much as winning. Given the mixed findings and common practice of hiring alums in coaching positions, it is reasonable to consider this a variable likely to influence the nature of coaching change.

Nature of Change

Johnson and co-authors (2012, 2015, 2017) have found that nature of a coaching change is relevant to succession and tenure. Whether the change was positive or negative, performance– or non–performance–related, success was impacted. Positive changes are those resulting in promotion, successful retirement, or leaving for a better position. Negative changes include common firings and resignation (Cunningham & Dixon, 2003; Johnson et al., 2012, 2013, 2015, 2017, 2018). Depending on the context of succession, there were significant predictors of success following a coaching change. In NCAA Division I basketball, when changes are attributable to positive performance and negative non–performance reasons, wins next season decrease slightly (Vicious Cycle Theory). In contrast, when changes are attributable to negative performance, the wins next season increase slightly (Common Sense Theory). APR scores are also impacted depending on the nature of change. In a quantitative analysis of all 160 teams in NCAA Division I football from 2003 to 2011, Johnson et al. (2013) found that a positive head coaching change produced scores 12.3 points higher than a negative change, and 24.6 points higher if the coach is retained. Likewise, in studies on APR scores following coaching changes in FBS football (Johnson et al., 2013), FCS football (Johnson et al., 2015), and men's basketball (Johnson et al., 2018), positive coaching changes indicated higher post–succession APR scores. There is a clear connection between the nature of change and the results of the program, but because the expectations for winning and APR are not rewarded and punished the same, there is a disconnect between what coaches should value the most.

The literature demonstrates that nature of a coaching change has a direct relationship with both academic and athletic outcomes. Coaching evaluations are linked to the nature of change because negative changes (i.e., coach fired) increase as winning percentages decrease. APR scores also decrease for negative changes (Johnson et al., 2013). Any study examining coaching change must acknowledge the post–facto differences in athletic and academic outcomes based on the nature of change, and thus include nature of change as part of an administrative evaluation of how best to navigate coaching succession. Doing so will allow stakeholders to predict the likely outcomes of leadership change based on the nature of change itself, and ultimately provide targeted support based on the nature of the change.

Method

Coaching changes (N = 414) during a 10–year period (2010–2020) were collected and analyzed using a descriptive analytical historical design (Sterling et al., 2017). A partial replication (Morrison, 2021) of the Johnson et al. (2023) study on coaching tenure was also implemented with nature of change the dependent variable that required isolated analyses. The time span was chosen because it provided a decade of data before college athletics was disrupted by the COVID–19 pandemic. Excluding the years after 2020 was necessary because the variables used to predict the nature of coaching change were not consistent during the pandemic years and would have provided inconsistent data. Thus, this decade of data was the most recent

that would resemble college athletics pre and post pandemic. If there were multiple head coaches at the same institution during the 10–year time frame each was treated as a unique head coaching change.

Procedurally, seven team sports (men's baseball, basketball, and football; women's soccer, softball, and volleyball) from the Power Five and Group of Five conferences were selected for analysis due to the public availability of data, particularly within the highly publicized environment of NCAA Division I. The team sports chosen are the most common sports found at all Power Five and Group of Five conference institutions, which allowed for comparisons among sports and adequate coverage of the coaching change. Athletic department media guides were used to collect all information except APR and nature of change (see Table 1 for variable definitions). APR information was collected using the NCAA Head Coach APR portfolio (NCAA, 2023). All variables were stored in a password–protected electronic database.

Table 1. *Variable Definitions*

Alumni	head coach was an alumnus of the university
APR	academic progress rate during the tenure of the head coach.
First HC Position	first head coaching position at any college level
Sex (sport)	sex of team
Sex (coach)	sex of the coach
Positive Change	"leaving for a more prominent coaching position after success, retired voluntarily with a history of success, or was promoted to athletic director because of accomplishments" (Johnson et al., 2018, p. 150)
Negative Change	"fired, resigning after a lack of success, scandal, or other negative circumstances where resignation or termination occurred" (Johnson et al., 2018, p. 150).
Sport	Team sports data from Power Five and Group of Five conferences were collected. The men's sports included baseball, basketball, and football. The women's sports included basketball, soccer, softball, and volleyball.
Tenure	The amount of time in months the head coach was employed.
Wins (coach)	Conference games were used to determine coach win % because it is a more consistent gauge of coaching success (Canella & Rowe, 1995; Johnson et al., 2017). This variable is the conference coaching win %. Changing conferences did not impact the analysis of wins as each season was independent of the others no matter the conference they were in the prior year.
Wins (program)	The conference winning % prior to when the head coach was hired.
Wins 10 years prior	The conference winning % 10 years prior to when the head coach was hired.
Wins 5 years prior	The conference winning % 5 years prior to when the head coach was hired.

The dependent variable – nature of head coaching change – was adopted from the work of Johnson et al. (2013, 2015, 2018). Similar to those studies, researchers utilized multiple data coders recommended by Neuendorf (2002) to analyze the most informational media source about the coaching change. The sources were normally the local city or university newspaper with the most coverage of the coaching change. This process required researchers to first identity the story, and then utilize that story to make interpretations about the nature of the coaching change. Specifically, each coder reviewed the story in tandem with the coaching record and decided if the change was positive (i.e., took a more prominent head coaching position, retired after success, or took a new position after athletic success) or negative (i.e., fired, resigned due to lack of success or ethical issue). The minimum intercoder reliability recommended by Neuendorf is 80%. Coders for this study resulted in 98% intercoder agreement. Overwhelmingly, the reasons for the head coaching change were clearly identifiable except for a few isolated examples were the primary researcher made the final decision.

The data analysis included three steps. First, to provide context to the sample, measures of central tendency were calculated from frequency data. Next, Pearson correlations were used to determine the relationships of each variable to the dependent variable *nature of change*. Finally, the prediction value of each variable was determined by conducting a binary logistic regression analysis. The regression was designed to address the second hypothesis and provide data that can be used to intervene on coaching decisions.

Results

Description information is included in Table 2. Among the more noteworthy findings, the mean coaching tenure for all sports was 48.49 months. Sex findings revealed there were more male head coaches (N = 331), and subsequently more coaching changes for male sports (58.2%). The mean winning % of all coaching changes in this study was .430 and 53.9% of coaching changes classified as negative. Most head coaches were not alumni (91.5%) and the mean APR score for all coaching changes was 967.55.

Table 2. *Descriptive Information– Power Five and Group of Five Coaching Head Coach Changes (2010–2020 – pre–pandemic)*

Variable	*n*	%	*M*	*SD*
Tenure (months)	414	100	48.49	21.40
Sex of Sport (Female)	173	41.8		
Sex of Sport (Male)	241	58.2		
Sex of Coach (Female)	83	20		
Sex of Coach (Male)	331	80		
Win % of Coach	414	100	.43	.20
Wins for Coaches	414	100	25.8	21.2
Losses for Coaches	414	100	35.07	25.93
Wins for Program Prior to New Coach	396		270.03	211.78
Losses for Program	396		256.61	192.24
Win % (10 years prior to coach change)	400		.48	.15
Win % (5 years prior to coach change)	403		.46	.17
First Head Coach Position – Yes	175	42.3		
First Head Coach Position – No	232	56		
Alumni – Yes	35	8.5		
Alumni – No	379	91.5		
APR During Coach Tenure	399		967.55	23.83
Positive Coaching Change	176	42.5		
Negative Coaching Change	223	53.9		

Sport and sex information is displayed in Table 3. The two most commercially popular sports of football and men's basketball had the most coaching changes (208 combined), while the diamond sports of baseball and softball had the least (73 combined). Baseball had the most games before a coaching change (114), and football had the least (29.59). Mean winning percentages were similar, but none of the sports had mean winning percentages over 50%. Both men's and women's basketball had the most negative coaching changes at 68.8% and 64.4%, respectfully.

Table 3. *Sport and Sex Head Coach Changes*

	Total Number of Head Coach Changes (% of all changes)	Mean Number of Games Before Coaching Change (SD)	Mean Win % During Coaches' Tenure	% of Negative Head Coach Changes
Sport				
Football	128 (30.9)	29.59 (13.88)	45.9%	60.2%
Men's Basketball	80 (19.3)	71.71 (34.06)	43.6%	68.8%
Women's Basketball	46 (11.1)	69.13 (28.09)	38.4%	64.4%
Women's Soccer	43 (10.4)	38.95 (20.72)	43.1%	33.3%
Women's Volleyball	44 (10.6)	81.34 (38.47)	36.9%	46.3%
Baseball	33 (8)	114 (56.65)	43.1%	58.1%
Softball	40 (9.7)	91.8 (41.93)	42.6%	34.2%
Coach Sex				
Female	83 (20)	75.62 (38.48)	41.3%	43.4%
Male	331 (80)	57.76 (41.57)	43.2%	58.8%

Pearson correlations revealed six variables were significantly correlated with nature of change at the .05 alpha level; Months of Tenure ($r = .12$, $p = .024$), Sex of Sport ($r = .16$, $p < .01$), Sex of Coach ($r = .12$, $p = .017$), Wins of the Coach ($r = .11$, $p = .034$*), Overall Wins of the Program ($r = .18$, $p < .01$), and Wins 10 Years Prior ($r = –.10$, $p = .048$). Variables that were not significantly related to nature of change were Wins 5 Years Prior ($r = –.08$, $p = .121$), First Head Coach Position ($r = –.06$, $p = .280$), Alumni ($r = .09$, $p = .094$), and APR ($r = .05$, $p = .370$). The strongest relationship was overall wins of the program prior to the head coach being hired.

Results of the binary logistic regression indicated there was a significant association among nature of coaching change and the variables investigated in this study, $x^2 (8) = 42.67$, $p < .01$. The model explained 14.6% (Nagelkerke R^2) of the variance in nature of coaching change and correctly classified 63.1% of cases. Results demonstrated the chance of having a negative coaching change decreased as wins of the coach and wins of the program 10 years prior increased. The chance of having a positive change decreased as overall wins of the program increased. Being an alumni coach also increased the odds of a negative coaching change. Finally, as APR scores increased so did the chance of having a negative coaching change. Binary logistic regression results are displayed in Table 4.

Table 4. *Binary Regression Results*

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Sex (sport; F=0, M=1)	.683	.357	3.658	1	.056	1.980	.983	3.987
Sex (coach; F=0, M=1)	.196	.355	.304	1	.581	1.216	.606	2.440
Wins (coach)	–.018	.006	8.857	1	.003**	.982	.971	.994
Wins (program)	.002	.001	8.109	1	.004**	1.002	1.001	1.003
Win% (–10 program).	–2.962	1.471	4.053	1	.044*	.052	.003	.925
Win% (–5 program)	1.203	1.270	.897	1	.344	3.330	.276	40.162
First HC position? (0=N, 1=Y)	–.282	.235	1.444	1	.229	.754	.476	1.195
Alum? (0=N, 1=Y)	.858	.430	3.983	1	.046*	2.360	1.015	5.483
APR for coach	.018	.008	5.535	1	.019*	1.018	1.003	1.034

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

Discussion

Descriptively, the mean tenure for all coaches was 48.49 months, indicative of a high rate of turnover for head coaches in intercollegiate athletics. The length of this span, very close to four years, is noteworthy. This finding corresponds to the length of time a typical student–athlete cycles through eligibility, so for at least three (possibly four) of those four years, a head coach is leading a team partially constructed by their predecessor. A coach with an average–length tenure might have one season to lead a team consisting entirely of their own recruits before their stint ends. This reinforces the challenge for coaches to balance the priorities of short–term success and long–term vision (Johnson et al., 2017; Rechner & Dalton, 1991; Soebbing & Washington, 2011).

Months of tenure ($r = .12$, $p = .024$) was found to have a significant correlation with nature of change. Longer tenures were more likely to end with a positive change (leaving for a more prominent coaching position after success, retired voluntarily with a history of success, or was promoted to athletic director because of accomplishments), and shorter tenures were more likely to end with a negative change (fired, resigning after a lack of success, scandal, or other negative circumstances where resignation or termination occurred). This result seems intuitive, but it carries at least one important implication. If a coach manages to parlay success at one program into an opportunity at a more prominent program, they must invest a considerable amount of time at the original institution before such a move.

Differences by Sport and Sex

Overall, most coaching changes (55.8% of applicable changes) were negative. Furthermore, revenue sports stood out regarding the frequency of negative changes. Coaching changes in men's basketball (68.8% negative), women's basketball (64.4% negative), and football (60.2% negative) were especially likely to end poorly. This

phenomenon reinforces the commercialization associated with these elite Division I sports. Conversely, women's soccer (33.3% negative) and softball (34.2% negative) had dramatically lower frequencies of negative changes. Women's volleyball (46.3% negative) and baseball (58.1% negative) lie in the middle. Based on these results, administrators would, on average, need to plan differently for a transition in revenue sports vs. women's soccer and softball, and potentially women's volleyball. The coaching transition for revenue sports would likely have more tension points than women's soccer and softball given the lower academic and athletic outcomes following negative coaching changes (Johnson et al., 2013, 2023). Moreover, administrators may specifically consider softball and women's soccer, and more generally consider women's sports, as a lesson in patience that longer tenures could lead to more positive transitions.

In addition to nature of change, the average length of coaching tenure is another way to assess pressure, and this concept is nuanced (Johnson et al., 2023). If measuring purely by mean number of games before a coaching change, football (29.59 games) appears to place the highest amount of pressure on coaches, and baseball (114 games) the lowest. Women's soccer (38.95 games), women's basketball (69.13 games), men's basketball (71.71 games), women's volleyball (81.34 games), and softball (91.8 games) lie in the middle. The short number of games for football adds another element of pressure in a sport where coaches are most visible to the public, which presents an extended element of pressure in itself (Rowe et al., 2005).

It is important, however, to contextualize the number of games in a season by sport. This perspective involves the consideration that a typical conference game schedule for Division I football includes approximately 8 games, women's soccer approximately 10 conference games, women's and men's basketball approximately 18 conference games, women's volleyball approximately 20 games, softball 20–25 games, and baseball 25–30 games, then dividing the average length of coaching tenure by the applicable number of conference games. By doing so, it appears that all sports' average length of coaching tenure is relatively close to four conference seasons. Football's average span appears to be just slightly below the four–season mark, and slightly below the other sports. This finding, in addition to the high percentage of negative coaching changes, implies football coaches may face greater pressure for wins, especially when viewed on a per–game (not per–season) basis.

The most noticeable difference by sex is the disparity in number of head coaching positions held. Men held 331 (80%) of the coaching positions studied, and women held 83 (20%). Of the coaching stints studied, men and women had similar winning percentages (43.2% and 41.3% respectively), yet male coaches were much more likely to have their stint end with a negative change (58.8% of male coaching stints ended with a negative change, compared to only 43.4% of female coaching stints). In fact, Sex of Sport ($r = .16$, $p < .01$) and Sex of Coach ($r = .12$, $p = .017$) were among the strongest significant correlations with nature of change. This finding certainly overlaps with the type of sport and reinforces that in the historically male–centric environment of college sport that men's sports and male coaches are typically more scrutinized (Coakley, 2020). This finding also reinforces that female

coaches stay longer in their coaching roles and transition more positively than their male peers, a finding that could be explained by research indicating female coaches having stronger personal relationships with their players and coaching staffs (Machida–Kosuga, 2021; Swim et al., 2022).

Winning

Although sport and sex have important relationships with nature of change, and many coaches must navigate challenges distinct from winning (Knight Commission, 2021; Sperber, 2001; Weiner, 2009), winning still proved to be the most significant factor when considering the combination of descriptive statistics, correlations, and regression results. This confirmed Hypotheses 1 and 2, and reinforced elements of previous studies (Fee at al., 2006; Humphreys et al., 2016; Johnson et al., 2012, 2013, 2017, 2018; Tracy et al., 2018).

Wins of the Coach (r = .11, p = .034) had a significant correlation with nature of coaching change, which is not surprising. Overall, a greater number of wins by a coach was more likely to be associated with a positive change at the end of the stint. Similar to Months of Tenure discussed above, there is a noteworthy underlying implication. Specifically, it appears that coaches typically need to have sustained success in order to enjoy a positive change at the end of their stint – a hot start alone generally is not enough to result in a promotion or more prominent coaching position. In turn, a positive coaching change typically ensures better athletic and academic outcomes after the change.

The mean winning percentage of all coaching stints studied was .43. Interestingly, programs' mean winning percentage for the five years preceding a coaching change (.46), and for the ten years preceding a coaching change (.48), were both higher than the winning percentage of the new coach. This indicates that most coaching changes do not result in the desired improvement in on–field success, which refutes elements of previous studies (Dohrn et al., 2015; Maxcy, 2013) and reinforces the Vicious Cycle Theory (Grusky, 1960). This finding has pragmatic implications as well because if there is pressure to fire a coach, but firing generally does not improve athletic or academic performance – and often comes with significant pay increases for a new coach – an administrator must consider their options.

Johnson et al. (2023) had previously found that Overall Wins of the Program (preceding a coaching change) and Wins 10 Years Prior (to a coaching change), were not significantly correlated with the *length* of a coach's tenure. However, in this study, both of these variables were found to have significant correlations with the *nature* of coaching change and were predictors of nature of change. Surprisingly, however, these relationships went in different directions. The greater number of wins overall that a program had prior to a coaching change, the *more* likely that coach would ultimately experience a negative change (r = .18, p <.01). This supports the notion that programs with a long tradition of success often have unrealistically high expectations when a coach is replaced. Conversely, the greater number of wins that a program had in the 10 years prior to a coaching change, the *less* likely that coach would ultimately experience a negative change (r = –.10, p = .048). In other words,

consistent (but recent) success was more likely to lead to a positive change for a coach, compared to a longer tradition of success. This suggests that programs with an overall tradition of winning, but who have endured an uncharacteristic lack of success in recent years, can fall behind and may be in danger of fueling a vicious cycle (Grusky, 1960). Programs with more recent success (perhaps due to recent coaching, facilities, investments, etc.) use that momentum to fuel a positive cycle (Common Sense Theory, [Grusky, 1960]). It is also possible that the administrators who hired the previously successful coach are still in place to hire the next coach and extend a particular philosophy.

Other Factors

This study also examined academics, alumni status, and whether a coach was in their first head coaching position, but none of these factors had a significant correlation to nature of change. Academics, as measured by APR, did prove to be predictive of nature of change, but in a somewhat troubling way: as APR increases, the likelihood of a negative coaching change also increases. This partially refutes a study by Avery et al. (2016) which indicated academic performance does not have a significant (positive or negative) impact on coaching tenure. This does give credence to the work of Rubin and Huml (2023), which instead framed coaching change as the possible antecedent (rather than consequent) in relation to changes in academic culture and performance. When combined with the work of Johnson et al. (2012, 2015) suggesting head coaching changes negatively impact APR scores, there is a clear pattern of leadership changes on academic performance that cannot be ignored.

The mathematically negative correlation between APR and nature of coaching change is inconsistent with the mission of intercollegiate athletics. Education and the development of college athletes are key tenets in the NCAA's mission (NCAA, 2021), yet a coach's contribution to a team's academic accomplishments do not seem to be acknowledged by institutions. In fact, academic success is more likely to lead to a negative coaching change. This finding suggests coaches and student–athletes are in a very difficult position. It is assumed most student–athletes value education and development as part of their overall experience in intercollegiate athletics, and so coaches prioritize education in their messaging during the recruiting process (Hosick, 2010). However, a coach's career trajectory is more favorable if they ultimately prioritize winning, rather than APR scores.

Previous studies have explored the relationship between a coach's alumni status and the length of their tenure, indicating a positive correlation (Johnson et al., 2023; Nesseler et al., 2012; Tracy et al., 2018). However, this study explored nature of coaching change rather than length of tenure and alumni status was found to have predictive value. If a coach was an alum of the program, the more likely their coaching stint would end with a negative change. This seemingly nullifies the advantages one would expect an alumni coach to enjoy. It is important, however, to note the very low number of coaches that are alumni and exercise caution when interpreting this finding.

It is rare that an individual's first coaching position ultimately proves to be the same position from which they retire. It is much more likely they will experience change at some point in their tenure, whether it be a negative change (such as a firing, indicative of the lessons to be learned and areas to be improved that one might expect in a first–time head coach) or a positive change (such as leaving for a more prominent program after enjoying a successful and promising start to their coaching career). With this in mind, this study also examined individuals who were in their first head coaching position. The study found that first-time head coaching position did not have a significant correlation to nature of change, nor did it have a significant predictive value for nature of change. It appears first–time head coaches are not significantly more likely to have their first stint end in either a positive or negative way. This finding aligns with Johnson et al. (2023) who found that first head coaching position was not predictive of the length of coaching tenure.

Implications

There are both practical and theoretical implications. Pragmatically, to determine how these findings would influence college coaches it is first important to acknowledge that winning is most often prioritized in coaching decisions above APR, even though APR is more aligned with NCAA and institutional missions. In fact, positive coaching changes have been found to be correlated with higher APR, and the year-after-year retention of coaches has been shown to have an even stronger correlation with high APR (Johnson et al., 2013, 2015, 2018). This result suggests that if athletic directors are serious about the academic experience of college athletes they should include a potential decline in APR scores into their leadership change decisions.

Athletically, coaches following previous coaches with negative changes (i.e., predecessor was fired) do not generally produce the desired improvement in winning that was likely to be the catalyst of the negative change. Instead, programs in this study had a higher winning percentage in the 5–year and 10–year spans before a coaching change than they did after the change. Athletic directors and university leaders are encouraged to acknowledge the historical performance of their teams and the likely outcomes of their leadership change decisions. If, for example, an athletic director decides to fire coaches as a response to internal or external pressure for a lack of winning, they should know their decision will more often than not lead to neutral or negative athletic results and will likely have to pay a higher salary to the next coach (Sander, 2011).

Practical implications also emerge from the finding that the average coach tenure is roughly four years, or a typical recruiting cycle. Aiming to keep coaches longer than the four–season average would be a promising start that could increase the chance of ending a coaching relationship positively. This practical suggestion is especially important in an age where name, image, and likeness (NIL) compensation, combined with a heightened use of the transfer portal, allow college athletes to easily change teams. If, for example, a basketball coach has a successful season (athletically), and players leave for NIL compensation at other institutions, the coach may be

left with a depleted team (and an APR decrease due to retention points lost). Firing coaches in this scenario may be presumptuous, especially if they did not recruit the athletes, and have not developed the type of relationships that would encourage loyalty to a program. Allowing more time for coaches to recruit and establish a culture would be a pragmatic suggestion.

The aforementioned implications are also important from a coach's perspective. Coaches can use this information to make choices about the type of contracts they sign, what priorities are emphasized within the program, and how to best help athletes if a negative change occurs. These realizations could lead to a variety of policy changes that encourage additional academic support during times of transition, or negotiations with administration about the time it can take to cultivate a successful athletic program, both athletically and academically. In turn, professional coaching organizations can use this information to lobby for longer coaching contracts that encourages a more holistic approach to coaching evaluations, rather than an overemphasis on winning.

Theoretically, the results are supported by Vicious Cycle Theory (Grusky, 1960) and Ritual Scapegoating Theory (Gamson & Scotch, 1964) suggesting that leadership changes are neutral at best and negative at worst, especially given the potential adverse effect of anxiety and decreased academic performance when coaching changes occur (Forsythe et al., 2019; Johnson et al., 2013, 2015, 2018). By lengthening coaching contracts, programs would be able to foster the type of stability that Vicious Cycle Theory (Grusky, 1960) contends is lost through persistent changes, particularly if those changes are negative and initiated by an athletic director after a lack of winning. Longer–than–average coaching stints would also allow coaches to complete more than one full cycle of recruits, and continue improvement by gaining additional knowledge and experience, as supported by Human Capital Theory (Schmidt et al., 1986). Thus, the theoretical inference is to reject Job Design Theory and support theories that advocate increased knowledge acquisition and improvement rather than expediated changes that lead to a vicious cycle of athletic mediocrity and academic decline.

Limitations and Future Research

There are two primary limitations. First, the number of variables investigated in this study was limited to those that were already supported by research and readily available. There are, however, many other potential variables that could be related or predictive of nature of change. For example, recruiting metrics or an objective measure of team talent could be predictive. Institutional type/size, administrative philosophy, or a more specific analysis of individual sports are other potential variables to consider. Future research should build from this work to extend the number or categories of variables to provide further insight into nature of change.

Second, this study was limited to the definitions for positive and negative change from Johnson et al. (2012, 2013, 2015, 2017, 2018). It is certainly reasonable to adapt these definitions to be more specific for administrative decision-making. For example, fired and promoted are obvious categories, but other categories like retired

or medical could add additional nuance to these definitions. Future research could explore expanded definitions, which could influence additional types of variables suggested in the first recommendation.

Conclusion

Nature of coaching change is an important variable in the larger leadership change dynamic. With evidence suggesting athletic and academic performance decrease following a negative change, it is imperative to understand and predict nature change. Winning has the strongest correlation of whether a coach's stint will end with a positive or negative change, confirming the three hypotheses of this study. The greater a coach's own win total during their tenure, and the greater a program's win total in the 10 years preceding their tenure, the more likely that coach's stint is to end in with a positive change. Conversely, the greater a program's win total throughout the history preceding a coach's tenure, the less likely that coach's stint is to end with a positive change. A coach's sex provides additional clues regarding nature of change, with female coaches considerably less likely to experience a negative change. However, the revenue status of the sport is more telling with men's basketball, women's basketball, and football coaches experiencing the most negative changes. Pragmatically, the results suggest coaches should be given more than the mean of four years to develop a culture that could lead to positive changes, especially given the support for vicious cycle theory indicating in decline in both athletic and academic performance resulting from a negative head coaching change.

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