

Theory and Evidence....

Managerial Turnover in

Major League Soccer

by

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Abstract

This paper primarily looks at the impact of turnover in the head coach position on the performance of MLS clubs. I also analyze factors considered when hiring a MLS coach including nationality, age and previous experience. I collected game data from the MLS website, press releases and online soccer resources. Based on my data, I find that firing a coach only benefits a team in the short term. After 16 games, the team returns back to its original state. Mid-season and off-season firings also have the same impact on a club's performance. In addition, nationality, age and experience do not impact the success of a coach within the MLS. I draw two major conclusions from this analysis. First of all, teams should look outside of traditional recruitment options when replacing a coach. Certain factors are overrated, and hiring from a homogenous group of people does not appear to change the course of a team. In addition, clubs should look at other problems within their teams such as roster composition and front office positions before firing the head coach.

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I. Introduction to the Problem

Since its founding in 1993, Major League Soccer has tried to capture the interest of Americans and replicate the international zeal for the sport. Though the league has struggled to reach the levels of the NFL, MLB or NBA, viewership is increasing and garnering lucrative television deals. Critics argue that Major League Soccer needs to raise its competitive bar by becoming more aggressive and sophisticated. In an attempt to do so, MLS has engaged in a number of reforms that make the league resemble international soccer more closely. MLS instituted a designated player rule that allows teams to pay players as much as they chose, prompting the hiring of European superstars such as David Villa, Kaka and Andrea Pirlo. Though the league is developing its European flair, MLS is still distinctly American. MLS engages in revenue sharing with relatively flat wages and does not follow the promotion/relegation scheme of European soccer leagues. MLS's regular season is also shorter and teams cannot improve by contending with elite European clubs that participate in the Champions League in Europe.

As in any organization or company, poor management in sports can derail success. Sports teams dismiss coaches and managers extremely publicly, often after a string of losses. Since its founding, MLS has had 134 managerial turnovers in the head coach position, ranking the league second out of U.S. sports for turnover.¹ Each season, 34% of clubs experience a managerial change, working out to 7.48 coach replacements in the current 22 team league.² Though this number seems high, in soccer, turnover occurs rapidly. Over the past 20 years, in the EPL 53.8% of managers, approximately 10.76 managers, are replaced every season.³ Compared to other

¹ See Appendix, Figure 10

² Lindberg, Austin. "Premier League Managerial Turnover Unparalleled in U.S. Major Sports." ESPNFC.com.

³ Ibid

major American sports, the league is in line with managerial turnover, but relative to European leagues, management in U.S. soccer is more static. While EPL turnover appears overly aggressive, the league is also lauded for its superior level of play.

Contending with a shorter season, MLS coaches have less time to try new strategies and adapt to their teams, but also do not have to face the pressure of relegation. They enjoy more job security than in more competitive leagues, potentially allowing coaches to feel too comfortable in their positions. The MLS coaching environment is also extremely insular, with many coaching staff members working under the same coaches. Seven head coaches and thirty-two assistant coaches can be connected to two of the biggest names in MLS: Bruce Arena, former L.A. Galaxy and current United States Men's National Soccer Team head coach, and Sigi Schmid, recently fired Seattle Sounders head coach.⁴ Critics question whether MLS game play seems stale and flat. Excitement comes from the famous international players and not necessarily the teams themselves. Soccer is similar to any other talent based business where management is crucial in overseeing skilled workers. For a club to operate efficiently, the front office must turnover coaches at the right moment in the club's development and when such a change will benefit the team. In an ideal world, coaches would be accountable for their performance. The questions remain: is the MLS coaching environment competitive enough and are clubs efficiently replacing coaches?

I. Soccer in America

Researchers and fans alike have theorized why soccer never established a strong foothold in the American sports industry. The U.S. has a rich sports culture where the NFL, NBA, MLB and NHL all successfully coexist. With five million kids playing, soccer is the second most popular

⁴ "The Patriarchs of MLS Coaching." MLSsoccer.com.

youth sport in America.⁵⁶ Globally, the sport is only growing as a huge profit generator. During the 2015/2016 season, the top twenty clubs in the world made a combined €7.4 billion in revenue, representing a 12% increase year-over-year.⁷

America's marked difference from the rest of the world is underscored by its determination to call the sport "soccer" instead of what it is known as internationally, "football." Other sports continue to dwarf soccer. For the 2016 season, the average NFL game was watched by 16.5 million people⁸ while the EPL and MLS earned an average of 514,000⁹ and 312,000¹⁰ viewers respectively. As seen in Figure 1, looking at Google Search Trends, the NFL was searched 8 times more than the EPL and 33 times more than MLS.

⁵ Lee, Alice. "7 Charts That Show the State of Youth Sports in the US and Why It Matters." The Aspen Institute.

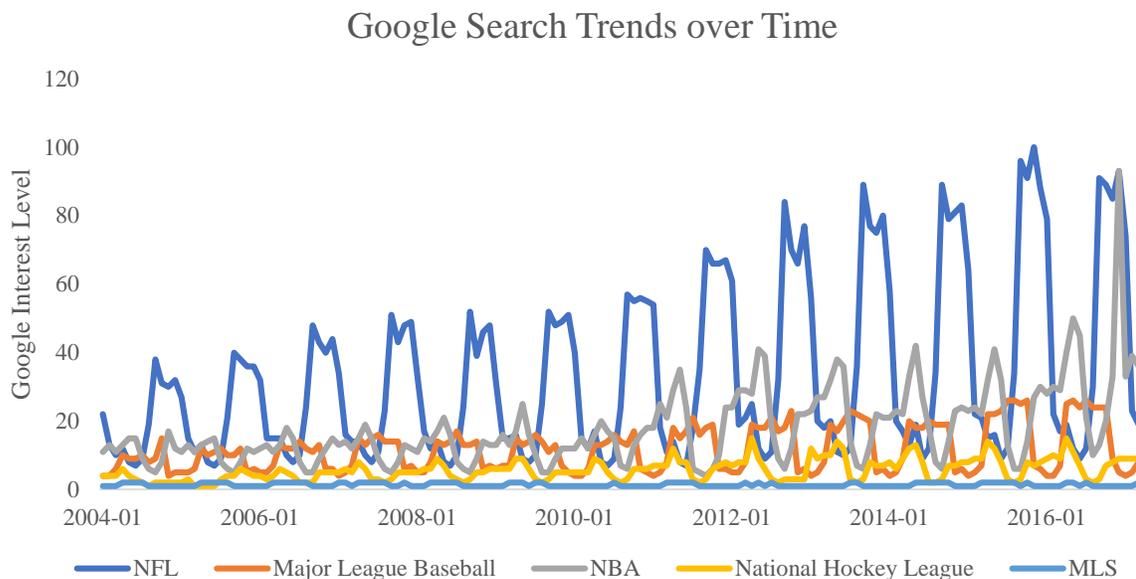
⁶ See Appendix, Figure 11

⁷ Boor, Samuel, Matthew Green, Chris Hanson, and Christopher Wren. "Deloitte Football Money League 2017." Ed. Dan Jones. Deloitte United Kingdom, pp. 2

⁸ Chiari, Mike. "NFL TV Ratings Reportedly Down 8 Percent for 2016 Season." Bleacher Report.

⁹ Fang, Ken. "NBC Sets Another Viewership Record for English Premier League." *Awful Announcing*.

¹⁰ Stephenson, Colin. "TV Ratings for MLS Are up from Last Year on All ESPN Platforms." *MLSsoccer*.

Figure 1:

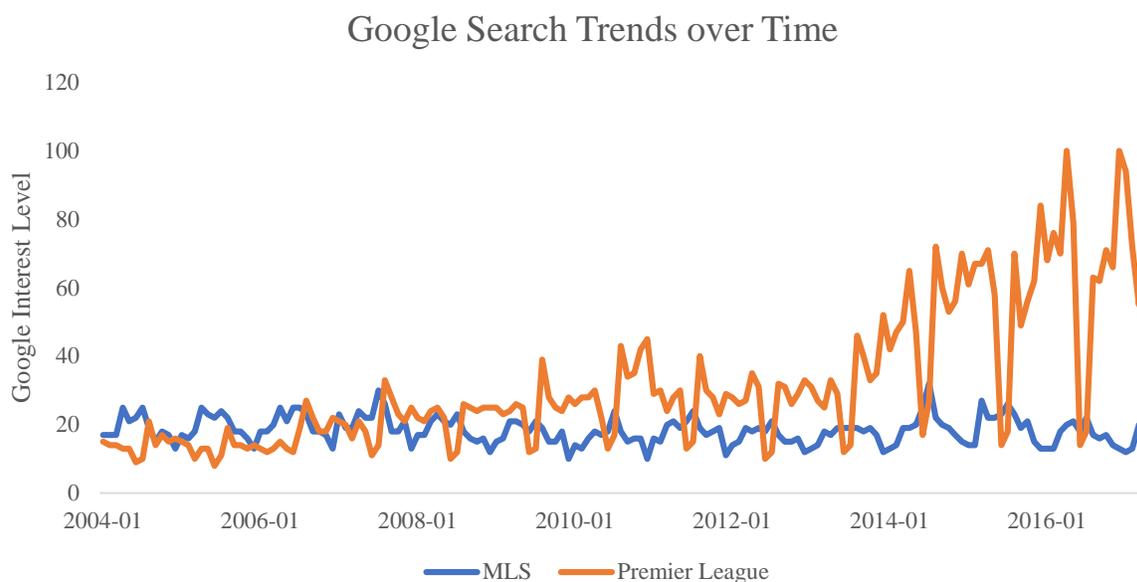
Google Trends shows how interest in the four major American sports continues to dwarf MLS¹¹

Some blame the lack of American interest on the fundamentals of soccer. Unlike most American sports, the clock counts up to the full 90 minutes with few breaks during the halves. Compared to American football, where 60 minutes of play is extended to 3 ½ - 4 hours between breaks, advertisements and time outs, soccer moves quickly. Despite the constant action, soccer games are low scoring and often end in draws, removing a finality that American fans crave. In addition, internationally, most major European championships are determined by an overall league standing instead of an elimination based playoff system. Elimination based playoff systems allow for sudden upsets, adding unpredictability and underdog story elements. While these technical elements may explain some of the interest level in soccer, it is more likely explained by international competition and player development.

¹¹ "NFL, Major League Baseball, NBA, National Hockey League, MLS." Google Trends.

American soccer leagues have to contend with the legacy of soccer around the world. Fans consider the Big Four leagues the pillars of the sport. When fans think of soccer, they think of the English Premier League, La Liga (Spain), the Bundesliga (Germany), and Serie A (Italy). In contrast, MLS's predecessor, the North American Soccer League (NASL), was pejoratively called "the retirement league," known for recruiting expensive international players at the end of their careers.¹² With over a combined 250 years of rich football history, these European leagues have established vicious rivalries and generational support that make people lifelong fans. Even in the United States, EPL viewership leads MLS, and the league inked a six-year deal with NBC to broadcast its matches for \$1 billion.¹³ Shown in Figure 2, American fans of soccer prefer to support famous international teams over regional MLS teams.

Figure 2:



The Premier League has garnered much more interest in the U.S. than MLS¹⁴

¹² Strutner, Matthew, et al. "Making Soccer "Major League" in the USA and Beyond: Major League Soccer's First Decade." *Sport History Review*, pp 23.

¹³ Sandomir, Richard. "NBC Retains Rights to Premier League in Six-Year Deal." *The New York Times*.

¹⁴ "MLS, Premier League." *Google Trends*.

Soccer must also compete with other sports for homegrown talent. Despite the youth base, potential professional soccer players turn to more lucrative American sports as they age, creating a gap between amateur and professional play. In addition, the youth academy system for American soccer differs greatly from its international competitors. Excellent international players go through intense training and are raised on soccer from the age of seven until the start playing professionally around twenty-one. Their last years between 17 and 21 are spent playing for under-21 teams while American soccer players often have to play for college teams during these peak ages. The hallmark of a good American soccer player continues to be international experience. United States National Men's Team members have played for clubs such as Everton, Tottenham, Borussia Dortmund and Fulham. MLS is combatting this talent development problem by directing more funds towards the academy system and the recruitment of CONCACAF players.¹⁵

II. History of MLS

Despite these challenges, this current foray into soccer, Major League Soccer, has proven to be more stable than its predecessors, including the North American Soccer League (NASL). Founded in 1968, the NASL never developed an independent brand or financial stability. Seen as a last resort for aging European league veterans, the NASL focused on acquiring recognized players rather than developing talented youth. The league also struggled to attract investors and balance its financial interests among the clubs. With no salary caps, the New York Cosmos were able to sign world-renowned players such as Franz Beckenbauer and Pele. The Cosmos were able to average 40,000 fans per games while smaller clubs like San Jose struggled and averaged

¹⁵ Strutner, pp 23.

a mere 5,000 fans.¹⁶ Operating with multiple owners, the league often suffered with owners acting in their clubs' best interests and ignoring the competitiveness of the league. In a bid to collect fees from new franchises, individual owners supported aggressive, unsustainable expansion. The league went so far as to add 7 teams in one year and reached its peak in 1980 with 24 teams before contracting. Eventually, the league folded in 1984 as seven out of the nine teams opted out of the 1985 season.

It was only the 1994 World Cup that brought professional soccer back to the United States. Before accepting the United States' bid to host the World Cup, the Fédération Internationale de Football Association (FIFA) insisted that the U.S. create a competitive soccer league. Building on the success of the World Cup and fulfilling its promise to FIFA, MLS premiered on April 6, 1996. Originally, the league included ten teams: Colorado Rapids, Columbus Crew, D.C. United, Dallas Burn, Kansas City Wiz, Los Angeles Galaxy, New England Revolution, NY/NJ MetroStars, San Jose Clash and Tampa Bay Mutiny.

The league differed from its European counterparts. Unlike foreign systems and its American predecessors, MLS was organized as a single entity structure. The league took control over all finances with owners only taking control of a stake of their individual teams. This structure reassured investors and mitigated the problems that plagued the NASL because larger teams shared their wealth and sustained teams in smaller markets.

The league also implemented distinctly American sports fundamentals to appeal to viewers. Countdown clocks counted down from 90 minutes instead of up and tied games were broken with penalty shootouts. These differences irritated soccer viewers early on, and the league was forced to later reform. In addition, most leagues use a table based on win points to determine a

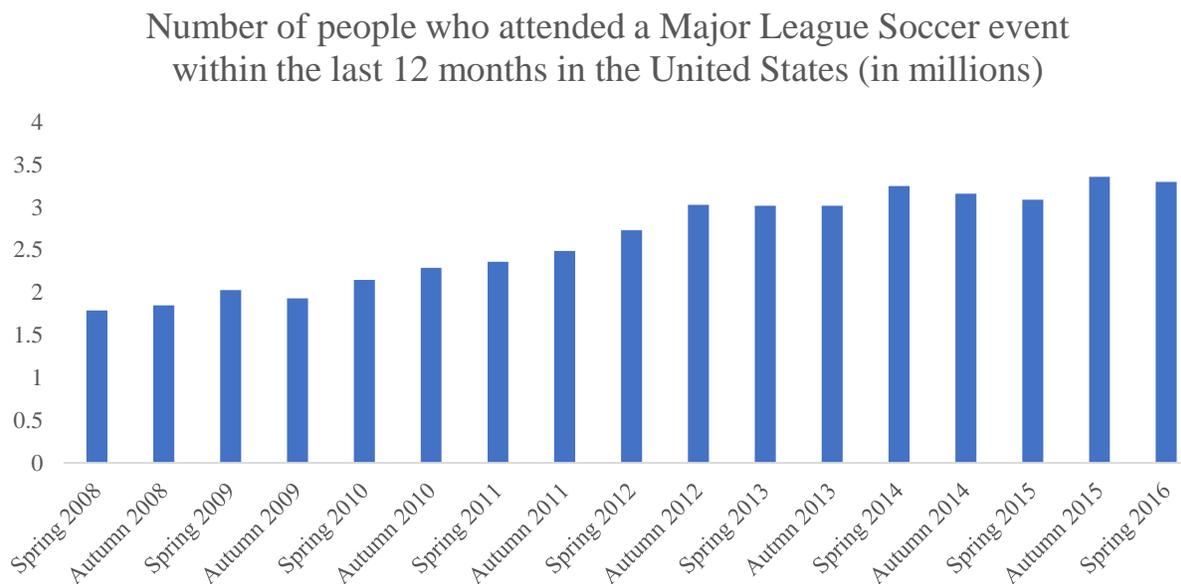
¹⁶ Francis, J and CC Zheng. "Learning Vicariously from Failure: The Case of Major League Soccer and the Collapse of the North American Soccer League." *Group & Organization Management*, pp 556.

champion, MLS included a playoff system after the regular season to crown a champion. This distinction from international league tables or relegation perseveres to this day.

Despite consistent attendance, the league struggled in the early 2000s, losing \$250 million in its first five years.¹⁷ The league contracted, losing its Miami and Tampa teams and reducing the size of the league to a mere 10 teams. As investors dropped out, only three owners remained. Credit is due to owners Lamar Hunt and Phil Anschutz for the survival of MLS. Between the two of them, they took ownership of the extra teams and would eventually own eight out the ten teams in the league.

Eventually, the league began to stabilize and was able to expand, adding teams in 2005, 2007, 2009, 2011, 2012 and 2015. Two major initiatives changed the course of the league: the Designated Player Rule and soccer specific stadiums. In 2007, MLS instituted the Designated Player Rule which allowed teams to pay up to three players more than the MLS salary cap. This allowed LA Galaxy to bring over David Beckham and added another layer of nuance to building a successful MLS team. The league also worked with cities to bring about soccer specific stadiums that hold up to 30,000 people. Early on, teams rented space in football and baseball stadiums, leaving more than half the seats empty and destroying the experience of watching a soccer game. Building stadiums that can sell out helped the MLS atmosphere and facilitated supporters' groups. These two major initiatives raised the profile of MLS games and has increased both viewership and attendance over time.

¹⁷ West, Phil. *The United States of Soccer: MLS and the Rise of American Soccer Fandom*, pp 77.

Figure 3:

Attendance and viewership of MLS games continues to rise¹⁸

III. Management in MLS

Coaching duties in MLS differ greatly from those of managers in international leagues. Managers in the EPL and other leagues manage the long-term strategy, financials and on-pitch decisions of the club. In American sports, this role is often split into two positions: general manager (GM) and head coach. The GM generally oversees the financials and development of the club while the head coach oversees the talent. In MLS, the general manager handles the academy system, directs USL teams and manages financials, including transfers and designated player fees. In general, the GM looks over the long-term goals of the entire organization. In contrast, the head coach primarily focuses on what is best for the club's first team, the professional team in MLS. The coach makes roster decisions and manages on field strategy. The head coach is the person along the sidelines coordinating game time plays. The coach also

¹⁸ "Number of People Who Attended a Major League Soccer Event in the U.S. 2016." Statista.

communicates with the media, and often acts as the face of the team. I chose this head coach position to observe more closely because since the head coach makes all on field decisions, they should be most responsible for the first team's performance. GMs can be fired, but typically, the head coach takes the blow for poor performance first.

MLS clubs are increasingly scared of hiring foreign coaches. The stigma exists that foreign coaches cannot cope with MLS's unique roster and transfer rules.¹⁹ The MLS' single entity structure means that the league, not individual clubs, owns all player contracts. Each transfer goes through an approval process and rosters have quotas for international players, special discovery players and elite youth players. Designated Players further complicate the roster, and coaches like Bruce Arena of LA Galaxy who knew how to balance David Beckham with the rest of the squad are incredibly valuable. As one of the primary decision makers for the makeup of the roster, coaches must understand how to compose a cohesive team within the MLS format. Furthermore, unsuccessful foreign coaches such as Ruud Gullit of LA Galaxy and Carlos de los Cobos of Chicago Fire left teams uncertain of the brand value of hiring a coach from abroad.²⁰

¹⁹ Evans, Simon. "Major League Soccer Is Evolving Into a Closed Shop for American Coaches." Fusion.

²⁰ Ibid

Figure 4:

Fewer new MLS head coach hires are a foreign nationality

IV. Management Theories

Management dismissal can be broken down into three theories of succession.²¹ The first theory, called the “common-sense theory,” is the logical reasoning that poor performance leads a firm to fire a manager in hopes that a new manager will improve profits and conditions. After the firing, the firm does perform better as a result of the new manager. Ritual scapegoating, the second theory, states that changing management does not affect the organization. Rather, the firm goes through cyclical downturns and replacement merely represents a symbolic change through these temporary downward spirals. Improvements are not a result of new management but merely the firm cycling back to positive growth. The last theory, the vicious cycle, is the most threatening. Firing management indicates instability. New management enters but performs

²¹ KESNER, IF and DR DALTON. "Top Management Turnover and Ceo Succession - an Investigation of the Effects of Turnover on Performance." *Journal of Management Studies*, pp 704.

worse without the confidence of the firm. This plunges the firm into a vicious cycle where firing a manager makes the firm worse off.

Managerial turnover in soccer clubs can fall into the same theories.²² Coaches are particularly susceptible to criticism because of their visibility and easily quantifiable metrics for success. Fans closely moderate their teams' performance, and have low tolerance for losses or the implementation of new strategies. Changing coaches can better a team when the coach is not the right fit for the role. Some coaches do not have the experience to put together an ensemble squad or are unable to transition from minor leagues to professional sports. When coaches are fired, they may return to other positions such as technical director or academy director that better fit their talents. Coaches may also act as scapegoats, their firings pacifying fans during periods when teams are rebuilding. If an owner and general manager become well known for firing head coaches without fair adjustment periods, coaches may feel reluctant to sign on or lose the confidence of their players, leading the team to spiral downwards in a vicious cycle.

Quick turnover of coaches may work as a detriment to teams as well as add a financial burden. There is little incentive for new coaches to try different strategies for fear of losing their positions while the team implements the new strategy and potentially loses more games in the process. In addition, coaches may be let go before they are properly able to adapt to the team, and replacement coaches fall into the same cycle of failing to adjust quickly. When coaches are prematurely fired, they are also entitled to compensation, creating a financial penalty for teams who are unsatisfied with management.

V. Literature Review

Previous soccer head coach experience

²² Gamson, William A. and Norman A. Scotch. "Scapegoating in Baseball." *American Journal of Sociology*, pp. 70.

The majority of researchers who have looked into managerial turnover have found no positive result on firm performance. Madum (2016) observes managerial turnover over 19 seasons of the premier soccer league in Denmark.²³ Using OLS and matching estimation, Madum shows a positive impact of mid-season coaching changes on team performance. However, this impact was restricted to home games, implying that removing a coach from a low performing team revitalizes the home team fans. Madum theorizes that the distance of the Danish league from a high-pressure industry such as the EPL where there are financial penalties for performing badly gives Danish teams more leeway to fire when appropriate rather than to scapegoat their managers.

Van Ours and van Tuijl (2016) show how the difference between expectations and actual performance often leads to the firing of a manager.²⁴ By looking at betting odds, they show how teams underperforming based on expectations rather than real performance pressures clubs to fire managers in hopes of meeting expectations. They also show how replacing head coaches in the top Dutch league does not lead to better performance, and any improvement is simply regression to the mean.

Besters et al. (2016) look at the effect of mid-season changes within the English Premier League (EPL) over fifteen seasons.²⁵ Using the method described by Van Ours and van Tuijl, the paper finds that managerial replacements are ineffective and large changes in team performance can be attributed to other circumstances. The method involved correcting for opponent strength as well as creating counterfactual examples as if managerial changes had not occurred. The

²³ Madum, Andreas. "Managerial Turnover and Subsequent Firm Performance: Evidence from Danish Soccer Teams." *International Journal of Sport Finance*, pp. 46-62.

²⁴ van Ours, Jan C. and Martin A. van Tuijl. "In-Season Head-Coach Dismissals and the Performance of Professional Football Teams." *Economic Inquiry*, pp. 591-604.

²⁵ Besters, L.M. (1), et al. "Effectiveness of In-Season Manager Changes in English Premier League Football." *Economist (Netherlands)*, p. 335-356.

authors then calculated a cumulative surprise value based on bookmaker odds for expected number of points versus actual number of points. The paper also examines the effects of coach nationality, experience as a player, promotion of the team and team rank from the previous season. Managerial turnover is still ineffective when broken up into these subsamples. The authors point to four major reasons for why managers continue to be fired despite an absence of serious improvement. First of all, some management replacements might be more effective than others, and only a few owners can recognize good opportunities for replacement. Owners are also unlikely to compare counterfactual examples against performance after a change in management, and both fans and owners are likely to perceive an improvement. In addition, owners are likely to succumb to fan pressure to change managers because a change with static performance is perceived as more proactive than no change with the same performance. Lastly, the authors theorize that being a scapegoat is simply one of the duties of a manager. Managers know that they will likely be blamed for poor results and thus negotiate severance packages and financial safeguards when first accepting the position.

Flint et al. (2014) also examine the impact of managerial change in the EPL.²⁶ Looking at a ten-year period, the authors analyze paired t-tests for the average points per match that the team acquired before and after the change as well as the team's league standing before and after the change. The paper goes further to split up clubs into two groups, those in the bottom half and those in the top half of the league table. The authors find that changes in management do improve the points per match acquired by teams, but do not affect the teams' final league standings. In addition, the change only improved performance for clubs in the bottom half of the league. The paper also highlights the financial impact of changing managers, often who have

²⁶ Flint, S.W., et al. "You Don't Know What You're Doing! The Impact of Managerial Change on Club Performance in the English Premier League." *Managing Leisure*, p. 390-399.

clauses in their contract that require large payouts if clubs decide to fire them. These payouts are counteracted by the threat of relegation which would seriously decrease revenues and visibility for the bottom teams.

Soccer as a business model

Soccer management is reflective of management in the business world. Upper level managers are often blamed for the performance of their companies and also negotiate costly severance packages should they be fired midway through their contracts.²⁷ Public pressure, recent poor performance or feelings of complacency all contribute to the decision to fire a manager. Sports provide an interesting way to understand these types of management shakeups because of the availability of controlled data with clear measures of performance (wins, goals scored, gate revenue, etc.).

Brady et al. (2008) look at how soccer management is similar to company management in finding talent. The authors argue that, “football is indeed the quintessential model for modern-day talent-dependent business,” and that, “the manager’s task is to use that talent [knowledge workers] to ‘organize victory.’”²⁸ The high-pressure, competitive environment in sports, albeit constrained by tight timelines, reflects many industries that rely on knowledge workers. With few restrictions and salary caps, international leagues directly value players through transfer fees. The age-old dilemma for managers and coaches is to balance spending money on star players versus building a cohesive team, strong in every position. Brady et al. highlight the importance of coaches in developing the team and creating a culture that fit its players, just as executives do for their firms.

²⁷ Besters, L.M. (1), et al, pp 336.

²⁸ Brady, Chris, et al. "Managing in the Talent Economy: The FOOTBALL MODEL for BUSINESS." *California Management Review*, pp. 54-73.

VI. Hypothesis

Though there has been research into managerial turnover in European leagues, no such study has been done in Major League Soccer. Going forwards, the MLS will have to strike a balance between soccer's international legacy and its American home base. The effect of management on team performance is an integral part to the league's development. Based on the MLS's competitive balance through revenue sharing as well as shortness of season, similarity of coaches and lack of negative consequences through relegation, I believe that turnover in the head coach position is a detriment to teams. I also believe that coaches who have international experience are more competitive in their style of play and that foreign coaches are unfairly perceived as harmful.

Hypothesis I: Managerial turnover in the head coach position has a neutral or negative effect on MLS team performance.

Hypothesis II: Coaches who have player or managerial experience in foreign leagues benefit MLS team performance.

VII. Data and Methodology

My analysis follows the structure described by Stuart W. Flint, Daniel J. Plumley and Robert J. Wilson in their paper, *You don't know what you're doing! The impact of managerial change on club performance in the English Premier League*. The authors used paired t-tests to compare points per match before and after managerial changes as well as league position for Premier League teams. MLS relies on the same point system that the EPL uses for league standings (three points for winning, one for tying and zero for losing) allowing me to use a similar method of analysis. While the independent variable is the introduction of a new coach, the dependent variables are average goals scored, average goal differentials, and average win points. I then

compared these variables for the four games before a coach was fired and eight games before a coach was fired to four games after a coach was fired and eight games after a coach was fired. I also observed average league points over a coach's entire tenure versus nationality, previous MLS head coaching jobs and age.

$$\text{Average Win Points} = \text{Nationality} + \text{Age} + \text{Previous MLS Coaching Jobs}$$

Nationality was treated as a binary variable as either "foreign" or "domestic" while age was recorded from the day that the coach was hired. I characterized both Canadian and American coaches as domestic because MLS includes the Canadian teams: Vancouver Whitecaps FC, Toronto FC and Montreal Impact. Birthdays, nationality and experience came from the soccer data collection website transfermarkt.com.

Data Collection

The data collected consists of all games played by the twenty teams currently in the league and one defunct team between 2005 and 2016, including regular season and playoff games. I choose 2005 because prior to 2005, MLS went through instability and contraction. I was able to download the schedules and results from a GitHub repository and fill in missing scores using the MLS website.²⁹ I matched press releases to the schedule to determine each coach's first and last games as well as performance over their entire tenure. I also looked at press releases and news articles for each replacement to categorize turnover as voluntary or firing.

Determining the reason for leaving involved reading each article carefully for language implying that a coach left because of performance issues. For instance, if a coach's contract was expiring, but the team decided not to renew the contract, I treated the turnover as a firing. In the example below, Tom Soehn technically left the team himself after the end of his contract, but

²⁹ Offenbacher, Charles. "MLS Data." GitHub..

only after the team began considering other candidates and refused to renew his contract. This dismissal was effectively a firing.

“After missing the MLS playoffs two years in a row, D.C. United had begun assessing Coach Tom Soehn's work and weighing whether to offer him a new contract.” – Washington Post³⁰

The same is true for teams and coaches reaching a “mutual decision” to leave. Frank Yallop of the San Jose Earthquakes left the team, but a midseason parting in combination with a poor start to the system and few playoff victories indicates a firing.

*“In the biggest shake-up since the club re-entered Major League Soccer six years ago, the two-time MLS coach of the year **agreed to part ways in a “mutual decision,”** according to management.*

*Yallop, whose **snakebit 3-6-6 team is a disappointing eighth in the nine-team Western Conference,** could not immediately be reached for comment.” – Mercury News³¹*

There were 107 coaches during this time period, of which 22 are still coaching. Of the 85 coaches who left, 14 left voluntarily, 62 were fired and five were interim coaches. Reasons for leaving voluntarily included better opportunities elsewhere, family reasons and retirement. Coaches often left to coach new franchises or to become involved with the U.S. National Men’s Team. Family reasons included a move back to a home country or personal sickness. My dataset in total includes each coach during this period, every game they played, birthday, nationality, experience, total tenure, reason for leaving, average goals, average goal differential, average win points as well as team performance before and after turnover.

Interim Coaches

Oftentimes, especially after mid-season changes, teams assign interim coaches to take over the role while the club searches for a long-term coach. Interim coaches are often assistant

³⁰ Goff, Steven. "Soehn Resigns as United's Coach." The Washington Post.

³¹ Almond, Elliott. "San Jose Earthquakes Part Ways with Coach Frank Yallop." *The Mercury News*.

coaches of the same team. To correct for this, I estimated a trial period of four games. If the interim coach was hired as head coach after his “trial” period, the change in title was ignored and the interim period was rolled into the coach’s entire performance. However, if the interim coach had coached for over four games and was replaced with an official head coach, the change was treated as a firing since the interim coach was unable to convince management to hire him. Interim coaches who coached less than four games were often temporary stand-ins until the new coach could arrive from abroad or stop-gap measures until the season was over. In all, there were 27 interim coaches of whom ten were hired as head coaches after their trial period. Interim coaches played an average of 10.7 games before being replaced or hired.

VIII. Results

Performance before firing

Figure 5:

Welch Two Sample t-test

```
data: fired[, 26] and fired[, 42]
t = -1.3019, df = 112.52, p-value = 0.1956
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -0.37827221  0.07827221
sample estimates:
mean of x mean of y
0.8833333 1.0333333
```

T-test comparing the average win points of games 1-4 and 4-8 before a coach is fired

To eliminate the possibility that teams were going through a random immediate downturn before coaches were fired, I looked at the eight games before a turnover. Teams do seem to underperform consistently before a coach is let go. The mean for average win points in the four-game segment immediately prior to a coach firing is not statistically different from the mean of the four-game segment before the immediate segment. This means that teams perform at the same level for the eight games before a coach firing. It is less likely that teams are affected by

rumors of a coach leaving or the team is going through a random downturn if their performance is stable for eight games, a quarter of the season.

Short Term Effect

Table 1:

		t	df	p-value	Mean before	Mean after	95% Confidence Interval	
							Lower	Upper
Four games before and after	Average Goals	-2.9997	117.43	0.0033**	1.049180	1.341695	-0.5022287	-0.1028005
	Average Goal Differential	-4.3028	116.57	3.527e-05***	-0.6967213	-0.343459	-0.929294	-0.343459
	Average Win Points	-3.6307	110.29	0.0004302***	0.8729508	1.2887931	-0.6428175	-0.1888671
Eight games before and after	Average Goals	-2.1669	112.64	0.03235**	1.116803	1.285714	-0.3233523	-0.0144697
	Average Goal Differential	-5.3088	114.79	5.457e-07***	-0.5799180	-0.0535714	-0.7227398	-0.3299534
	Average Win Points	-3.7919	113.7	0.0002411***	0.9528689	1.2566964	-0.4625615	-0.1450937

** $p \leq 0.05$

*** $p \leq 0.001$

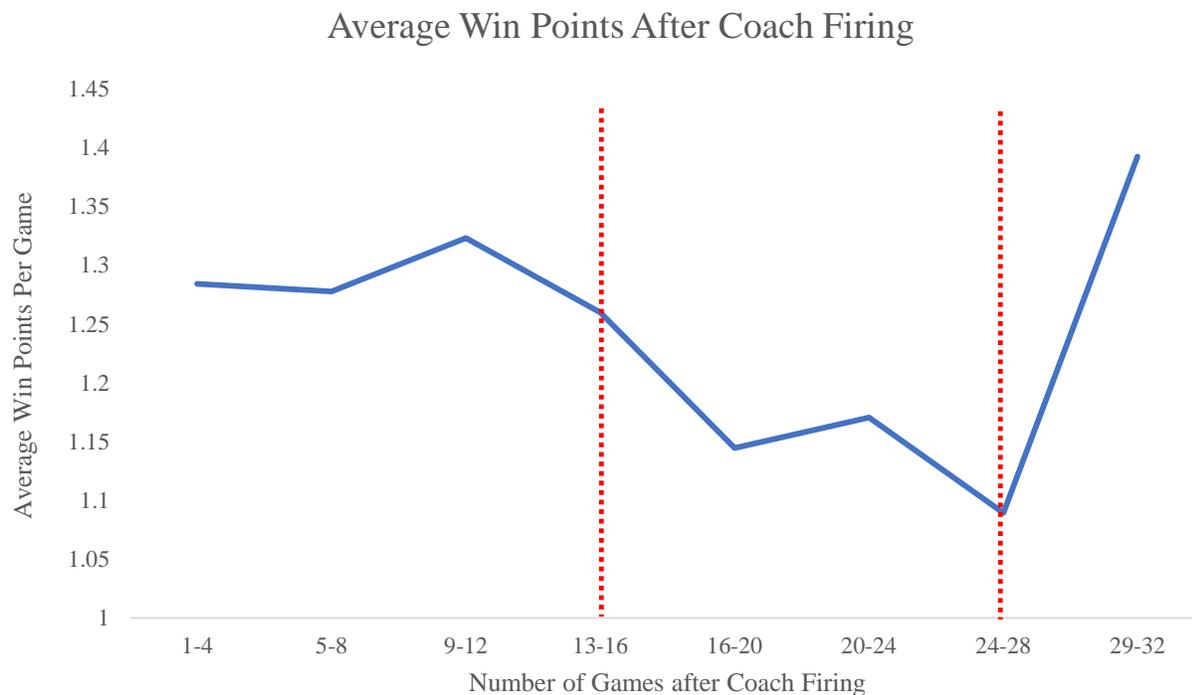
Surprisingly, average goals scored, average goal differential and average win points all improved for both the four games after and eight games after a coach was fired. By itself, average goals does not tell us much about the performance of a team. A team can score six goals in a game but still lose if the other team scores seven. However, we do know that teams are scoring significantly more goals during the four games and eight games after the firing of a coach.

The average goal differential increased from -0.697 to -0.343 for the four games after a coach is fired, but remained negative. In some circumstances, a negative goal differential may

appear as if the team is losing more games, but it can also mean that when the team wins, they win by a smaller margin than when they lose. Since the average win points increased after the coach was fired, it appears that this latter case is true. Teams still have a negative goal differential, but lose by a smaller margin than previously before. Despite the negative goal differential, teams are winning more as the average win points for the four games after a coach was fired increased from 0.873 win points per game to 1.289, indicating that teams are more likely tying and winning games (earning one or three points) rather than losing and tying games (earning zero or one points).

Long Term Effect

Figure 6:



Significance disappears in the 16-28 game range³²

As seen in the graph above, teams improve immediately after a new coach enters the team, peaking at the 9-12 game mark. After this point, improvement slows. Improvement is only significant until the 13-16 game mark, measured as significance between the average win points during the first four games before the coach left and each four-game segment after leaving. After this point, the teams is effectively in the same position that it started. For mid-season coaches, this may be enough to change league position by the end of the season, but off-season coaches may not see significant improvement by the end of their first season. In addition, the improvement was significant after the 29-32 game mark. However, this may be because for the 2007 – 2010 seasons, each team only played 30 games. The 29-32 game segment may include

³² See Appendix, Figure 13 and Figure 14 for full results

two off seasons for replacement coaches to train their team which could lead to significant team improvement. Teams may also improve at the beginning of the next season due to general allocation money earned for finishing at the bottom of the league or the impact of draft players.

Thus, teams seem to earn a short-term gain from firing a coach. This may come from player or fan perception that new coaches bring fresh strategies and spirit, revitalizing the team. As Van Ours and van Tuijl (2016) found in their study on the Danish league, clubs improved more during home games than away games because hometown fans felt more positively about the club, giving the club more vigor when they played at home. It is possible that this is also true for MLS teams. The effect wears off after the 16th game, showing that performance problems for clubs are more deeply rooted than the coach.

In addition, for a coach to make a significant impact, they not only have to have influence, but also cultivate a different strategy for the club. As mentioned before, the MLS coaching atmosphere remains very insular, with many assistant coaches working underneath the same major coaches. The effect of coaching may fade because players and fans eventually realize that little has changed in the organization with the introduction of a new coach. To extend the benefit of a bringing in a new coach, teams should consider hiring candidates with an outside perspective. Drawing from the same pool of coaches clearly does not change the trajectory of the team.

Though the coach changes, the team remains the same. A new coach is supposed to change strategy, make better roster decisions or fit in with the culture of the team. If the long-term health of the club remains flat, teams either have to look to other positions in the organization or make the coaching position more influential. Teams may be making poor roster decisions such as overspending on designated players or acquiring players who do not fit in with

the club culture, most likely the fault of the General Manager. Clubs may lack the talent to compete, indicative of a frail academy system. Teams may also be suffering from a lack of hometown spirit, a result of underselling tickets in a large stadium. These issues can lead to the downturn in performance that lead to coaches suffering the consequences.

Mid-Season v. Off Season Turnover

Figure 7:

Welch Two Sample t-test

```
data: firedmi dseason[, 42] and firedoffseason[, 42]
t = 0.37545, df = 53.849, p-value = 0.7088
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -0.2518948  0.3679662
sample estimates:
mean of x mean of y
0.3258929 0.2678571
```

Mid-Season v. Off Season for Fired Coaches T-test of difference in Average Win Points eight games before firing and eight games after for Midseason and Offseason coaches

Previous studies have shown a difference in performance improvement based on off-season and mid-season changes. Mid-season changes generally help more because the team is so desperate for a change that they are willing to upend their stability to bring in innovative ideas. Off-season coaches are typically hired at the end of November or the beginning of January³³, leaving enough time for them to make roster decisions, participate in the SuperDraft and move players before the primary transfer window in February. Based on MLS data, there does not appear to be a difference between mid-season and off-season changes in term of average win points earned eight games before the change and eight games after. It is possible that teams that change their coach in the off-season may make a final push at the end of the season to try to make the playoffs, resulting in more wins than average. This would diminish improvement by

³³ See Appendix, Figure 12

new coaches at the start of the new season because the previous win point average is artificially high. However, teams are unlikely to begin their final push a full eight games, or games at the beginning of September, before the season's end. Unless there is a huge financial penalty, it seems beneficial to fire a coach when they disappoint the front office. Waiting until the off-season does not make a difference to the team's overall performance and may revitalize the team in the short term. For the coach's first season, the additional time that the off-season hired coach benefits does not earn the coach an advantage.

Nationality, Age and Previous MLS Head Coaching Positions

Figure 8:

```
Call:
lm(formula = Data[, 19] ~ Data[, 4] + Data[, 5] + Data[, 7],
    data = Data)

Residuals:
    Min       1Q   Median       3Q      Max
-1.23110 -0.22835  0.05715  0.20384  1.80347

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  1.409741    0.316169   4.459 3.34e-05 ***
Data[, 4]Foreign -0.002504    0.100762  -0.025   0.980
Data[, 5]      -0.003902    0.071176  -0.055   0.956
Data[, 7]      -0.004581    0.007207  -0.636   0.527
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.3821 on 65 degrees of freedom
(31 observations deleted due to missingness)
Multiple R-squared:  0.006876, Adjusted R-squared:  -0.03896
F-statistic:  0.15 on 3 and 65 DF,  p-value:  0.9293
      Data[,4] is nationality, Data[,5] is age, Data[,7] is experience
```

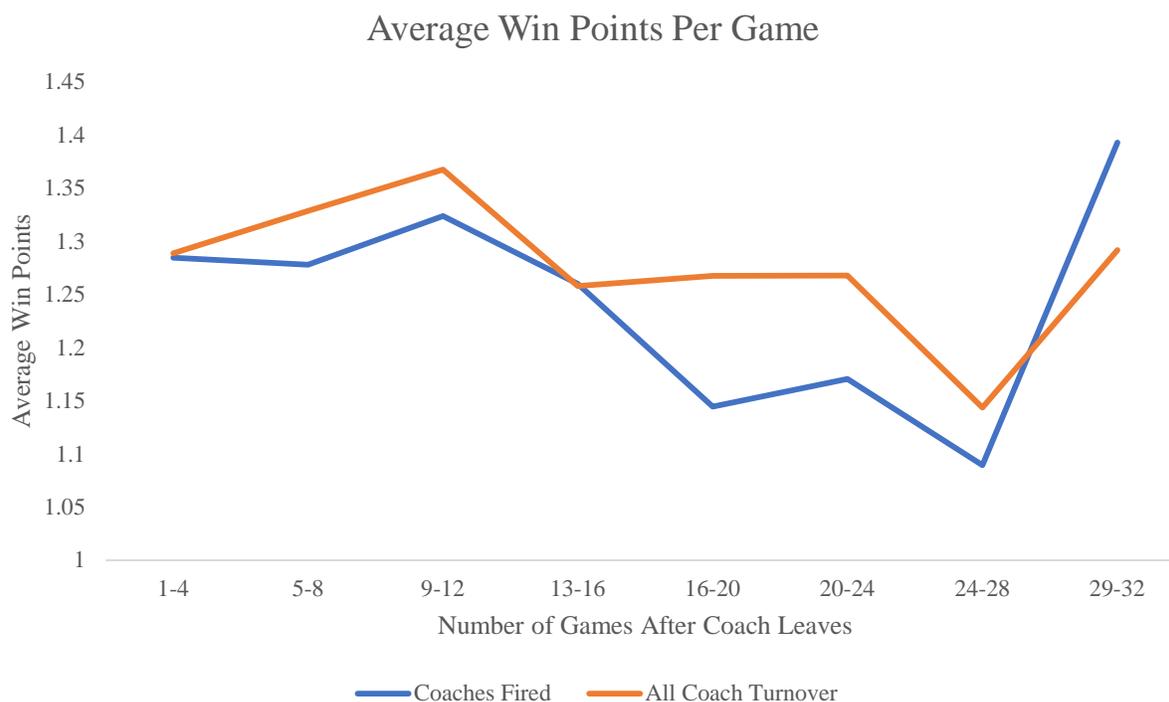
Based on a linear regression looking at average win points over a coach's entire career, nationality, age and number of previous MLS head coach positions are not correlated to team performance. In the dataset, 39 coaches are considered "foreign" based on their nationality while 59 coaches are "domestic." The average age of an MLS coach during this time period at the time of their hiring was 43.7 years of age, younger than other leagues around the world. For the

majority of the coaches, the instances observed was their first head coaching job at MLS. Some were rehired or lured away by other clubs or USMNT. Oftentimes, coaches accepted lower positions at other clubs after turnover such as Technical Director or Academy Director. None of these factors seems to actually impact the success of a coach over his tenure. Clubs may need to upend traditional norms about what makes a good MLS coach (American, young and experienced with the club) and expand their search beyond a conventional coach.

IX. Future Research

While nationality is one indicator of a coach's exposure to soccer abroad, a more comprehensive guide would be his experience as a player and as a coach. Some foreign coaches played within MLS while domestic coaches played or coached abroad. Unfortunately, I was unable to verify the player information of older and foreign coaches, but comparing coach experience in the various leagues and skill tiers would yield more insight into international experience.

In addition, because of a limited dataset, I was unable to compare voluntary transitions versus firings. Only fourteen coaches in the dataset decided to leave of their own volition. Based on the graph below, it may seem as if there is little difference between voluntary coaches leaving and firing. However, I believe that teams perform worse after a coach voluntarily leaves compared to their initial performance. For instance, one of the outliers in the dataset was Sigi Schmid voluntarily leaving Columbus Crew, after which the team performed significantly worse. With more data, we may be able to answer this question.

Figure 9:

Improvement in Average Win Points Per Game after voluntary turnover is a similar pattern as after coach firing³⁴

Final league position also presents an interesting question. I initially planned to look at the league position of a team right before a coach was fired and after the end of the new coach's first season. One could argue that ultimately, the only outcome that matters is whether the club wins the MLS Cup. Unfortunately, after speaking with MLS representatives, I could not attain records of each team's league standing after each game. Further research into this area would clarify the ultimate impact of a new coach.

In addition, head coach is only one position in the entire organization. For long term goals, general managers and academy coaches create a feeder system for their clubs. A team relies on its youth system to cultivate talent. Successful general managers balance long term and short term financial goals effectively. Looking at turnover in these positions over a much larger time

³⁴ See Appendix, Table 2 for full results

period could yield more insight into the importance of youth development and financial management to individual clubs.

X. Conclusion

Based on the theories of succession, it appears that coaches act as a scapegoat for teams. Teams see an immediate improvement, but in the long-term, average win points per game returns back to the club's original level. This initial bump may be due to increased morale of fans or players who believe that a coach will bring a new strategy to the club. If the financial penalties for cutting a coach's tenure short are too great, firing a coach can eliminate any short-term gain. By replacing coaches, teams either hope to find someone who can bring a better strategy to the club or fits better within the culture. In reality, clubs may as well have kept their coach, unless they benefit in playoff standings from a quick, temporary resurgence. This data leads us to two conclusions: teams should expand their search for head coaches and that they may need to correct other club issues.

If a club subscribes to the ideology that a head coach can transform a team then they should look outside of traditional coaching options. The perception that effective head coaches are American, young and with MLS experience does not hold up when actually comparing performance. Even though clubs are limited by the number of people willing to work in the U.S., hiring coaches from the same background and coaching environment is clearly not effective. Clubs should be willing to explore coaches who can reinvent the team. In addition, the league and clubs do not provide enough incentive to new head coaches to change strategy. If a coach comes to a new club with a radically different strategy and the strategy fails, he or she is publicly lambasted for not understanding the league or inexperienced management. However, if a coach

stays with the status quo, critics cannot evaluate them too harshly. Thus, there is no incentive to deviate from the norm and bring a fresh, but potentially risky, strategy to the team.

A club may also have to look at deeper seeded problems within the team. As mentioned above, head coach is only one of many positions on the team. Since firing a head coach does not appear to impact the team, other factors may be the real problem. General Managers, Technical Directors, Academy Directors and Assistant Coaches all play important roles in club hierarchy. Poor performance may point to one of these issues as the true problem. The players themselves may also cause the problem, and clubs may have to re-evaluate their balancing of the rosters. If they truly want to succeed, clubs should hold their coaches accountable only if the coach actually impacts on-field performance rather than firing coaches arbitrarily.

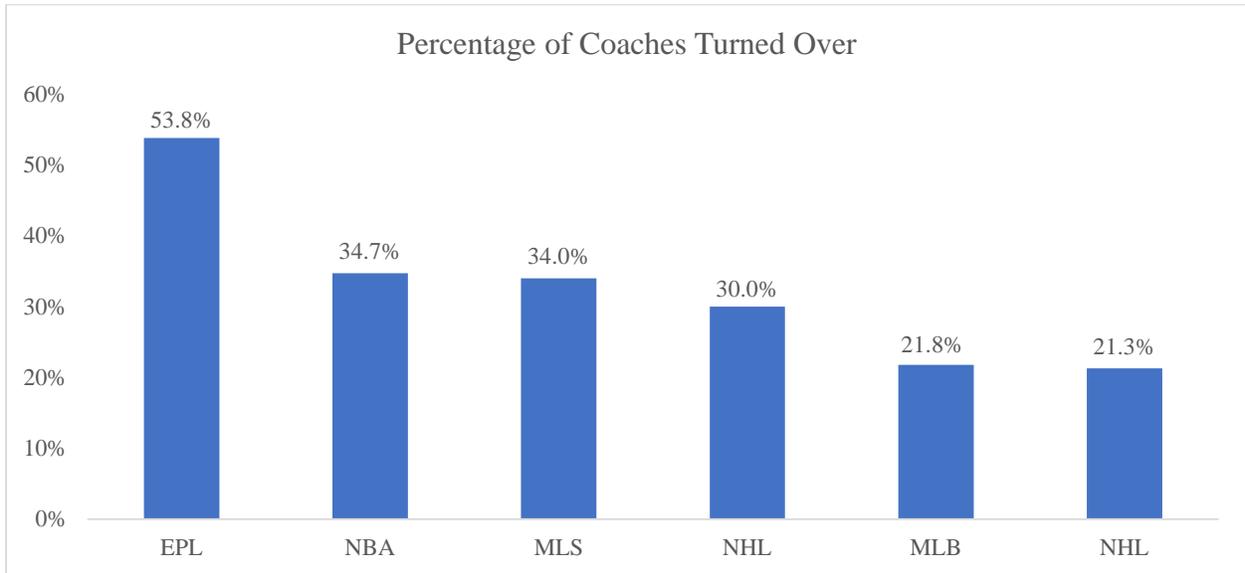
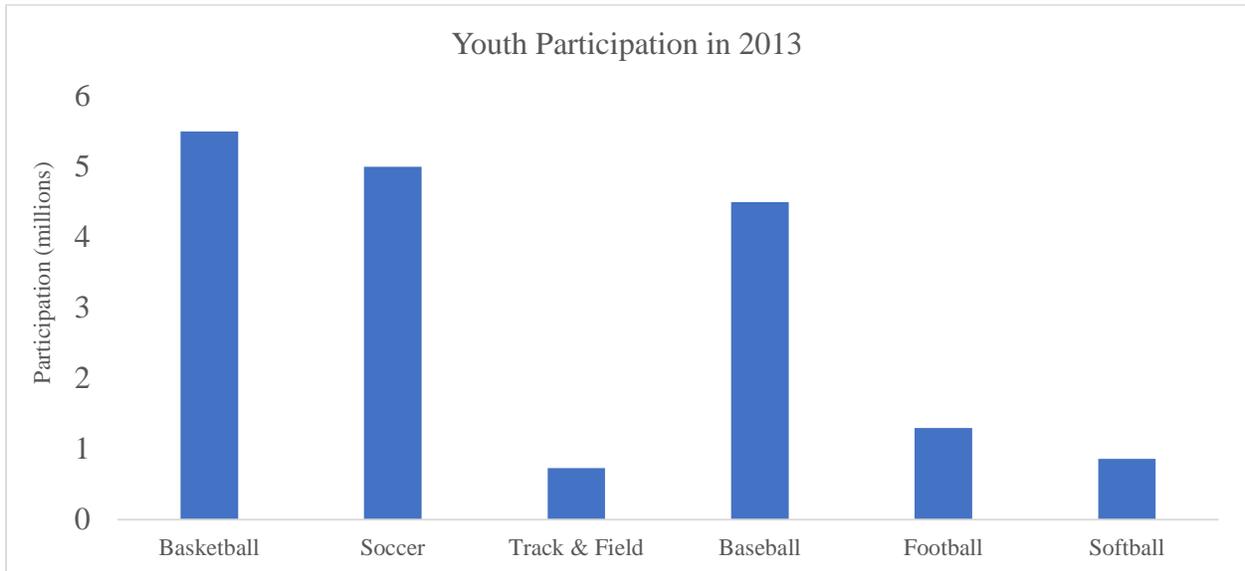
Appendix:**Figure 10:****Figure 11:**

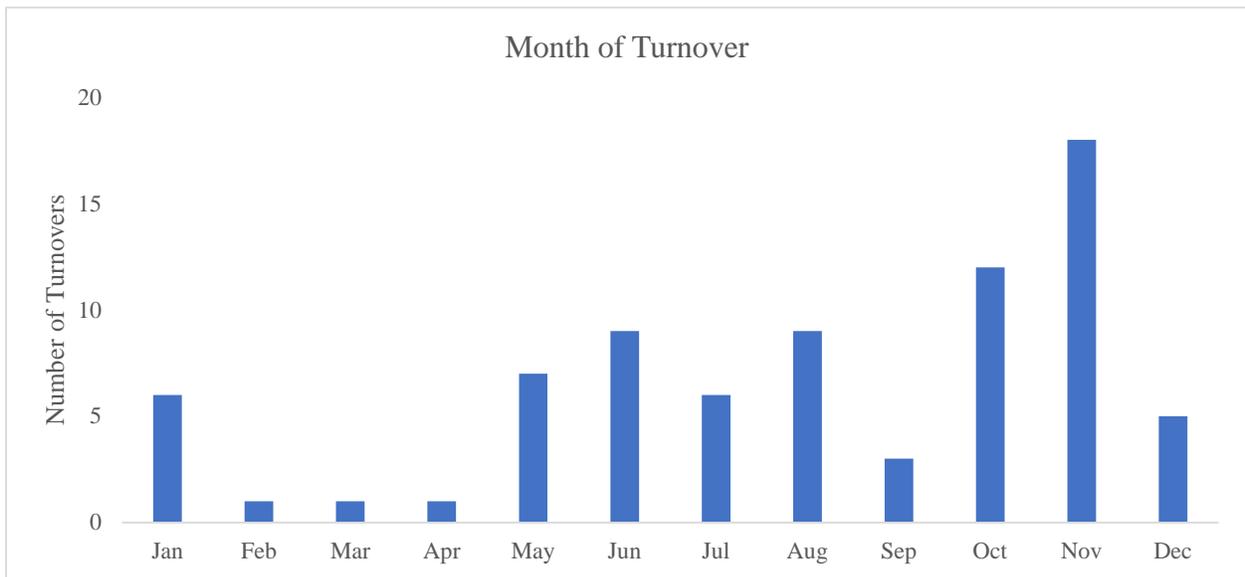
Figure 12:

Figure 13:

Average Win Points Four Games Before Firing v. Average Win Points for Games 13-16 After Firing
Welch Two Sample t-test

data: fired[, 26] and fired[, 37]
t = -3.7165, df = 107.21, p-value = 0.0003229
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
-0.5775770 -0.1757563
sample estimates:
mean of x mean of y
0.8833333 1.2600000

Average Win Points Four Games Before Firing v. Average Win Points for Games 17-20 After Firing
Welch Two Sample t-test

data: fired[, 26] and fired[, 38]
t = -2.0893, df = 83.149, p-value = 0.03974
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
-0.50967974 -0.01254248
sample estimates:
mean of x mean of y
0.8833333 1.1444444

Average Win Points Four Games Before Firing v. Average Win Points for Games 21-24 After Firing
Welch Two Sample t-test

data: fired[, 26] and fired[, 39]
t = -2.449, df = 87.357, p-value = 0.01632
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
-0.52013845 -0.05410398
sample estimates:
mean of x mean of y
0.8833333 1.1704545

Average Win Points Four Games Before Firing v. Average Win Points for Games 25-28 After Firing
Welch Two Sample t-test

data: fired[, 26] and fired[, 40]
t = -1.7769, df = 85.196, p-value = 0.07915
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
-0.43639643 0.02449167
sample estimates:
mean of x mean of y

Average Win Points Four Games Before Firing v. Average Win Points for Games 29-32 After Firing
Welch Two Sample t-test

data: fired[, 26] and fired[, 41]
t = -4.5815, df = 89.119, p-value = 1.494e-05
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
-0.7305002 -0.2885474

sample estimates:
mean of x mean of y
0. 8833333 1. 3928571

Figure 14:

Average Win Points Eight Games Before Firing v. Average Win Points for Games 5-8 After Firing
Welch Two Sample t-test

data: fired[, 32] and fired[, 35]
t = -3.3183, df = 94.983, p-value = 0.001285
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
-0.5192952 -0.1305227
sample estimates:
mean of x mean of y
0.9528689 1.2777778

Average Win Points Eight Games Before Firing v. Average Win Points for Games 9-12 After Firing
Welch Two Sample t-test

data: fired[, 32] and fired[, 36]
t = -3.3112, df = 79.916, p-value = 0.001396
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
-0.5934365 -0.1478846
sample estimates:
mean of x mean of y
0.9528689 1.3235294

Average Win Points Eight Games Before Firing v. Average Win Points for Games 13-16 After Firing
Welch Two Sample t-test

data: fired[, 32] and fired[, 37]
t = -3.4111, df = 96.436, p-value = 0.0009465
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
-0.4858451 -0.1284172
sample estimates:
mean of x mean of y
0.9528689 1.2600000

Average Win Points Eight Games Before Firing v. Average Win Points for Games 17-20 After Firing
Welch Two Sample t-test

data: fired[, 32] and fired[, 38]
t = -1.6516, df = 68.793, p-value = 0.1032
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
-0.42298789 0.03983671
sample estimates:
mean of x mean of y
0.9528689 1.1444444

Average Win Points Eight Games Before Firing v. Average Win Points for Games 21-24 After Firing
Welch Two Sample t-test

data: fired[, 32] and fired[, 39]
t = -2.0219, df = 72.095, p-value = 0.0469
alternative hypothesis: true difference in means is not equal to 0

95 percent confidence interval:

-0.432104279 -0.003067107

sample estimates:

mean of x mean of y

0.9528689 1.1704545

Average Win Points Eight Games Before Firing v. Average Win Points for Games 25-28 After Firing
Welch Two Sample t-test

data: fired[, 32] and fired[, 40]

t = -1.2851, df = 69.942, p-value = 0.203

alternative hypothesis: true difference in means is not equal to 0

95 percent confidence interval:

-0.34814203 0.07530831

sample estimates:

mean of x mean of y

0.9528689 1.0892857

Average Win Points Eight Games Before Firing v. Average Win Points for Games 29-32 After Firing
Welch Two Sample t-test

data: fired[, 32] and fired[, 41]

t = -4.3558, df = 73.634, p-value = 4.222e-05

alternative hypothesis: true difference in means is not equal to 0

95 percent confidence interval:

-0.6412779 -0.2386987

sample estimates:

mean of x mean of y

0.9528689 1.3928571

Figure 15:

Mid Season v. Off Season for all Coach Turnover (Eight Game Win Points Difference of the Averages)

Welch Two Sample t-test

data: midseason[, 32] and offseason[, 32]

t = 0.60704, df = 61.715, p-value = 0.5461

alternative hypothesis: true difference in means is not equal to 0

95 percent confidence interval:

-0.1957558 0.3664766

sample estimates:

mean of x mean of y

0.3083333 0.2229730

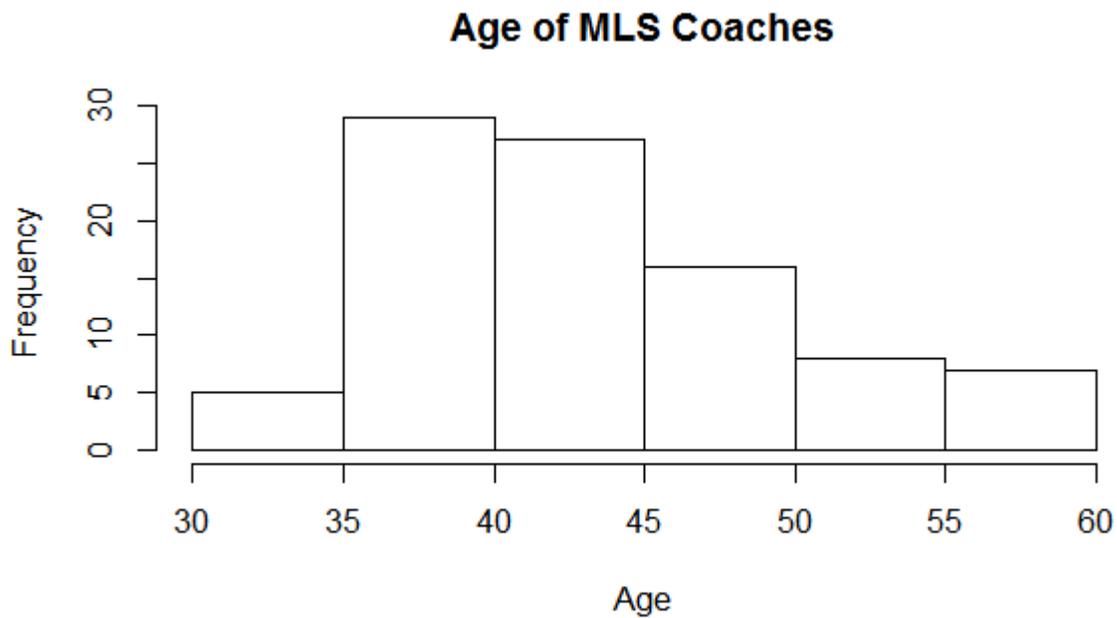
Figure 16:

Table 2: Results for all Turnover

		t	df	p-value	Mean before	Mean after	95% Confidence Interval	
							Lower	Upper
Four games before and after	Average Goals	-3.2432	146	0.001465**	1.049342	1.336806	-0.462641	-0.112286
	Average Goal Differential	-4.03	143.56	9.011e-05***	-0.5953947	-0.050000	-0.812897	-0.277893
	Average Win Points	-3.4402	138.26	0.0007689***	0.9243421	1.2892857	0.9243421	1.2892857
Eight games before and after	Average Goals	-2.9195	138	0.004096**	-0.33169087	-0.06381996	1.118421	1.316176
	Average Goal Differential	-5.2008	141.75	6.807e-07***	-0.49177632	-0.02205882	-0.648259	-0.291176
	Average Win Points	-3.7981	142.54	0.0002152***	1.006579	1.282609	-0.419692	-0.132367

** $p \leq 0.05$ *** $p \leq 0.001$

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