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A REGRESSION ANALYSIS OF PREDICTORS ON THE PRODUCTIVITY INDICES
OF MAJOR LEAGUE BASEBALL: 1985 – 2003

by

Jeremy Daniel Stick, Ph.D.

A Dissertation

Presented to the Faculty of
The Graduate College at the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Doctor of Philosophy

Major: Human Sciences

Under the Supervision of Professor James King

Lincoln, Nebraska

May, 2005

A REGRESSION ANALYSIS OF PREDICTORS ON THE PRODUCTIVITY INDICES
OF MAJOR LEAGUE BASEBALL: 1985 – 2003

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University of Nebraska, 2005

Advisor: James W. King

This ex post facto nonexperimental constructive replication study revisited earlier work by Grusky (1961, 1963), Gamson and Scotch (1964), and Gordon and Becker (1964) on whether Major League Baseball (MLB) managerial succession reflected scapegoating behaviors. Also there was interest in learning if selected independent variables were predictive of a team's won-loss record, termed the productivity index.

Nineteen-years of relevant data was collected from 26 of the 30 MLB teams. The four excluded were relatively new expansion teams. The dependent variable of team efficiency, a productivity index, was the won-loss records during the tenure of a specific manager with a given team. Eight independent variables we selected as predictors: on-base percentage, on-base plus slugging percentage, walks plus hits per inning pitched, stolen-base efficiency, total team salaries, length of manager tenure, average strikeouts per nine-innings, and managerial change.

The conclusions were:

1. The two most potent predictors of team efficiency were the on-base plus slugging percentage (OBS) and the walks plus hits per inning pitched (WHIP) statistics. According to the model studied, those two independent variables

accounted for 26% of the variance in prediction. Using all eight independent variables resulted in a 27% variance.

2. Capable players who consistently performed up to expectations were the determining factor influencing productivity indices.
3. According to the model studied, managerial succession was not critical for improving a team's productivity index.

Recommendations on pursuing future research included:

1. Manager approaches on actions resulting in success or failure, on intangibles such as risk-taking and team culture.
2. Qualitative approaches including interviewing current and former players, managers, team management and owners on the relative role and importance of a manager.
3. Mixed method approaches including interviewing media personnel and relevant fans on the importance of a manager.
4. Repeat the study using a longer time period and use other independent variables.

ACKNOWLEDGEMENT

This was a long journey, much like winning the World Series for the Boston Red Sox. Understanding what I wanted to accomplish was always clear, but the toad tended to develop unanticipated obstacles. Candidly, it is questionable if this manuscript would have met the requirements of the Graduate Office had Ms. Cindy DeRyke not accepted the challenge of editing and formatting everything. Now that I have benefited from her talents, it is time for the rest of the world to know how good she is as a professional editor.

I would like also to thank my Advisor Dr. James King. Dr. King is the kind of person doctoral students should be blessed with from the start of their Programs of Study. He was both friend and mentor. I hope he and I will continue to discuss who is and who is not in baseball, while sipping on a really good cup of coffee. Other members of my Doctoral Supervisory Committee were Drs. Miles Bryant, Larry Dlugosh, and Richard Torraco. Each was helpful but Dr. Bryant needs to be singled out, because it was from his advice I was able to create the model for my study.

Pursuing a Doctoral Degree seldom is an isolated activity. The love and support from many provided the encouragement and motivation I needed. My mother, Roberta, was always there to provide a kind word, and bring me her world-famous chocolate chip cookies. She has been behind me continuously encouraging and perhaps pushing when needed. Her love and occasional scolding are comforts I cherish, despite not always acknowledging them. Dr. Melissa Stick, my sister, is what everyone wants for an older sister. While she and I have not always agreed, there is no question I respect and listen to

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I have been fortunate to have friends who truly care about what I do and how I do it. Dr. Nataliya Ivankova was a source of encouragement and also helped me with both the design and subsequent analysis of the data. Mr. James Peugh and Ms. Katherine Chin from the Nebraska Evaluation and Research (NEAR) Center were instrumental in helping me gain a fuller understanding of the approaches to and interpretation of the statistical analyses reported. Sadi, my dog, was always by my side during the journey. He was there offering a squeak toy or his favorite ball day in and day out.

I find myself on a threshold with multiple doors beckoning to be opened. My expectation is to go through one, or perhaps several, and learn what opportunities can be found on the other side, and how I can best apply myself to furthering the well-being of a society while becoming a contributing member to that society. Once again, I give my sincerest thanks to everyone who made my journey a success.

JDS

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“We’re very much into marketing the Cubs and Wrigley field as our brand. We can never sell the brand strong enough, and we can never take anything for granted.” (John McDonough, Cubs vice president, cited by Aron Kahn in Knight Ridder Newspapers, July 31, 2004)

CHAPTER ONE

INTRODUCTION

Management succession frequently has been tied to the success of an organization. When events do not materialize favorably there tends to be a change in key personnel, with the assumption such modification(s) to an organization will yield more desirable results. A critical review of selected and relevant literature on organizational performance is addressed in Chapter Two, but at this point it is necessary to state the issue of managerial value is questioned in many domains. The point is whether a manager serves as a critical decision-maker leading to enhanced performance(s), and implementer of policy with limited range for decision-making, or as an obstructionist to success. A restating of this issue brings forth the question of whether leadership and management are synonymous (Bennis & Nanus, 1985; Hersey & Blanchard, 1988; Kotter, 1990; Mintzberg, 1973, 1980), an issue addressed subsequently in this manuscript.

Ostensibly there is a clear divide between persons serving as managers for professional sporting teams, such as baseball teams, and other types of economically driven enterprises, such as conventional corporate businesses. The former presumably requires at least some direct experience, insight, knowledge of the profession, and intuitive understanding of how to best motivate the actors. The latter apparently relies on knowledge of protocol(s), acquired business acumen, grasp of prevailing economic

currents, understanding of predictive factors, and demonstrated or alleged competency with conventional systems for reporting accomplishments.

Leadership and Organizations

A screened discussion on leadership versus management in organizations is addressed in Chapter Two, but at this point Kotter's (1990) explanation is presented because it has relevance to the development of this study; leadership results in favorable modifications while management is the process of ensuring an operation is done as planned. The former was viewed as being responsible for the alignment of resources to achieve a goal (vision). The latter was responsible for organizing available resources to accomplish the task (mission).

Kotter (1990) claimed it was important to distinguish between leadership and management. Both were important concepts, but supportive and not synonymous and not necessarily performed by a single person. That perspective was reinforced by the Gardner and Schermerhorn (1992) third explanation of leadership and management; they were complimentary processes. Antonakis, Cianciolo, and Sternberg (2004) commented on the apparent dichotomy by pointing out many activities engaged in by high organizational officials likely involved concepts of leadership and management, and it should not be surprising to realize that a clear distinction between the two might not always be possible, nor would it always be desired.

Competency

Horowitz (1994) used economic theory as a vehicle for studying MLB managers, and referred to them as principal clerks. His terminology carried a pejorative note as it

conveyed the idea such a person was not being entrusted with opportunities to make major decisions on the well being of an organization.

Citing work by Folger (1993, p. 11) on hiring practices “. . . hiring a manager is an act of faith!” Horowitz’ (1994) reference was that MLB managers came into situations with resources and events waiting for them and the extent of impact possible was limited. In particular, the idea of expecting superior managerial performance from a MLB team, which recently had undergone managerial succession, was more wishful hoping than believing in reality. Pointing out that managers generally evidenced a similar approach to the game, Horowitz used the analogy of graduate schools of business management. He said that managers trained at the Harvard University Business School likely would try to recruit personnel from that institution, or persons who presented similar characteristics. The implication was likes attracted and when presented opportunities for hiring personnel the tendency was to select a person evidencing similar preparation, a common background of experiences, and an attitude deemed as being compatible. In so doing a new person became like an extension of the person, or management team, doing the hiring. Unless there had been a change in persons involved with hiring it was reasonable to believe a new manager would present characteristics similar to the one replaced.

Adding to the argument that a MLB manager was similar to that of a principal clerk for a large firm, Horowitz (1994) explained there were at least two, and perhaps three, levels of administration overseeing all actions of a manager. The owner, and perhaps senior management team, comprised the source for the economic support. The

general manager was the person who usually implemented the wishes of the owner(s) by designing and implementing policies, including the allocation of resources given a manager. A manager's role was to use the resources provided and win as many games as possible.

Durocher

Operating from that perspective, the author (Horowitz, 1994) claimed that despite the recognition of different managerial philosophies, the actions called for at any given point during a game, or a season, were such that a limited number of options existed. Managers had to address those situations with the resources given to them. Notably, the resources reflected the philosophy of the owners and were a part of the implementation strategy of the general manager. Referring to a book by Leo Durocher (1975), the statement used to explain a manager's position was "Nobody can take a manager's job while he's winning, and nobody can save it if he's not" (p. 114). Following that reference, Horowitz (1994) again cited the Durocher (1975) book saying, "If you don't win, you're going to be fired. If you do win you've only put off the day you're going to be fired" (p. 159). The implication of Horowitz' (1994) work was threefold: selection of a manager was done on the basis of the owner's philosophy; managers truly did not have much latitude in terms of what they could do and most managers had few options when confronted with decisions; and finally, other managers probably had been confronted by similar circumstances when such situations arose so the element of surprise was tainted by luck and the ability of the resources.

Training Ground

Business schools profess to have the knowledge required for future managers and business leaders, and most such schools are thriving. Whether they provide students with the requisite information and skills is an often-debated topic (Hulsart, 2002). Increasingly there seems to be a mismatch between what businesses expect and want from new graduates, especially those earning the Master of Business Administration Degree, and what the schools provide. The former has been increasingly vocal about wanting people with expertise in the so-called soft skills: people skills and ability to write. The latter have emphasized what have been termed the hard skill: computation, economics, statistics, and similar areas. Training programs not producing what consumers (business) want become expendable. Some do so sooner than later.

In the domain of professional sports, the training school for team managers apparently has been on-the-job experience. But the nature and degree of such preparation has become a topic for discussion. It is not a foregone conclusion that a type of experience, such as hands-on and day-to-day work, in a given sporting arena is mandatory for anticipating successful performance. In fact, increasingly it is suspected that a sporting team manager is the beneficiary, or victim, of the resources available (i.e., personnel on a team). Winning or losing then would depend more on players' talents and efforts than on a manager's skill, knowledge, insights, or ability to motivate. Furthermore, subscribing to the ideas expressed earlier by Antonakis et al. (2004), Bennis and Nanus (1985), Gardner and Schermerhorn (1992), Hersey and Blanchard (1988), Kotter (1990), and Mintzberg (1973, 1980), the performance of a manager, such as a

professional baseball team manager, under such circumstances might be viewed best as an organizer of resources provided by the upper administration. Success on a playing field, therefore, might not be valid evidence of a manager's worth as much as a confluence of circumstances, such as fortuitous moves or decisions when a superior team did not respond so as to mitigate the move, or simply the result of good fortune.

Baseball Salaries

MLB players with at least three-to-five-years of longevity, are paid more than Nobel Prize winners, and that is a fact applied to many players with limited abilities. The USA Today 12/10/03 Database accessed on 12/28/04 showed the 2004 median MLB salaries ranged from \$3,100,000 for members of the New York Yankees (Alex Rodriguez at the top with \$22 million and Bubba Crosby at the bottom with \$301,400), to \$325,000 for members of the Cleveland Indians (Omar Visquel and Bob Wickman receiving \$6 million each and Brian Tallet being compensated \$301,000) (<http://usatoday.printthis.clickability.com/pt/cpt?action=cpt&title=U...>).

Under a Magnifying Glass

Actions of managers, and coaches, of big-time sports increasingly have been scrutinized because they stand as the most visible symbol for a performing team. Their responsibilities, interestingly, have gone from a time when soft skills were a prevalent requirement (being able to interact with players and sometimes be regarded as one of the team) to a time when the hard skills (understanding how to use computers to “crunch numbers” and relying upon statistical data to support decisions) increasingly have become important, but not to the exclusion of being able to effectively interact with

others (players, upper management, and the media). The bottom line for such managers is they must be able to use player personnel in a manner enabling their team to be successful, and that translated into winning games. Also, they must be able to direct their teams' toward winning percentages and ultimately win titles or championships.

When such managers were not successful the antidote usually was to replace the person; ostensibly because it was the reason why a team was not winning. But with every winning team there is losing team and so not all teams can be winners. That means, by extrapolation, there were managers who were not as successful, regardless of their personal talents and accomplishments, given the player personnel available. Not to be ignored is the fact most teams seek to secure players enabling them to have advantages in comparison to other teams. Thus the relative value of players retained and obtained needs to be kept in perspective to what is done by other teams. Sometimes major resource acquisitions become huge liabilities (i.e., Jason Giambi and Kevin Brown of the 2004 New York Yankees, who together had annual salaries in excess of \$20 million dollars but were not effective in terms of value added).

Managerial Change

The issue of managerial change with a MLB team is an important topic because it can be a seriously disruptive event to an organization. Compounding the unrest is whether managerial changes in the presence of inefficient team performances are valid. Substantial amounts of money can be involved with the hiring and firing of a manager, but the biggest fiscal impact comes from how an interested public perceives such changes. In the world of MLB, the financial aspects of a manager's salary are modest,

and sometimes inconsequential, when compared to the revenue-generating potential of a successful team. Being aware of the potential as well as the real value added to a baseball team by its manager is important to an organization as well as to a consuming public. Instant gratification (suddenly a team begins winning) by virtue of a managerial change is not likely to be a reasonable expectation. But the extent of the monetary investments in professional sports teams frequently overshadows reasonableness when such changes are made. Civility and logic rarely are evidenced when huge sums of money are in play.

Investment Yield

On page 3 wk of the December 19, 2004 edition of the New York Times, Zimbalest explained how important it was for a professional baseball team to be considered attractive to fans. The focus of the article was Pedro Martinez' decision to sign with the New York Mets for a salary reported to be between \$53 and \$56 million, to be paid over a period of four-years. Incidentally, Martinez' former team, the Boston Red Sox were willing to go to \$50 million for four-years, and the St. Louis Cardinals also were vying for Martinez' services with a comparable offer. The geneses of the article was whether Martinez was worth that sum of money given his history of shoulder problems, and the fact at age 33 he might be considered as past his physical prime. Apparently the Red Sox and Cardinals believed the added investment (going from \$50 to \$56 million) was beyond the limits of reasonableness for a resource, even a Pedro Martinez. Not discussed in any length was the fact Martinez was not always the most collegial nor was he the most cooperative member of the Red Sox. Possibly this last issue was influential in

why the other two teams (Boston and St. Louis) did not make a final effort to secure his services.

Fan Base

Predicating the Mets investment on the pitcher's attraction to a large Hispanic population in the New York City area, it was suggested he might start 16 games at home, and for each of those games he would attract at least an additional 15,000 fans. Hedging the ticket cost by saying each one would average \$25, meant an additional \$375,000 in just ticket revenues for one game (\$25/per additional fan times 15,000 additional spectators). For all 16 games it would mean an increase of \$6 million.

But the revenue stream would continue because it was estimated that each person attending a Mets home game generated another \$8 due to sales of souvenirs, food, parking, and other incidentals. Zimbalest (2004) estimated that Martinez' direct impact on stadium income would be \$7.92 million, but if the fan increase dropped to 10,000 instead of the expected higher number then the increase would amount to \$5.28 million. Working from a positive premise and extending the value added issue allows for including higher fees for advertising in the stadium and from sponsors. Also, attendance could be expected to increase at away games, and if the team signed another major player, which it did with the signing of Carlos Beltran, then the total attendance might climb beyond the predicted 15,000 extra fans per game when Martinez pitched.

Potential Revenues

Playing with figures, that seemed reasonable, Zimbalest (2004) suggested that if annual attendance at just home games increased by 18,800 fans it would yield an annual

increase of \$50.3 million to the Mets. But due to the concept of revenue sharing, about 40% of the revenue would be shifted to smaller market teams. Yet, there would be added income anticipated from the new agreement the team had with Time Warner and Comcast, which might be worth up to an additional \$250 million per year. The magnitude of the money involved with professional sports, such as MLB, makes it imperative that a team be attractive to its fan base so the multiple revenue streams can be sought, pursued, and exploited.

Manager's Dilemma

Issues of individuality versus teamwork often become blurred because while recognition might be heaped upon a collective, such as the U.S. Olympic Hockey Team winning the gold medal in 1980, few remember the team members. Illustrative is the fact many followers of sporting events would be hard pressed to identify the 1980 team winning the Super Bowl, the World Series, the National Basketball Association Championship, or the Stanley Cup, let alone the names of their respective members.

Who?

Yet recognition of some professional athletes from that 1980 era, and earlier, readily can be recalled. The names of Bart Starr, Otto Graham, and Jim Brown generally are well known to football fans; as are the names of Ted Williams, Joe DiMaggio, and Sandy Koufax to baseball fans; the names of Bob Cousy, Bill Russell, and George Mikan to basketball fans; and Gordie Howe, Bobby Orr, and Maurice Richard to hockey fans. Interestingly, many sports fans might be unable to identify correctly the teams winning the National and American League titles during 2003, and even who won the

World Series, but most would know of individual “stars,” such as Pudge Roderiguez from the Florida Marlins and Derek Jeter from the New York Yankees. And from the Boston Red Sox the names of Curt Schilling and Manny Rameriz would be recognized.

As commented on earlier, excellence in the sporting arenas seems to hold a special attraction for much of the public. The United States public has its sports heroes in baseball, football, hockey, and even basketball. Throughout the rest of the world sports fans have heroes from different sports, such as soccer, rugby, horse racing, and perhaps cricket. The common thread is large fan followings translate into revenue for teams and individuals.

Blending Talent

The reward system for athletic excellence is geared to recognize individuals, but blending their talents with those of players having lesser skills is critical. The right chemistry can produce a winning team, as apparently evidenced by the 2004 Boston Red Sox. Conversely, trying to blend a number of highly talented athletes into an effective team might not yield the desired outcome, as evidenced by the fact the United States Olympic Baseball Team, comprised of minor league professional players, was eliminated from further consideration for a medal at the 2004 Olympics by an “amateur” team from Cuba, during the American Olympic Qualifying Tournament. And the 2004 USA Olympic Basketball team, comprised of professional players from the National Basketball Association had to be satisfied with a third-place finish (bronze medal) behind Argentina (gold) and Italy (silver).

Melding individual talents, including extraordinary abilities possessed by a select few, can be a monumental challenge. Success in creating a unified team while furthering the excellence of some is an achievement associated with financial and social rewards, but failure to do so quickly leads to replacement of the person entrusted with directing a team.

The pressure to win is not limited to teams representing particularly high profile organizations, but when a team is not successful the inclination is to point accusatory fingers. A coach or manager ostensibly is the acceptable target because such individuals generally are not viewed as integral to the successful performance of a team. Whether such accusations or beliefs have foundation is debatable, but there is foundation for critical conversation on the apparent dichotomy between leadership and management, as expressed earlier in this chapter. The next section presents definitions pertinent to this study.

Definitions

Big-time sports—Athletic contests involving one or more persons being pitted against a comparable number of opponents with the winner, immediately or eventually, being accorded financial remuneration. The compensation generally is of a magnitude well exceeding the average income of most workers. Individuals involved in the financing of big-time sports typically derive substantial monetary gains for their investments.

Causal-comparative—Borg and Gall (1989) explained it was a process by which scientists sought to identify causal links between and among two or more variables. A

distinct limitation to this design was the fact its validity is only for exploring apparent causal relations and not for justifying relationships. In most uncharted research this design is the first one employed because it is the least rigorous and allows for discovering whether there is a potential for the presence of one phenomenon to associated with more or less of another phenomenon. The primary advantage for using this design is it enables a researcher to study suspected cause-and-effect interactions when it is not possible to create an experimental design. Additionally, it is appropriate to use when investigating relationships in a single study.

Coach—“A person who trains or directs athletes or athletic teams” (*American Heritage College Dictionary*, 1993, p. 266).

Inefficient team performance—When a team does not perform in the desired manner because of a lack of skill or effort.

Interim manager—A person who temporarily is in charge of the training and performance of an athlete or team. The term manager oftentimes is used synonymously with coach, but in selected sports each term (coach or manager) carries a specific designation.

Insider—It connotes a person from within an organization who has been moved to the position of coach or manager. Depending upon circumstances it might mean an elevated role for someone in an organization or perhaps it reflects a person assuming a particular responsibility with apparently less overall authority, or possibly a person who has dual roles.

League pennant winner—Conventionally it meant a team with the best winning percentages, for the American or National Leagues. But, in recent years there has been a modification to the idea of a clear pennant winner because there now are three divisions within each league and a round-robin form of playoff exists within each league. Consequently, it was possible for a team with a less productive record but highly successful during the league playoffs to emerge as a league winner and subsequently play the winner from the other league in the World Series. The implication is a division winner with a markedly poorer record of efficiency, in terms of won versus lost games, could be the representative from one of the two major leagues contesting in the World Series.

Low effectiveness—This is a term often used in lieu of the phrase inefficient team performance. It conveys the idea of an individual or team not performing at a desired or expected level of effectiveness.

Manager—A person charged with the training and overall performance of an individual and/or team. It is used synonymously with the noun /coach/, but in different sports the two terms sometimes convey different meanings. In MLB a manager is the person charged with directing the fortunes of individuals and the team.

Managerial succession—This is the process by which one MLB Manager replaces a predecessor. Sometimes it is done volitionally, as when a manager elects to retire or move to another position. For the purposes of this study the term refers to the firing of a manager because of apparent ineptitude with the team being managed.

Number one selection—In professional sports parlance it refers to the first player selected during a draft of unsigned players. Typically the team with the poorest annual performance has the opportunity to secure the number one selection in the following year, but sometimes there is a lottery in which the teams presenting the poorest records from the prior year have opportunities to win the number one selection. It is important to realize securing the number one selection does not always translate into signing the person. Expectations are that number one selections will have the greatest potential for helping a team improve its performance.

On-base percentage (OBP)—This term is used in baseball to represent the expected frequency a person will reach at least first base safely. It considers base hits and bases-on-balls divided by the number of times a player had opportunities to bat a ball. This has been an official statistic only since 1984, and recently has become one of the most important indicators regarding the relative value of a ballplayer.

On-base plus slugging (OPS)—This is another of the more recently used statistics being used to determine the relative worth of a ballplayer. It is determined by adding the OBP to the slugging percentage to convey how information on how often a player reaches base and the extent of the “damage” he does when reaching base.

Operational measures—These are the characteristics or phenomena intended to be studied and the manner by which they will be collected.

Outsider—For the purpose of this study the term /outsider/ refers to an individual who was brought into succeed a prior manager and the successor came from outside of an organization.

Productivity index (PI)—This is a term used to explain the winning versus losing percentage of a manager with the team(s) managed.

Scapegoating—Hebrew Sa'ir La-'aza'zel (“goat for Azazel”). In the Old Testament the ritual of Yom Kippur (Lev. 16:8-10), included a goat symbolically burdened with the sins of the Jewish people. Some scholars believed that the animal was chosen by Lot to placate Azazel, a wilderness demon. The goat then was thrown over a precipice outside Jerusalem to rid the nation of its iniquities. By extension, a scapegoat has come to mean any group or individual figuratively thrown over a precipice because of symbolically representing sins or evils (*American Heritage College Dictionary*, 1993).

Second division—Prior to the expansion of MLB there were eight teams in each of the two leagues. Teams presenting won-loss records placing them at or below the fifth team in a league were termed as being in the second division. Subsequent to creation of three divisions within the American and National Leagues there are fewer than eight teams per division. But still it is valid to term a team as being in the second division of a given MLB division. It is not done by convention at this time because of the potential for confusion between second division with Eastern, Central, and Western Divisions.

Slump—*The American Heritage College Dictionary* (1993) defined slump as “to fall or sink heavily; collapse; to decline suddenly; an extended period of poor performance” (p. 1284). When applied to baseball the term means either a player or a team is in the midst of protracted poor performance.

Star players—In sports parlance they are the players who draw crowds because of their demonstrated exceptional abilities in a given sport. Examples of current star

baseball players are Pedro Martinez (New York Mets pitcher), Manny Rameriz (Red Sox hitter), Roger Clemens (Houston Astros pitcher), Carlos Delgado (Florida Marlins, hitter), and Barry Bonds (San Francisco Giants hitter).

Stolen base percentage (SBP)—This statistic explains how successful baseball players have been with their attempts to steal bases. It does not include the actual number of bases stolen, but presents only the ratio of attempts to successful steals.

Strikeouts per nine innings (S9I)—The importance of this item is elevated by the fact strikeouts are not dependent upon team defense or luck. The higher the ratio (i.e., 2:9 (striking out two batters per nine-innings pitched) versus 7:9 (striking out seven batters per nine-innings pitched)) the more effective a pitcher is considered to be, because of denying hitters a chance to be a base runner.

Symbols—This material is presented above by the definition for signs. Using the idea of symbolism provides the opportunity for saying in some instances the title of coach and manager are terms used interchangeably.

The *Sapir-Whorf Hypothesis* generally has been accepted by Ethnolinguists to mean that culture influenced language but there has been far less agreement about the possibility that language influenced culture. Edward Sapir and his student, Benjamin Whorf, suggested that language affected how people perceived their reality, that language coerced thought. This is known as the Sapir-Whorf Hypothesis. Simply stated, the Sapir-Whorf Hypothesis says that the content of a language was directly related to the content of a culture and the structure of a language was directly related to the structure of a culture. Whorf conceived the idea of how culture influenced language and most linguists

have agreed to term it the Whorf-Sapir Hypothesis (www.linguistlist.org/topics/sapir-whorf).

Team efficiency—This refers to the won-lost ratio of professional sports teams. Higher efficiency ratios reflect better team performances.

Value over replacement player (VORP)—This is relatively new statistic used by baseball administration. It was created to reflect the concept of replacement value a team might expect from a readily, available and inexpensive player when a starter or key player is not available. The statistic is a means for determining how much better the starter or key player would be over the replacement. It is predicated on a model termed the Marginal Lineup Value rate (MLVr), which reports how many runs a given player would add to a hypothetical team comprised of eight other players.

Rationale for Inquiry

MLB teams are a phenomenon with worldwide appeal. Where they are located communities usually rally behind them, individuals become ardent fans, and organizations make or lose large amounts of money depending on their relative successes. Book value of teams generally do reveal the value added to communities by virtue of the presence of a team in a given city, but it can be assumed whatever estimates there are on the worth of a team, such as the Boston Red Sox having been sold for \$660 million dollars just two years ago, the real value is considerably greater because of the ancillary businesses associated directly or indirectly with a team (i.e., sports memorabilia, communication networks, advertising, transportation and parking, food, etc.). The New York Yankees regional sports cable market, known as YES, had a

reported value of \$900 million during 2001, which was estimated to be considerably higher than the value of the team.

Supporting Relationships

Most MLB teams are multi-layered enterprises with the professional team being just the most visible component of an organization. Success or failure of a team impacts not just a parent organization but also an entire community. Consequently the notion of managerial succession potentially has far-reaching implications. Borg and Gall (1989) pointed out the credibility of hypotheses, such as claiming a manager was important for a team's success, were markedly strengthened if relationships held up after one or more constructive replication studies. The key to such studies was in the testing of original hypotheses using different operational measures.

Objective

This study was a constructive replication of the work done by Gamson and Scotch (1964). The three explanations they presented were considered, but the twin foci were to determine if scapegoating was a viable explanation for managerial succession, and to learn if selected independent variables were effective predictors of a team's PI. The different operational measures were a critical study of the won-loss records and managerial changes of 26 MLB teams between 1985 and 2003.

Some disclaimers need to be stated at this point because not all of the major league teams were in operation since 1985; four were relatively new. In some instances teams moved. In those instances their records were considered using the names from their prior locations since the composition of such teams remained fairly constant. The result

was there were 30 teams in the population, but four were excluded because they did not qualify on the basis of longevity. Twenty-six teams were in the identified pool. From that sample, the average number of team managers from 1985–2003 was determined.

Preliminary Analysis

Preliminary analysis done to determine if the study had merit revealed the mean number of managerial changes for those 26 teams was 13.45, with a standard deviation of 3.87. The median was 13.5 with modes of 12 and 15. The range was from 21 (Chicago Cubs) down to 6 (Los Angeles Dodgers). Four teams had more than 17 managerial changes (plus one standard deviation) and three had fewer changes than a standard deviation below the mean. Such variability further fueled the controversy ignited by Grusky (1961, 1963, 1964), Gordon and Becker (1964), and Gamson and Scotch (1964).

Grand Tour Statement

The overriding question was whether MLB manager succession reflected on-field success.

Research Questions

This section supports the study's overriding question and presents eight subquestions that guided the investigation, and also provides cursory comments on how the questions were answered. The inquiry was whether organizational leaders, as personified by MLB managers, made a sufficiently strong enough impact on organizational outcomes to warrant believing their contributions were vital to productivity.

The vehicle by which the question was addressed involved studying the impact of managerial succession on MLB team efficiency (won/loss records) and selected aspects of team efficiency. To accomplish the objective necessitated critically analyzing selected independent variables across 26 MLB teams for the period of 1985–2003. The null hypothesis was stated as: there is no relationship or causal dependence between managerial change and team performance. The eight sub-questions are presented below with justification for inclusion, and each is followed by a null hypotheses.

Eight Subquestions

1. How does the number of managerial changes impact team efficiency as measured by won–lost records? This question related to the issue of team efficiency and allowed for a comparison to the earlier studies on managerial succession by Grutsky (1961, 1963), Gamson and Scotch (1964), and Roberts (1959).

Null Hypothesis: There is no difference in team efficiency as a consequence of managerial changes.

2. How does managerial tenure impact team efficiency? Does the length of time a manager spends with a given team have an impact on team efficiency?

Null Hypothesis: There is no difference in team efficiency as a result of the duration of a manager's tenure with a team.

3. How does team OBP impact team efficiency? This statistic reported how often batters were able to reach base, as a result of getting a base hit, a walk, or being hit by a pitch. It was the relative worth of hitters versus pitchers. The

higher the percentage for all hitters the greater was the presumption of a team's efficiency being higher. Extending this to a meaningful conclusion resulted in the likelihood of winning more ballgames with a higher team efficiency rating.

Null Hypothesis: There is no difference in on base percentage as a consequence of managerial succession.

4. How does team OBS impact team efficiency? This statistic revealed how well players were able to get on base plus the extent of damage done to an opposing team by virtue of getting on base. It was presumed that the higher the OBS the greater was the likelihood of a team's efficiency being higher.

Null Hypothesis: There is no difference in team on base plus slugging percentage as a consequence of managerial succession.

5. How do S9I impact team efficiency? It has been claimed that strikeouts were independent of a team's ability to play defense, and good fortune, because it denied opponents the opportunity to put a ball into play. The higher the ratio per nine innings the better was the chance for a team to win a ballgame, because it kept opponents off the base paths.

Null Hypothesis: There is no difference in team strikeouts per nine-innings as a consequence of managerial succession.

6. How walks plus hits allowed per inning pitched impact team efficiency (WHIP)? This was the number of times an opponent was able to put players on base. The lower the number, the fewer chances there were for another team

to score runs. Conversely, the higher the ratio the greater was the likelihood for opponents to score runs.

Null Hypothesis: There is no difference in team WHIP as a consequence of managerial succession.

7. How does SBP impact team efficiency? This statistic was determined by comparing the number of attempts to steal a base with the degree of success attained. It was a statement of how successful a player or team had been with regard to their attempts. Importantly, it discounted the total number of steals because that number was apt to be a misleading figure if there were numerous unsuccessful attempts. Instead, it was approached as done by Sheehan (2004) of Baseball Prospectus. Sheehan claimed a SBP ratio of fewer than 75% was not productive because so many present-day teams relied extensively on power games (i.e., moving runners along the base paths by virtue of a base hit, preferably involving multiple bases, which was the antithesis to “little ball”).

Null Hypothesis: There is no difference in team SBP as a consequence of managerial succession.

8. How do total team salaries impact the win-loss records? MLB teams with extensive financial resources often use such resources in a bully pulpit manner. They sought and oftentimes were successful at securing or retaining ballplayers best able to help or ensure continued high team efficiency.

Null Hypothesis: There is no difference in team performance as a consequence of total team salaries.

Assumptions

Several assumptions were inherent with this study. First was the belief it was possible to secure all of the requisite information. Accomplishing that objective depended upon the expertise of the investigator, who had extensive experience working with online repositories and finding evasive information. Next was the issue of the information found being accurate. There was no reason to question the validity of such information but random crosschecks were made among the various data sources to ensure the information culled was accurate.

Delimitations

The American Heritage College Dictionary (1993) defined the prefix /de/ as connoting the opposite or reverse of what commonly was expected. With regard to this study the delimitations were issues internal to the study. It was conceivable the independent variables selected were not accurate representations of predictive variables for team efficiency, and if so then the information studied was questionable. It was possible the statistical analyses selected were improper for this investigation or were not sensitive enough to identify predictive factors. Additionally, it was possible that the model used for this investigation was incomplete because of not identifying more and possibly stronger predictors of team efficiency. Finally, it was possible the time period designated, 19-years, was too restricted to properly support the conclusions. These considerations are re-iterated in the conclusions (Chapter Five) and again in the summary (Chapter Six).

Limitations

The conclusions presented might be limited to both the selected variables included in this study and the process by which the data was gathered and analyzed. Care was exercised to ensure there was justified generalizability of the conclusions but it needs to be acknowledged as a possible limitation. Next, it is acknowledged that the interpretations rendered were those of the researcher, and possibly interpreted differently from other researchers. Care was exercised to ensure such problems did not surface but it is the prerogative of scientists to approach research independently, and also issue cautions to other scholars whenever appropriate. To obviate that limitation the design, manner of data analysis, and interpretation of derived information was validated independently by two research design and analysis experts geographically removed.

It is important to acknowledge this research addressed an existing problem, controversial explanations regarding managerial succession for MLB managers. Further, this investigation provided a useful outcome. The information was based on a constructive replication of earlier work, because of ambiguous findings, and as such is a useful contribution to the scientific literature. Blau (1962) was an early proponent for having replication studies, especially when it was possible to test findings in different contexts. He advocated continuously engaging in research and refining knowledge about organizations and their environments. It was believed that if the findings validated earlier work then it solidified those findings. If it negated those earlier findings it encouraged continued exploration into a vexing issue. Both options serve as a stepping-stone for other types of research on this and similar topics.

Summary

This initial chapter laid the foundation for the study by covering relevant issues in nine major sections. The first was the introduction where the issue of a constructive replication was presented. A section followed that explained the problem, and in it managerial succession and leadership versus management were addressed. Concluding that second section were several quotes from Leo Durocher (1975) on the point of a baseball team manager's job being only as secure as the favorable reaction to a team's winning percentage.

The third section gave a perspective on salaries of MLB players and how they related to other aspects of society. The fourth section commented on the topic of who truly was in charge of a MLB team, the team manager or the team general manager, and it was stated the power for major decision-making did not rest with a person called the team manager. In section five there was material on the relative challenges of managers with regard to blending of talents and how such responsibilities related to investments made by a team.

The sixth section presented definitions pertinent to this study, and in the next section (seven) was the rationale for the inquiry. The next part (eighth) reported the grand tour question followed by subquestions with associated null hypotheses, and material on a preliminary study of average managerial succession rates among MLB teams. The final section (ninth) presented the assumptions, delimitations, limitations, and a chapter summary. Chapter Two reviews selected and relevant literature related to this study.

CHAPTER TWO

LITERATURE REVIEW

This chapter presents a review of selected and relevant literature to support the two foci explained in Chapter One: managerial succession in MLB typically does not result in appreciable positive change in a team's PI (won-loss ration), and that selected variables can be identified to predict a team's efficiency (success reflected by winning ballgames). Both allow for segueing into the third chapter (Methods). Both topics are pivotal to the research conducted in this study and provide the theoretical background justifying the research and basis upon which the independent and dependent variables were selected.

Bryant (2004) pointed out it was important for a researcher to give readers ample information in support of the thesis behind the investigation. In this study the objective was to determine if selected relationships existed. Material upon which the study was predicated is explained in detail, but since that material was published 40-plus-years-age there are a number of more current references included as evidence the problem continues to be vexing.

Sequence

The initial section of this chapter is an explanation of scapegoating: what it is, how it developed, and how it has application to MLB. The second section addresses the pivotal articles mentioned in Chapter One (Gamson & Scotch, 1964; Gordon & Becker, 1964; Grusky, 1961, 1963, 1964; Roberts, 1959). The third major section of this chapter addresses material on leadership, management, and

organizations. It is important to recognize this topic was not a focus of the study and the literature reviewed was done for the purpose of providing readers with a frame of reference as they related to MLB managerial succession. The fourth section is an overview of MLB since the expansion era. It is followed by a chapter summary.

The intent of Chapter Two was to lay the foundation for supporting the specific research questions and null hypotheses contained in Chapter Three. In so doing Bryant's (2004) recommendation was heeded about providing sufficient and clear support for the thesis advanced. A brief summary of the major topics covered in Chapter Two concludes the reading and points to the third chapter (Methods).

Scapegoating

This section begins with a description of the term scapegoat, including an explanation of its origins and illustration of its application. Toward the latter part of the section a connection is made to athletics and commentary is provided on how the term has been used in professional sports.

Origins

In its basest form the idea means to focus blame on a person, or a group of individuals, or attribute fault to another ostensibly unable to adequately deflect the unjustified hostility. Its origins presumably arose in Judaic biblical scripture (Book of Leviticus) as Allport (1954) explained:

On the Day of Atonement a live goat was chosen by Lot. The high priest, robed in linen garments, laid both his hands on the goat's head, and confessed over it the inequities of the children of Israel. The sins of the people thus symbolically transferred to the beast. It was taken out into the wilderness and let go. The people felt purged, and for the time being guiltless. (p. 244)

But the term has changed, and actually devolved. It now carries the meaning of attributing blame for some action(s), event(s), or belief(s) in order described by Allport (1954), has become a vehicle for mitigating or removing societal, group, or individual guilt or sin and placing it upon another person or persons (Landes, 1994). The shifting of an onus and associated refusal to accept the responsibility presumably is rooted in what Landes termed “a defense mechanism of denial through projection” (p. 659). Sagan (1991) earlier had supported the notion of projecting guilt, while pointing out it tended to have destructive consequences on both a recipient and an accepting or acquiescing society. He claimed such behaviors were evident in many societies, but in varying degrees, and “The normal, expectable expressions—imperialism, racism, sexism, aggressive warfare—are compatible with the democratic societies that have existed thus far” (p. 363).

Role Reversal

Allowing for the fact scapegoating now is considered a process by which there is a reversal of roles, between new and generally convenient victims and the persecutors, leads to the need for clarifying whether a scapegoat is identified as an individual or a group. When the scapegoat is a group, the negative attributes are affixed to the whole group. When successful it essentially raised a barrier between persons identified and the rest of a society.

An article that focused on scapegoating as an ideological weapon, retrieved online January 8, 2004, explained how conspiracy theories form the foundation for activities initiated by groups wanting to coalesce public support. Such efforts typically began with

some element of truth and then became distorted, usually by mixing half-truths and myths, so the label and not the person became the focus of the intolerance (http://www.publiceye.org/tooclose/scapegoating.htm#P9_34).

Application to Sports

Using an explanation palatable to professional sports, Knatz (1994) explained scapegoating behaviors were a way for dissipating guilt and releasing bent up hostilities. Citing Bermann (1974), Knatz (1994) stated, “. . . it was a process by which the most expendable family member is singled out to be the receptacle for all those qualities and attributers which family members want to deny in themselves” (p. 2). When extrapolated to MLB the most expendable family member commonly has been a team manager. It is the person identified by the media as being responsible for the day-to-day success or lack of success. It is the person responsible for making decisions regarding which players to use and when. So, it stands to reason a team manager would be the person most sought to become a scapegoat when events do not materialize as hope.

Managers presumably are the persons entrusted with directing the players to be successful, and when the outcomes are not positive the negative attention is focused on a most convenient and readily identifiable individual, the manager. Yet, the work of a team manager is constrained by the resources available (players on a team) and the effort(s) expended by each of the players. In the absence of competitively talented resources, or having resources not making maximal efforts, a manager becomes the personification of the unsuccessful team. To change the fortunes of such a team and retain the fan bases of interest commonly results in a managerial change. Thus a manager likely is a scapegoat

for a team's failures despite the fact other factors probably contributed to the lack of team success.

The notion of a scapegoat is particularly useful with team efforts, and often has been used. It can be applied to individual sports, such as tennis or golf, but it is with a team effort that the concept emerges most readily. Sometimes an individual player is singled out because the individual was expected to be almost like a superhero in terms of accomplishments, and in the absence of identifiable super efforts a team faltered. Scapegoating an individual player might prevent recognition of the fact an individual truly had been performing as expected but the rest of the team had not been working up to expectations.

Bill Buckner

One of the best-known examples of scapegoating in MLB was the error committed by Bill Buckner of the Boston Red Sox during the 1986 World Series. Buckner was the Sox first baseman. He was playing with ankle injuries that severely impaired his mobility, but he was a good hitter, which explained why he was in the lineup. The Red Sox were leading in the Series, three games to two against the New York Mets, but had "squandered" the lead three times. A win would have given the Red Sox the World Series title.

With the game tied in the bottom of the tenth inning, and two outs, the batter was Mookie Wilson, a fast runner who had fouled off about 12 pitches. The Mets had come back from a two-run deficit and had a runner on second base (Ray Knight). Wilson finally hit a groundball to first base. The instant there was contact between the ball and

bat the runner on second base ran toward third. Expectations were that Buckner would field the ball and either beat Wilson to the first base for the final out of the inning, or hold it and prevent the runner (Knight), who then was on third base, from scoring. But the ball took a strange bounce and skipped under Buckner's glove. As it rolled out into the right field area, Knight rounded third and scored the winning run. Two nights later the Mets won the seventh and final game of the series.

The outcome was Bill Buckner was scapegoated because the Red Sox lost the World Series, and the incident became known as the "Buckner Ball." Lost in the excitement about the ball rolling between Buckner's legs was the fact the Red Sox had been leading in that sixth game on three occasions. Also lost was that in the bottom of the tenth inning, when the infamous error happened, was the fact the Red Sox had a one-run lead and changed pitchers (removing Calvin Schiraldi and bringing in Bob Stanley). With two outs and runners on first and third, the new pitcher (Stanley) proceeded to throw a wild pitch. It enabled the Mets runner on third base to score and the runner on first to advance to second. Absent that wild pitch the Mets would have been trailing by a run with men on first and third, and two outs. How a different situation might have influenced subsequent events is speculative. But the pitching change had been made, the wild pitch thrown, the Mets tied the game, and the runner on first base (Ray Knight) had moved over to second base.

Others might have filled the scapegoat role (either of the two Red Sox pitchers, especially the one who threw the wild pitch, the Red Sox catcher who missed the ball, or even the Red Sox manager for making the decision to change pitchers, allowing the Mets

to come back three times during the game, and for having Buckner play first base during that time). During a 20-year career as a professional ball player, Buckner played first base in 1,555 games and made just 128 errors in 13,901 chances. Despite winning a batting title and having an outstanding fielding average (.992), he is remembered as the man who let the Mets win the 1986 World Series. Reportedly the ball he missed, which presumably cost the Red Sox the game, was sold at an auction for \$93,000 (retrieved January 6, 2005 from www.thebestlinks.com/Scapegoating.html). The manager for the 1986 Red Sox was John McNamara, and he continued in his position until the middle of the 1988 season, when he was fired for having a PI of just .506 during the first 85 games.

Ralph Branca

Branca was the pitcher for the Brooklyn Dodgers when they lost the 1951 final game of the best of the three-game series to the new York Giants. Ahead by a score of 4–2 in the bottom of the ninth inning, and with two outs, Branca was brought in to relieve Don Newcombe. He gave up a home run to Bobby Thompson and the Giants went to the World Series representing the National League.

Why Branca became the scapegoat is not clear because the Dodgers' Manager (Charlie Dressen) made the decision to change pitchers in the bottom of the ninth inning. Another possibility for a scapegoat could have been Don Newcombe, who had allowed two men to reach base that inning. Possibly the Dodger catcher, Roy Campanella, could have been the scapegoat because he called for the pitch when it was widely suspected the Giants had been stealing the Dodgers' signs, and Thompson was known to have good success hitting the type of pitch Campanella called. But, Branca was identified by the

media as the person who gave up the homerun ball to Bobby Thompson, and has been linked as the villain to the “shot heard around the world,” since October 3, 1951.

Other Sports Examples

During the XXV Super Bowl, held in January of 1991, the Buffalo Bills were trailing the New York Giants, 20–19. With eight seconds left on the game clock, Scott Norwood came on the field to kick what seemed to be the winning field goal for the Buffalo Bills, but the ball went to right of the goal posts. Norwood was blamed for the Bills losing the Super Bowl, despite the fact the Bills had managed to control the ball less than 20-minutes during the entire game, and for less than eight-minutes during the second half. Nobody pointed a finger at the inept Buffalo defense, at the defensive coordinator, or the offensive personnel who had scored 95-points during their two prior playoff games (Super Bowl Recaps, 2005).

Two more examples of scapegoating in sports are worth mentioning. The first was the title of an article written by Ben Cutrell and published in the daily Texan–Sports on 9/15/04. It was entitled “Scapegoating Davis is Austin’s favorite pastime,” and referred to the Offensive Coordinator for the University of Texas football team. The basis was the University of Texas’ lack of a consistent offense. Another example of scapegoating, and one illustrating how it can take ugly turns, was a story about a South American football player (soccer). Accidentally the player kicked the ball into the net of his team and thus scored a point for the opposition. A disgruntled fan killed him (Cutrell, 2004).

Summary

The concept of scapegoating revolves around displaced blame. It is a tactic used volitionally, as evidenced by the several examples from politics, but sometimes emerges in what seems to be a spontaneous manner. But there is little question the media has great influence on its development and power.

Pivotal Studies

In 1963 Grusky published findings from a comparative organizational analysis of managerial succession among 16 MLB teams during two periods of time; 1921–1941 and 1951–1958. His thesis was clubs with the poorest performances had the greatest amount of turnover among team managers. In essence, lack of success on the baseball diamond was attributed to apparent ineptitude of respective managers.

Grusky

In 1963, Grusky's manuscript entitled "Managerial Succession and Organizational Effectiveness" was published in the *American Journal of Sociology*. Using ten variables culled from organizational theory, as reported in his 1961 manuscript (Corporate Size, Bureaucratization, and Managerial Succession) Grusky studied the productivity indices (won-lost records) of 16 MLB Teams and their respective changes in team managers during two periods of time; 1921–1941 and 1951–1958. He reported "A negative correlation is found between (1) rates of managerial succession and effectiveness and (2) change in succession rate and change in organizational effectiveness. . . ." (p. 21). Those points further were explained as meaning teams with higher rates of managerial change were the ones

with poorer records of performance (i.e., more losses than wins). Extrapolating from that position he claimed teams displaying low productivity indices (poor effectiveness in terms of winning games) were the ones that should be expected to have higher rates of managerial change.

The Study

Prior to embarking upon the study, Grusky (1963) cited published facts about rates of managerial succession being positively related to the size of an organization (Caplow, 1957; Grusky, 1961) in business organizations, and selected public agencies. A stated concern was organizations presenting different authority structures tended to respond differently to personnel changes. He identified the need for ensuring the entities studied provided “. . . reliable and valid measures of rates of administrative succession and organizational effectiveness” (p. 21), and pointed out that MLB teams satisfied those requirements. The two hypotheses were framed so as to avoid attributing causality to either team effectiveness or managerial succession: (a) there was a negative correlation between administrative succession rates and degrees of organizational effectiveness; and (b) there was a negative correlation between rates of change in administrative succession and an organization’s effectiveness.

Gathering information from secondary sources, records books and other available published data sources; Grusky (1963) analyzed the number of team managerial changes during the two time periods with emphasis upon the length of tenure for respective managers. His measure for determining organizational success was a team’s won and lost record at the end of a season; stated as being analogous to a PI for business. The PI was

viewed as a measure of financial success for respective teams, with greater profitability associated with higher spectator attendance numbers. (Note the similarity of the PI to the material reported earlier in chapter one from Zimbalest's article on Pedro Martinez (New York Times, December 19, 2004)). Of note is Grusky included the St. Louis Browns and Baltimore Orioles as one team since the franchise moved from first city to the second prior to the 1954 season.

During the first period of the study, 1921–1941, Grusky (1963) said there was a negative correlation of $-.40$ between managerial succession and final standing for a team. During the second period, 1951–1958, the negative correlation was notably greater at $-.60$. Thus changes did not lead to improved team performances but in fact resulted in less efficient performances; a poorer PI. The difference between the two time frames was not addressed, but it could be presumed during the earlier time there was greater parity among teams, particularly since the sport of MLB was barely beyond a period of what Grusky termed adolescent development.

By the time of the second period (1951–1958), and after World War II, MLB had emerged into a business involving teams moving because of better markets, television was a medium for bringing the game into the homes of many if not most Americans, and the pressure for success on the baseball diamond had increased. Another important fact was just one person, Connie Mack who also owned the team, managed the Philadelphia Athletics of the 1921–1941 era, a consistent second division finisher. After Mack left the team there were numerous managerial changes to the Athletics between 1951 and 1958. To support the contention about an inverse relationship between successes on the ball

field and managerial changes, Grusky pointed out the New York Yankees had been successful during both time frames and had few such changes.

Citing research by Georgopoulos and Tannenbaum (1957) on measures of organizational effectiveness being similar among similarly structured entities, Grusky (1963) said team standing was a justifiable criterion for determining team effectiveness and that it related to a team's financial profitability. The productivity indicator PI was viewed as a measure of financial success for respective teams, with greater profitability associated with higher spectator attendance numbers.

Attendance

In support of the claim about team effectiveness, team profitability, and fan attendance being intimately related, Grusky (1963) reported his study allowed for stating there was a strong and positive correlation between a team's final standing and its annual attendance. Using data from the two periods and then combining them, he said for the first time frame (1921–1941) the rates of succession using the nonparametric Kendall's tau rank-order correlation was $T = .60, p < .0007$. For the second time frame (1951–1958) the same analysis resulted in a $T = .44, p < .009$, and when the two periods were combined the finding was $T = .58, p < .001$. All of the findings were highly significant, meaning the PI and annual attendance were related.

Effectiveness

Thus the first hypothesis (there was a negative correlation between administrative succession rates and degrees of organizational effectiveness) strongly was supported. The second hypothesis (there was a negative correlation between rates of change in

administrative succession and an organization's effectiveness) was tested by studying the changes in managers between the two periods of time, the tenure of a manager with a given team, and a team's relative efficiency as determined by its won-lost record and final standing. Grusky (1963) articulated the issue as one of determining whether teams with shorter managerial tenure rates were more or less successful during the respective time frames. He said that during the second period, the eight teams with increased rates of managerial succession evidenced poorer productivity indices (won-lost ratios), and the two teams with lower succession rates improved their efficiency (better won-loss ratios).

Grusky's Conclusions

Grusky's (1963) conclusions were as follows. Teams displaying a lack of success on the ball field had a smaller number of spectators attending games, and their profitability indices declined. With recognition for the pressures exerted by an organization to have winning records and high seasonal standings, the pressure for managerial changes increased because there needed to be a demonstration of taking some action to rectify the inefficient team performance, or poor won-lost records. Another reason for managerial changes was to demonstrate to spectators there was management concern over a team's performance, or perhaps just to appease the sport fans. Grusky included the following personal communication from Brandmeyer as an explanation how such actions sometimes were done with an eye toward placating audiences (p. 30).

Although officially the manager may be held responsible for a team's poor showing, the fact that managers frequently are hired later by other clubs would suggest that their alleged ineptness is partly a screen. It is not easy for the front office to resist public pressures even if they might feel that the decision to replace the manager is unwise. The case of Mike Higgins and the Boston Red Sox is instructive, for it is one where the owner really

did not want to fire the manager but did so anyway. Yawkey, the owner, and Higgins, the manager, were the best of friends. Yet a few years back when the Red Sox were doing very poorly, Yawkey gave in to public criticism and replaced Higgins. However, he kept Higgins on in the rather vague position of “troubleshooter.” When the team still did poorly under Billy Jurgens, Higgins was rehired. A new manager at least provides the fans with some hope for the coming season.

As mentioned earlier, Grusky (1963) was not looking to identify causality, and mentioned that it was not possible to do so considering how the data were analyzed. Furthermore, he pointed out there were other factors to consider before any such cause and effect might be suggested, such as the differences between home and away games, configurations of respective ballparks as they might have influenced the talents of players, relative population base where a team played (home and away), gender and age of potential fans, and the number of other professional sports teams in the geographic area, especially baseball teams.

Gamson and Scotch

Gamson and Scotch (1964) contested Grusky’s (1963) report on the grounds he did not fully explore alternative explanations for managerial succession, nor did he present adequate empirical data to substantiate his claims. The two researchers acknowledged Grusky used virtually homogeneous organizations because the respective teams were so similar with respect to goals, operation, and administrative structure; oftentimes a very difficult point to control in research. But, they claimed the fact Grusky did not identify or at least suggest other explanations for managerial succession was a simplistic explanation, and encouraged critics to wonder if the study was flawed. In support of their critique, Gamson and Scotch (1964) said the Grusky (1963) so-called

common sense explanation (baseball teams performing poorly change managers more frequently) or one-way causality theory, and another one they posited, were testable with little apparent difficulty.

Supporting the Gamson and Scotch (1964) contention about Grusky's (1963) conclusion was the Gordon and Becker (1964) report in which those latter authors re-examined the work published as "Organizational Size and Managerial Succession" (Grusky, 1961). As a forerunner, earlier research by Roberts (1959) had studied the relationships between an organization's size and the rate of change among managers during a period of three-years. At the time, the Roberts sample was described as encompassing the largest companies in the country. When holding selected variables constant (age, compensation, and others undefined but presumably important) it was claimed there were no apparent relationships between organizational size and rates of succession. Thus it was to be construed that large, medium, and small-sized organizations engaged in managerial changes for reasons peculiar to their circumstances.

But Grusky (1961) claimed there was a direct relationship, and provided supporting data from a 10-year study on what he termed were 500 of the largest companies in the country. Grusky reported on succession rates for the following five corporate positions: board chairman, president, secretary, comptroller, and treasurer. He stated the frequency of administrative change was directly related to the size of an organization. The larger an organization the more frequent were the changes in administrative roles. Data for his study was second-hand because he used published reports allowing comparisons between and among firms, but was not able to determine

the number of changes within a given office. The absence of primary data might have been a serious delimitation to Grusky's work, especially since that was not acknowledged as an issue.

Kriesberg

Kriesberg (1962) supported Grusky (1961, 1963) using information from his research on public health departments and state and local health agencies. He compared state-wide agencies with more than 500 employees to those having fewer than 500; a specific cut-off figure was not given, and then did the same with local agencies having more and less than 30 employees. His conclusion was length of time in a position generally was inversely related to an organization's size; the larger an entity the more frequent were the changes in employee roles.

Kriesberg's (1962) work was published as a report entitled "Mental Health and Public Health Personnel in the Fifty States." In it he stated local and state agencies tended to have different programs, but importantly it was common for both to be components of an encompassing state agency. Furthermore, allowing for the requirement persons filling CEO positions in various state governmental agencies generally needed to meet certain professional criteria, most such positions tended to be filled by political appointments, and it was reasonable to expect such appointments to be more itinerant than for persons working at "lower" levels of a state organization (i.e., individuals heading local or regional offices within a state).

On that basis, Kriesberg (1962) claimed that individuals heading local (smaller) agencies would be expected to have longer tenure in a position than those filled by

political appointment, and his results were supportive of that fact. The data he reported was that three of every four organizational heads, with 30 or more subordinates, had been in their position for less than two-years. In contrast, just one of every nine organizational heads from smaller entities presented such a record. Within his conclusions was the statement “. . . greater size necessitates increased bureaucratization and this, in turn, increases the likelihood that succession will be rationally treated by being routinized” (p. 359). With that last statement Kriesberg used earlier work on executive succession by Trow (1961) to buttress his claim.

Trow

A study by Trow (1960), on “Membership Succession and Team Performance,” claimed the average performances from 12 MLB teams with the lowest rates of managerial succession were significantly superior to the 12 teams with the highest rates of change. Also, Trow claimed that when a team’s rate of managerial succession exceeded what was defined as the average rate of variability, the PI decreased. Thus the issue of variability in succession rates was important. Grusky (1963) claimed that the similarity in findings between Trow’s (1960) and his work reinforced the support of his second hypothesis: there was a negative correlation between rates of change in administrative succession and an organization’s effectiveness.

Demarcation

The line of demarcation had been established with organization size on one side and undefined factors on the other. Kriesberg (1965) later replied to Gordon and Becker (1964) pointing out those researchers apparent inability to substantiate Grusky’s (1961)

earlier conclusions, about organizational size and rates of succession, apparently encouraged them to (incorrectly) extrapolate and view his (Kriesberg, 1965) research similarly. He then clarified why the findings in his study were valid, but also couched his remarks by saying a replication study, using more data, over a longer duration, and with better controls might provide useful information and perhaps justify modifications or perhaps even contradicting his earlier findings. Also such studies conceivably would provide definitive evidence of relationships between agencies or organization size and duration of service by a CEO, if they existed.

Skepticism

Gordon and Becker (1964) pointed out when there was a re-examination of Kriesberg's (1962) data, according to whether an organization was a mental health or a public health agency, it led to different conclusions; highest rates of succession in mental health agencies occurred with both the largest and smallest groups but with public health agencies the second largest groups had the lowest rate of succession. As a consequence, the researchers said they were appropriately skeptical about Kriesberg's conclusions, but were not inclined to discount them totally. They couched their concerns by saying potential relationships between organizational size and rates of succession likely should be studied over a longer time span. Roberts (1959) had studied succession rates for three years and Grutsky (1961) had done it for ten years. Conceivably, definitive evidence of relationships, if they existed, would become evident from carefully executed studies covering longer periods of time.

Faced with apparently contradictory facts from Roberts (1959), Grusky (1961) and Kriesberg (1962), Gordon and Becker (1964) critically reviewed the methodology and inferences from each of the three researchers. They said the Roberts study was without substantive methodological weakness, and tacitly supported his claims, but the other two studies (Grusky and Kriesberg) allowed for questioning the conclusions posted.

After reanalyzing the data from those latter two studies, Gordon and Becker (1964) resolved it was not possible to support or refute the claims posited. In an effort to clarify the inconsistency between the Roberts (1959) position (no apparent relationship between organization size and managerial succession) and those from Grusky (1961) and Kriesberg (1962) (a relationship did exist), Gordon and Becker (1964) elected to study rates of succession among executives from middle-ranked companies; Forbes 1959 rankings of companies numbered 54 through 445, using Grusky's (1961) procedures.

Gordon and Becker (1964) replicated Grusky's (1961) study and found small but reportedly disturbing differences. The net effect was to raise more questions about the validity of the claim of there being a direct relationship between organization size and rate of succession among executives. In fact, Gordon and Becker (1964) said executive succession rate was not direct nor simply explained by organization size, and then claimed the value of their work, in seeking to clarify the Grusky (1961) claims, was to refocus future scholars. Grusky (1964) subsequently replied to Gordon and Becker (1964) acknowledging limitations in his earlier study and also pointed out how additional research might be conducted.

Effectiveness Versus Succession

Readers of the Grusky (1963) study could consider the important independent variable to be either team effectiveness or rate of managerial succession, because it was not clarified in the article. Again, it is worthwhile to realize he was careful to avoid creating any belief of causality, and reiterated that there was just an association between the two. But, Grusky suggested it might be plausible to believe that one of those two independent variables, such as rate of succession, could be viewed as both a cause for and result of team effectiveness. It was termed a common-sense explanation (a manager was fired because a team was not performing acceptably) and considered consistent with the finding there was a negative correlation between effectiveness and succession.

Arguing for consideration of careful empirical testing of the explanation, and for reflecting upon other possible explanations (Nagel, 1961), Grusky (1963) admitted accepting the common-sense explanation would carry many deficiencies generally associated with claims about common knowledge. Primarily, it would lack the scientific support required to comfortably generalize the findings.

Alternative Hypothesis

To circumvent potential liabilities associated with proclaiming a conclusion lacking scientific data, Grusky (1963) presented a rationale for an alternative hypothesis. One that related effectiveness and succession and he supported it with earlier published research claiming succession indeed influenced effectiveness (Gouldner, 1954; Hamblin, 1958; Trow, 1962). He analyzed rates of succession and organizational effectiveness with a graphic illustration of a network depicting presumed interrelationships creating

managerial strain (“Amount of tension with which a person is confronted as a result of occupying a particular office in an organization” pp. 26-27). Grusky’s (1963) claim was that the degree of strain experienced by a manager would be inversely related to an organization’s effectiveness, because the two had a reciprocal effect. Lower stress was associated with greater organizational efficiency. Greater organizational efficiency translated into successful team performances and because it led to a manager being viewed favorably there was less tension on a manager. A reproduction of the model is presented in Figure 1.

But, the diagram provided for considering two interesting options to such interrelationships. The first was too little stress could be related to a position with minimal challenge, which could be a result of lacking incentive to succeed. The second was instances when the managerial strain either was too great or too low and a manager volitionally opted to leave. Citing work on managerial strain and degree of supervision, (Blau & Scott, 1962), Grusky (1963) said it should be expected that managers experiencing greater strain likely would be those being more closely supervised, and such organizations likely would experience higher rates of succession.

Managerial Strain

The primary sources for managerial strain came from: (a) the apparent discrepancy between responsibility and authority, with the latter generally being held for a team’s general manager, and (b) the perceptions of a team by its fan base and inclination to scapegoat a manager for poor efficiency. Interestingly, Grusky (1963)



Figure 1. Organizational factors in team performance

acknowledged the limitations of a manager's ability to influence team performance when he explained, ". . . he depends . . . upon the front office for assistance by providing a strong farm system and advantageous trades, and, at all times, upon the quality of performance of the lower-level members of the hierarchy, the players. If they perform well, his position is secure; if they do not, it is in jeopardy" (p. 27). This point was stated earlier, in Chapter One, with the references to Leo Durocher.

Extending that explanation, Grusky (1963) pointed out ballplayers, in many ways, operated independently from managerial control. Their performances probably dictated when a manager inserted them into a lineup but the level of effort expended by each player and success enjoyed by a team could and did vary, oftentimes through no influence from a manager.

Thus a ballplayer was viewed as more of an entrepreneur, essentially in business for self without upward mobility in the organizational sense. Any upward mobility would be in terms of monetary compensation and popularity among fans. Both were issues beyond the influence of conventional baseball managers, who were deemed to be more like a bureaucrat, working for an administration, and subjected to an administration's apparent capriciousness with regard to tenure. Invariably, players developed relationships with managers, sometimes good and sometimes not good, and any change in the role of a team manager was apt to disrupt patterns of behavior between and among individuals. New organizational interactions were apt to influence how a team operated, which was revealed in its performance index.

Camouflaged

The difference between baseball team managerial succession and what occurred in other managerial domains was the audience, or clientele, normally had greater access and generally was more knowledgeable about a baseball team. The corporate world often was camouflaged by layers of administration and obscured by marketing and advertising to the degree few knew what was happening with a given organization, and the clientele usually was not disposed to inquire. But, because a MLB team represented a

community/region, it tended to elicit chauvinistic responses from its followers, and teams wanted to maintain and increase such responses. Efficiency ratings, as defined by won-loss ratios, were transparent to most interested persons and it was incumbent upon a team's administration to curry such favor, or risk the loss of fan support, which translated into a lack of fiscal support.

Goode on Role Strain

A few years before Grusky (1963/1964) presented the managerial strain paradigm, Goode (1960) explained that different societal structures were organized according to role relationships, which in turn complied with role transactions. Using language suited for sociological and psychological audiences, Goode stated a person filling a defined role normally would be expected to make sincere efforts to perform the role in a manner to best meet the interests and needs of the society. But there were instances when the best efforts and most sincere intentions failed to enable a person to adequately serve the society. Sometimes the failure was due to a society's reluctance to give more resources. Sometimes the failure was a consequence of the person in a role not having resources that were adequate. Sometimes the failure was due to the person in a role not being adequate for the role.

Applying Goode's (1960) ideas to MLB manages, and in particular to Grusky's (1959) ideas on strain, allowed for the following observations. In a scenario such as the first condition, society's unwillingness to give more resources, the analogy would be a team's upper-level management either not being able to attract the needed players, or perhaps a decision influenced by the management

deciding to redirect financial resources into other directions (i.e., not baseball). Conceivably players becoming too expensive to retain or attract could stimulate it. For the second condition, not having adequate or sufficient resources, a manager might be required to perform duties and discharge responsibilities knowing the resources were not comparable to those presented by other teams (i.e., players immature or past their prime, or perhaps simply not equal to the best players). In a third instance, a person not being equal to the task, a person might be performing in a role with professional knowledge or personnel skills too limiting for exacting maximum performance from the resources (i.e., players). Each situation could be expected to foster strain on a manager, with the result being the society's expectations (i.e., team upper management and fan base) voicing dissatisfaction.

According to Goode (1960), the social structure determined the degree of freedom allowed such a manager, and in most instances it became increasingly constrained. A system of interconnected social networks existed beyond the immediate relationship of a manager and a team's administrative hierarchy, ". . . and these third parties have both a direct and an indirect interest in their roles transaction" (p. 495). Demands from one or more third parties might require punishment for failure to perform; with the result being a manager got fired. "Under this conception of role interaction the bargains which some individuals make will be consistently disadvantageous to them. . . ." Following this line of reasoning led to the belief it would be a matter of time before a MLB manager was fired, because of the

inability to mitigate strain (Grusky, 1964). Again, reference is drawn to the comments from Leo Durocher presented early in Chapter One.

Grusky's Earlier Work

The research Grusky (1963) cited as the basis for information on organizational variables influencing managerial succession was conducted when he was a Ford Foundation Faculty Research Fellow in Business and the Social Sciences. He focused on what was termed “studies of the largest and smallest business corporations among the top 500” (Grusky, 1961, p. 261). In a series of two investigations he studied whether relationships existed between the size of a corporation and the degree to which it experienced administrative changes, and then he studied the apparent nature of such relationships.

First Study

Using secondary sources culled from lists prepared by the 1959 edition of Fortune Magazine, Grusky (1961) identified the 26-largest and 27-smallest corporations from the list of 500 largest business corporations, determined on the basis of net sales and number of employees. He clarified the selection process by pointing out that requisite data was not available on three corporations and so he deleted them from his population, and subsequently studied 25 in each of the two groups.

Subjecting his information to statistical analyses, using Chi Square and two-tailed tests for statistical significance (nonparametrics), Grusky (1961) said change at the top of corporations was done with greater frequency among the larger institutions (positions of board chairman, president, treasurer, controller, secretary). Acknowledging

that age (significantly related to change, $p < .01$) likely influenced succession among the two top positions, board chairman and president, an attempt was made to control for that factor.

He reported the average ages of board chairmen were slightly greater among the smaller corporations but their presidents were notably younger (50.2 versus 54.6 years-of-age). Median ages distinguished what was termed young and old, which led to four groups; older versus younger board chairmen, and older versus younger presidents. Despite the relative small numbers in each group, Grusky (1961) claimed consistency in terms of succession with older personnel changing more often, and that it was more frequent among the larger corporations. Thus age of incumbent and size of institution were positively related to the frequency of succession.

In an almost parenthetical way, Grusky (1961) mentioned that the position of institution vice-president also was examined. He found that the number of such persons seemingly was related directly to the size of an entity; more vice-presidents with increasing size, and a pronounced growth in such positions occurred during the 12-year period of time before the study was published.

Second Study

Citing the distinct advantage of using secondary data because of their permanency, thus enabling other researchers to re-visit the information, Grusky (1961) explained his second study included corporations falling into the next tier of 26-largest (numbers 28 through 53 in terms of total size) being compared with those in the next 28 smallest institutions (numbers 446 through 473 in total size). Reportedly it was necessary

to engage in “. . . a watering down of the magnitude of the independent variable” (frequency of succession) (p. 264) because the corporations were becoming increasingly similar.

The findings were claimed as being consistent with those in the first study (Grusky, 1961). Ignoring the position of vice-president, there was a higher degree of change among the larger corporations than in the smaller ones, and when controlling for the age factor among board chairpersons and presidents the results supported the earlier work; higher frequency of change among larger entities. Importantly, Grusky said statistically significant findings were not found on all analyses but that there was consistency in the direction of changes. Allowing for possible influences from intervening variables (relatively small sample size, organizational homogeneity, correlational bias), he said the findings were to be viewed merely as suggestive. Yet, in the next sentence, Grusky stated, “Despite these reservations, the data presented strongly support the proposition that frequency of administrative succession is directly related to the size of the organization” (p. 263).

Explanations

Citing Blau’s (1956) work on organizations, Grusky (1961) said bureaucracy was the feature best distinguishing large from small organizations, and the bigger ones tended to rely more upon rules and hierarchical structures to enhance effectiveness. The result was increased depersonalization. A citation from Max Weber (1947) was used by Grusky to explain potential problems from allowing depersonalization in larger organizations.

It is this need which gives bureaucracy a crucial role in our society as the central element in any kind of large-scale

administration. Only by a reversion in every field—political, religious, economic, etc.—to small-scale organizations would it be possible to any considerable extent to escape its influence. (p. 338)

The size of an organization thus was seen as indicative of the extent to which bureaucratization likely occurred, with less being present in smaller entities. But, in such circumstances the health of a corporation tended to be synonymous with that of its chief executive(s) because much of administration usually was centralized. Among larger corporations there was a cushioning effect when succession occurred at the very top levels, probably because rules and policies existed and personnel functioned more as pieces within a larger whole. Thus pieces could be replaced without disrupting the ongoing activities. Grusky referred to Galbriath's (1958, p. 102) statement:

In the large organization even the risks associated with the selection of leadership are reduced. Organization replaces individual authority; no individual is powerful enough to do much damage. Were it otherwise, the stock market would pay close attention to the retirements, deaths, and replacements in the executive ranks of the largest corporations. In fact, it ignores such details in tacit recognition that the organization is independent.

On the basis of prior literature and his findings, Grusky (1961) claimed it was appropriate to say succession frequency was related to the size of an organization, and extent to which an organization was arranged hierarchically with apportioned responsibility, rules and policies. Greater size and more structure were associated with more change. But it was important to recognize such circumstances did not create the extent of instability often found among smaller institutions, where a CEO was almost a personification of an organization. This last comment should not be lost because of how readily it can be applied to MLB managers.

Pervasiveness

Again, using Weber (1947) and Galbriath (1958) as support, Grusky (1961) said his data supported the claim institutional effectiveness, as measured by profitability between percentages of investments and sales, or gross and net income, was greater for the larger corporations. A key issue for Grusky was the possibility the larger organizations were able to mitigate disruptions due to succession because they had rules and policies in place, and personnel served more as pieces to the whole and were not a part of centralized activities. Grusky termed such successions, in the larger entities, as “strategic replacements,” and even when a new “team” accompanied top-level changes it did not impact most of an organization’s personnel.

The same was not said for smaller organizations, because a chain-reaction tended to result. In those instances, he said, a new CEO likely would want familiar personnel to ensure ideas and policies were implemented. In the absence of making such changes a new CEO was exposed and vulnerable. The analogy to baseball was the act of replacing a manager but not coaches, trainers, or any of the players.

To answer the question about extent of change among large and small organizations, Grusky (1961) re-examined his data. First he noted the extent of authority was appreciable when considering a board chairperson and president. It was not nearly as pervasive when considering a secretary, treasurer, and comptroller. Referring to earlier literature (Gordon, 1945) on who might represent an institution as its CEO, Grusky (1961) declared that succession of board chairpersons or presidents were tantamount to major successions, while the other administrators were viewed as reflecting minor

successions. His hypothesis was that a positive relationship existed between major and minor successions in the smaller organizations but not in the larger ones.

Extrapolation

Using Fisher's Exact Test (one-tail) Grusky (1961) claimed statistically significant levels of probability were found for major and minor succession but only for the smaller firms. Thus when a CEO changed at a smaller firm it was likely there would be changes also among other top management personnel. Parenthetically, it bears noting this information could be extrapolated and applied to MLB teams, because they fit the explanation of smaller entities.

Grusky (1961) reiterated that his findings were suggestive and not definitive with regard to "the potential importance of organizational size as a factor which mediates social processes in complex systems" (p. 269). Participants in larger organizations apparently learned the rules and policies accompanying a chain of command, and modifications in personnel generally had minimal or no consequence to an entity's efficiency and effectiveness. Further, for such organizations to maintain and improve their ability and performance, it was necessary they be flexible. It was the flexibility aspect that Grusky claimed led to succession, and the existence of a bureaucracy minimized or negated any disruptions. Smaller organizations did not enjoy the same benefits. Thus they tended to be more vulnerable to disruptions and impaired efficiency. Again attention can be drawn to how such thinking applied to MLB managerial succession.

Gamson and Scotch

Gamson and Scotch (1964) contested Grusky's (1963) report on the grounds he did not fully explore alternative explanations for managerial succession, nor did he present adequate empirical data to substantiate his claims. The two researchers acknowledged Grusky used virtually homogeneous organizations (MLB teams) because the respective teams were so similar with respect to goals, operation, and administrative structure; oftentimes a very difficult point to control in research. But, they claimed the fact Grusky had not identified or at least suggested other explanations for managerial succession led to the belief he had provided a simplistic explanation for his findings, and encouraged critics to wonder if the study was flawed. In support of their critique, Gamson and Scotch (1964) said the Grusky (1963) so-called common sense explanation (baseball teams performing poorly change managers more frequently) or one-way causality theory, and another one they posited were testable with little apparent difficulty.

Talented

Two issues identified by Gamson and Scotch (1964), during their discussion of the manager's role led to expanding the job description for a MLB team manager. First they claimed it was likely a highly competent manager could be entrusted with the development of talented but young players. In such an instance success had to be determined by means other than an immediate winning percentage on the playing field. In such instances the long-term objective took precedence and future success was sought in lieu of an immediate winning percentage. The second issue was to reflect upon the fact there was somewhat of a finite pool from which managers were selected; a point made

earlier in this chapter with Grusky's (1963) reference to the Brandmeyer personal communication.

Some managers were people who had been fired by other teams. Others were coaches who moved up to the role of manager. The constant among all managers seemed to be people experienced with the sport, but the level of experience and extent of major league play apparently was not critical. Also not factored into conversation was the apparent level of talent on respective baseball teams. Joe Torre of the New York Yankees was an excellent example of an eminently successful modern-day baseball manager, but he was managing with his fourth team (New York Mets, 1977–81; Atlanta Braves, 1982–84; St. Louis Cardinals, 1990–95; New York Yankees, 1996–present). The authors stated:

. . . there is a pool of former managers, frequently employed as coaches by various teams, who are usually called upon when changes are to be made. Most of these coaches were fired from their positions as managers, presumably because they failed to produce winning teams. Such recruiting practices strongly suggest the interchangeability of managers and the improbability of explaining variance in team performance by anything the field manager does. (Gamson & Scotch, 1964, p. 70)

A Third Explanation

Using the premise of there being relatively little difference among the talents of MLB managers, the Grusky (1963) claim of a correlation existing between managerial succession and team performance justifiably became suspect. Grusky's (1961) earlier report on executive succession subsequently was questioned by Gordon and Becker (1964), and shown to be wanting. The conclusions claimed were not supported by a re-examination of both the data and the process used for the study. Consequently, his conclusion about MLB managerial changes was deemed vulnerable, especially given the

critiques of Gamson and Scotch (1964). Those two authors claimed the firing of a manager exemplified the ritual termed scapegoating; an activity presumably engaged in to alleviate anxiety despite the realization, by some or many of the participants. The act was just a convenient way to place blame on a less fortunate or more convenient member of a tribe. It was tantamount to offering a sacrifice in hopes of appeasing mythical gods and at least temporarily deflecting attention from a need for internal improvement and/or re-organization.

Questionable Successions

Gordon and Becker (1964) claimed a limitation in Grusky's (1961) work was the manner by which he studied the successions. Grusky examined four groups, each with 25 companies, during two studies. The succession comparisons were the largest companies to the smallest, and the second largest against the next to smallest companies. He regarded each of the two comparisons as independent tests for his hypothesis; rates of succession increased with size of an organization. The two authors (Gordon & Becker, 1964) replicated and re-analyzed the descriptive data from Grusky's (1961) study on "Managerial Succession and Organizational Effectiveness" and found small but reportedly disturbing differences. The net effect was to raise more questions about the validity of the claim there was a direct relationship between organization size and rate of succession among executives. Grusky's analysis apparently led him to claim a direct relationship existed between organization size and rate of succession according to each position (board chairman, president, secretary, comptroller, and treasurer). Gordon and Becker (1964) concluded when ". . . the rate of succession for each position is examined

simultaneously for all four groups . . . it can be seen that there is no direct relationship between size of organization and succession for four of the five positions” (p. 216). The sole exception was the position of treasurer. The two authors then said the value of their work in seeking to clarify the Grusky (1961) claims was to refocus future scholars so they would recognize possible limitations to the published material. Grusky (1964) replied to Gordon and Becker (1964) acknowledging limitations in his earlier study, and also pointed out how additional research might be conducted.

Meyer

An interesting report (Meyer, 1975) on leadership and organizational structure claimed there were conditions when organizational stability was affected by change, and that some causal relations might be identified as contributing factors. Citing data from a study of 215 city, county, and state auditors offices, comptrollers, departments of finance, and other similar organizations, Meyer sought to learn if leadership had any bearing on the predictability of an organization’s structure. Using a series of correlational analyses he said that organizational changes had relatively little, if any, bearing on leadership. But there were external factors, which oftentimes impacted leadership in an indirect manner. Essentially that part of the study examined whether there was a relationship between executive-type turnover and the structural stability of an organization. An analogy would be managerial changes in baseball and associated changes in coaches and possibly players. The internal modifications would not be seen as the initiator for manager change, but there could be third-party expectations, such as a fan base, that exerted indirect pressure and exacted a manager change (by not attending ballgames).

The conclusions from Meyer's (1975) study mentioned that when leadership was stable over a reasonable period of time (implying leadership was not subjected to whims of political appointments) and also somewhat insulated from higher authority, the organizational structures could be predicted to be continuous over a period of time. Conversely, in instances with changing leadership due to reliance upon an intrusive higher authority, the organization's structure was notably less stable. Extending this information to MLB would mean that managerial stability could be expected to lead to fewer player and coaching changes. The opposite would be expected when there were frequent managerial changes.

Autonomy

A final remark from Meyer (1975) was whether consideration should be given to the position identified as one of leadership instead of to the person(s) filling such a role. His rationale was the autonomy given a leader was more important than attempting to identify characteristics of individual leaders. Again the application to MLB would be to not look for special traits presumably associated with successful managers. Instead, the interest should be on the nature of the role filled by a person with authority to influence the operations of a team on day-to-day bases, and that would likely be a general manager who was able to influence resources available to a manager. The expected cautionary comment was included at the end of the Meyer manuscript; not generalize his findings to all other organizations because of inconsistencies in mission, personnel composition, and management structure. In some respects this study provided similar information to what

Kriesberg (1964) gave in his reply to Gordon and Becker (1964); organizational size and succession seemed to have some relationship but additional study was warranted.

Grusky's Reply

Grusky (1964) was afforded the opportunity to respond to the Gamson and Scotch (1964) critique of his earlier work (Grusky, 1961, 1963) on executive succession. He addressed the issue of their research relating to his manuscript on MLB manager succession by pointing out those authors studied 22 mid-season managerial changes from 1954 to 1961. But the important issue, he claimed, was that Gamson and Scotch (1964) used data from a team's performance during a two-week period immediately prior to and after such managerial changes.

Grusky (1964) said that it was critical to clearly define what was intended by the two-week period (Was it exactly 14-days or had it been when a total of 14 games had been played?) because when he, and two other researchers used to ensure reliable recording of information, re-checked the Gamson and Scotch (1964) information they found 23-cases of managerial succession and not the 22 claimed by those authors. Furthermore, Grusky (1964) reported the issue of what constituted managerial succession was problematic because he actually found 25 instances of succession in his replication.

Grusky (1964) claimed that Gamson and Scotch (1964) pointed to the fact the two-week period leading up to the change in managers was what should be compared to the performance index of a team during the remainder of a season, while under the

guidance of the new manager. Their rationale was to eliminate the potential bias of a slump during the period immediately prior to the dismissal.

The Grusky (1964) replication of the Gamson and Scotch (1964) study encouraged him to claim the two authors had errors in their study. First, there was the question about how many managerial changes truly occurred. He reported 23, and possibly as many as 25, while they had said there were 22. Using the two-week prior to change period and comparing it with the rest of the season resulted in similar results, allowing for the one manager difference; improvement was noted for 13 changes (Gamson & Scotch, 1964) while he (Gusky, 1964) reported 14. Both studies reported nine instances of deteriorating team performance after the managerial changes. But Grusky went one step further in his replication and analyzed the data on the basis of whether a new manager came from within an organization or was external.

Insider or Outsider

Grusky (1964) made an interesting point regarding the apparent extent of disruption to respective baseball teams when they experienced managerial succession. The issue was whether a replacement manager was selected from within an organization, specifically within the existing team composition, or was a person brought in from outside the organization. He explained that nine of the 23 managerial changes in his study went to people who had been on the team in a coaching position and so those changes really were minimal in terms of disruption to the interpersonal relationships. Fourteen replacements were deemed as “outsiders” to an organization; despite the fact three were

from minor league teams within the same organization, four came from the organization's front office, and one was a broadcaster for the team's games. Of the remaining six, two had been active coaches for different teams, two were managers of other teams, and the remaining two had not been associated with baseball at the time they were hired (it was not stated whether they were previously in baseball). It was not explained whether the remaining 50% involved status quo or improvement records.

Grusky (1964) superimposed his replication data upon the information reported by Gamson and Scotch (1964), and reported seven of nine teams improved when an insider (one immediately associated with a team) was installed as the new manager. Thus the change led to improved team efficiency in 77.8% of the time. When the replacement manager was an outsider seven of the 14 teams had poorer performances (50% decline in efficiency). Grusky (1964) claimed those data supported his contention that inside succession was less disruptive to team performance, and the type of change made a difference. Fewer disruptions occurred with insider succession because personnel knew each other and those relationships fostered a team's harmonious performances. Conversely, managerial succession with outsiders was associated with teams having poorer efficiency 50% of the time.

A Matter of Degree

In an apparent effort to clarify the point for low effectiveness (when to discount team performance either before or after managerial dismissal) Grusky (1964) pointed out the data might be spurious if the period of two-weeks prior and subsequent to dismissal were used. To buttress his claim, Grusky explained the possibility of a team performing

so poorly a replacement manager only had to produce a few victories to show dramatic improvement over a predecessor.

The Cleveland Indians Baseball team was cited as an example. In 1959, the club had a winning percentage of just .125 after several weeks of the season. By May 2nd the Team's Manager was fired. Working from the premise of discounting the two-weeks immediately following the change in management, as recommended by Gamson and Scotch (1964), would have meant the new manager needed to win only a few games to quickly show improvement upon the previous record. To avoid such a possible limitation, Grusky (1964) recommended using the won and lost record of managers during the preceding year, and pointed out, when using Gamson's and Scotch's (1964) data there were 19 instances qualifying for consideration, and in 16 a manager had been with a team for the entire previous year. The other three had been with respective teams for a good portion of the prior year, and the won-lost record for that time period was used for the analysis.

Using a comparison identical to the Gamson and Scotch (1964) critical test, and with their data, except for the fact a manager's previous season's record was the base, Grusky (1964) said among the 19 teams studied, deterioration (8 cases) or improvement (9 cases) occurred at about the same rate; two were considered about the same levels of performances. Purportedly this finding supported the Gamson and Scotch (1964) contention of managers not being influential, until the data were further studied with regard to insider and outsider replacements.

Seven of the improving teams had insider managers and all eight of those evidencing deterioration were outsiders. The second analysis was similar to the first except for allowing a two-week grace period subsequent to a manager change. Thus those two-weeks were not considered in the analysis of team performance. Grusky (1964) claimed his findings were even more compelling against a common-sense theory or a scapegoating belief, because deterioration happened in almost twice as many instances; only six of 19 teams performed better under a new manager than it did under the predecessor the previous year. Most revealing was Grusky's claim about the difference between insider and outsider managerial changes. Five of six insider managerial changes showed improvement while 10 of 11 outsiders were associated with deteriorated team performances.

The positions espoused by Grusky (1963/1964) and Gamson and Scotch (1964) were provocatively different. The latter claimed scapegoating as the reason for MLB managerial changes. The former (Grusky, 1963, 1964) said managerial changes were influential on team efficiency, but of even greater relevance was the nature of such succession, whether they were insiders or outsiders.

Brown

Brown's (1982) study on managerial succession in the National Football League between 1970 and 1978 allowed him to support the earlier Gamson and Scotch (1964) claim about managerial succession in professional sports being a form of ritual scapegoating. Brown (1982) was emphatic in identifying a lack of information from "front-office" variables as a limitation to most of the earlier studies on managerial

succession. His contention was such factors implied a need for considering a much broader view of organizational variables, because the on-field leadership (manager or coach, depending on the terminology used by a sport) typically had little impact on the performance of a team. The Brown study also considered the issue of associated tensions when changing managers, which was related to Grusky's earlier work (1960, 1963, 1964).

The results from Brown's (1982) study encouraged him to claim there was no apparent evidence to support a succession effect and the result of such changes was tantamount to ritual scapegoating. He supported that statement by referring to the work by Thompson (1967) on organizations in action, and said ". . . the scapegoating model correctly identifies leaders as the focus of the uncertainties impinging on all organizations and shaping their decisions" (p. 3). Another important comment was Brown's (1982) claim that the media frequently was responsible for bringing attention to situations leading to changes in managers and coaches. His explanation was the media brought heightened public attention to circumstances and falsely identified a manager or coach as the cause for a team's performance index. Instead, Brown explained, the issue of apparent leadership by such persons was distorted. His conclusion cautioned against accepting beliefs of leadership inadequacies as justification for such changes.

Hamblin's (1958) earlier work on how groups responded to leaders during times of crises supported Brown (1982), and parenthetically Gamson and Scotch (1964). Hamblin (1958) studied how groups responded to leaders during times of crises, and whether they tended to replace a leader if an apparent solution was not provided. He

concluded there was no difference in subsequent actions between groups changing or not changing their leaders.

Power of the Purse

But, the manuscript by Khaire (2004) claimed the ideology of a founder, translated into meaning the highest levels of an organization's management, influenced succession and organizational performance. Thus the manager, or coach, of a team would be constrained by how superiors viewed the circumstances. Supporting the founder's importance was the work by Scully (1994) on managerial efficiency and survivability in professional sports, in which he studied managerial and coach tenure for basketball, baseball, and football. Scully's results supported the claim of managerial survival being tied to managerial efficiency, and both were dependent upon the resources available for performance.

Smyth and Smyth (1994) conducted a study on the accuracy of journalists' predictions on how MLB teams would perform for the years 1982-1990. The interesting aspect to that study was the emphasis given to relative team salaries as a predictor variable. The authors said team salaries was the best single approach to identifying winners, and they also inserted the caveat of extreme financial resources, such as apparently held by the New York Yankees, being a variable to influence outcomes.

Inequality Among Equals

Before moving to the third section of this literature review chapter it is necessary to comment on the paper by Leifer (1990). In it, he said,

In competitive arenas success and failure are publicly interpreted in terms of the individual attributes of the competitors. Nowhere is this individualist interpretations more clearly expressed than in league sports. Winning is taken as both a sign of superior team attributes and a consequence of those attributes, and the interpretation is reinforced by the tendency for current winners to continue winning and losers to continue losing. (p. 655)

The impetus behind Leifer's (1990) study was the issue of performance inequalities, and whether the hypothesis of "winners simply are better" could be supported. When considering the recent achievements of the New York Yankees baseball team it might appear to support such a claim, but without critically studying the issue the claim becomes like an empirical validation; it is just because it is.

Leifer (1990) referred to work submitted by economists on the issue of distributed versus repeated success, and addressed the fact authority and markets apparently were prevailing considerations in performance success. He then explained how market forces were the impetus for moving highly talented players to different markets, and the events of early January 2005 bear out that fact. Carlos Beltran signed a \$119 million-dollar contract with the New York Mets, and Randy Johnson reportedly has signed a \$42 million-dollar contract with the New York Yankees. New York City is considered the premier market for baseball players.

In Chapter One there was a section commenting on the Mets signing of Pedro Martinez and how the economics were being calculated to justify the signing. Beltran also is Hispanic and from Puerto Rico. Randy Johnson simply is Randy Johnson and agreed to be traded for monetary and other personal reasons. The point here is the two New York teams had the financial resources to expend for securing the services

of players considered among the best in the game at the time. If, as Leifer (1990) suggested, talent flowed to the teams with high-market value then it is reasonable to believe the rich will continuously get richer, in terms of player talent and financial resources, while the other teams will do the best they can. Importantly, this article cited the earlier ones by Grusky (1963) and Gamson and Scotch (1964) among others (Allen, Panian, & Lottz, 1979; Brown, 1982).

The paper (Leifer, 1990) addressed season performance data from the entire histories of professional sports, up to the time when the study was started (Author, 1987): American and National Leagues in baseball, the National Football League (including the American Football League), the National Basketball Association, and the National Hockey League.

The other principal item of data was the population size of respective team locations. Because the length of each sport season varied, the author compensated by dividing win proportions in each season for each professional league by what he identified as the theoretical standard deviation using his definition of competitive equality. Time series data analyses, among other sophisticated statistical tests, were described as vehicles for the interpretation of the information. Unfortunately, the article used a number of unexplained acronyms and did not clearly present rationales for the different tests, nor did it fully explain the results beyond presenting them and making some comments while presenting fairly esoteric formulas showing how data were manipulated. The article concluded with pointing out how subtle differences,

when introduced early, can and do become magnified into points for making distinctions at a later time.

To support his argument, Leifer (1990) explained that apparently homogeneous groupings of seventh-grade students begin the process of separation by virtue of the courses of study they take during their next six-years of school. Students who take one or more foreign languages and seek to study more than the basic course are the ones who are subsequently identified as being candidates for higher and postsecondary education. Thus what appeared to be a reasonably equal group of students becomes one that is unequal. Similarly, professional sport teams might have started on a fairly level field but by the process of acquiring more refined talent one team begins to emerge as a perennial winner. But, Leifer (1990) pointed out, there was a process of democratization, which enabled other teams to periodically emerge and defeat the expected winner. If the thesis behind that article had substance it would mean that the wealthiest teams, regardless of the sport, should consistently be among the best performers. If valid then perhaps the issue of managerial influence becomes further marginalized in comparison to the resources available. Those issues are addressed in the next section.

Leadership and Organizations

Before moving into a discussion of relevant leadership literature, the concept is reviewed to ensure the issue is clear for readers. In the opening section is an overview of selected commentaries. It is followed by a more critical presentation of work published in disciplines from communication, management, academia, and sports. The study of

leadership theory as it applies to managing professional sporting teams is relatively unexplored. To a large degree the absence of material in the area is due to the ambiguity of leadership theory. This study did not seek to resolve that dilemma. Instead, it set the stage for others to address the issue of leadership behavior as it might be related to the role of a MLB manager.

Ambiguity

Stogdill (1974), Barrow (1977), Burns (1978), Bass and Avolio (1994), and Kouzes and Posner (1995), among others (Drucker, 1996; Jago, 1982; Kottler, 1998; Mintzber, 1998, Senge, 1990; Wheatley, 1994) wrestled with describing leadership. Stogdill said it was “the process of influencing the activities of an organized group in its efforts toward goal setting and goal achievement” (p. 9). Barrow (1977) claimed it was a process whereby an individual influenced others to do what he or she wanted.

Burns (1978) claimed leadership was evidenced in behaviors “where leaders and followers raise one another to higher levels of motivation and morality” (p. 20). Interestingly, Burns also claimed conflict was indigenous to a model of leadership, because the exercising of leadership over others occurred “when persons with certain motives and purposes mobilize, in competition or conflict with others, institutional, political, psychological, and other resources so as to arouse, engage, and satisfy the motives of followers” (p. 18). Interpreting Burns’ statements leads to the position successful leadership resulted when both leaders and followers had changed, in a direction considered positive relative to circumstances, and the impetus for such activity

presumably was an outside force. Further, it can be inferred Burns intended to say the impetus was some kind of threat to an existing status quo.

The concept of disequilibrium, as explained by Piaget (Flavell & Ross, 1981), fit this explanation, because it meant a status quo needed to be altered in order for progress to occur. In Piagetian thinking, the concept applied to learning happening only when there was motivation for change. In the absence of such motivation a person remained static with regard to the acquisition of information, with the result being a relative loss of cognitive growth. Extrapolating the idea of equilibrium and disequilibrium to leadership explains how it is necessary for “conflict,” between status quo and change, to occur. When existing knowledge does not explain events a person is faced with either assimilating the information into current concepts, making much broader and possibly amorphous concepts, or accommodating to the circumstances by changing to include the specifics of the new information. With leadership, continuing as before, perhaps by doing more of the same, or making changes reflecting awareness of conditions reveals application of the Piagetian idea. The important issue is movement from a status quo condition. The success of the change is not important, but the movement from inertia is worthy of study.

Conflict

Efforts to shed light on the ambiguity of defining leadership led some to consider how leaders were characterized or described by others. The issue of distinguishing characteristics surfaced with regard to how others perceived such characteristics and if there was any consistency with descriptions. Surprisingly, Kounzes and Posner (1995)

said the essence of effective leadership was revealed as “the act of mobilizing others to want to struggle for shared aspirations” (p. 30). Their explanation seemingly was in concert with Burns (1978), and elicited a position of having believers accept the notion of conflict as integral to observing leadership.

Extrapolating from the view of conflict being an integral component of leadership, leads to accepting the belief leadership can be witnessed only when there is some type of confrontation. It does not need to be physical. Instead it can, and often is, intellectual. The process is what seems to be the critical aspect of this discussion, and success of what is termed leadership usually is determined by the product, or end result. Perhaps too often change, as an indication of leadership, is not viewed in positive terms unless the result is improvement from a prior status.

If a goal was achieved the leadership presumably was successful. If not, the leadership would come under suspicion. In MLB the goal is to win the games and ultimately become the World Series winner. Yet, it needs acknowledging that both leaders and followers generally have understandings of how the journey should be accomplished, and oftentimes they differ. The genius of leadership, apparently, is when a person is able to mobilize others, despite divergent views, on a united course of action. If approved, the ideas of motivation (motivating others to action) and choice (convincing them to follow a specific road) become critical to defining leadership.

Business View

A review of selected business management literature by Hersey and Blanchard (1988) reported leadership was “the process of influencing the activities of an individual or

a group in efforts toward goal achievement in a given situation” (p. 86). In this model the process determined the function of the leader, the follower (or group), and the situation. The interactions among all variables (leader behaviors, follower behaviors, and environmental situations) affected how the process evolved and the outcome. Still, the issue of leader meant one entrusted or having assumed power and being in a position to influence the behaviors of others (volitionally and/or by force; covert or overt). Followers, regardless of their reasons were motivated to follow a leader.

Implied with motivation and choice is the issue of trust on the part of followers. It is trust in the person serving as a leader, and a belief the vision of the individual will enable all involved to accomplish a goal or achieve an objective that is desired by both the leader and followers. Also implied is the notion of the person acting in the leadership role having power to effect actions. Importantly, the concept of power in leadership is variable; ranging from power vested because of designation by an authority body to power accorded by mutual understanding and respect. Gradations between the extremes also exist.

Power vested due to authority does not rely upon follower trust because failing to comply can result in dire consequences. At the other extreme is power accorded by mutual consent and majority agreement. Presumably a democracy operates in such a manner, but there are variations on the theme of democracy. Between the two extremes are other options. Understanding when they are best adopted is important, but more so is grasping how such models of leadership might work and under which situations might

they be more or less advantageous. In MLB it would seem that the type of leadership exercised most commonly would be authoritarian.

Trait Theory

Initial leadership study sought to gain insight into the personality of a leader, and much has been written about such identifiable traits. Stogdill (1974) wrote a leader was characterized by a desire to stay on task, evidenced a high degree of self-confidence, and displayed an ability to influence others. Those characteristics presumably were viewed as favorable and elicited volitional followers. Stogdill did not comment on leaders with an absence of such traits.

Trait theory dominated early leadership studies, based on the “major assumption that leaders possessed universal characteristics which made them leaders. The characteristics were seen to be fixed, largely in-born, and applicable across situations” (Hollander & Offermann, 1990). Under this belief, people having such traits only needed a situation to present itself. The idea was the same traits would surface regardless of circumstances and could be employed in a “one style fits all” manner.

Presumably the absence of those traits, or others so identified, would deny a person an opportunity to lead. If true, this would preclude many from ever exhibiting any leadership potential. It might also be interpreted to mean leadership characteristics would need to be assessed in order to identify capable leaders. If observed a person would be dubbed as a leader, or prospective leader. Failing to identify those traits would relegate people to the follower category. It seemed to be an “all or none” approach. While certain

traits or personality characteristics may help or hinder leadership, research has been unable to support the trait theory (Hersey & Blanchard, 1988).

Following this line of thinking encouraged viewing winning managers as having more of the requisite traits than non-winning managers in similar situations. Fiedler (1967) argued personality was influenced markedly by early situational experiences, and people could be identified as being high in orientation toward tasks or relationships. Fiedler claimed it was possible to obtain measures of a person's personality preferences and such information would be useful for determining whether an individual might be successful as a leader in specific situations.

Presumably less successful managers would not be able to overcome their limitations when confronted by some circumstances, in which others would be successful, which meant it was important to identify the key traits, and only people evidencing such traits would be hired as managers. The implication seemed to be some people were born leaders (Stogdill, 1974) and there was little to be done in terms of helping someone become a leader in the apparent absence of such traits, despite their apparent ability to interpret events and understand needs. It was in the translation of facts and subsequent implementation of behaviors when some persons might reveal vulnerability and fail in their role as a leader.

A study of available relevant literature addressing personality traits of successful managers revealed similarities to the descriptions used when discussing transformational leadership. Cardinal and associates (1985), McNab (1983), and Shaw (1991) said successful managers operated within proper ethical bounds and were able to convey this

quality to athletes. In much the same way, transformational leadership “raises the level of human conduct and ethical aspiration of both leader and led” (Burns, 1978, p. 20). Despite apparent differences of philosophical perspectives; a necessary characteristic of successful managers seemed to be they served as leaders capable of instilling desired values. What those values were has been a subject of considerable discussion, and while interesting is not a part of this study.

Undeniably the possession of specific personality traits associated with successful leadership, such as charisma (Conger, 1989) might be helpful, but Hersey and Blanchard (1988) concluded there was no one set of traits necessary for a person to be a leader, and Robinson (1996, p. 32) supported the position by claiming “. . . trait theory seemed altogether too simple and static to account for the dynamics of leaderships.”

A lack of evidence supporting trait theory led to further research on leadership. One of the most significant contributions to the early study of leadership came from research at Ohio State University during the late 1950s (Hollander & Offermann, 1990). Those studies focused on the attitudinal aspect of leadership (Hersey & Blanchard, 1988), and researchers developed questionnaires to measure attitudes, or predispositions about leader behavior.

Situational Theory

Leadership studies at Ohio State University were based on peoples’ predispositions toward leader behavior (Hersey & Blanchard, 1988). The situational approach to the study of leadership focused on how leaders behaved in given contexts and what followers did during those times. The trait theory meant the absence of certain

characteristics precluded leadership potential. Situational theory advanced the notion of adapting leadership style to various situations.

The first well-known situational theorist was Fiedler (1967). His “contingency model” was constructed so a leader’s style, the nature of the group, and the particular situation all combined in affecting the performance and satisfaction of a group. The contingency items included all relationships between a leader and the group participants, the degree of structure in a task, and the position power held by a leader. There was little or no room for change, either on the part of a leader or in the dynamics of a situation. According to Fiedler (1967), a leader either was people-oriented or task-oriented. People-oriented leaders were concerned with the individuals in a group and their development. The similarities to transformational leadership were obvious.

End Product

The task-centered leader concentrated solely on an end goal and what it would take to get a job done. Fiedler (1967) said situations deemed very favorable or very unfavorable to a leader would best be handled in a task-oriented style (transactional approach). A situation neither favorable nor unfavorable was best handled in a people-oriented style (transformational approach). Under this theory, a non-productive group generally led to a change in leadership; as with a baseball team displaying a poor PI. The other alternative was to change the dynamics of the situation. In most cases the former was easier (manager change). Other situational theorists claimed it was the situations, which influenced and subsequently altered leader behaviors, and effectiveness hinged on the appropriateness of his or her leadership style.

Select Few

Cleveland (2002) pointed out the notion of leadership has evolved from when it was a trait and responsibility entrusted to a select few, who acted in the capacity by virtue of birthright, affluence, or power earned on the battlefields of commerce, politics, or religion, to where it is considered an earned privilege. He explained the difference as moving from a vertical to a horizontal society. The former was a top-down model. Most people did not participate in decision-making, and unfortunately most were disenfranchised from being an important part of the society. Few had information, and those who did controlled the flow and variety of what was available, discussed, planned, and ordered.

The alternative, a horizontal society, came into being because it was difficult for any one person to be totally in control while simultaneously affording members involvement and influence. The key to a horizontal society rested with an educated populace; one knowledgeable and willing to express opinions and also willing to serve for the common good. Harnessing such personnel resources while moving toward a desired goal was defined as leadership. In Cleveland's (2002) words, "How do you get everybody in on the act and still get things done?" (p. 43).

The role of a leader in a horizontal society was viewed as being able to create a sense of self-worth among those involved while encouraging them to achieve at expected and even higher levels of performance. In the arena of MLB, a team manager apparently had options for working with the ballplayers: a vertical approach (transactional-like); a horizontal approach (transformational-like); almost benign indifference (liaise faire-like);

or some combination of two or more methods. But pivotal to the success a manager might enjoy, regardless of the managerial style, was the quality and consistency of resources. Accepting such a belief means a manager's modus operandi likely would be of minimal consequence. Instead, the resources at his disposal were of paramount importance.

Contingencies

A process-oriented approach to the study of leader behavior was advanced during the latter part of the twentieth century. In that model there was a contingent reward relationship between the leader and follower(s). Hollander and Offermann (1990) explained it as being based upon social exchanges with follower perceptions of leader power to grant rewards serving as motivation for completing assignments. Under this canopy, relationships existed much like those created in operant conditioning paradigms. The power of reinforcement was determined by its attractiveness and need. MLB managing, under this view, was explained as a process of allocating more or less playing time for selected players depending on their efforts and productivity.

Interestingly, this model tacitly employed punishment by virtue of withholding rewards. Punishment, regardless of its form, tends to become associated with emotional duress, and a dissipater of energy and ability to focus attention, eventually leading to avoidance (Keller, 1963). In situations when a leader's behaviors were totally predictable, the reward-punishment paradigm might have benefits, because players would know which lever to push and where it was located. It would seem the best use of such a relationship was during incipient interactions so followers acquired an understanding of expectations. Subsequently it would be less advantageous because it became essentially a

work-for-pay model. A leader might manipulate contingencies to exact more work but there would be a likelihood of simultaneously increasing the anxiety associated with tasks.

As stated earlier (Grusky, 1963, 1964) duress tended to decrease overall productivity and did not foster a sense of collegiality or cooperation. It did yield results, but the question became one of determining the kind(s) of results sought. This is in line with Grusky's discussion on strain associated with managing. Motivation, long considered critical for improving personal performance, implied the reward(s) associated with achievement becomes internalized. Moving from a need for external rewards to a position of being able to derive internal reinforcement for accomplishments was reflective of learning. For some managers the degree of internal reinforcement might never be in concert with their external rewards. An example is George Steinbrenner, the New York Yankees owner, hired and fired Billy Martin as the team manager five times. That was during a period when Martin had led the Yankees to two American League Titles and one World Series title. What drove Martin to continuously return to the job remains a mystery.

Organizational Commitment

McNesse-Smith (1996) sought to learn if it was possible to identify which leadership behaviors most impacted followers and how the behaviors affected job satisfaction, worker productivity, and organizational commitment. Managers from two medium sized hospitals near Seattle, Washington completed the Kouzes and Posner (1995) Leadership Practices Inventory–Other (LPI–Other) and an Organizational

Commitment Scale created by Porter and others in 1974 (reported by McNesse-Smith, 1996). Females comprised seventy-six percent of the manager sample (N = 41) and eighty-one percent of the other employees (N = 471). Managers were older and generally better educated than other workers, and time in position was not significant.

The managers rated themselves highest on being able to enable others, but lowest on being able to inspire others, which was in agreement with how the employees rated the managers. No significant correlations were found between the LPI-Self and LPI-Other, but it was reported the managers tended to score themselves higher on all scales. Stepwise regression analysis was used to study leadership practices and outcome variables. The greatest amount of variance in productivity occurred with modeling, and enabling explained the greatest amount of variance with organizational commitment and job satisfaction. From that study it was determined managers had inflated impressions of their actions with regard to leading by example and helping workers become the best they could. Perhaps that finding could be extrapolated to MLB and be a contributing factor when productivity indices were not favorable.

Gunter

The 1997 report by Gunter considered leadership practices as an antecedent variable when studying organizational commitment. One hundred and forty-one employees from a large music company in the southeastern part of the United States replied to the LPI-Observer, and also the Organizational Commitment Questionnaire (Porter et al., 1974, cited by Gunter, 1997). A majority of employees were college-educated women with less than three years of service, non-managers and between the

ages of 20 and 29. All five leadership practices from the Kouzes and Posner (1995) model were significantly related to organizational commitment. Enabling others to act had the strongest relationship to job satisfaction while inspiring a shared vision was found to have the smallest. Extrapolation would mean the workers might not have grasped the organization's vision, possibly due to it being reserved for more senior personnel. But the commitment to the organization was related with leaders displaying the five Kouzes and Posner (1995) practices.

A similar study by Dunn (1999) compared leadership practices as they related to organizational commitments in the United States and in Israel. A multiple regression analysis revealed each of the five Kouzes and Posner (1995) leadership principles was significantly correlated with a commitment to remain with a company, but, surprisingly, none of them reached a level of statistical significance with regard to the understanding of a companies' financial investment in an employee. Perhaps a better understanding of a company's investment in its personnel would have made the relationships statistically significant. Nation of employment did not have any bearing on employees' perceptions of leaders' behaviors, which allowed the author to conclude, "... this study provides further evidence to support the ability to generalize, to different industries and professions, about the relationship between leader behavior and employees' commitment to the organization" (p. 103).

Bell-Roundtree and Westbrook

Bell-Roundtree and Westbrook (2001) studied job satisfaction, organizational commitment and leadership behaviors using the LPI-Observer. The objective was to learn

the frequency to which managers from four Department of the Army and four private organizations employed the five leadership practices from Kouzes and Posner (1995). Using a simple linear regression analysis, it was determined all five of the practices had significantly positive influences on global job satisfaction. The authors claimed their interpretation supported claiming the five leadership practices were important for managers to employ consistently, and by doing so they would enhance global job satisfaction among employees. The result was extrapolated to the favorable prospects for improving worker retention, creating better customer relations, and generally fostering a climate of motivating employees to better performances.

Stonestreet (2002) reported a similar finding after completing an examination of perceived leadership behaviors on organizational commitment to a segment of the North American automobile industry. Stonestreet reported a statistically significant relationship between each of the five leadership practices and organizational commitment. Gender was suggested as a moderating variable, but no significant relationships were found for women employees. It needs to be recognized the entire sample of 127 participants consisted of only 27 females. Given the disproportionate gender ratio perhaps the issue of gender should not have been raised as a potential moderator variable. If the author was intent on considering it the study should have been designed differently. But, the reported finding of the five leadership practices related positively to organizational commitment cannot be ignored.

Romance of Relationships

A number of representative investigations employed the Leadership Practices Inventory and Multifactor Leadership Quotient when considering discriminate validity for transformational leadership characteristics: Carless, Wearing, and Mann (1994) said the LPI was a better tool and made a claim for the romance of a relationship between leader behaviors and follower performances; Crnkovich and Hesterly (1993) said the relationship romance was not significantly related but all five leadership practices had positive relationships between leader and follower behaviors; Avallone (1999) claimed when attempting to further improve college presidents' leadership practices consideration should be given to an individual's learning style preferences; Tarazi (1990) reported no significant differences among a sample of 250 managers with regard to positive or negative attitudes regarding visioning activities; Wunderley (1996) stated LPI scores were positively related to optimism, knowledge-sharing and leadership performance; and Mulligan (2001) reported high leadership scores were perceived among those with high knowledge-sharing scores. Perhaps what can be concluded from these representative studies is selected leader behaviors generally were preferred by followers but there was no universality with regard to predicting what was the best in a given context.

Haggerty

In a study on 77 managers from a Midwestern manufacturing, Haggerty (1989) claimed enabling others to act had the highest mean score on the LPI-Self and second highest score on the LPI-Other. Overall, managers claimed to engage in such practices significantly more than any of the other four practices, but Haggerty said his results were

inconclusive with respect to determining which of the five practices had the most impact on an organization. It is possible the research design did not allow for the analysis needed, or possibly the number of subjects in the various cells were insufficient for the planned analysis. Also of note is the findings from this study seemed to be in line with the earlier report by McNesse-Smith (1996) on the issue of managers presumably being more liberal on how they viewed themselves with regard to enabling. If accurate, it lays the foundation for suggesting managers need reality checks and then there should be a process for following up on findings.

Cultural Values

Organizational effectiveness and selected cultural values was studied in work teams from 12 small companies located in Northeast Ohio (Ridgway, 1998). A total of 335 participants responded, and they included CEOs, managers, and non-managers. All companies had sales in excess of one million dollars annually. The objective was to learn if transformational leadership was influenced by one or more factors on the Organizational Culture Profile (O'Reilly et al., 1991, cited by Ridgway, 1998). Based on management responses (all managers completed the LPI-Self) no statistically significant differences were reported between high and mixed performing companies on the dimensions of leadership practices, cultural values, and organizational effectiveness.

However, other analyses revealed the higher performing companies emphasized rewards to employees, while downplaying the significance of attention to detail, team orientation, and outcomes orientation. It seemed this author was saying it was important to praise employees for efforts and diminish the attention given to results. Presumably

favorable results would follow the efforts because in the absence of quality performances it was doubtful an organization would continue for any extended time period. It is questionable whether a similar philosophy could be applied to MLB, especially if a team was not winning.

Krill

An earlier study by Krill (1993) looked at possible reasons why discrepancies existed in the Kouzes-Posner LPI (1995) on enabling others to act. Using a multiple case study design with embedded unit analysis, the author directly and indirectly observed and collected data from three sites, using three leaders and 21 subordinates. All completed the LPI-Self or LPI-Others and gave relevant demographic information prior to being interviewed. At one site the leader and others ranked the leadership practices identically. The second site yielded statistically significant differences between how the followers and leader viewed the practices of challenging, encouraging, and inspiring. Notably there were differences on the other two practices. The third site had almost similar rankings between the leader and constituents, but the latter scored higher than the leader on enabling and encouraging.

Interestingly, this study reported lower scores on LPI-Self for modeling (site one), encouraging (site two), and enabling and encouraging (site three), but claimed “. . . this study produced evidence that the LPI can be used as an effective measurement device of a leader’s leadership practices” (p. 177). Krill (1996) said interpretation of the study results allowed for claiming it supported the transformational leadership theory of Kouzes and Posner (1995), and “. . . the LPI can be used as an effective measurement

device of a leader's leadership practices" (p. 177). The manner by which the data was analyzed was not provided. Also of note was the limited number of participants (3 leaders and 21 subordinates), but in terms of the study design (multiple case study) the results were informative but did need to be viewed guardedly, because of the apparent variability in data reported and lack of specificity on methods.

Biodata Characteristics

This section on the Leadership Practices Inventory by Kouzes and Posner (1995) and related work ends with a report by McElreath (1999). The intent was to identify biodata characteristics of leadership using 50 managerial volunteers from a national, discount retail chain. All participants completed a life-history essay questionnaire. Senior management previously had identified 16 of the participants as poor performers. The data analysis yielded 157 background characteristics (biodata items), which were grouped into seven dimensions. A follow-up study secured participation from 56 additional managers and that analysis resulted in 60 items being identified. They were grouped into three categories: educational experiences, problem solving, and mentor relationships.

A third sample of 734 different participants (66% were managers and 34% hourly workers) sought supervisory performance ratings on eight characteristics. All members in the third sample completed the LPI-Individual Contributor (LPI-IC) and the following instruments, all cited by McElreath (1999): Leadership Behavior Questionnaire (LBQ) (Sahkin & Fulmer, 1985), Multifactor Leadership Questionnaire (MLQ) (Bass, 1985), measures of Self-Efficacy (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, &

Rogers, 1982), and Impression Management (Paulhaus, 1988). The authors' claimed internal validity for the LPI-IC was between .73 and .86, but

Overall, the pattern of correlations between the biodata scales and other measures of leadership suggests that each of the measures is distinct from the others, but that they are sufficiently related to suggest that they are measuring somewhat similar constructs . . . None of the measures . . . suggest redundancy. (p. 111)

It was reported the LBQ had the highest number of significant correlations with the 8 criterion indices (33%), followed by the Impression Management (30%), and then the LPI-IC (16%). Interestingly, neither the MLQ nor the Self Efficacy scales had any significant correlations with the 8 criterion indices. McElreath (1999) claimed none of the tools could be substituted for one of the others with expectation of finding comparable information. The statement raised suspicion regarding construct and predictive validity for the five tools used. The LPI-IC was said to reveal no differences for gender, age, marital status, but the issue of minority-majority reportedly showed the latter scored markedly higher on all five Kouzes and Posner (1995) leadership practices.

Leadership style and characteristics were not an objective of this study. To pursue such issues would require a different methodology. The consideration given to such information in the previous paragraphs was prompted by the desire to ensure there was reasonable attention on issues related to the questions behind this study.

Summary

Leadership is an evasive concept. When present it is apparent. When absent it tends to not be readily acknowledged, but continued deficits in performance efficiency accumulate. Eventually the failure to be successful becomes too obvious to ignore and

action is required. The notion of leadership traits (Hollander & Offermann, 1990) surfacing when situations present themselves had surface appeal, but when carried to a reasonable conclusion it implied some people likely never would be in a position for exhibiting leadership behavior(s) regardless of circumstances and preparation. Instead, it implied only some people were born leaders; had the innate leadership traits (Stogdill, 1974). But there were scientists who refuted such claims. Hersey and Blanchard (1988) claimed trait theory was too simplistic of an approach for explaining leadership dynamics.

Attempting to use commercially available instruments, such as the Leadership Practices Inventory (LPI) by Kouzes and Posner (1995) revealed a disconnection between ratings from persons serving in supervisory roles (managers) and those in subordinate positions. McNeese-Smith (1996) reported that on the LPI managers considered their abilities to enable others as a special strength, but their followers had different opinions. Overall the managers reportedly had inflated impressions of their leadership capabilities when compared to the results on the LPI submitted by person whom they supervised. Dunn (1999) claimed personnel in so-called follower roles were more inclined to be favorable toward an organization when supervisors/managers evidenced interest in them as individuals beyond the mentality of being just another worker. Dunn and Stonestreet (2002) said that when supervisory persons were rated favorably on the five leadership practices from the LPI (Kouzes & Posner, 1995) it translated into greater affinity toward an organization.

The selected literature reviewed on leadership practices was interpreted to mean the concept was not peculiar to certain persons. Instead, it was a way of behaving, which could be displayed by persons inclined toward recognizing how to best motivate others in the pursuit of a common goal. Furthermore, circumstances encouraged variations in leadership behaviors (i.e., transactional, transformational) and it was best for persons in leadership roles to be sensitive to conditions, environments, and persons when discharging their responsibilities.

External Versus Internal

Learning is what managers strive to foment among their followers (i.e., the team players). It is different from teaching, but generally predicated upon teaching. The former connotes a one-way interaction; like a transactional paradigm. Active learning is when a person takes responsibility for absorbing the information and associating it with personal concepts and beliefs. It implies a two-way interaction based upon mutual understanding and can be associated with a transformational model. The process of change between the two models can be influenced by events and needs; of followers and a manager.

Bass

Bass (1985) claimed transactional leadership encouraged leaders to refrain from providing directions or commentary to followers if the process seemed to be working as expected. Under this approach the only time interactions occurred was when there was a need to heighten awareness of the contingent reward issue (i.e., a player not performing as expected would be denied the opportunity to play, which prevented the player showing a better performance). The absence of interactions between leader and followers meant

opportunities for teaching, encouraging, counseling, advising, planning, and explaining were lacking. Discipline was presented as a punishment, regardless of whether something was withheld or required.

Continuum

Interestingly, Avolio (1999) claimed it was important to have transactional behaviors in place before moving toward a more transformational type of leadership; “transactions clearly in place form the base for more mature interactions between leaders over time” (p. 15). Following this thinking meant managers should move between transactional and transformational leadership styles depending upon the followers (Straub, 1991). If such versatility existed it negated earlier claims of personality trait-based leadership being innate (Fiedler, 1967; Hersey & Blanchard, 1988; Stogdill, 1974) and unalterable.

Transactional

Analogous to the change between transactional and transformational styles of leadership was the discussion contrasting reinforcement and cognitive theories for learning. Transactional leadership and reinforcement theories of learning were similar because both were predicated upon how people reacted to an external reward. But, both were limited in how far they could move people toward become self-motivated and reflective learners. An illustration is both viewed people/followers as needing to be provided with models or instruction on what to do, and changes in behaviors were determined by more or less of a desired reward, or perhaps removal of an undesired stimulus (Keller, 1963).

Transformational

Transformational leadership and cognitive learning were explanations for behaviors predicated upon participation of individuals. They involved activity, in the sense of leader-follower participation and a collegial/cooperative relationship, and internalization of rewards while engaging in so-called higher levels of mental activity. Illustrative of their application might be when a baseball team manager recognized an opponent intended to steal a base. Recognition of preceding events, ability to mobilize team resources, and have the resources execute the appropriate play involved a confluence of mental and physical actions. Sometimes a manager is able to thwart a base stealer. Sometimes nothing can be done to prevent the stolen base.

No amount of direct training can create the ability to recognize, understand and plan for the future in the limited time generally provided during a game. But, the ability to make the correct determination requires a person be actively involved with understanding the rationale and have a willingness to become a participant in the activity. Similarly, a cognitive theory of learning allows a listener or reader to make a correct interpretation of the following statement; Asians eat more fish than Americans. Reliance upon a strict reinforcement theory for understanding likely would result in a belief it would be dangerous for Americans to be in proximity to Asians when it is known that Asians eat more fish than Americans. A literal interpretation could be that Asians eventually get around to eating Americans. As a consequence, baseball managers continuously need to work on conveying their thinking about game-related situations to their players and coaches so decisions can be implanted successfully.

Visioning

Transformational leadership has been explained as “strong personal identification with the leader, joining in a shared vision of the future, and going beyond the self-interested exchange of rewards for compliance” (Hater & Bass, 1988, p. 695). Kouzes and Posner (1987) explained the process as recognizing important commonalities to an organizational culture and linking the group to the leader by establishing shared goals and ownership. Straub (1991) explained a successful baseball team manager demonstrated a vision for the future, and was able to place present activities into a perspective that would presumably lead to greater accomplishments in the future.

Like a successful MLB manager, a transformational leader apparently was capable of operating efficiently in the present while effectively preparing for future undertakings. The concept of transformational leadership was to shift motivational stimulation, from task accomplishment to one bounded by ethical and moral conduct benefiting the group (Burns, 1978).

Bass and Avolio (1994) explained transformational leadership as being composed of four intertwined but identifiable constructs: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. All were traits deemed essential for effective baseball managers. The difference between managers and others subscribing to transformational leadership practice rested with the need for managers to know the limits of their relationships with athletes (McNab, 1983) and be able to communicate such information to those followers (players, coaches, and the fans), while generating trust, commitment, satisfaction, and a willingness to put forth the extra

efforts needed (Avolio, 1999; Cratty, 1983). Parenthetically it bears noting that management is not considered as a part of the following of baseball team managers.

In an unpublished manuscript, Cardinal and associates (1985) pointed out successful collegiate coaches were not consumed by their won and loss records but by creating cohesiveness within a team as it sought to achieve a common goal. Further, such coaches generally conducted themselves within parameters of a self-imposed ethical code reflecting their personal values. They had the technical knowledge and psychological know-how to do their jobs (Schmolinsky, 1983), and were ready to assume risks (Jensen, 1988) when required for achieving their vision (Horine, 1985). Such philosophical approaches resonate well, but do not stand the test of reality. MLB managers know their job security is only as strong as their team's won-lost record; a PI, which is tied to the productivity of resources.

Corporate World

Throughout the body of available information on leadership, an ever-present theme has been no one style was best suited for all people at all times. Instead, leaders needed to be flexible in how they worked with people and adjust according to existing situations (Buehler, 1998). The ability to project being knowledgeable about circumstances, having a valued sense of focus, and generating trust among followers were among the most commonly identified descriptors applied to effective leaders.

An industry-based study on leadership and credibility (Campbell, 1993) reported a majority of corporate managers, in a company studied, were deemed as being more credible than average people. It should be noted those managers were open toward

supervisees and shared managerial decision-making processes. Additional information from Campbell's work allowed for stating credibility could be improved by: revealing information leading to decision-making, behaving consistently and considerately toward all followers, and refraining from displays of temperament, cynicisms, and sarcasm. A reasonable interpretation of Campbell's study was followers want to be treated with respect and in turn they accorded respect and trust to leaders evidencing such behaviors. The distinction between leaders who were viewed as transformational with those identified as being transactional was considered to be striking. Too often the latter ruled by fear and fostered divisiveness. Perhaps their insecurities encouraged such defensive behaviors, or they believed it was vital to achieve a specific objective within a limited time and held the belief the best, or only, way to reach that goal was by being directive and authoritarian.

Another study from the corporate world, on 800 CEOs from multi-national organization (Bassiry & Dekemejian, 1993), determined the most desired characteristics of successful business leaders were loyalty, vision, and an ability to convey trust in the direction followed. A year later Quigley (1994) reported on a study of 1,500 senior leaders from 20 countries. The dominant trait identified by 98% of the participants was being able to display and convey a sense of vision. In the discussion, Quigley referred to an earlier study (Kotter & Heskett, 1992) on 10 firms in each of 20 different industries ($10 \times 20 = 200$), which reported the most successful firms displayed a strong corporate culture predicated upon shared values. Kotter and Heskett (1992) said corporate performance followed a viable and acceptable vision. Buy-in to the vision and support of

the mission implied people were involved with the creation process. Involvement led to sharing of a culture and a belief of being valued, instead of being regarded as a cog in an operation.

The available literature contained information presumably describing personality traits of successful leaders, but there is not a deep repository of information on how leaders and followers perceive a leader's behaviors. Furthermore, there is not much information available about the nature of leader behavior by MLB managers (Case, 1987), or whether expressed leadership style is materially relevant to a team's performance indices. The literature contains reports of transformational leadership characteristics as being desirable qualities, but there has been no study done to determine whether such a relationship existed or if it was important for team success. As commented on earlier, traits and practices of leaders hold promise for interesting studies but neither topic was intimately related to the focus of this investigation.

Initiating Structure and Consideration

The Hollander and Offermann (1990) findings of leader behavior led to the description of two basic dimensions: initiating structure and consideration (Hersey & Blanchard, 1988). Initiating structure referred to a pattern of working relations with a group established by a leader. It included structure of organization, methods of communication, and line procedure. Important in the model was consideration for the working relationship between leader and follower. The premise was mutual trust, respect, and friendship were necessary patterns of general behavior between leader and follower.

Lacking such patterns or marginalization of one or both likely would erode the relationship to the point of it being inconsequential.

Lee and Jablin (1995) claimed deterioration of relationships tended to have a profound impact upon dyads, even to the extent of precipitating events no longer being considered important. The disruptive character of such circumstances often was seen as having been unpredictable. But, the reality was that the responsibility for developing and preserving an effective social structure rested with a leader (Kouzes & Posner, 1995). Consequently, it seemed that except in highly unusual situations the inability of a follower to adapt to conventions could be considered a form of scapegoating.

Baseball Expansion

After completing 60 seasons, 1901-1960—with eight clubs in each of the American and National Leagues, MLB expanded to include ten teams in each League during the early 1960's. It was a response to market-driven forces. Teams were located where there was a population base large enough to presumably make it a thriving business. In 1962 the New York Mets and Houston Colt .45s, which subsequently changed its name to the Houston Astros, entered the National League. The American League experienced MLB expansion in 1961 with the Los Angeles Angels and the Washington Senators. The Angels subsequently moved into Orange County, California, and became known as the California Angels, in 1965. In 1996 the team name was changed to the Anaheim Angels.

The Washington Senators moved to Minneapolis-St. Paul after the 1960 season and became known as the Minnesota Twins. The Major League Team, which replaced

the Washington franchise in the American League later, moved to Arlington, Texas, and in 1972 became known as the Texas Rangers, remaining in the American League (<http://baseballsbest.vze.com>).

Division Playoffs

In 1962 each of the major leagues consisted of ten teams. By 1969 they were reconfigured so there was a western and eastern division in each league. Instead of a single pennant winner emerging from each league at the end of the season (best winning percentage) there were division play-offs within each league. The winner represented the League in the World Series. Consequently it was possible for a team with a won-loss record displaying less team efficiency to become the representative for either the American or National League in the World Series. Illustrative of team mobility was that in 1966 the Milwaukee Braves, a National League Team, moved to become the Atlanta Braves. Previously, in 1952, that team had moved from Boston to become the Milwaukee Braves.

More Expansion

In 1969 two more Major League Teams entered the American League (Kansas City Royals and Seattle Pilots) and another two entered the National League (San Diego Padres and Montreal Expos). The American League Seattle Pilots moved to Milwaukee in 1970 and were named the Milwaukee Brewers, while the Expos became the first Major League franchise to be housed and play outside of the United States. The 12 teams still afforded alignment of an eastern and western division, but the designation of teams to divisions sometimes was questioned because parity did not appear to be an issue. Instead

there were attempts to establish divisions favoring selected teams, a practice that continued until recently (Milwaukee Brewers, an American League expansion team being re-assigned from the American League Central Division to the National League Central Division in 1997).

Still More Expansion

In 1977 the American League again expanded by adding the Toronto Blue Jays and Seattle Mariners. Fifteen year later (1993) the National League added the Colorado Rockies and Florida Marlins. Then, in 1998, the National League added the Arizona Diamondbacks, and the Tampa Bay Devil Rays joined the American League. As a consequence of expansion and moving to different cities and even changing leagues, there now are 14 teams in the American League and 16 teams making up the National League. Table 1 shows the present alignment. At the conclusion of the regular baseball season the team at the top of each division is selected to participate in a play-off, and the team with the next best winning percentage, from among the remaining teams, is designated as winning the wild card spot in the play-offs. The result is a team not winning its division might become the League representative in the World Series. Also it is possible that a team with a higher winning percentage than a division winner could be omitted from any post-season play.

Participants

Subsequent to joining MLB some teams moved to different locations or changed their names. In those instances their records were considered for this study using the

Table 1

Alphabetic Alignment of Current MLB Teams

American East	National East
Baltimore Orioles	Atlanta Braves
Boston Red Sox	Florida Marlins *
New York Yankees	Montreal Expos
Tampa Bay Devil Rays *	New York Mets
Toronto Blue Jays	Philadelphia Phillies
American Central	National Central
Chicago White Sox	Chicago Cubs
Cleveland Indians	Cincinnati Reds
Detroit Tigers	Houston Astros
Kansas City Royals	Milwaukee Brewers
Minnesota Twins	Pittsburgh Pirates
	St. Louis Cardinals
American West	National West
Anaheim Angels	Arizona Diamondbacks *
Oakland Athletics	Colorado Rockies *
Texas Rangers	Los Angeles Dodgers
Seattle Mariners	San Diego Padres
	San Francisco Giants

*Notes teams not included in this study.

In 1952 the Boston Braves moved to Milwaukee and became the Milwaukee Braves. In 1966 they moved and became the Atlanta Braves. In 1954 the St. Louis Browns moved to Baltimore as the Baltimore Orioles. In 1961 the Washington Senators moved to Minneapolis-St. Paul and became the Minnesota Twins. In 1954 the Philadelphia Athletics moved to Kansas City and became the Kansas City Athletics, and in 1968 they moved and became the Oakland Athletics. In 1958 the Brooklyn Dodgers moved to become the Los Angeles Dodgers. In 1972 the replacement Washington Senators moved to become the Texas Rangers. In 1958 the New York Giants moved to become the San Francisco Giants. (<http://baseballsbest.vze.com>)

names from their prior locations since the composition of such teams remained fairly constant. The result was 30-teams comprised the population, but four were excluded because they did not qualify on the basis of longevity. Table 1 shows the alphabetical composition of the two Baseball Major Leagues. The modification of the entire pool of 30-teams (Table 1), to a final listing of 26, comprised of 13-teams from the American League and 13-teams from the National League, formed the sample used in this study. The affiliation of a team with a particular League was not an issue because the interest in this study was on respective teams' efficiencies.

Figure 2 is a geographic presentation of the 30-MLB Teams locations in the year 2004. The issue of large population density tended to dictate respective locations and led to changes for 2005.



Figure 2. Geographic representation of the 30 MLB Teams.
(<http://baseballsbest.vze.com>)

Revenue Streams

Simmons (2005), a sports commentator for the online journal AskMen.com explained there were four typical sources from which MLB teams secured money. The first, and perhaps most obvious, was fans attending games. This fact was commented upon in Chapter One under the commentary on Pedro Martinez's signing by the New York Mets. A second origin point was the income from media (local and national networks including radio, TV, and cable, plus re-broadcasting rights. The third major source came from venue revenues (luxury suites, parking, concessions, advertising within the stadium, and even naming a stadium for a sponsor). The last major origin was the licensing and merchandising of a team's logo (on caps, jerseys, bats, etc.). Simmons claimed MLB was an industry generating \$3-billion-dollars annually, and it could be expected to increase each year.

Some often-hidden revenue streams reportedly came from new baseball stadiums, and Simmons claimed that the San Francisco Giants were expecting to receive an additional \$86 million dollars just by moving into a new stadium. The Houston Astros were anticipating new revenues in the amount of \$81 million, and the Seattle Mariners were planning on being the beneficiaries of an additional \$97 million after each moved into a new a stadium. So-called small market teams (Montreal, Minnesota, Oakland) apparently were not small in the sense of lacking a population base from which to draw fans (estimated fan base for: Montreal = 2.5 million; Oakland and surrounding Alameda County = 1.5 million; Minnesota (Twins) in Hennepin County = 1.4 million), but it was the manner by which they were marketing themselves.

Simmons (2005) cited the fact the New York Yankees were receiving at least \$42 million a year from their cable agreement but the Montreal Expos had no income from such sources. Consequently, players often sought to be with teams in selected locations, and frequently there was compatibility between a player's desire to re-locate and the resources available to support bringing outstanding players to "big market" teams. Integral to all such negotiations and deliberations was the need for a team to be successful, and the apparent driver of a team was its manager. But the more important question was whether a team manager truly was just a driver or if that person had more than tangential influence on the fortunes of a team.

Summary

This chapter explained the origins of scapegoating and how it was applied in professional sports, with special emphasis on MLB. The second section of the chapter went into detail on studies deemed pivotal to the foundation for this constructive replication investigation (Gamson & Scotch, 1964; Gordon & Becker, 1964; Grusky, 1961, 1963; Kriesberg, 1962; Roberts, 1959). The third section of this chapter reported on selected and relevant literature that addressed issues of leadership, management, and organizations. The last major section was an explanation of MLB expansion and how revenue influenced the addition and movement of teams.

The next chapter (Methods) explains the approach to the study, presents the research question and hypotheses, and presents information supporting the manner by which the data analysis was done.

CHAPTER THREE

METHODS

This was a constructive replication of the work done by Gamson and Scotch (1964). The validity of their three explanations for MLB managerial succession were considered, but the focus was to determine if there were predictive baseball team indices serving as reliable explanations for team efficiency. The operational measures were a critical study of the won-loss records and managerial changes of MLB teams between 1985 and 2003.

Some disclaimers need to be stated at this point because not all of the major league teams have been in operation since 1985; four are relatively new. In some instances teams moved or changed names. In those cases their records were considered using the names from their prior locations since the composition of such teams remained fairly constant. The result was 30 teams formed the population. But four were excluded because they did not qualify on the basis of longevity, having been in existence for just ten-or-fewer-years. Twenty-six teams thus formed the sample.

Sequence

There are eight major sections in this chapter. The first is an introduction to the format of the chapter. The second presents the overriding research question followed by the eight subquestions. Immediately following (third section) is commentary on why there was not the need for a review of the research protocol by the University of Nebraska-Lincoln Institutional Review Board.

The next section (fourth) explains the approach of the research design and justifies why a quantitative research design was chosen. The fifth section is an explanation of how the data was obtained, collated, and analyzed (order and sequence of data). The sixth section explains the source(s) for the data sample. Support for the manner of statistical treatment (seventh) is provided next. Issues related to reliability and validity are addressed in the section entitled replication and cross-validation (eighth), and the last part (ninth) of the chapter is a summary according to the major sections.

Research Question

The inquiry focus was whether persons commonly considered to be organizational leaders, in the case of this investigation the focus was on managers of MLB teams, made a sufficiently strong enough impact on organizational outcomes to warrant believing their contributions were vital to a team's PI. The vehicle for answering that question, and the eight subquestions, was to critically study the impact of managerial succession on MLB team efficiency (won/loss records), and selected aspects of team efficiency (selected independent variables) across 26 MLB teams for the period of 1985–2003.

Hypotheses

The hypothesis, stated as a null, was no relationship or causal dependence existed between managerial change and team performance, as reflected by the PI (won-loss records). The eight sub-questions presented below are accompanied by justification for inclusion, and each is followed by a null hypotheses. The intent was to learn if the hypothesis could be disclaimed using statistical testing as the logic. If it was there might be support for the contention dismissal of a MLB manager was an action that did not

result in improving a team's PI. Instead it was indicative of redirecting the blame for a poor performance and a means for scapegoating.

Subquestion One

1. How did the number of managerial changes impact team efficiency as measured by won–lost records? This question related to the issue of team efficiency and allowed for a comparison to the earlier studies on managerial succession by Grutsky (1961), Gamson and Scotch (1964), and Roberts (1959).

Null Hypothesis: There was no statistical difference in team efficiency as a consequence of managerial changes.

Subquestion Two

2. How did managerial tenure impact team efficiency? Did the length of time a manager spent with a given team have an impact on team efficiency?

Null Hypothesis: There was no statistical difference in team efficiency as a result of the duration of a manager's tenure with a team.

Subquestion Three

3. How did team OBP impact team efficiency? This statistic reported how often batters were able to reach base, as a result of getting a base hit, a walk, or being hit by a pitch. It was the relative worth of hitters versus pitchers. The higher the percentage for hitters the greater was the likelihood of a team's efficiency being higher. Extending this to a meaningful conclusion resulted in the likelihood of a team winning more ballgames because of the higher team

efficiency rating. The logic behind the claim was more base runners would mean more opportunities for runners to score runs, and thus a team would be apt to outscore opponents.

Null Hypothesis: There was no statistical difference in team OBP as a consequence of managerial succession.

Subquestion Four

4. How did team on base plus slugging impact team efficiency (OBPS)? This statistic revealed how well players were able to get on base plus the extent of damage done to an opposing team by virtue of getting on base. The manner for getting on base was the issue with this statistic; base-on-balls, singles, doubles, triples, and homeruns. It was presumed that the higher the OBPS (more doubles, triples, and home runs) the greater was the likelihood of a team's efficiency being higher.

Null Hypothesis: There was no statistical difference in team OBS percentage as a consequence of managerial succession.

Subquestion Five

5. How did S9I impact team efficiency (S9I)? It has been claimed that strikeouts were independent of a team's ability to play defense, and good fortune, because they denied opponents the opportunity to put a ball into play. The higher the ratio of strikeouts by a team's pitchers per nine innings the better was the chance for that team to win a ballgame, because it kept opponents off the base paths.

Null Hypothesis: There was no statistical difference in team strikeouts per nine-innings as a consequence of managerial succession.

Subquestion Six

6. How did walks plus hits allowed per inning pitched impact team efficiency (WHIP)? This was the number of times an opponent was able to put players on base. The lower the number, the fewer chances there were for another team to score runs. Conversely, the higher the ratio the greater was the likelihood for opponents to score runs.

Null Hypothesis: There was no statistical difference in team WHIP as a consequence of managerial succession.

Subquestion Seven

7. How did SBP impact team efficiency (SBP)? This statistic was determined by comparing the number of attempts to steal a base with the degree of success attained. It was a statement of how successful a player or team had been with regard to their attempts. Importantly, it discounted the total number of steals because that number was apt to be a misleading figure if there were numerous unsuccessful attempts. Instead, it was approached as done by Verducci (2004, p. 58) who cited Joe Sheehan (2004) of Baseball Prospectus. Sheehan claimed a SBP ratio of fewer than 75% was not productive because so many present-day teams relied extensively on power games (i.e., moving runners along the base paths by virtue of a base hit, preferably involving multiple bases, which was the antithesis to “little ball”).

Null Hypothesis: There was no statistical difference in team SBP as a consequence of managerial succession.

Subquestion Eight

8. How did total team salaries impact the win-loss records? MLB teams with extensive financial resources often used such resources in a bully pulpit manner. They sought, and often successfully secured or retained, ballplayers best able to help or ensure continued high team efficiency.

Null Hypothesis: There was no statistical difference in team performance as a consequence of total team salaries.

Institutional Review Board

There was no need to secure Institutional Review Board approval to conduct this study. All requisite information was available as public domain records and accessible to any and all interested parties. Furthermore, a telephone conversation with the Coordinator for the University of Nebraska-Lincoln Institutional Review Board (IRB), Ms. Shirley Horstman, reinforced the fact it was not necessary to submit an IRB application for the study, as described in this chapter. The uniqueness of this investigation was threefold: performing a constructive replication on an important and unresolved question; the testing the hypotheses postulated earlier by Gamson and Scotch (1964), but with 19-years of data (1985 through 2003); and studying selected independent variables for their predictive power on a team's PI.

Design

This section explains the conduct by which the research was conducted. Salant and Dillman (1994) explained that a research design was synonymous with a plan for answering one or more questions. It was a strategy not limited to educational research activities but applicable to any task requiring a systematic approach to problem solving. A plan (research design) was expected to include an explanation for gathering data in support of the design, directions or a protocol on how the data would be organized so as to be amenable to analysis; application of appropriate methods for displaying the data in a meaningful manner, and an outcome termed the research findings. This chapter addresses each of those inclusions.

Quantitative Design

The quantitative model provides researchers with a means for explaining relationships in contrived relationships, or to test presumed relationship between and among events or conditions that occurred in the past. That was the research design chosen for this investigation, because the intent was to study and explain events that had occurred during a defined period of time.

Scientific Method

The impetus to quantitative research in education can be traced back, at least, to the time when a systematic procedure for investigating phenomena was described. Numerous authors have discussed the scientific method (Campbell & Stanley, 1966; Guilford, 1954; McReynold & Kearns, 1983; Ventry & Schiavetti, 1980; Wiener, 1962) and how its basic ideas (dependent and independent variables; reliability and validity)

were inherent in all forms of comparative, correlational, and/or experimental research. The key concept with such research was exercising control by the investigator(s) so others could employ the procedures and find similar or identical results. The more duplicative information resulted from such methods the greater was the credibility accorded to the findings of a study. In essence, it would provide for claiming reliability for the procedures and validity for the findings, which then could be generalized with a higher degree of confidence. Alternatively, it could set the stage for questioning reports if there were controversial data or inconsistent findings.

Variable importance. Importantly, the focus for this investigation was to determine if selected team performance factors influenced MLB teams' efficiency; their productivity indices (PI). Conventional thinking about poor baseball team performance has been to direct criticism toward a team manager. But it was postulated there were mitigating factors, acting in isolation or in concert, which were of equal or greater importance than the actions of a team manager. While this study sought evidence to support or refute whether poor team performance was directly related to managerial leadership, the research subquestions and null hypotheses addressed aspects of team efficiency during the tenure of a given manager.

Instead of making claims about the performances of team managers, the interest was on learning if selected independent variables were predictive of team efficiency (dependent variable) with a given manager. The implications were that opportunities likely would exist for reflection by and upon individuals entrusted with similar positions of team leadership. To accomplish the stated objective of learning whether MLB team

efficiency was a consequence of selected performance factors necessitated a predictive study. The issue of data analysis is addressed later in this chapter.

Causation, relationships and prediction. Creswell (1994) stated a quantitative research design would be the appropriate direction to follow when a researcher sought to study: (a) causation, (b) relationships between variables or comparative groups were being tested, (c) model testing, (d) generalizations from a sample to its population, (e) questionnaires with ratings scales, and (f) when an experiment was being conducted. This study fully satisfied the first point; to study causation. It addressed relationships between variables mentioned in the second point, and sought to provide a means for making generalizations, as indicated in the third point. Also it addressed the fourth point by virtue of including 87% of the population of MLB Teams (26 of the current 30 teams), and by so doing the results from the purposefully selected sample comfortably may be applied to the entire population.

Ex post facto nonexperimental. Of note was the issue of generalizations warranted particular attention because the genesis of the study was predicated upon controversial findings from earlier research. In the fifth chapter (Discussion) the outcome(s) from this investigation are tied to the earlier and similar research. Since the information used for analysis in this study was created at earlier times, 1985–2003, it is legitimate to term this an ex post facto nonexperimental study. The information analyzed, even though it was transposed into different forms, occurred and there was no pretest (baseline) to accompany a posttest (data from after a treatment).

The following paragraphs address: experimenter bias, ensuring the order and sequence of data were recorded reliably; both for initial compilation and subsequent analysis, sources for securing data and their relative validity, handling of missing data if necessary, and selection of procedures for providing appropriate, reliable, and valid information to be analyzed. The clarity of the procedures followed enables other investigators to replicate and subsequently cross-validate this study. Chapter Five (Discussion) provides guidance related to this last issue.

Experimenter bias. Rosenthal (1966) pointed out experimenter bias was not a consequence of tampering with data in the hope of artificially manufacturing a desired outcome. Although experimenter bias certainly could be a consequence of malicious tampering. Instead, according to Rosenthal, experimenter bias occurred when an investigator unknowingly influenced how or what data was collected, recorded, and subjected to critical analysis. Presumably the bias occurred because of expectations as to what should be found, or because of an effort to satisfy requirements on the use of selected statistical protocols. The thrust of Rosenthal's comments was such influences occurred benignly.

Barber and Silver. Barber and Silver (1968), in an article published in the *Psychological Bulletin Monograph Supplement*, contended issues of researcher bias, in a study such as this one, were not as pronounced as might be presumed by some researchers (Rosenthal, 1966). The latter author (Rosenthal) claimed there was a similarity between the kinds of biases apt to occur when engaged in parapsychology research and psychological research because of experimenter bias with parapsychology

work. Apparently the justification for the bias claim was based upon extrapolation. Moving from that position, it was postulated that a common-sense assumption led to the belief that what affected one form of research likely would impact another. But, others, such as Barber and Silver (1968), argued an experimenter effect was not as vivid, and would not be expected in studies seeking answers to questions in which the data was static. Data in this study were static.

Data handling. To avoid unintended errors it was incumbent upon the researcher to follow carefully the prescribed criteria for culling information and analyzing it, as approved by the Doctoral Supervisory Committee. Being cognizant of the potential for such error was an initial step toward obviating the problem. Since the information used for analysis was available in public domain records, the issue of collecting and transposing it did not qualify as a source for potential unintentional bias, except if it was recorded erroneously.

There was no predisposition toward supporting or rejecting the research subquestions. Instead, the interest was in learning which of the stated subquestions enjoyed credibility and which of the null hypotheses should be rejected or accepted.

Reliability. It was necessary for the researcher to engage in intra-investigator reliability checks with regard to the recording of raw data and also the transposition of such data onto a form appropriate for analysis. The reliability check included ten percent of all recorded raw information as well as the transposed data. That was done until there was 100% consistency, which required three verifications.

Additionally, an unsophisticated rater performed an inter-reliability check on both the raw data and transposed data to further ensure accuracy of recordings. The protocol was that if less than 100% accuracy was detected by either the intra or inter-rater checks it would trigger a careful review of all data recordings until such time as the 100% accuracy mark was reached. The inter-rater reliability check resulted in 100% agreement on the initial review on approximately 5% of randomly selected data that had been transposed from the public domain records, and on the material recorded for computer-assisted data analysis.

Handling validity. There are multiple forms of validity (face, predictive, concurrent, content, construct) and it is incumbent upon a researcher to know what is being collected and evaluated, “. . . because interpretation of the research results hinges on the validity of the measures upon which these results are based” (Borg & Gall, 1989, p. 184). The safeguards for this study were adequate. The data collected was static, and it was amenable to constant verification because of its state of permanency. Parenthetically, the question of researcher bias was addressed earlier to provide evidence the issue has been considered and found not wanting.

Consultants. At the point when the idea for the investigation was being conceptualized, methodological advice was sought from two sources; a statistical consultant from the University of Nebraska-Lincoln (UNL) Nebraska Evaluation and Research (NEAR) Center and an expert from the UNL Office for Qualitative and Mixed Methods Research. The objective was to discuss the most favorable plan for collecting, preparing, analyzing, and reporting the information.

After all of the information was recorded and configured for statistical analysis, assistance again was sought from three sources. The first consultant used was an expert in research design and analysis on the Graduate Faculty at the University of Alabama-Birmingham, School of Education, and Department of Human Studies. That person was a professional expert in research methodology and analysis. The second person was a consultant in quantitative analysis from the UNL NEAR Center, and an advanced graduate student Pursing the Doctor of Philosophy Degree in Quantitative and Qualitative Measurement and Evaluation. The third consultant also was associated with the NEAR Center. All consultants approached the data independently, ran similar statistical tests, and reported concordance on the procedures and analyses. The latter two had earned Doctor of Philosophy Degrees with emphases in Educational Research focusing on the design of studies and statistical analysis of data. Approaches used for the analysis are commented upon later in this chapter. All consultants provided explanations and documentation for their decisions regarding the design and analyses.

Order and Sequence of Data

The issues of data reliability validity were addressed earlier in the section on experimenter bias. As stated, an agreement of 100% accuracy on recordings were sought and obtained for both the investigator checks (intra) as well as those checks with the unsophisticated but objective other rater (inter).

Data Sources

Issues of sequence or order of data collection were of no consequence in this study. Instead the accuracy of noting the information was paramount. The data pool was

static and repeatedly accessible. Knowing where to find the data sources and how to access them was pivotal. Thus monitoring the research setting was important only to the extent of knowing where to find the requisite information and ensuring accuracy of recording data, analyzing it, and arriving at reasonable conclusions. Those latter points were addressed in the section on experimenter bias, and approach to analysis. They are repeated in this section, on order and sequence of data collection, to reinforce the fact it was an issue recognized and addressed on a conceptual level.

Data

The MLB team managers for each of the sample teams, between 1985–2003, were determined by critically studying public domain records for each team in sources such as: Elias Sports Bureau data (it claims to be The world's foremost source for sports information), Statisticians and Historians STATS Inc., Inside Edge, Tendu Inc., Baseball Prospectus, plus reading the newspapers from respective cities where teams were or currently are located. All other needed information was available from: published almanacs and yearbooks of MLB, multiple online data repositories, and records maintained by the respective baseball teams.

Approach to Investigation

The rationale behind the method of inquiry selected, manner by which data was gathered, as well as the decision affecting how information was analyzed warrant justification. For this investigation it was necessary to explain those three steps and also buttress the information by showing how application of the selected method of inquiry, data gathering, and subsequent analysis were the most appropriate tools to support the

discussion and eventual recommendations. In following this process a reader is able to understand the decision-making processes that influenced the procedures. The following paragraphs address the deliberations surrounding the choice of a research paradigm.

Paradigm

When seeking to gain an understanding of the dynamics involved with the phenomena of how to find, hire, retain, or not retain MLB team managers it becomes apparent there are multiple complex interactions occurring simultaneously. Use of qualitative inquiry would have been appropriate if the circumstance studied were complex interactions among participants or if each participant had a story to relate and it was difficult to separate one from another. Such a process of acquiring information would have stressed the importance of objectivity with efforts to minimize a researcher's influence on the phenomena being studied.

Despite full awareness of participatory actions and best efforts to mitigate their impact, total objectivity likely would not occur because during recording, describing, and then reporting activities an investigator would have been a part of the on-going process. The process would allow a researcher to provide a record of reality and report those truths acknowledging limitations, delimitations, and assumptions. The outcome from such research would be to allow consumers of the information to gain a sense of the experiences and meanings through the researcher's efforts to identify themes and meaning from the transcribed interviews. But this investigation was not interested in reporting and explaining personal perspectives. Furthermore it was deemed that such an approach would have been substantially beyond the scope of the planned investigation.

Two Approaches

Conventional approaches to educational inquiry generally have followed either a quantitative or qualitative plan (Berelson, 1952; Bogdan & Biklen, 1992; Creswell, 1994; Kaplan & Duchon, 1988; Lee, 1999; Smith & Heshusius, 1986), with each representing polar opposites of epistemological definitiveness. But recently there has been a growing interest in blending the two and engaging in mixed method research (Creswell, 2004). The former [quantitative method] emphasizes precision and seeks to differentially control dependent, moderator, and/or independent variables. The intent is to approach an issue from the perspective of what is known, and by a process of deductive reasoning arrive at generalizations or universals about what is objective reality. The conclusions tendered become a part of what is known or understood about the world in the presence or absence of selected variables. Again, it needs re-iteration that employing a form of qualitative research, while appealing was not accepted for this study and further discussion on the topic is not warranted.

Inquiry Selection

The nature of this study required a quantitative paradigm. It was a constructive replication of earlier work (Gamson & Scotch, 1964; Gordon & Becker, 1964; Grusky, 1959; Roberts, 1959). Also it was a predictive study with selected independent variables that presumably had relevance to determining a MLB team's PI (won-loss record).

Prediction

Employing predictive statistical methods in this study was valuable because it allowed for determining whether some or all of the eight selected independent variables had a line of best fit with the dependent variable (team efficiency). It was anticipated some would be significant and others would have limited or no value. A step-wise regression analysis was planned for the purpose of learning which one or combination of independent variables made the greatest contribution to the identification of statistically significant predictors (Lomax, 1992; Streiner, 1986). But discussions with a Statistical Consultant from the UNL NEAR Center raised questions about the use of that procedure. The stability of the approach to data analyses was questioned in two journal articles (Huberty, 1989; Thompson, 1995), and so other options were explored. But the process for applying a step-wise regression is explained below, because it reflected the investigator's second reason for doing the study; predicting which of the independent variables were most favorable indicators of team productivity indices.

Step-Wise Regression

A step-wise regression analysis was used when there was a need to learn which, if any, of the predictor variables (independent variables) best predicted the criterion variable (won-loss records). Thus it was a means for explaining or predicting relationships. The model introduced each of the predictor variables (independent variables) “. . . one at a time into the regression equation” (Steiner, 1986, p. 60) and determined how the multiple correlations change. There were two ways to approach that procedure. One was a researcher logically introduces independent variables in a specified

order. The second was to allow a computer program to determine the sequence. The latter was the planned approach. It was expected that the computer program would enter each of the dependent variables in “. . . an order of decreasing ability to account for additional variance” (p. 61).

Lomax (1992) stated predictors (independent variables) could be entered into the model on the basis of whether contribution to the variance was statistically significant (F value). Also they (predictors) could be deleted if a previously identified significant predictor no longer displayed such value because of the addition of other predictors. It was the reversing process, Lomax said, that distinguished the step-wise regression from the forward selection procedure, and initially made it the choice of analysis for this study; deleting predictors when their value was not important because of the potency of other predictors. The criterion variable (Y) in this study was the won-loss record for respective managers. The eight independent variables were the predictors (X).

Assumptions of a Multiple Step-Wise Regression Analysis

The use of a multiple step-wise regression analysis was predicated upon satisfying seven assumptions, according to Lomax (1992). It required, first, linear regression between Y (criterion variable) on the X (predictor variables). In this study there were eight independent variables (X), and the dependent variable of won-loss records (Y) for respective managers could be plotted with a regression line for each of those predictors.

A second assumption involved independence of the residual from the criterion variable. It would be a part of the equation unexplained by the independent variables (Vogt, 1993) and usually stated as the error term. In this study the independence of the

residual was to be considered when the data were being analyzed. Ideally it would be (third assumption) zero, (fourth assumption) reveal homogeneity, and (fifth assumption) reflect normality, which were three more assumptions to be satisfied then when using a step-wise regression.

Additionally the independent variables were (sixth assumption) categorical (distinct entities) so there was no potential for two or more overlapping slopes. Each of the independent variables was a category of information (i.e., WHIP; SBP; OBP).

The seventh and last assumption (Lomax, 1992) was nonmulticollinearity of the X variables. The idea of two or more independent variables not being highly correlated would not be known until after the data analysis. If none of the predictor variables were significant it would seriously limit the generalizability of the results. But, addressing those objectives by use of a regression formula reportedly had been suspect due to questions regarding the validity of variable selection by stepwise procedures.

Concerns with Step-Wise Regression

Olejnik, Mills, and Keselman (2000) stated the two primary uses for a multiple regression analysis were “(a) to explain variation in a response variable and (b) to predict future performance on a response variable” (p. 365). The intent of researchers using such statistical tools presumably was to reduce a list of predictor variables to those best (subset) able to identify/predict/explain the dependent variable(s). That was a goal of this investigation. In an earlier article, Huberty (1989) raised questions on the use of both the discriminant and regression analyses because of how variables were ordered or selected, especially when performed by computer programs.

Huberty

His concerns (Huberty, 1989) revolved about the potential removal of an investigator from interactions with the data, because it was possible, using common sense, to select variables prior to making a determination on the order of their relative importance, especially when reported F values were similar. Huberty discussed alternatives to the stepwise analyses, but admitted there might be times when it was a reasonable approach, especially when the “. . . pool of response variables contained, say, some 40 to 60 or even more variables” (p. 66). It is worth noting the proposed study did not have such a large number of predictor variables. There were a huge number of data points in this study but only eight independent (predictor) variables. With a large number of variables the issue of data mining might have surfaced, which is commented upon later in this chapter.

Thompson

Thompson (1995) claimed to have done a detailed study on limitations associated with stepwise applications, especially when using computer programs, and concluded: they failed to report correct degrees of freedom, which led to false statistical significance (Type I Error); they were not accurate when identifying a best set of variables; and they usually had sampling errors, which prevented others from replication of a study and determining similar findings. A step-wise discriminant analysis was not used.

Olejnik et al.

In the Olejnik et al. (2000) paper, it was pointed out “Selecting a subset of predictors from a pool of potential predictors continues to be a common problem

encountered by applied researchers in education” (p. 365), and it was advisable for researchers to give careful consideration to the potential array of predictor combinations prior to selecting a model from which to work. Their paper evaluated three approaches for determining the most favorable subset of predictors, and recommended use of two approaches (Mallow’s Cp statistic and Wherry’s adjusted R squared statistic) as tools to help in the selection of a tool for identifying true and extraneous predictors.

Olejnik and colleagues concluded “The results of this study indicate that even with a small number of potential predictors, the success rate in identifying the authentic variables with these methods is not very good” (2000, p. 378). But later in the same manuscript the authors said, “If the pool of predictor variables is small and the potential predictors are not highly correlated, then either Cp or the stepwise method might provide a reliable solution to the variable selection problem” (p. 379). These issues were considered by the statistical consultants.

Johnson and LeBreton

Johnson and LeBreton (2004), in their article on the relative importance of prediction in studies using multiple regression analysis, presented another caution on the use of regression coefficients, particularly in organizational research. Those authors pointed out that during the past decade several methods (i.e., dominance analysis, and relative importance/weights) had converged to improve the predicting process between independent variables and a criterion variable. This material was viewed as yet another caution on how to approach the analysis, and it did not appear to be of imminent importance given the nature of the data collected.

Commentary

On the basis of the stated reservations and a recommendation from the NEAR Center Statistical Consultant who provided those four critical articles, the expectation for using a reverse stepwise regression model for the analysis was questioned. Knowing that the number of potential predictor variables was small (eight independent variables) stimulated the concern. In so doing the researcher was seeking to mitigate the potential ambiguity (small number of potential predictors) mentioned by Oejnkl et al. (2000). Also the common sense approach to ordering the variables, advocated by Huberty (1989), had surface appeal but lacked the desired “rigor” found in identification of statistical significance.

Other Tests

Logistical regression was an approach considered but it assumed a dichotomous dependent variable (i.e., scored as 0 or 1; present or absent) (Vogt, 1993). It was not applicable for this study because neither the dependent variable nor any of the independent variables were recorded on the basis of something being present or absent. Instead they were noted as continuous data. This study sought to determine relationships and make predictions based upon ordinal data.

Multivariate Analysis of Variance

According to Vogt (1993) and Williams (1985) this statistical procedure was a method for studying a number of variables at the same time. The initial attraction rested with the fact it was appropriate for multiple independent variables, and this study had

eight of them. But a MANOVA typically required two or more dependent variables. This study had just one (team efficiency).

Non-Linear Estimation

This approach was based upon the concept of using sample statistics to determine the probability of something occurring or being present in a population (Vogt, 1993). The idea of a non-linear relationship meant the resulting plotting of a regression/prediction line would not be straight. Regression analyses, usually linear models, were used to predict how the influence of one variable impacted another one; “. . . given a knowledge of the variable X and its relationship with variable Y, how can we take particular values of X and predict what corresponding values of Y would be?” (Williams, 1985, p. 141). With a belief that relationships would be found from the correlation coefficients, there was a strong appeal for this type of analysis in this study.

Time Series Forecasting

Vogt (1993) explained it was a set of measures taken on a single variable over a period of time. This study would have such data, between 1985 and 2003, but it was unclear if it was amenable to a time-series analysis. Williams (1985) explained time series forecasting as a “. . . subtopic of multiple regression . . . often involves the use of related statistical methods in the assessment of effects or relationships observed among multiple observations taken across time” (p. 161).

Williams (1985) also stated time-series analysis was applicable when there was a research hypothesis seeking to determine the before and after differences of an intervention over time. For this study the intervention would be the introduction of a new

manager to a team. But it was not clear if this was a legitimate approach to use because of the potential for the focus to be on team efficiency during the tenure of a single manager instead of comparing team efficiency across managers. Also this study was not an experiment, and according to Creswell (2002) time series was used with experimental designs when the intent was “. . . studying one group over time, with multiple pretest and posttest measures or observations made by a researcher” (p. 651). It was not clear how time series forecasting could have been used except as a variation of multiple regressions.

Data Mining

The initial consideration of this approach led to the belief it might be a general term encompassing a number of procedures. Subsequent exploration revealed it was “. . . the automated extraction of hidden predictive information from databases” (retrieved from Kurt Thearling @ <http://www.thearling.com>). According to Thearling (2002), data mining was an approach for studying large amounts of data with the objective being to extract patterns or possible relationships normally hidden because of the difficulties associated with organizing huge amounts of information.

The Statistic Glossary <<http://www.stats.gls.ac.uk/steps/glossary>> reported the process of data mining allowed for identifying and then validating apparently predictable sequences by application to new subsets of data, with a final objective being prediction. But it needs to be pointed out the proposed study had a well-defined set of eight-predictor variables and so it was questioned whether the data mining approach would be necessary or even appropriate.

Constructive Replication

The notion of engaging in a constructive replication study was to use a “. . . statement of the empirical fact” (as reported earlier by Gamson & Scotch, 1964; Grusky, 1961; Roberts, 1959) “which the first author would have established, and then let the replicator formulate his own methods of sampling, measurement, and data analysis” (Borg & Gall, 1989, p. 362). This research acknowledged the potential deficiencies in the earlier work (Gamson & Scotch, 1964), sought to explore the validity of the stated recommendations, and to develop conclusions based upon current research. The three explanations those researchers (Gamson & Scotch) proposed for changing MLB team managers were considered, but the focus was not to determine if failure of leadership was a viable explanation for managerial succession. Instead, identification of selected data possibly related to team efficiency was sought. In that sense it was viewed as a predictive study.

Justification to Replicate

The reservations expressed by Gamson and Scotch (1964) regarding Grusky's (1961, 1963) claims about MLB manager succession rates was justified from the perspective of scholarship; it was acceptable to question and replicate studies because knowledge is not always constant and should be tested until proven reliable. Furthermore, the questions raised by Gordon and Baker (1964) could be considered indicative of reservations presumably held by other researchers regarding the validity of Grusky's (1963) and Kriesberg's (1962) findings. Borg and Gall (1989, p. 361) pointed out

. . . researchers generally do not draw . . . extreme conclusions . . . One reason is that it is difficult to rule out all possible alternative explanations . . . Another reason is that flaws in research design and execution creep into most studies. Thus, many researchers do not reach final conclusions about the validity of a knowledge claim on the basis of a single study. . . .

One-Way

The Grusky (1963) claim was MLB teams with the poorest records (more losses than wins) would have the greatest number of managerial changes. Gamson and Scotch (1964) said a one-way causality explanation for such frequency of managerial succession was simply due to a manager having been fired because of poor performance by the team. It was termed a common sense explanation. But Grusky (1963) apparently was dubious about the substance of such an explanation, despite the availability of supporting data from the records reviewed. He claimed the one-way causality explanation did not sufficiently “stimulate careful empirical test” (cited by Gamson & Scotch, 1964, p. 69), which presumably was in accord with the position expressed by Borg and Gall (1989); needing replication studies to validate research claims.

Three Options

Gamson and Scotch (1964) said Grusky (1963) neglected to identify the empirical tests to use for such validation, and of the two options he had presented (one-way causality–poor team performance led to managerial firing; an undefined and presumably esoteric cause) they preferred the simpler one, one-way causality. They proceeded to offer the following three options for understanding the phenomenon of MLB manager succession (p. 69–70).

1. The common-sense one-way causality theory— . . . the field manager . . . is a major influence on a team's performance. When the team is doing poorly, he is rightfully held responsible . . . A new manager typically will raise the performance of a team, since he can benefit by avoiding the errors that his predecessor made.
2. The Grusky two-way causality theory—A managerial change inevitability upsets old patterns of behavior. New organizational policies . . . produce changes of great magnitude in the internal structure of the team.

Frequent managerial changes can produce important dysfunctional consequences within the team by affecting style of supervision and disturbing the informal network of interpersonal relationships . . . The resulting low primary group stability produces low morale and may thereby contribute to team ineffectiveness. Declining clientele support may encourage a greater decline in team morale and performance.

Clearly, a managerial change by the Grusky theory should produce a further deterioration in performance by an already faltering team.

3. The ritual scapegoating no-way causality theory—Effect of the field manager on team performance is relatively unimportant. In the long run, the policies of the general manager and other front-office personnel are far more important . . . The field manager . . . has minimal responsibility for such . . . functions.

Talent

Gamson and Scotch (1964) allowed for the fact baseball talent probably was the most important variable for team performance. They acknowledged the absence of reasonably competitive players likely would doom even the most talented manager to more failure than success, but pointed out the need to recognize the potential for the reverse situation. Absent a highly talented manager, a team composed of uncommonly gifted athletes would be expected to be successful more times than not, with the result being the person serving as the team manager would appear to be successful. Perhaps the time when a manager was most pivotal was when team talent was adequate to good. Strategic choices and decisions then became most revealing. This view was similar to the one reported earlier by Antonakis et al. (2004). There was an apparent dichotomy between leadership and management because many activities engaged in by high organizational officials likely involved concepts of leadership and management. But it encouraged moving in the other direction to allow for managers engaging in behaviors presumed to reflect leadership.

Development

Two issues identified by Gamson and Scotch (1964), during their discussion of the manager's role, led to expanding the job description for a baseball team manager. First they claimed it was likely a highly competent manager could be entrusted with the development of talented but young players. In such an instance success had to be determined by means other than an immediate winning percentage on the playing field. In such instances the long-term objective took precedence and future success was sought in

lieu of an immediate winning percentage. Clearly such planning and visioning was a mark of leadership activity. The second issue was to reflect upon the fact there was somewhat of a finite pool from which managers were selected.

Pool

Earlier the issue of a relatively finite pool from which to select a new manager was addressed (Grusky's quote from Brandmeyer, 1963, pp. 29-30). Some managers were people who had been fired by other teams. Others were coaches who moved up to the role of manager. The constant among all managers seemed to be people experienced with the sport, but the level of experience and extent of major league play apparently was not critical

A Third Explanation

Using the premise of there being relatively little difference among the talents of MLB managers, the Grusky (1963) claim of a correlation existing between managerial succession and team performance justifiably became suspect. Grusky's (1961) earlier report on executive succession also was questioned by Gordon and Becker (1964), and shown to be wanting. Consequently, his conclusion about managerial changes was vulnerable especially given the critiques of Gamson and Scotch (1964), who claimed the firing of a manager exemplified the ritual termed scapegoating; an activity presumably engaged in to alleviate anxiety despite the realization, by some or many of the participants, the act was only a convenient way to place blame on a less fortunate or more convenient member of a tribe or social group. It was tantamount to offering a sacrifice in

hopes of appeasing mythical gods and at least temporarily deflecting attention from a need for internal improvement and/or re-organization.

Sample

This investigation was a critical study of the won-loss records and managerial changes of MLB teams from 1985 until the end of the 2003 baseball season. The rationale for using data from a period of 19-years was to negate possible questions about the stability of the information, such as were levied at Roberts' (1959) work, which was criticized because of using a time frame of just three-years, and the study by Grusky (1961), which used a ten-year window of time. Additionally it was a constructive replication of work reported earlier (Gamson & Scotch, 1964), and responded to the admonitions from Gordon and Becker (1964) about the length of time needing to be adequate for including a reasonable sample of relevant data.

Time Frame

The decision to begin with the year 1985 was based upon the fact MLB started expanding the number of its teams two-decades before that date. It was believed there would be no difficulty in securing comparable data from all of those teams and thus justifies using the statistical analysis of a step-wise regression, or other appropriate statistic. An explanation of the expansion process as it impacted MLB was presented in the second chapter.

Prospecting

The detective work of locating the sources was accomplished with relative ease, excusing the labor involved. In fact, it went as anticipated. Contrary to possible claims of

the data gathering process serving as a vehicle for individuals to distort interpretations findings, the information used for analysis in this study was not subjected to any subjectivity. Once the procedures had been identified and agreed upon there was no bending of the rules by which information was collected and verified (see earlier comments under experimenter bias or handling reliability and validity). Intrusion of subjectivity would have moved the design away from a strictly quantitative paradigm. It would have introduced aspects of a qualitative approach, and that was not desired for this study. Instead, the adherence to pre-stated criteria allowed for use of appropriate quantitative statistical analysis, which then were juxtaposed against the eight hypotheses, as reported in Chapter Four (Results). Conclusions based upon acceptance or rejections of those hypotheses are presented in Chapter Five (Discussion).

Won-Loss Ratio

All requisite information was transposed onto computer spreadsheets with identical categories for each team studied. The won-loss ratio was calculated by dividing the total number of games during the total time a person served as the manager for a given team into the number of team wins. The resulting figure was a percentage based upon 100%. Illustrative of the process was a team presenting 90 wins and 72 losses in a 162-game season. Dividing the 90 by the 162 yielded a percentage (team efficiency) of .555, which showed winning 56% of the time (upward rounding when the second number to the right of a decimal was five or higher).

Years Managed

The number of years managed was the number of completed seasons plus any partial season during when a person might have managed a team. Partial seasons were determined by the number of games managed divided by the total number played.

Other Data

The OBP, OPS, SBP, S9I, and WHIP were calculated by adding the team totals during the length of time a manager served. Once determined, each was divided by the computed years of tenure for a given manager.

Missing Data

The nature of the data pool was such it negated the potential problem of encountering missing data. If needed information was not available from one source it was secured from one or more of the other sources. A distinct advantage to this type of causal-comparative research was the permanency of the available data, as pointed out in the above section on sources for data. Of note was there was crosschecking on the accuracy of data reported in sources used. That means there were numerous instances when identical information was sought from other sources to ensue consistency.

Variables

The one dependent variable was “team efficiency,” as determined by the won-loss records of the respective MLB Teams during the tenure of a given team manager. In this study eight factors affecting team efficiency, as measured by won-loss records, were treated as independent variables. They included: (a) the number of managers a team had (NM), (b) the length of time a manager was in tenure (LMT),

from a team's home stadium. That too was discounted when it became evident many stadiums have undergone considerable renovation since 1985, and a number of teams have moved into new facilities, sometimes in the same city. Thus the potential value of attendance figures as a predictor of team efficiency was negated. By extension, use of earned revenues also was discounted because of the inflation factor and fact stadiums had changed and new items were being sold as a part of concessions. The matrix explanations are below and presented illustratively in Table 2.

- (a) Identification of a manager by name (MN) is in the first column. When a person managed more than one team the name appeared again with the relevant independent variables.
- (b) The second column presents the name of a team (TN).
- (c) The third column shows a manager's won-loss record as a percentage (team efficiency) for the duration that person was managing a specific team (TE). It is necessary to note that a manager who worked with a specific MLB team and left but returned to that team at a later date has another row of entries, and the relevant statistical data for that second, or third, period.
- (d) Column four presents the length of time a manager served in a position (LMT). It is shown as months of tenure using the percentage of 0.5 as the mark for rounding upward. Thus any number between 0.0 and 0.4 was rounded downward, whereas from 0.5 to 0.9 were rounded up to the next whole number.

- (e) The fifth column shows a respective team's OBP during the entire time a given person served as its manager. It is an average of a team's OBP during their tenure.
- (f) The sixth column shows the average on base plus slugging (OPS) percentage for a respective team during the entire time a given person served as its manager.
- (g) The seventh column presents the average S9I for a given team during the time when a person served as its manager
- (h) In the eighth column is information showing the average number of walks plus hits allowed per inning pitched (WHIP) for a team during the time a given person served as its manager.
- (i) The ninth column shows a team's average SBP during the time a given person served as its manager.
- (j) The tenth, and final, column is the average player team salary (TTS) for the time a given person managed it.

Approaches to Analyses

Initially the statistical approach was planned as a step-wise regression analysis (Lomax, 1992; Streiner, 1986), and an explanation for such an analysis was presented earlier in this chapter. Subsequently it was learned that statistical procedure had been criticized, especially when a computer program was used. The intent was to apply such a program to the data analysis, but reportedly three possible problems existed: (a) incorrect degrees of freedom could be used by computer programs with the result being to display

false statistical significance, (b) stepwise methods apparently might fail to properly identify the best set of variables for given size, and (c) the procedure tended to exploit sampling error, which made replication unlikely or impossible (Thompson, 1995).

Consultants Value

Becoming aware of that potential limitation to the process for analysis was a distinct benefit of using multiple methodological and statistical consultants. Parenthetically it needs to be recognized all consultants were experts in their field and no denigration of abilities is imputed toward anyone. Instead, it showed the value of collaboration between and among like-minded persons with the goal being to further improve the manner by which the data were treated. It bears noting that all investigator interpretations of the data analyses were corroborated with one or two of the research experts, but the conclusions rendered at the end of this study are those of the investigator.

Twofold Approach

The plan was twofold. First relevant descriptive information was to be presented in Chapter Four. The central tendency information allows a reader to grasp general trends.

Using data from 26-teams times the eight independent variables (items three through ten in Table 2) yielded 208 data points, but it needs to be noted the actual number of data points was substantially greater. Each of the 26-teams presented multiple managers.

By way of illustration, assume each of the 26 MLB teams had at least five managerial changes during the period of time when the data were collected. A number

had more. Using that assumption meant the number of data points increased dramatically (8 independent variables X 26 teams = 208 data points; 26 teams X 5 managers = 130 managers; 208 data points X 130 managers = 27,040 data points). The importance for acknowledging the potentially large number of raw scores rested with the kind(s) of parametric statistical analyses that were used for the analyses. A hypothetical team (Team A) presented average data for each of the eight independent variables according to the presumed five managers employed during the period of 19-years, as shown below as Table 3.

Inferential Data Analysis

There were five levels for the data analysis. All are presented in Chapter Four (Results) with accompanying commentary on the meaning for each set of data. The first

Table 3

Illustrative Matrix for Recording Average Managerial Raw Scores for Hypothetical Team A with Assumed Five Managers

Managers by Name	W/L %	Tenure in Yrs.	OBP Av.	OBPS Av.	S9I Av.	WHIP Av.	SBP Av.	TS Av.
Name 1								
Name 2								
Name 3								
Name 4								
Name 5								

presentation is the descriptive presentation. Next is a process of correlational statistics. The objective was to look for possible relationships between each of the eight independent variables and the dependent variable (team efficiency), for each of the team managers with all 26-MLB teams.

1. The descriptive data is presented in the form of tables, and bar graphs.
2. There are correlational matrices for the managers with the eight independent variables. A potential hazard was completing so many correlations could result in some spurious findings (Type I Error).
3. The next step (third level) was a correlational analysis of each team's average efficiency with regard to the number of managers and the averages for a team's eight independent variables during the period of 19-years.
4. The fourth level was to make cross-team comparisons. It also involved a correlational analysis.
5. Finally there was a regression analysis for the purpose of identifying the independent variable(s) best predicting team efficiency for each team and then for the entire set of 26-teams. The effort was to determine the values to be expected in the dependent variable given the known values of one or more independent variables (Vogt, 1993). The result from the statistical computations was in F Ratios (a value or statistic), which in turn, was stated as being statistically significant or not significant.

The F Ratio revealed the extent “. . . of explained to unexplained variance in an analysis of variance . . .” (Vogt, 1993, p. 94). The intent therefore was to learn if the means of the groups differed to the extent it was a result of chance sampling. If not then it

supported a null hypothesis (no difference). Interpretation of the ratio required use of a table of F values (Fisher, 1935) with consideration for the degrees of freedom and level of statistical confidence. The computer program handled all computations, and the investigator discussed the meaning of the findings with two of the statistical consultants before venturing forward with the reporting and subsequent discussion.

The process for handling the information included transposing relevant data to spreadsheets, presenting the information to two of the statistical consultants who then performed the requisite analyses using SPSS programs. The level of statistical significance was set at .05; meaning a statistical finding could be believed to be true 95% of the time.

Correlation

It was the process for finding the extent to which two or more variables/things related to each other, and the number or index expressing that relationship was termed a correlation coefficient. This manner for studying the data was appropriate because correlational research does not involve subjecting subjects to different treatments. Instead it is a process for studying associations, in this instance the associations between and among scores or average scores. Of note was the fact the correlation coefficient did not allow for making any claim(s) about reasons for relationships (Williams, 1985).

Illustration

By way of illustration, one team manager's high winning percentage might have a high relationship with the independent variable, on base percentage (OBP) but not with the independent variable strikeouts per nine-innings (S9I). Another manager's high

winning percentage (team efficiency), with the same team but at a different time, might show a low correlation coefficient with the independent variable WHIP.

In the first instance the interpretation would be the on base percentage was important because presumably it led to more runners scoring and thus enabled the team to win games. The lack of a high relationship to the independent variable S9I might be viewed as indicating the team's pitchers did not strike out many batters during the course of a game and it was not an important factor for determining team efficiency. Possibly the winning team had an uncommonly high number of runs scored per game and so keeping opponents off the base paths was not important. Another option might be the opponents were unable to bring their base runners around to score needed runs. Thus the possible ineptitude of opponents might mitigate an impression of a manager being effective due to a favorable PI. Also it is possible that the winning team simply played much better defense and that was a major contributing factor to preventing the other team from scoring more runs.

In the second instance (WHIP) the interpretation might be a high team efficiency was associated with pitchers not giving up many walks or hits to opposing teams. The result would be the other teams did not have opportunities to put players into scoring situations and so they did not score enough runs to win a ballgame. Such considerations supported the need for a careful selection of independent variables, especially those being viewed as of greater importance than the commonly held opinions on batting average, home runs, and pitchers won-loss records. For example, it was postulated that a high on base percentage (OBP) was a more important index than a high batting average. OBP

revealed both an individual and team's ability to be in a position for scoring runs, while the batting average was predicated only on achieving a base hit. It did not account for any other means by which players managed to reach a base, such as by earning a base-on-balls.

Clarification of Variables

A correlation is interpreted as positive or negative, depending upon the nature of the variables. In the first illustration noted above, high team efficiency and low strikeouts per nine-innings could mean the team did not strikeout often and as a result had more chances for hitting the ball. Conversely, if the (S9I) was stated as representing the winning team's pitchers' efforts against opposing teams, it would be expected that a higher S9I ratio would be associated positively with a higher team efficiency rating, because the opponents would be denied opportunities for placing players on base. Describing the variables involved is important for making a correct interpretation of the correlation coefficient. That was done in consultation with the statistical consultants.

Coefficient

The coefficient is a number representing a characteristic of the variables in a formula. According to Creswell (2002) there are two approaches for using a coefficient. The coefficient alpha was a measure of internal consistency of items on an instrument when scored as continuous (i.e., strongly agree to strongly disagree). The coefficient of determination revealed the extent of variability in one variable that could be accounted for by another variable.

For this study it was the latter coefficient that was expressed (coefficient of determination). The range of coefficients ranged from -1.0 to $+1.0$, and the closer a correlation was to the 1.0 , regardless of direction, the greater was the value that the finding reflected a true relationship. Williams (1985) stated a null hypothesis (no difference) would anticipate a 0.0 (zero) correlation coefficient if truly there was no relationship between the variables. Citing Guilford (1956), Williams (1985, p. 132) presented the following guide for interpreting correlation coefficient (Table 4), with the caveat negative and positive values should be interpreted similarly, but with awareness of them being in opposite directions.

Replication and Cross-Validation

The quarreling among earlier researchers (Gamson & Scotch, 1964; Grusky, 1961; Roberts, 1959) regarding the issues surrounding MLB managerial succession

Table 4

Correlation Coefficient Interpretation Guide from Guilford (1956)

Level	Degree of Significance
$< .20$	Slight; almost negligible relationship
$.20 - .40$	Low correlation; definite but small relationship
$.40 - .70$	Moderate correlation; substantial correlation
$.70 - .90$	High correlation; marked relationship
$> .90$	Very high correlation; very dependable relationship

provided the impetus for this study. Expression of similar reservations, by other researchers, should be obviated with this investigation because all of the stated concerns of those earlier studies were addressed. Yet, the clarity of this study should allow other scientists to pursue work determining if the stated findings are repeatable. Furthermore, it is hoped such research would be done because it would lend credence to the findings reported. An ideal replication probably would take the form of a constructive-replication; such as this study was a constructive-replication of earlier work because of the ensuing controversy surrounding the reported findings.

Summary

The purpose of this study was to determine if MLB team efficiency, as measured by won-loss records, was affected by selected factors relevant to a manager's tenure with the team. Overriding that issue was learning the effect managerial succession had on the performances of MLB teams. Re-stated, the issue was revealed as a question of whether apparent organizational leadership truly impacted organization outcomes. There was no intention to render judgments on decisions made by individual baseball clubs when managers were replaced. No value statements are presented endorsing a particular approach or course of action. Instead, the study analyzed eight selected teams' statistics during respective managers' tenure. A matrix of the eight sub-questions presented at the beginning of this chapter is provided below in Table 5.

This chapter presented an introduction that laid out the sequence of how the material was presented. The second section contained the overriding research question

Table 5

Illustrative Matrix Showing Team Name and Number of Managers, Followed by the Eight Independent Variables. Identical Data was Recorded for Each Manager by Each Team

Team Name	Managers by Name	W/L %	Tenure in Yrs.	OBP Av.	OBPS Av.	S9I Av.	WHIP Av.	SBP Av.	TS Av.
Team A									
Team B									

and eight subquestions, with associated null hypotheses. It was explained that the nature of this study was such it did not need to obtain approval from the UNL IRB (section three).

Justification for following a quantitative research design was provided in section four, followed by a description (section five) of the kinds of data obtained (order and sequence of data). The sixth section explained the sample. The seventh section addressed the statistical analyses, plus some questions that surfaced regarding one commonly accepted approach (step-wise regression). That was followed by a short section on the topic of replication and cross-validation of the information from this study, and why such efforts would be worthy (section eight). The final part to Chapter Three is this summary.

CHAPTER FOUR

RESULTS

The twofold goals of this study dictated that a quantitative design be used. The first of the two major objectives was to determine if there was justification for the firing of MLB managers, when a team displayed low efficiency or low indices of productivity. The alternative framing of that issue was whether such actions by the management of MLB teams were indicative of scapegoating. The second objective was to identify selected variables predictive of team efficiency.

This chapter begins with a general description of the descriptive data. That is followed by the inferential analyses. The latter part of this chapter factually answers the research question and related eight subquestions. Reflections on the implications or relevance of the findings are reserved for the fifth chapter (Discussion).

Descriptive Information

The relevance of central tendency data in this study served to introduce the I.V. in relation to the one dependent variable, PI. The number of MLB team managers serving with any given team during the 19-seasons studied varied considerably among the 26 teams. Also there were appreciable differences with regard to average team efficiency ratings on the I.V.. Importantly such descriptive statistics obscured understanding the relationships between and among the variables because the picture was of only a single number. Those figures did not reveal changes in any of the variables, the extent of changes as a consequence of a manager, and did not illuminate if any valuable relationships materialized with a degree of consistency. To acquire such clarifying

information it was necessary to pursue a different type of data analysis, inferential statistics, which is reported in the second major section to this chapter.

Central Tendencies

Table 6 presents typical central tendency information for all of the variables studied during the period of 19-years. The vagueness of such information can be realized by looking into the third column labeled WL (won-loss). It was an indication of a manager's winning percentage, but the percentages are not accurate indices because outliers (including managers with short-term assignments such as Luman Harris who took over the Baltimore Orioles in 1961 and posted a 17-win and 10-loss record = .630; PI = productivity index) were not discounted when making the calculations. Working down in the WL column, the mean, the third number from the top, is .95619. It conveys an average winning percentage for an average manager. Just below is the dispersion around that mean of .351674, which means the winning percentage for an average manager of the 26 teams, during the 19-years when the data was collected, was from a low of .6045 up to 1.3078. Exceeding a winning ratio of 1.0 was not possible because it implied that a team won more than every game played. Furthermore, a winning percentage of 96%, for every manager, was not realistic, especially since the highest winning percentage ever recorded was .741 by Fred Clark of the Pittsburgh Pirates in 1902. The raw data inputted did not have any manager with a winning percentage beyond .704, which was accomplished by Joe Torre with the 1998 New York Yankees. This topic is addressed again later in chapter four during an explanation of histograms.

Table 6

Central Tendency Information on the Independent Variables

Statistics

	TEAM	Number of Managers	W:L	Years of Tenure	OBP	OPS	SBP	S9I	WHIP	Salary of Team
N Valid	171	171	171	171	171	171	171	171	171	171
Missing	0	0	0	0	0	0	0	0	0	0
Mean	12.29	7.53	.95619	2.7778	2.12467	.63576	.58740	5.26575	1.19762	3.0E+07
Std. Deviation	7.036	2.377	.351674	2.84432	18.982846	.230295	.212118	1.971379	.434472	2.5E+07
Variance	49.512	5.651	.123674	8.09017	360.3485	.053036	.044994	3.886337	.188766	6.4E+14
Skewness	.081	.737	3.686	1.856	11.557	-1.506	-1.570	-1.295	-1.419	1.202
Std. Error of Skewness	.186	.186	.186	.186	.186	.186	.186	.186	.186	.186
Kurtosis	-1.094	.077	32.616	3.562	139.567	1.828	1.608	1.300	1.917	1.144
Std. Error of Kurtosis	.369	.369	.369	.369	.369	.369	.369	.369	.369	.369
Range	24	9	4.000	15.13	236.249	1.296	1.092	10.384	2.556	1.2E+08

In Table 6, excluding the data shown in the column under Team, the mean was the arithmetic average of all items entered into a given category divided by the total number of items. In the column for number of managers, the mean of 7.53 meant each of the 26 teams had an average of that many managers during the 19-year period. But at the bottom of that column the number nine indicated the range of managers varied considerably. The standard deviation of 2.377 conveyed that 50% of the variance around the mean was from a low of 5.15 up to 9.907. Thus the spread, plus and minus, one standard deviation from the mean was 4.757. Further evidence of dispersion around the mean was seen by the variance of 5.651, which also was reflected as a square root shown as the standard deviation (2.377).

The skewness of .737 was interpreted as meaning there was considerable bunching of the number of managers per team on both sides of the mean, but the sharpness of the spiking was modulated and presumably the mode and median scores were different from the mean. Again, the interpretation was that the scores, or data points, on the two sides of the mean probably were not symmetrical. The standard error of the skewness was .186, and the only inference was it indicated a variability equaling about 25% of the total asymmetrical profiles of the curves; fifty-percent of the curves were within .372 of the mean. That was viewed as further indication for the fact the mean, median, and mode were different for the number of managers per team.

Sampling Error

The kurtosis (degree of peakedness to a curve) of .077 was interpreted to mean the shape of the curve, on both sides of the mean, were more peaked (leptokurtic) than

spread out, and the standard error of the kurtosis (.369) was viewed as reflecting how much a single score on a curve varied from the mean of the sample. It was another way for reporting what was the apparent sampling error with the sample used for the study and the total population. With a sample of 171 the sampling error of .369 was considered small.

But in the absence of more definitive information these central tendency data were estimates on the extent of relevance to each other, and they did not provide information adequate enough to address the research question and eight subquestions. The descriptive data provided an entry point for gaining an impression about how to possibly summarize the information. Inferential statistics, reported later in this chapter, augmented that information, and allowed for extrapolating to the general population of MLB managers.

Another example of why it was important to have more information than just a single average can be found when looking in the fourth column, labeled years of tenure. The third number from the top showed an average tenure for MLB managers of 2.7778 years. But the dispersion around that mean was 2.84432 and the range was 15.13 years. Again the issue of extreme scores needed to be addressed because of how they influenced a mean. Recognizing the limitations of such data encouraged looking at ways to analyze the information so interpretations would be more meaningful.

Abbreviated Presentation

Table 7 is an abbreviated presentation of the central tendency information using just the means and standard deviations for the respective independent and dependent

variables. But as stated above, the mean scores, even with accompanying standard deviations, did not reveal the necessary information for answering the research questions.

Table 7

Descriptive Statistics for the Eight I.V. and One D.V. (Won-Loss) Using only Means and Standard Deviations

	Mean	Std. Deviation	N
Number of Managers	7.53	2.377	171
W:L	.95619	.351674	171
Years of Tenure	2.7778	2.84432	171
OBP	2.12467	18.982846	171
OPS	.63576	.230295	171
SBP	.58740	.212118	171
S9I	5.26575	1.971379	171
WHIP	1.19762	.434472	171
Salary of Team	3.0E+7	25350879.61	171

Table 7 shows the mean number of managers for each of the 26 MLB teams during the 19-years studied was 7.53, with a standard deviation of 2.377; 50% of the teams had between 9.907 and 5.153 managers. In some instances a person who managed one team later managed a different team, or perhaps even the same team. Consequently the 171 managers, shown under the column N, sometimes contained multiple entries for a

single person who was filling the role as team manager at a specific point in time and place.

The third row in Table 7, years of tenure, shows each manager had an average of 2.78 years of service in that capacity with a given team, but the variance (standard deviation) was 2.84 years. Thus 50% of the managers apparently served with a team between 5.62 and zero years. All that could be inferred from such a spread was instances occurred when a person perhaps had one game of tenure as a manager. Again it bears commenting that such information, while interesting for overview purposes, did not provide the kind(s) of information needed for answering the questions.

Histograms

Another way for examining the descriptive data was to look at them as graphic presentations, which could be done because the data shown were ratios. Figures 3 through 5 are histograms for the number of managers, won-loss percentages, and years of tenure per manager with a given team (the first, second, and third items in Table 7).

Number of Managers

The explanation for Figure 3 was that determining the length of tenure for a manager with a given team could be accomplished by reading across the bottom axis (abscissa). The ordinate axis (frequency) shows the number of managers who served. Where the two lines intersected would be the point for a given person. The increments are in increments of two with the average of 7.5 at the highest point of the curve.

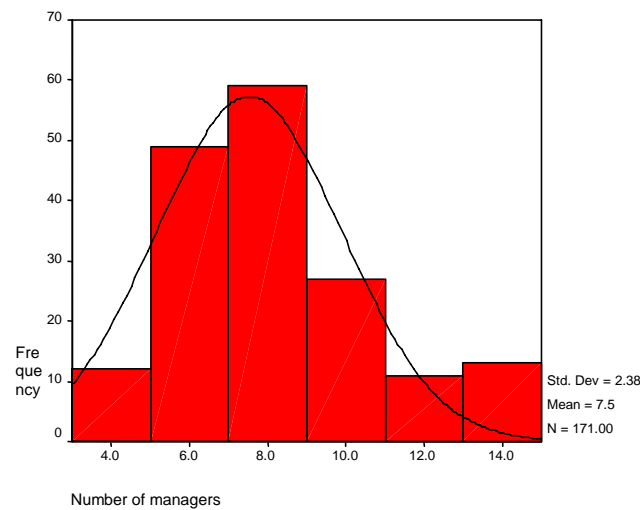


Figure 3. Number of Managers per MLB team. The abscissa (horizontal axis) reflects the number of managers and the ordinate (vertical axis) shows the frequency or duration of tenure for a Manager with a given team.

Years of Tenure

There are two points of interest with this histogram. First is the peak of the curve is reasonably symmetrical but the rise is slightly sharper than the run, which extends outward farther. The interpretation was fewer numbers of managers had short or long tenure with a team. Second, despite the number of managers equaling 171, the ordinate axis did not extend beyond the number 70. That can be interpreted as evidence for the fact many managers had modest terms of service.

Figure 4 was interpreted to mean a preponderance of the managers had short tenures with respective teams. The mean of 2.8 years (abscissa) and standard deviation of 2.84 supported the fact during the 19-year period studied most of the MLB managers were fired from their job in less than four-years. The histogram shows

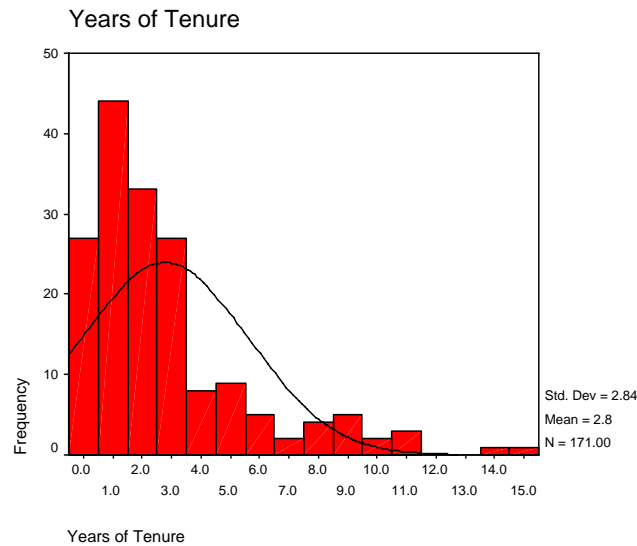


Figure 4. Histogram showing the years of tenure by the frequency or number of managers per MLB team.

about 45 managers (ordinate) apparently served less than two-years, and perhaps another 35 had less than three-years of service with a team.

Won – Loss Ratios

Figure 5 shows the won-loss ratios for managers are shown along the horizontal axis (abscissa) and the frequency or number of managers with respective ratios is reflected along the ordinate, or vertical, axis. As mentioned above, perusing the descriptive data can be misleading because of the tendency to believe a number of managers had highly successful terms of employment with a team, as reflected by the fact the mean win - loss ratio was .96 with a standard deviation of just .35. An alternative interpretation of such central tendency data could be that most managers approximated one win for each loss and that was the explanation for the ratio being in the mid 90s.

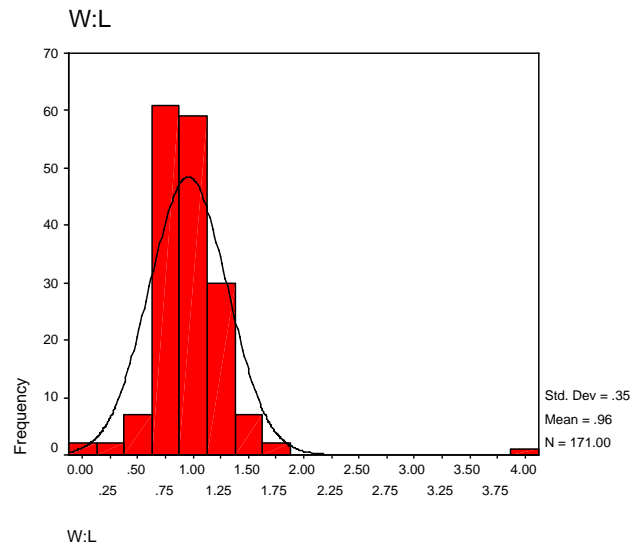


Figure 5. Won – loss ratios for respective MLB managers.

With a season consisting of 162 games it means winning 81 games would enable a manager to claim a win-loss ratio of 1.00, and when the standard deviation of .35 was factored into the mean score it showed that fully 50% of the managers had won-loss ratios between 1.31 and .61 (a high of 106 games and a low of 49). Such extremes included allowed many managers to fall within a standard deviation of the mean, which was deceiving in terms of presenting an accurate picture of differences. Also it was observed that at least one manager had a won-loss ratio more than three standard deviations above the mean, but that data did not present any reasonable roadmap for interpretation of the aberrancy.

The next six figures show on base percentage (Figure 6), on base plus slugging percentage (Figure 7), SBP (Figure 8), S9I (Figure 9), WHIP (Figure 10), and the

reported total team salaries during the time when a manager was with a team (Figure 11). Each is related to one or more of the research questions.

On Base Percentage

Figure 6 shows the expected frequency of reaching first base safely for each team, encompassing hits and walks, was 2.1 (mean score). The pronounced variability, as indicated by the standard deviation of 18.08, encouraged questioning the value for that statistic (OBP) despite claims it was highly regarded by baseball professionals. It was conjectured that a computer calculation error occurred.

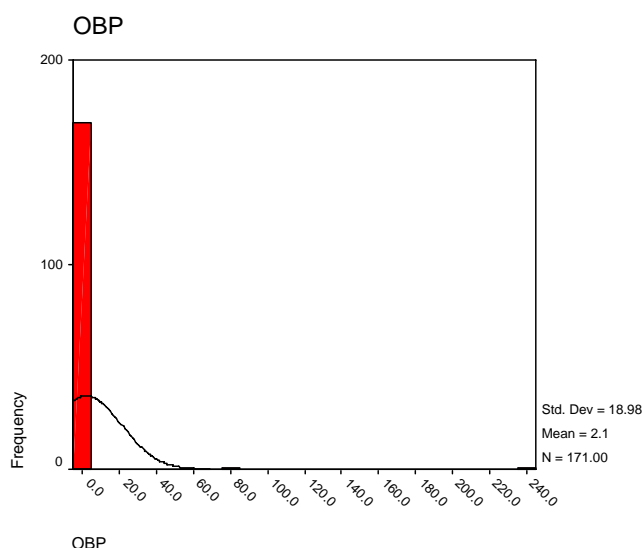


Figure 6. On base percentage for respective MLB players per manager.

On Base Plus Slugging

The on base plus slugging percentage (OBS) was a statistic that included the on base percentage (how often players reached base), mentioned under Figure 6, plus how they reached base; hitting a single, double, triple, or homerun. Conceivably some

managers were better able to communicate with their players in terms of helping them become more adept as productive hitters. Allowing for the fact the OBS ratio was a reflection of adding the on base percentage to the slugging percentage meant the number was expected to be appreciably higher than just the OBP. Figure 7 shows the mean OBPS was .64 with a one standard deviation variance of .23 (high of .87 to a low of .41).

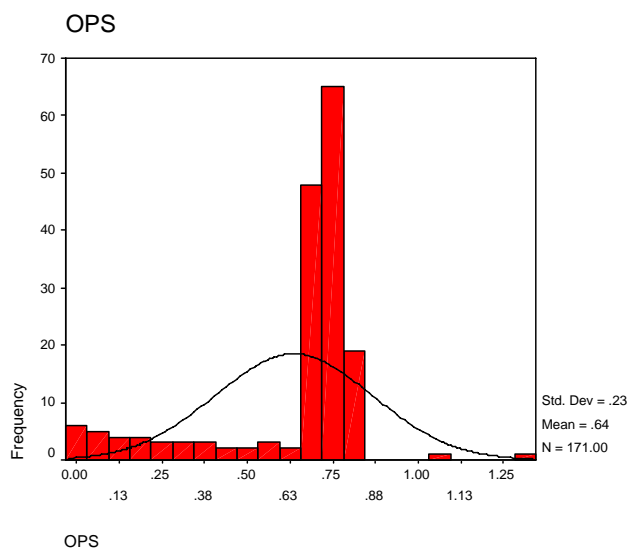


Figure 7. On base plus slugging ratios for respective MLB managers.

What was most revealing from a study of Figure 7 was how disproportional the data were that led to the mean. Visual inspection led to the belief about 135 of the 171 managers had teams with OBS percentages that were vastly superior to the percentages from the other managers. On that basis it would seem that there was considerable homogeneity in terms of resources (players able to produce) and it was more of an exception when a team manager worked with a low producing team. But, in the absence of inferential analyses all such comments had to be viewed as speculative.

Stolen Base Percentage

Figure 8 shows how successful baseball teams were in their attempts to steal bases. It is important to recognize those figures represented the ratio of attempts to successful steals and had no relationship to the actual number of stolen bases. The ratio of attempts to successes was another index of productivity, and while sometimes players stole bases on their own volition most such attempts were by direction of a team manager. The mean of attempts to successes was .50 with a variance of .21 (upper bound of .71 and lower bound of .29).

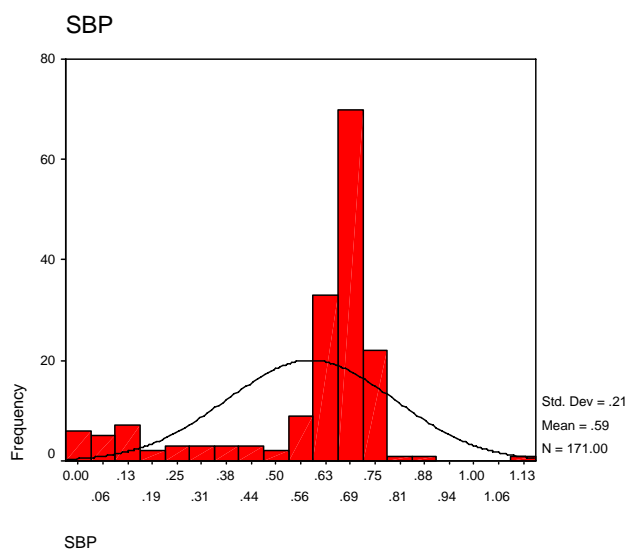


Figure 8. SBPs for respective MLB managers.

Visual inspection of the figure allowed for conjecturing that some managers were more favorable toward base stealing and probably had players who were adept at the art. Again relying upon impressions made from observing the histogram, it appeared that about 140 of the 171 MLB managers included in this study encouraged such activity.

From such an impression it could be speculated that there were marked differences in the configuration of the teams; some relying more on base stealing and other means for manufacturing runs (small ball) while a smaller number of managers had teams that had been formed along lines of relying extensively upon other means for advancing runners and scoring runs.

Strikeouts Per Nine Innings

As noted in the list of terms defined in Chapter One, the importance of this statistic rested with the fact it was not dependent upon team defense nor was it related to luck. It was an index of how effective a pitcher was at denying batters the opportunity to reach a base. The higher the ratio the more favorable was the situation for preventing an opponent from having players reach base and thus become a potential run to be scored. Preventing opponents from scoring runs was important because it meant a team needed fewer runs to become victorious, and thus resulted in a manager having a better win-loss ratio. Importantly, this statistic applied to all situations when a batter faced a pitcher, including pinch hitters.

Figure 9 shows the mean S9I for the managers in this study were 5.27, with a standard deviation of 1.97 per nine innings (upper limit being 7.24 and lower being 3.3). Such an accomplishment was a consequence of the players, or more precisely the pitchers, and underscored the importance of resources made available to a manager. It was acknowledged that some managers might have sought pitchers able to provide higher strikeout ratios per nine innings but it had to be accepted that in most instances managers

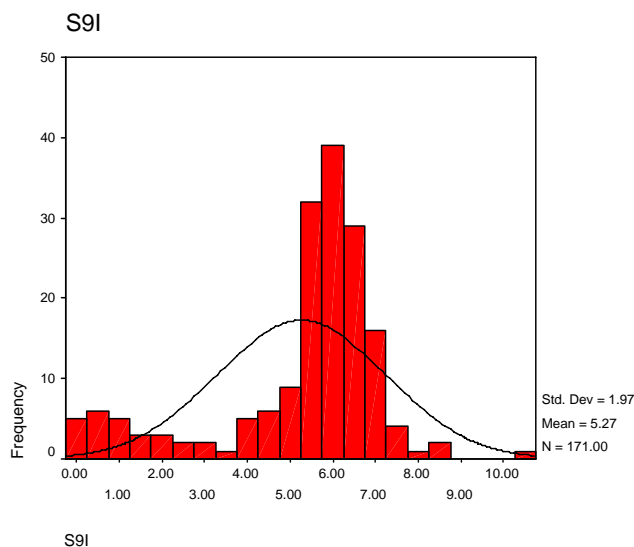


Figure 9. S9I ratios for respective MLB managers.

worked with the resources they were provided. Approximately 119 managers had teams with pitchers who struck out opponent players at a ratio exceeding the mean, but there were a number of managers with pitchers unable to manage more than a few S9I.

Walks Plus Hits Per Inning

Figure 10 showed the ratio of walks and hits per inning pitched. It was an indication of how effective a pitcher was at denying opponents the opportunity to reach base. The mean of 1.20 and standard deviation of .43 was interpreted to mean for the managers included in this study their respective teams allowed between 1.63 and .77 base runners per inning pitched. Lower ratios would be expected to be associated with more favorable productivity indices; higher won to loss ratio. What can be determined from the histogram is there were many managers with teams denying opponents opportunities for

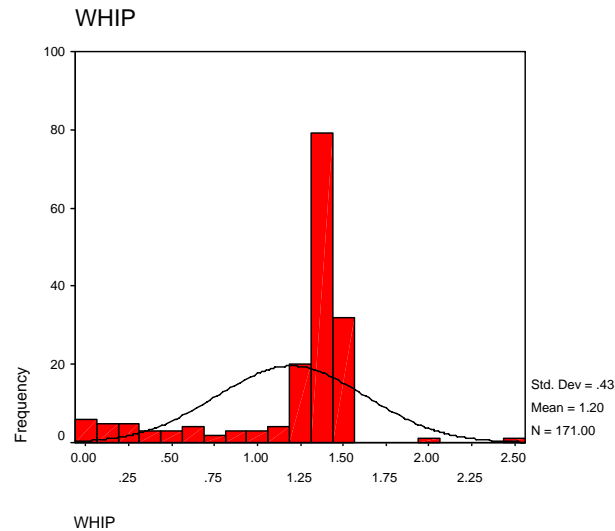


Figure 10. WHIP ratios for MLB managers.

reaching base, but also there were many managers, about 117, with teams that allowed opponents to reach base more than the average. How such information translated into a PI was indeterminable from this descriptive data.

Team Salaries

The interest was in learning whether the amount of financial resources available and used by a team had any direct bearing on the PI, and indirectly the won – loss ratio presented by a manager. The logic underlying this topic was that more affluent teams would be able to acquire more of the outstanding players either by offering them greater financial incentives or possibly by virtue of having a more robust minor league system from which to draw exceptional players.

It was recognized that total team salaries would be a difficult issue to resolve because during the 19-years studied the salaries of MLB players increased dramatically.

In some instances there were several exceptionally high-priced players on a team while on other teams there were almost none. Further confounding the salary issue was the fact many of the elite players were paid in different configurations; deferred compensation, escalating salary clauses, and even incentives for designated productivity. Thus the data shown in Figure 11 was viewed as just an average from the 19-years for the teams. For example, during the 19-year-period there were approximately 28 teams with total salaries in the 10 million dollar range. No interpretation could be made, and the only statement was that a given number of teams presented mean salaries of a stated amount during the period.

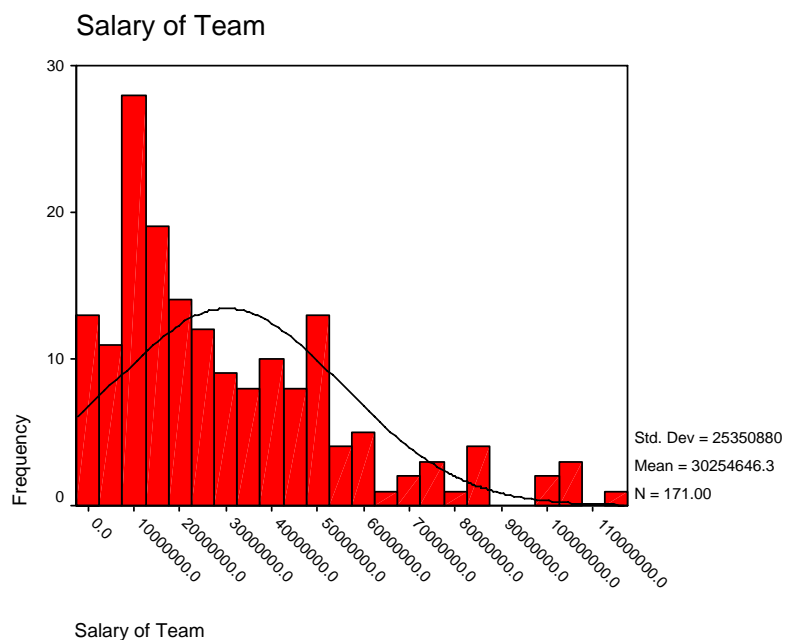


Figure 11. Average team salaries summarized over 19-years and unadjusted for inflation.

Most of the MLB teams reported average annual salaries of \$30.2 million dollars during the 19-years of the study, with a standard deviation of slightly more than 25

million dollars. Obviously that average was heightened markedly during the more recent years. It was notable that three teams were above the mean, and one team was more than three standard deviations above the mean annual salary. How such data related to productivity indices and managers' won-loss records could not be estimated from visual inspection.

Summary of Descriptive Data

Information reported in this section indicated the I.V. clustered in two patterns. First, most teams did not have radically different profiles. Instead there seemed to be more commonality than dissimilarity. For example, Figure 8 (SBP) indicated some teams were less proficient but many seemed to be similar in such productivity. Other like examples were observed in Figure 9, which revealed most teams were reasonably similar in S9I, and Figure 10, which showed WHIP, also were not too different. The second impression created from observing the descriptive data was there were some notable differences, as revealed in Figure 11, the salaries. However it was not possible to make substantive comments that had bearing on the major research question or any of the subquestions. To do so required use of inferential analysis, as presented in the next section.

Inferential Analysis

Multiple Regression

A backward multiple regression analysis was done. All of the eight I.V. were entered at stage one with the objective being to predict the dependent variable of won-loss efficiency (PI). The objective was to determine the degree of correlation with the

dependent variable (D.V.) by each of the I.V. (I.V.), and then by combinations of the I.V. The notion of a backward regression was the program allowed for removing each I.V., one at a time, based upon whether they met the stated criteria for significance of their F ratios. The program removed the variables on the basis of which had the lowest or smallest partial correlation to the D.V. (Table 8).

Table 8

Summary of Backward Multiple Regression comparing the Eight I.V. to the D.V. of Team Efficiency

Model	Variables entered (a)	Variables removed (b)	Method
1	Total Salaries; OBP; Manager; OBS; MT; WHIP; S9I; SBP;		Entered
2		On Base Percentage	Backward (criterion: Probability of F – to remove ≥ 100)
3		Manager	Backward (criterion: Probability of F – to remove ≥ 100)
4		Total Salaries	Backward (criterion: Probability of F – to remove ≥ 100)
5		Stolen Base Percentage	Backward (criterion: Probability of F – to remove ≥ 100)
6		Strikeouts per nine innings	Backward (criterion: Probability of F – to remove ≥ 100)
7		Managerial Tenure	Backward (criterion: Probability of F – to remove ≥ 100)

a = all requested variables entered; b = the D.V. of efficiency.

The highest contribution to the prediction of the D.V. was removed first. The program reviewed the remaining I.V. and performed the same computations until the independent variable with the second smallest correlation was identified and removed. The process continued until no additional variables could be removed (Vogt, 1993). Step one shows all eight I.V. were entered. In step two the independent variable of OBS had been removed because it was determined that as a predictor criterion it exceeded the stated probability (.05) and could not have happened by chance alone. Also noted was that WHIP did not surface again in the model.

The interpretation was those two I.V. were the most potent predictors of team efficiency. The next step in the model was to test the remaining I.V. against the D.V. of efficiency, or team efficiency (PI). It was observed that the next variable removed was OBP, followed by manager. The model continued testing the remaining I.V. and ended with the least influential being MT (manager's tenure with a team).

Attention is drawn to earlier presented Figures 6 (on base percentage), 10 (WHIP), and especially 4 (tenure of managers with regard to winning efficiency). From a surface inspection of those data it was not possible to make a definitive statement about the relative importance of any of those I.V. with regard to being a potent predictor of team efficiency. But on the basis of the inferential analysis such a statement was made; managerial tenure was the least influential of the I.V. and on base plus slugging percentage (OBS) and WHIP were the most important.

Table 9 is a summary of model one. It shows that the first step entered all eight I.V. (identified earlier as /a/ in Table 8) and the D.V. of team efficiency (identified earlier

as /b/). Because more than two variables were entered as predictors the R statistic was used (the R-squared statistic told that a coefficient of multiple determination was done between a D.V. and multiple I.V.).

Table 9

Model Summary for Multiple Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.523 ^a	.273	.237	.307102
2	.523 ^b	.273	.242	.306173
3	.523 ^c	.273	.247	.305261
4	.521 ^d	.271	.249	.304767
5	.518 ^e	.269	.251	.304334
6	.515 ^f	.265	.252	.304115
7	.509 ^g	.259	.251	.304439

^a Predictors: (Constant), ts, managers, obp, lmt, whip, s9i, sbp, ops

^b Predictors: (Constant), ts, managers, lmt, whip, s9i, sbp, ops

^c Predictors: (Constant), ts, lmt, whip, s9i, sbp, ops

^d Predictors: (Constant), lmt, whip, s9i, sbp, ops

^e Predictors: (Constant), lmt, whip, s9i, ops

^f Predictors: (Constant), lmt, whip, ops

^g Predictors: (Constant), whip, ops

^h D.V.: efficien

Table 9 showed using all of the I.V. yielded a multiple correlation of .523, which resulted in the R square of .273 (row one for Model 1). That was interpreted to mean using all eight of the predictor variables, as shown in the legend below the table, resulted in correctly predicting efficiency 27% of the time (523 X 523). The adjusted R square of

.237 allowed for obtaining a better idea of how potent the eight variables were in predicting the criterion (subtracting the standard error of the estimate). According to Vogt (1993) the R-square was a statistic enabling researchers to gain a better understanding of the estimate by which the independent variable(s) explain the D.V.. Using that figure meant the eight predictors, in unison, were able to predict the D.V. 24% of the time. (third column in the first row). That left 76% unexplained and indicated a problem with the model used in the study.

The final column in Table 9 showed the standard error of the estimate, which was related to the regression line. It told how far from the prediction line a given score might lie, or the extent of the variance around that line. Another way to interpret that statistic was to accept it as an estimate of the error rate when trying to predict a given score. Lower scores for the standard error of the estimate meant there was greater linear relationship between the criterion and predictor variables, and thus the possible extent of error due to sampling was smaller. The reported standard error of the estimate for step one was .307102. That was viewed as indicating at least a 30% error when using the I.V. in this model; hardly a robust prediction figure.

The next steps in the summary (Table 9) showed how the number of constants (predictor variables) was modified in the process of determining which were the best at predicting the D.V. of team efficiency. Step seven (legend /g/) showed that OPS (on base plus slugging) and WHIP (walks plus hits allowed per nine-innings) were the two most potent predictors of team efficiency; ratio of wins to losses. The R square statistic

reported those two variables were able to correctly estimate productivity indices almost 26% of the time (.259).

Using the adjusted R square of .251 allowed for believing those two predictor variables alone were effective at estimating team efficiency about 25% of the time. Allowing for the fact the use of all eight I.V. provided an adjusted R square of .237, or a predictive ability of almost 24%, it seemed best to use just the OPS and WHIP variables to predict team efficiency, but they were not viewed as being notable since at least 74% of the variance was unaccounted for, and an issue requiring further study.

Analysis of Variance

Vogt (1993) explained the analysis of variance (ANOVA) was a procedure for determining the statistical significance of differences among mean scores of two or more groups when one or more factors were involved. Thus it was an extension of the more commonly used t-test, which was limited to use with just two groups. A caveat to use of the ANOVA was it allowed for determining how categorical I.V. (attributes that comprise distinct groups) related to a continuous D.V. (expressed as interval or ratio over a large range).

In this study the D.V. was productivity or efficiency and the I.V. were: total salary for a team, manager tenure, on base percentage, number of managers per team, walks plus hits per nine innings, S9I, SBP, and on base percentage. In the following Table (10) is information on the seven-step model used to analyze the relationships between the D.V. (efficiency) and all of the predictors (I.V.). In the first model all of the independent

Table 10

Analysis of Variance table for the criterion variable (efficiency) and predictor variables (I.V.)

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.746	8	.718	6.616	.000 ^a
	Residual	15.278	162	.094		
	Total	21.025	170			
2	Regression	5.745	7	.821	8.755	.000 ^b
	Residual	15.280	163	.094		
	Total	21.025	170			
3	Regression	5.742	6	.957	10.271	.000 ^c
	Residual	15.282	164	.093		
	Total	21.025	170			
4	Regression	5.699	5	1.140	12.271	.000 ^d
	Residual	15.326	165	.093		
	Total	21.025	170			
5	Regression	5.650	4	1.412	15.250	.000 ^e
	Residual	15.375	166	.093		
	Total	21.025	170			
6	Regression	5.580	3	1.860	20.109	.000 ^f
	Residual	15.445	167	.092		
	Total	21.025	170			
7	Regression	5.454	2	2.727	29.422	.000 ^g
	Residual	15.571	168	.093		
	Total	21.025	170			

^a Predictors: (Constant), ts, managers, obp, lmt, whip, s9i, sbp, ops

^b Predictors: (Constant), ts, managers, lmt, whip, s9i, sbp, ops

^c Predictors: (Constant), ts, lmt, whip, s9i, sbp, ops

^d Predictors: (Constant), lmt, whip, s9i, sbp, ops

^e Predictors: (Constant), lmt, whip, s9i, ops

^f Predictors: (Constant), lmt, whip, ops

^g Predictors: (Constant), whip, ops

^h D.V.: efficien

variables were entered. Of note was model seven revealed the two most powerful predictors were WHIP and OBP. That point is addressed below.

The explanation of Table 10 is as follows. The sum of the squares column represented the adding of the deviation scores from the mean after they were squared. Regression signified prediction, or how well a given variable could be predicted by one or more variables. The smaller the variance the stronger was the predictive power. The intent was to learn the extent to which there was regression toward a mean score; greater similarity implied better predictive ability. Residual was the part of the D.V. (efficiency) not accounted for by the predictor(s). Sometimes it could be presented as an error term because it was a part of the model unexplained by the I.V..

The column identified as /df/ reflected the degrees of freedom. It was obtained by the computer program multiplying the number of columns in the table minus I times the number of rows minus 1. Since there were eight I.V. and one D.V. the formula for determining the degrees of freedom was:

$$df = (R - 1) (C - 1) = (9 - 1) (2 - 1) = 8 \times 1 = 8.$$

When using the ANOVA statistic the variance from the mean is termed the mean square (MS). It is the sum of the variance determined by adding together all of the square deviation scores and dividing by the degrees of freedom. The F ratio reflects the unexplained variances between what is known and not known in the ANOVA. Vogt (1993) explained it as the difference between “the ratio of between-group variance to the within-group variance” (p. 94). The higher the F ratio the lower the likelihood the observed differences occurred as a consequence of chance (type I error). Tracking each of

the seven models revealed that while levels of significance were achieved with each, the one with the greatest statistical significance was the seventh ($F = 29.422$). Thus the I.V. of WHIP and OBP alone provided more than 26% of the predictive power toward determining efficiency; a fact consistent with the multiple regression analysis presented earlier in Table 8.

Coefficients

Table 11 shows the unstandardized and standardized coefficients and the collinearity statistics for the eight independent variables as they related to the dependent variable of team efficiency. This table reported data for the discriminant functions; a form of regression analysis that allows a researcher to identify/discriminate which of the independent variables was most effective at predicting the dependent variable (efficiency), and to determine the relative importance of each predictor to the model. Again it bears mentioning there were seven models used by the computer program. Table 11 follows the explanation of its contents.

Prior to explaining the contents in Table 11, it bears noting that the dependent variable (team efficiency) was identified as the constant in each level/model. It was the variable being predicted by the eight independent variables. The discriminant analysis was a form of regression with the objective being to classify the I.V. into categories related to the D.V. The categories revealed which of the eight independent variables made the strongest contribution(s) to the dependent variable category. In Table 11 the strength of predictor variables was revealed by the variable inflation factor (VIF); higher values meant greater affinity.

Table 11

Coefficients and Collinearity Statistics for the Discriminant Analysis

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.848	.084		10.123	.000		
	managers	.000	.001	-.012	-.162	.872	.798	1.252
	lmt	.011	.009	.091	1.199	.232	.787	1.271
	obp	.000	.001	.008	.123	.903	.965	1.036
	ops	3.874	.847	2.537	4.574	.000	.015	68.590
	sbp	.466	.528	.281	.882	.379	.044	22.639
	s9i	-.055	.052	-.310	-1.069	.287	.053	18.742
	whip	-1.992	.297	-2.461	-6.710	.000	.033	29.984
	ts	.000	.000	.057	.662	.509	.595	1.681
2	(Constant)	.849	.083		10.192	.000		
	managers	.000	.001	-.012	-.158	.875	.800	1.251
	lmt	.011	.009	.090	1.200	.232	.787	1.270
	ops	3.872	.844	2.536	4.586	.000	.015	68.566
	sbp	.461	.525	.278	.878	.381	.044	22.517
	s9i	-.056	.052	-.311	-1.078	.283	.053	18.708
	whip	-1.988	.294	-2.456	-6.760	.000	.034	29.604
	ts	.000	.000	.057	.663	.508	.595	1.681
3	(Constant)	.842	.070		12.089	.000		
	lmt	.011	.009	.089	1.193	.235	.802	1.247
	ops	3.919	.788	2.566	4.972	.000	.017	60.113
	sbp	.445	.514	.269	.867	.387	.046	21.677
	s9i	-.058	.048	-.327	-1.202	.231	.060	16.643
	whip	-1.993	.291	-2.462	-6.839	.000	.034	29.244
	ts	.000	.000	.059	.683	.496	.600	1.667
4	(Constant)	.840	.069		12.092	.000		
	lmt	.011	.009	.085	1.149	.252	.806	1.240
	ops	3.975	.783	2.603	5.078	.000	.017	59.465
	sbp	.363	.499	.219	.727	.468	.049	20.469
	s9i	-.045	.044	-.253	-1.017	.311	.071	14.053
	whip	-2.016	.289	-2.491	-6.979	.000	.035	28.843
5	(Constant)	.845	.069		12.253	.000		
	lmt	.011	.009	.086	1.167	.245	.807	1.240
	ops	4.183	.727	2.739	5.753	.000	.019	51.478
	s9i	-.038	.043	-.211	-.871	.385	.075	13.272
	whip	-1.988	.286	-2.455	-6.954	.000	.035	28.300
6	(Constant)	.842	.069		12.232	.000		
	lmt	.011	.009	.086	1.166	.245	.807	1.240
	ops	3.746	.526	2.453	7.121	.000	.037	26.980
	whip	-1.918	.274	-2.369	-6.995	.000	.038	26.082
7	(Constant)	.838	.069		12.174	.000		
	ops	3.891	.512	2.548	7.602	.000	.039	25.481
	whip	-1.966	.271	-2.429	-7.248	.000	.039	25.481

a. Dependent Variable: efficien

In the first model all eight independent variables were reported but the VIF values for OPS (68.590) and WHIP (29.984) were the highest. The second model deleted the on-base percentage statistic. That meant it had the lowest relative contribution to predicting, the D.V. Again the OPS (68.566) and WHIP (29.604) were the two highest VIF values. Of interest was the SBP statistic was the third highest VIF value in the first two models, and also in the third and fourth models. But it disappeared in the fifth model. The following paragraphs explain the rest of Table 11.

The constant used in each of the models was team efficiency. Unstandardized coefficients were a means for computing the discriminant scores using just the raw scores (unstandardized). According to Williams and Monge (2001) such scores were not truly accurate indices for determining the relative contribution of variables to the prediction because measurement differences were inherent in the data. But the unstandardized coefficients were considered a practical approach for understanding the overall relationships, particularly when multiple discriminant analyses were done, as well as providing a means for estimating the extent of contribution made by each of the independent variables to the discriminant function. The standardized coefficients, on the other hand, were reflections of equalized measurement scales with a mean of zero.

Under the column of unstandardized coefficients are B and the standard error. The B coefficient in a multiple regression analysis is considered a partial, because all other predictors are kept constant. Thus it is a means for determining the extent of change in predictive power as a consequence of the variable(s) included. The standard error indicated the degree to which the unstandardized coefficient may be considered reliable.

It was the variance around the mean of /B/. An illustration is the /B/ value for OPS in model one was 3.874 with a standard error of .847. In essence the .847 was “the standard deviation of the sampling distribution. . .” (Vogt, 1993, p. 218), which meant that it was the amount of error in the predictor variable (OPS) could be expected to be plus or minus .847 from the mean of 3.874 (4.721 – 3.027). Importantly, contributions from the other independent variables were kept constant when calculating the values for OPS, which is why it was viewed as a partial predictor (Williams & Monge, 2001). Allowing for the fact OPS had the highest /B/ value it also had a high variance (and that led to believing its predictive importance might be suspect if other independent variables were used).

Model one showed the /B/ value for OPS (on base percentage) and WHIP (walks plus hits per innings pitched) was markedly greater than any of the other independent variables (3.874 and –1.992 respectively). It could be anticipated those two factors would surface as being the most potent predictors, and in fact did so as revealed in the seventh model. OPS and WHIP consistently were the best predictors for the dependent variable, identified as the constant (team efficiency).

The Beta shown under the standardized coefficient heading indicated the standardized regression coefficient, and reports variances (increases or decreases) for independent variables in standard deviation scores. Notably all other I.V. are kept constant when determining each Beta. The next column identified is /t/. That shows what is considered to be the critical region for accepting or rejecting a sample statistic when using null hypotheses. If a sample mean falls within a defined critical region it is considered unlikely that “the difference between the sample mean and the population

mean is due to chance alone” (Vogt, 1993, p. 52), and in such instances it is reasonable to reject a null hypothesis.

Accepting an alternate hypothesis would mean there was a statistically significant difference between the means. The next column shows the level of statistical significance for a given variable within a model. In model one it can be seen that both OBP and WHIP are significant at least at the .000 level of confidence. None of the other independent variables came close in terms of being statistically significant.

Under collinearity statistics are two columns indicating the tolerance, or margin of error allowable for given measurements. The premise of collinearity is to explain how two or more independent variables are correlated when performing a multiple regression analysis. Importantly the concept is restricted to the predictor variables (Vogt, 1993). As shown in prior tables, the two most potent predictor variables were on base percentage and walks plus hits per nine innings (see model seven in Table 11).

Of particular interest was the column identified as VIF (variable inflation factor). That column indicated the extent to which a given variable potentially was inflated as a consequence of undetermined influence from other independent variables. Allowing for the fact it was not possible to precisely tease out the exact degree of contribution from a specific I.V., the VIF was a number that included the contribution of a given factor plus what might have been contributed by one or more factors. According to Hair, Anderson, Tatham, and Black (1992) when a VIF reached or exceed 10.0 it was to be considered as exceedingly significant. In the first model of Table 11 there were four independent

variables (on base plus slugging stolen base percentage, strikeouts per nine innings, and walks plus hits per nine innings) beyond that benchmark.

As the backward regression progressed and eliminated the least influential variable for the next model, the same four independent variables surfaced. Progressing down the list of models in Table 11, the final level (model seven) shows the two most influential variables to the prediction of team efficiency were on base plus slugging and walks plus hits per nine innings; respectively they each showed a VIF of 25.481. That result was consistent with earlier reported statistical findings related to the importance of those two independent variables.

Summary

This section on inferential analysis reported on three approaches to analyses; a multiple regression, analysis of variance, and coefficients and collinearity statistics for a discriminant analysis. It was revealing to learn two of the I.V. (on base plus slugging percentage and walks plus hits per innings pitched) emerged as being highly significant from all analyses. The next section of this chapter addresses the inferential statistics with regard to the overriding hypothesis and eight subquestions.

Answering the Questions

Hypothesis

Stated as a null, it claimed there was no causal dependence between managerial change and MLB team performance as reflected by the respective productivity indices. Allowing for the fact there were some extraordinary circumstances resulting in pronounced outliers (some managers served for short periods and had exceptional

efficiency records) it was determined managerial performance was not the overriding issue in team efficiency. But before accepting this null hypothesis claim it is necessary to address each of the eight subquestions with regard to specific facts culled from the inferential statistical analyses.

Subquestion One

1. How did the number of managerial changes impact team efficiency as measured by won—lost records? This question related to the issue of team efficiency and allowed for a comparison to the earlier studies on managerial succession by Grutsky (1961), Gamson and Scotch (1964), and Roberts (1959). Commentary was reserved for the fifth chapter (Discussion).

Null Hypothesis: There was no statistical difference in team efficiency as a consequence of managerial changes.

The multiple regression analysis (Table 8) allowed for stating that managerial tenure contributed to the overall predictive power of team efficiency but it was among the earliest I.V. deleted from the model. Note it appeared as the entry in the seventh model, which indicated it made the least contribution to the criterion variable; managerial change influenced team efficiency. Based upon that observation it was decided the null hypothesis should be accepted. Supporting that observation was the fact Table 9 (model summary for the multiple regression analysis) showed that managerial tenure was among the I.V. deleted by the third step of the backward regression. It bears repeating that the process for the regression was to load all variables and remove those making the least contribution to the predictive power for team efficiency.

The ANOVA, as reported in Table 10 revealed whether statistical significance existed among mean scores. The legend below that table presents the variables included at each step of the analysis, and it was observed that the two variables related specifically to managers (managers tenure and number of managers per team) both were eliminated at the conclusion of the second model.

The coefficients and collinearity statistics for the discriminant analysis (Table 11) show all I.V. entered into the first model. But neither of the two variables directly related to manager (length of tenure and number of managers) had a notable variable inflation factor (VIF).

Based upon the data analyses it was concluded that managerial change was not related to team efficiency. Consequently the null hypothesis of there being no statistical difference in team efficiency as a consequence of managerial changes was accepted.

Subquestion Two

2. How did managerial tenure impact team efficiency? Did the length of time a manager spent with a given team have an impact on team efficiency?

Null Hypothesis: There was no statistical difference in team efficiency as a result of the duration of a manager's tenure with a team. Commentary was reserved for the fifth chapter (Discussion).

As commented upon in the results reported above for managerial changes, the issue of managerial tenure was among the earliest I.V. to be excluded from additional model analysis during the multiple regression, ANOVA, and coefficients and collinearity statistics for the discriminant analysis. On that basis it was determined to accept the null

hypothesis of there being no statistical difference in team efficiency as a result of the duration of a manager's tenure with a team.

Subquestion Three

3. How did team OBP impact team efficiency? This statistic reported how often batters were able to reach base, as a result of getting a base hit, a walk, or being hit by a pitch. It was the relative worth of hitters versus pitchers. The higher the percentage for hitters the greater was the likelihood of a team's efficiency being higher. Extending this to a meaningful conclusion resulted in the likelihood of a team winning more ballgames because of the higher team efficiency rating. The logic behind the claim was more base runners would mean more opportunities for runners to score runs, and thus a team would be apt to outscore opponents.

Null Hypothesis: There was no statistical difference in team OBP as a consequence of managerial succession. Commentary was reserved for the fifth chapter (Discussion).

On base percentage was not an important predictor of team efficiency. Table 8 (summary of the multiple regression) showed it was removed from the backward multiple regression analysis by the second model. The implication was while it contributed to the prediction of the criterion variable (team efficiency) its relative worth was masked by other variables with apparently greater value. The regression model summary (Table 9) shows on base percentage actually was eliminated after the first step.

Table 10 (ANOVA) also supported the belief on base percentage made a relatively negligible contribution to predicting the constant of team efficiency since it was removed after the first stage of the model. Table 11 (coefficients and collinearity statistics for the discriminant analysis) showed the VIF (variable inflation factor) in model one to be just 1.03, and by the second level it was absent.

On the basis of managerial succession being equated with the constant of team efficiency, the independent variable of on base percentage did not appear to have enough support to refute the null hypothesis. Thus the null of there being no statistical difference in team OBP as a consequence of managerial succession was accepted.

Subquestion Four

4. How did team OBS impact team efficiency (OBS)? This statistic revealed how well players were able to get on base plus the extent of damage done to an opposing team by virtue of getting on base. The manner for getting on base was the issue with this statistic; base-on-balls, singles, doubles, triples, and homeruns. It was presumed that the higher the OBS (more singles, doubles, triples, and home runs) the greater was the likelihood of a team's efficiency being higher.

Null Hypothesis: There was no statistical difference in team OBS percentage as a consequence of managerial succession. Commentary was reserved for the fifth chapter (Discussion).

On base plus slugging was determined to be an important predictor of team efficiency. As noted in the commentary related to Table 8 (summary of multiple

regression) this variable, and also WHIP, were removed after the first stage of the analysis. The interpretation was they comprised the most potent predictors of the constant (team efficiency). In Table 9 (model summary for the multiple regression analysis) it is seen those two variables together contributed 26% of the predictive power, and when all of the eight I.V. were used the value was slightly over 27%.

The ANOVA results (Table 10) supported the results from the multiple regression analysis. It was observed that OPS, and WHIP, were the two I.V. surfacing in the seventh model. That meant they had mean scores most closely resembling that of team efficiency and were the best indicators of the constant.

Table 11 (coefficients and collinearity statistics for the discriminant analysis) supported the findings reported above for on base plus slugging (OPS), and for WHIP. Both emerged as the most potent predictors, as shown in the seventh model. Earlier in this chapter it was mentioned that a VIF of ten or higher was considered to be highly significant. Attention is called to the fact OBPS and WHIP consistently evidenced high scores during the model evolution and both ended with a score of 25.48.

On the basis of the results reported under subquestion four, the null hypothesis of no statistical difference in team OBS percentage as a consequence of managerial succession was rejected. That allowed for accepting the alternate hypothesis. The implication of this finding is addressed carefully in the next chapter because of its disassociation to managerial succession.

Subquestion Five

5. How did S9I impact team efficiency? It has been claimed that strikeouts were independent of a team's ability to play defense, and good fortune, because they denied opponents the opportunity to put a ball into play. The higher the ratio of strikeouts by a team's pitchers per nine innings the better was the chance for that team to win a ballgame, because it kept opponents off the base paths.

Null Hypothesis: There was no statistical difference in team PI as a consequence of strikeouts per nine-innings. Commentary was reserved for the fifth chapter (Discussion).

The impression created by viewing the Figure (9) depicting S9I was that a number of teams, and their respective managers, had pitchers who struck out opponents at a rate higher than the average (slightly more than 5 per nine innings). In fact, a superficial examination of the central tendency data indicated about 120 of the 171 managers had pitchers who were able to deny opponents the chance for reaching a base because of strikeouts. But at the same time it appeared there were a notable number of managers whose teams did not have pitching resources capable of striking out opponents, as shown by the bars to the left of the mean. Coming to a reasonable decision on the apparent value of such information with regard to team efficiency was difficult and so the use of inferential statistics was employed.

The multiple regression analysis (Table 8) showed that S9I actually were not a strong indicator of team efficiency. It emerged at the sixth level of the model and by

doing so was interpreted as being among the least influential of the I.V.. Table 9 (summary for the multiple regression) allowed for identifying S9I as an I.V. deleted at the point of the fifth level. The interpretation was that when it was combined with the other I.V. it allowed for predicting team efficiency at a rate of about 27%. But determining the contributing of that specific I.V. was difficult because at the next stage of the model it was removed and the predictive potency of the remaining three I.V. was 27%. The final model level, stage seven, showed the most influential predictors to be WHIP and OBS, which has been commented upon above.

The ANOVA (Table 10) supported the relative questionable contribution of S9I because its final appearance was at stage five, along with a number of other I.V.. An important issue was that collectively the I.V. were statistically significant at better than the .000 level of confidence at each stage of the model. But the most potent predictors were revealed at the final stage, when the contributions from the other I.V. had been removed from the model.

The coefficients and collinearity statistics for the discriminant analysis (Table 11) were consistent with earlier reported information on the value of the S9I. But it was notable that the VIF for the S9I I.V. was above 13 at stage five, and at each of the preceding stages it ranged upward to almost 19. Yet at the sixth level it was deleted from the model. The interpretation was that S9I, an indication of pitchers' ability to prevent opponents from reaching base, was influential but not one of the most important criteria for enhancing team efficiency.

On the basis of the results reported under subquestion five, the null hypothesis of there being no statistical difference in team S9I as a consequence of managerial succession was accepted. The implication of this finding is addressed in the next chapter.

Subquestion Six

6. How did walks plus hits allowed per inning pitched impact team efficiency (WHIP)? This was the number of times an opponent was able to put players on base. The lower the number, the fewer chances there were for another team to score runs. Conversely, the higher the ratio the greater was the likelihood for opponents to score runs.

Null Hypothesis: There was no statistical difference in team WHIP as a consequence of managerial succession. Commentary was reserved for the fifth chapter (Discussion).

Commentary on the WHIP independent variable was given above when explaining the results for the on base plus slugging percentage. It was stated that WHIP was one of the two most important predictors of team efficiency, and that is borne out by data presented in Table 8 (summary of the multiple regression), which shows it and OPS (on base plus slugging) do not appear beyond the first stage of the model. Next in Table 9 (model summary for the multiple regression analysis) WHIP is one of just two predictors to emerge in the seventh and final stage of the model, along with OPS. Those two I.V. comprise 26% of the predictive power for team efficiency, and it bears pointing out that all of the eight I.V. combined yielded slightly more than 27% of the predictive power.

The ANOVA (Table 10) also agreed with the results on the potency of WHIP. When combined with OPS the F value of 29.422 (explained to unexplained variance from between group to within group variance) was higher than for any prior level and statistically significant beyond the .000 level of confidence. In Table 11 (coefficient and collinearity statistics for the discriminant analysis) both WHIP and OPS showed variable inflation factors of 25.481, and were the only I.V. to emerge at that level.

The null hypothesis of no statistical difference in team WHIP as a consequence of managerial succession was rejected. The alternate interpretation was that a higher ratio of walks and hits per inning pitched by an opponent did result in enhanced team efficiency. The implication of this finding is addressed in the next chapter (Discussion).

Subquestion Seven

7. How did SBP impact team efficiency? This statistic was determined by comparing the number of attempts to steal a base with the degree of success attained. It was a statement of how successful a player or team had been with regard to their attempts. Importantly, it discounted the total number of steals because that number was apt to be a misleading figure if there were numerous unsuccessful attempts. Instead, it was approached as done by Sheehan of Baseball Prospectus. Sheehan (2004), who claimed a SBP ratio of fewer than 75% was not productive because so many present-day teams relied extensively on power games (i.e., moving runners along the base paths by virtue of a base hit, preferably involving multiple bases, which was the antithesis to “little ball”).

Null Hypothesis: There was no statistical difference in team SBP as a consequence of managerial succession. Commentary was reserved for the fifth chapter (Discussion).

The lure of stealing bases was that it created opportunities for a team to advance runners without benefit of a base hit. Thus the stolen base was an offensive statistic but completely dependent upon a team having a base runner and one who was able to either outwit or outrun an opponents' defense. Notably the issue of stolen bases required that a team be capable of placing a player on a base so the act could occur. In Table 8 it can be seen that the independent variable of SBP appeared at the fifth level, and presumably had some significance for team efficiency. But in Table 9 (model summary for the multiple regression) it is noted that SBP does not appear beyond the fourth level. Thus it was uncertain to what extent that I.V. was a valuable predictor for the constant of team efficiency.

In Table 10 (ANOVA) it was determined that SBP was removed after the fourth level, where it had been combined with three other I.V.. The relative contribution from SBP was not determined until studying Table 11 (coefficients and collinearity for the discriminant analysis). There it was seen that at the fourth stage of the model OBP had a VIF in excess of 20, and presumably was an important predictor. But at the next level it was deleted, which led to the interpretation it did not make a major contribution to team efficiency. In Chapter Five (discussion) the issue of needing to have a player on base and talented enough to steal bases will be addressed. Thus the null hypothesis of there being

no statistical difference in team SBP as a consequence of managerial succession was accepted.

Subquestion Eight

8. How did total team salaries impact the win-loss records? MLB teams with extensive financial resources often used such resources in a bully pulpit manner. They sought, and often successfully secured or retained, ballplayers best able to help or ensure continued high team efficiency.

Null Hypothesis: There was no statistical difference in team performance as a consequence of total team salaries. Commentary was reserved for the fifth chapter (Discussion).

Figure 11 (team salaries) showed most teams were reasonably comparable, allowing for the fact some teams did have somewhat higher payrolls. But the glaring fact was some teams had appreciably higher annual payrolls, and with one apparently more than three standard deviations above the mean. How such information translated into team efficiency required use of inferential statistics.

Table 8 showed total salaries emerging at the fourth level of the regression model but not beyond that point. Moving to the model summary for the multiple regression analysis (Table 9), team salaries was evident only up to the third level, where it was combined with a number of other I.V. to contribute 27% of the predictive power for the constant of team efficiency.

In Table 10 (analysis of variance table) team salaries also had a final appearance at the third level. In Table 11 (coefficients and collinearity statistics for the discriminant

analysis) the third stage is where team salaries appeared for the final time. Those results were interpreted to mean that salaries alone did not have a strong impact on team efficiency; despite the belief the use of large sums of money would enable a team to obtain the services of the best players. Thus the null hypothesis of there being no statistical difference in team performance as a consequence of total team salaries was accepted. The implication of this finding is addressed in the next chapter.

Summary

Customarily researchers look at inferential analyses to find levels of statistical significance, and a common level is .05. In this study the inferential analyses showed many levels of statistical findings exceeding the .000 significance. Rather than accepting those findings as being indices reflective of intense predictive power by the I.V., the three forms of analyses were critically studied to learn if one or more I.V. were best predictors. Following that line of decision making led to the realization that two of the I.V. made the major contributions to each level of significance and that it was necessary to judge the eight null hypotheses on whether those two I.V. were factored into the results.

The multiple regression analysis pointed to the on base plus slugging percentage and WHIP as the two most important predictors. Table 8 level one of the models is the only point where they appeared. Table 10 (model summary for the backward multiple regression analysis) showed both at the final level. The ANOVA (Table 10) also showed them at the last level and Table 11 (coefficients and collinearity statistics for the discriminant analysis) showed both on base plus slugging and walks plus hits per nine innings as the most effective discriminating I.V.. Consequently the approach to accepting

or rejecting the null hypotheses was couched within an explanation that profiled those latter two I.V. Only the null hypotheses directly addressing on base plus slugging (number four) and walks plus hits per nine innings pitched (number six) were rejected.

Chapter Five (Discussion) addresses the findings, provides commentary on their significance, and then relates the information back to the issue of whether managerial succession reflected scapegoating activity. Notably the next chapter begins by stating that six of the eight null hypotheses were accepted and so discussion on them is deferred. An explanation of how information is sequenced begins the next chapter.

CHAPTER FIVE

DISCUSSION

Introduction

The previous chapter reported the results in two forms; descriptively and inferentially. While providing an impression of variability and distinct a difference among teams with regard to managers, the descriptive data failed to answer the research question stated as a null hypothesis; there was no relationship or causal dependence existing between MLB managerial change and respective team performance, as reflected by productivity indices (won-loss records). Instead, that information encouraged believing most of the teams and their managers had performance indices that were more similar than dissimilar.

Some notable discrepancies were observed, but a majority of teams seemed more homogeneous than heterogeneous when the eight independent variables were studied. Pronounced differences were noted in some instances (i.e., team salaries) but such surface examination prevented making statements beyond vague generalities. For example, about 135 of the 171 managers involved with the study had teams with OBS percentages vastly superior to percentages from other managers. Such observations, while interesting, left a void in terms of making statements of conclusion regarding this study's questions.

To learn whether team productivity indices were attributed to managerial wisdom and guidance or were artifacts of one or more of the independent variables required a critical study of the interdependence between and among the one dependent variable

(team efficiency) and the eight independent variables (predictors). To more deeply examine the data, three statistical treatments were performed: a backward multiple regression analysis, an analysis of variance, and a determination of coefficients and collinearity statistics for a discriminant analysis. Chapter Four provided clarification of these procedures.

It was also necessary to address each of the study's eight subquestions because they were so intertwined. Recognizing their interaction meant it was necessary to understand the nature and degree of impact from each predictor variable, and then determine the interplay between and among them with regard to a team's PI.

Working from that posture signaled accepting that no single factor was responsible for team efficiency. Encouraging such a claim was that the inferential statistically analyses provided information leading to the acceptance of six of the eight null hypotheses. The research questions associated with the two rejected nulls, four and six, were: (4) How did team on-base plus slugging impact team efficiency (OBPS), and (6) How did walks plus hits allowed per inning pitched impact team efficiency (WHIP)? The respective null hypotheses were: (4) There was no statistical difference in team OBS percentage as a consequence of managerial succession, and (6) There was no statistical difference in team WHIP as a consequence of managerial succession.

Making the determination that there was a notable influence from one or both of the OBS and WHIP statistics meant there was no causal dependence between managerial changes in MLB team performance indices, as reflected by the independent variables used in this study. The implication was changing of managers could be viewed as

tantamount to placebo activity, presumably to entice spectators into believing a new manager would be able to create a more productive team. Extending this idea to the players meant the arrival of a new manager might be viewed as a stimulus for on field performances beyond the expected; analogous to an adrenaline rush. But like the sudden surge of energy the unexpectedly better performances deteriorated within a relatively short period.

Chapter Sequence

Surface examination of the descriptive information was not sufficient for supporting the idea that managerial succession improved a team's PI; six of the eight null hypotheses were accepted.

The remainder of this chapter addresses only the two rejected null hypotheses and the implications they hold for understanding the dynamics of MLB productivity indices. Concomitantly, rejection of null hypotheses four and six required rejecting the claim, expressed in the Grand Tour Question, that MLB manager succession reflected on-field success. Thus, impressions created by the changing of a team's manager, be they favorable or unfavorable, really were transient impressions. Each of the two accepted nulls are addressed below.

Null Hypothesis Four

There was no statistical difference in team OBS percentage as a consequence of managerial succession. The statistic of OBS included all means by which a batter reached base (walks, being hit by a pitch, successfully hitting the baseball into play, stealing a base, reaching base as a consequence of an error by the defense, etc.), and factored in was

the base a player reached as a result of a time at bat. Thus the OBS statistic was the sum of all ways a player reached base. Greater weight was given to a double than a single and likewise triples were more valuable than doubles and singles. Homeruns carried the greatest weight in the computations. The important issue with this statistic was a team manager had minimal influence on how a player responded to a situation, such as a ball pitched, if the ball were hit, and if the batter got a single or a homerun.

When approached with the view it was the skill of a player and the fortuitousness of events which led to a player reaching base, regardless of how it was accomplished, it became obvious that team PI was not really under the total control of a manager. In fact the extent of a manager's influence was to determine whether a batter was allowed to swing at a pitch, whether a given batter or pitcher played on a given day, and when to make player substitutions. Certainly each of those three issues, individually and collectively, impacted a team's ability to perform, but once the dynamics of a pitcher and batter was set into motion the productivity rested with the ability of a batter and pitcher. Some batters were better than others in one or more of the categories of productivity.

Having players with superior ability enhanced a team's chances for improving its PI. Teams with more players possessing such skills generally were the ones with better team efficiency ratings (winning more games), and their managers typically were regarded as more capable. Ironically, a manager with a high PI one year might not be able to show a similar PI in a succeeding year because of not having all of the resources. Trades, retirements, free agency moving, and injuries markedly affected teams' efficiency. Oftentimes such variables were disregarded in the effort to field a winning

team, and the apparent administrative antidote (placebo) was a change in team manager. Thus null hypothesis four was rejected. The on base plus slugging percentage revealed a statistically significant difference among teams with better performance indices, but it was important to recognize that the I.V. of managers did not make a notable contribution to those differences

Null Hypothesis Six

There was no statistical difference in team WHIP as a consequence of managerial succession. This variable reflected how often a team was able to place players on base. A higher WHIP value meant greater opportunities for players to advance and eventually score runs. As stated under the commentary for null hypothesis four, a manager's capacity for influencing batters generally was limited by three factors: inserting players into a lineup for a game, allowing players to swing at pitches, and making (apparently strategic) substitutions during the course of a game. Managers had minimal-to-no-control over the effectiveness of opposing pitchers, or extraordinary defensive plays. A low WHIP statistic meant a team did not have many opportunities to score runs. Resources, in the form of talented players were a pivotal item to improving the WHIP statistic.

Importantly, a team with pitchers able to show a favorable (low) WHIP was not always able to produce a favorable efficiency record. It was reported (Retrieved April 4, 2005 <<http://msn.foxsports.com/mlb/player/85962>>) that during the 2004 MLB season, Randy Johnson, while pitching for the Arizona Diamondbacks struck out 290 batters to lead the National League, won 16 games while losing 14, had the second best earned run average of 2.60 in the National League, and produced the lowest opponent batting

average. But his team, the Diamondbacks, scored “two or fewer runs in 17 of his 35 starts” (Retrieved April 3, 2005 <http://msn.foxsports.com/mlb/player/85962>). Clearly the WHIP statistic was a negative for the Diamondbacks; who won 51 and lost 111 games (PI of .315), scored 615 runs and allowed 899 (averaged 3.79 runs per game), finished 42 games behind the West Division winner Los Angeles Dodgers (averaged 4.69 runs per game and had a PI of .574). The irony to the 2004 Diamondbacks was just two-years earlier they won the World Series with the same manager, Bob Brenley. Brantley was fired before the 2004 season was concluded.

Thus, when a team was able to increase its ratio of walks and hits per inning pitched by opponents, the likelihood were the PI would improve. Presumably a manager could influence players to be less aggressive or more aggressive when batting, and it could result in an increased WHIP, but still the actual change in such a statistic depended upon the ability of the players and not a manager. There is an adage about professional sports that says good defense will beat good offense. Results from this study dispute that adage over the long-term.

Null Hypotheses Four and Six

In Chapter Four it was reported that the statistic OBS and the WHIP were removed from the multiple regression model after the first stage (see Table 8). That was explained as a consequence of both variables making the greatest contribution to the prediction of team efficiency. Table 10 reported those variables combined to contribute 26% of the predictive power for team efficiency, and when all eight independent variables were used the total value was only 27%.

The issue of a variable inflation factor (VIF) was commented upon in Chapter Four when the potency of OBS and WHIP were addressed. Hair, Anderson, Tatham, and Black (1995), explained that the VIF was an indication of the impact predictor variables had on the variance of a regression coefficient, with large values, ten and above, indicating high collinearity or multicollinearity among the independent variables. The variance inflation factor was explained as being the reverse of the tolerance value, and both enable a researcher to determine

the degree to which each independent variable is explained by the other independent variables . . . Tolerance is the amount of variability of the selected independent variable not explained by the other independent variables. Thus very small tolerance values (and large VIF values) denote high collinearity. A common cutoff threshold is a tolerance value of .10, which corresponds to VIF values above 10. (p. 127)

Results from Chapter Four reported in the ANOVA Table 10 were a F value of 29.422 when the OBPS was combined with the WHIP statistic. Thus, combining the two independent variables resulted in clarifying the unexplained variances between and within groups beyond the .000 level of confidence.

Summary

Descriptive statistics are useful for gaining a general impression of conditions. In this study there was evidence of considerable overlap among MLB teams on each of the eight independent variables when they were compared to team efficiency during the tenure of a given manager. But also there was evidence of heterogeneity among teams on selected independent variables, and it caused confusion when trying to determine if true relationships existed between managerial tenure and the selected independent variables. Furthermore it was not clear which, if any, of the eight independent variables had value

as predictors for the dependent variable of team efficiency (PI). Resolving the dilemma required use of inferential statistics.

Six of the eight null hypotheses were accepted. They were not discussed in this chapter. The two rejected were addressed and their importance explained. Furthermore, the relevance of OBS and WHIP was commented upon and explained as having great importance for the level of a team's PI. The following conclusions were made on the basis of the data analysis.

Conclusions

1. Managerial succession of many MLB managers may reflect scapegoating behavior, as expressed by Gamson and Scotch (1964) and Gordon and Becker (1964). The failure of a team to provide a favorable PI did not appear to be a reflection of managerial ineptitude as much as it was a reflection of players unable to achieve favorable OBS and WHIP statistics.
2. The "honeymoon" period during when a new team a manger was able to show improved team efficiency probably was not a justified time frame for analysis of productivity. Using a period of two-weeks immediately prior and two-weeks subsequent to managerial succession, as advocated by Grusky (1963), was not a valid indicator of team efficiency.
3. Player personnel made available to a team were the determining factors influencing productivity indices. But a cautionary word needs to be inserted because those resources need to be available consistently, and they (players) need to expend maximum efforts. By way of illustration, the Arizona

Diamondbacks won the 2002 World Series, but in 2004 the team was almost decimated by injuries. The result was a last place finish. Leshanski (2004) reported the team's power hitters and key role players were unable to play for any extended period because of injuries and the team was forced to rely upon "youngsters and overachievers."

4. Conventional thinking on financial resources led to a belief that when more money was spent on the acquisition of star players it translated into better teams and improved productivity indices. Pursuing such logic means richer teams should win more consistently because they were able to acquire more of the star players. The descriptive data (see Figure 11) encouraged such thinking, but was not supported by the inferential analyses. The I.V. total team salaries (see Table 8) was removed from the analysis of variance model at the third stage, and in the discriminant analysis it did not emerge after the third stage. Consequently it must be considered that financial resources alone were not a significant criterion for enhancing a PI.

Before departing from the issue of monetary issues, it bears noting that revenue generation was the driving force behind the efforts expended by MLB teams to have high productivity indices. Baseball salaries, investment yield, and baseball expansion explained some of the compelling issues related to team location and acquisition of baseball players. Altruism typically was not a descriptor that could be used to describe MLB management, and it bears emphasizing that management had a different meaning when applied to MLB.

A MLB team manager was a person responsible for determining which players would be competing and under what circumstances. Also there were opportunities for such managers to influence availability of certain players by recommending they be moved to a different team (minor leagues or perhaps traded to another major league team). But the critical decision-making impacting a team's fortunes rested with the upper management and usually was vested with a team's general manager. The G.M. could and did make player changes on the scope of adding or deleting members to a team, and by so doing the fortunes of a team hung in the balance.

Praising or criticizing a team's manager for effective or ineffective performance indices generally seemed to be a spurious claim. Horowitz (1994) stated that said a MLB team manager's job was similar to being the principal clerk for a large organization. Others within an organization did the hiring and firing. Based upon the interpretations made of this study's results that claim seems to have considerable substance.

5. The validity of the three explanations from Gamson and Scotch (1964) pertaining to MLB managerial succession were considered. Since this was a constructive replication of their earlier work, it also sought to learn if scapegoating was a reasonable explanation for managerial succession, and if there were important predictors for a team's PI. Each of the Gamson and Scotch explanations is addressed below.

- a. Claim: MLB managers could be entrusted to further the development of talented but young players. If accepted, this premise meant a manager was not expected to show a favorable or winning PI immediately. Doing so would be received well but the intent was for a manager to use the time for assisting immature players to acquire experience, and the vision was to subsequently surround such players with more experienced or highly talented players. An example in current baseball is the situation of the Detroit Tigers pitcher Mike Maroth, who won six games and lost ten during the 2002 season (ERA of 4.48). In 2003, he won nine games and lost 21 (ERA of 5.73), but during the 2004 season he had 11 wins and 13 losses with a 4.31 ERA. The team manager sought to use experience at the Major League level to help him develop. For the 2005 season, the Detroit Tigers apparently have surrounded Maroth with a number of highly competent players and have expectations he will be an important cog to the team's resurgence. There was no reason to quarrel with that first claim, especially given the recent evidence presented above.
- b. Claim: There was a finite pool from which managers were selected. Grusky (1963) also commented on that point when he said that management probably made managerial changes to appease the fans. Gamson and Scotch said:

. . . there is a pool of former managers, frequently employed as coaches by various teams, who are usually

called upon when changes are to be made. Most of these coaches we fired from their positions as managers, presumably because they failed to produce winning teams. Such recruiting practices strongly suggest the interchangeability of managers and the improbability of explaining variance in team performance by anything the field manager does. (p. 70)

This claim was attractive. The information acquired during the process of this investigation encouraged believing there were few instances when a singular MLB team manager was so uniquely talented as to make the difference in a team's PI. Instead, there were indications that longevity with a team might be more influential because it enabled a manager to better understand the nuances of the resources, and develop a tighter relationship with the management making the personnel decisions. Illustrative of this point was the relationship between the Atlanta Braves general manager (GM), John Schuerholz who has served longer than any other current GM the longest tenured, and the team manager, Bobby Cox, who also has served longer at his position with the team than any of the current MLB managers. The Braves have won their division each of the last 13-years despite having considerable player turnover.

John Schuerholz is the longest-tenured GM in baseball and Cox is the longest-tenured manager. Ownership is increasingly budget-conscious, forcing the Braves to lose veteran talent every year. But the farm system still produces, and Schuerholz is savvy and creative at finding ways to stay competitive. (Retrieved from <www.SI.com> on April 3, 2005)

- c. Claim: The issue of managerial succession was tantamount to scapegoating. In particular, they pointed out that analysis of the Grusky (1961) work did not support his contention about executive succession, and they were unable to endorse his 1963 manuscript on MLB manager succession and team performance being correlated. Gordon and Becker (1964) also had questioned the Grusky (1963) work. Brown (1982) later supported the Gamson and Scotch (1964) claim that managerial succession in professional sports was a form of ritual scapegoating. With recognition of the importance of the OBPS and WHIP statistics and apparent lack of evidence to support the singularly unique and critical contributions from a MLB team manager it was concluded that many instances of managerial succession likely were reflective of scapegoating behaviors.
6. The research question of whether MLB manager succession reflected success on a playing field was answered affirmatively. Managers with winning teams, as revealed by team efficiency ratings, generally were secure with the jobs, but not always. The admonition of Leo Durocher (1975, p. 115), presented in Chapter One, was “Nobody can take a manager’s job while he’s winning, and nobody can save it if he’s not.” Evidence supporting that claim was the fact the Boston Red Sox manager, Grady Little, lost the final game of the 2003 American League Playoff series to the New York Yankees. Despite having guided the Red Sox to two exceptional seasons (winning percentages for 2002

= .574 and 2003 = .586) he was fired soon after the end of that 2003 season.

He did not win the “big game.”

7. The issue of predictive indices for team efficiency was answered by pointing to the two most potent independent variables; OBPS and WHIP. Together they accounted for 26% of the predictive power revealed by the total of eight IV. Collectively the independent variables were effective 27% of the time in predicting the dependent variable of team productivity, the PI.
8. Chapter one presented assumptions, delimitations, and limitations to this study. They were expressed carefully at that time and it is contended those comments continue to be justified. In particular, the points about the analysis employed and length of time studied, identified under delimitations, and the recommendation about continuing to study problems until sufficient evidence was accumulated to warrant accepting information as fact. (Blau, 1962; Borg & Gall, 1995). These points are commented on in the next section under recommendations for future research.

Recommendations for Future Research

1. It might be prudent to consider analyzing the data from this study by omitting some of the independent variables with high collinearity. Conventional approaches to statistical analysis argue that it would make sense to not use so many of those independent variables in an analysis. Presumably doing an analysis that removed some or most of those independent variables might result in the identification of variables different variables. This study initially

considered that approach and found the IV of team salaries emerged as being highly predictive. But it was determined that total financial resources made available to a team were not sufficient for determining “best predictors.”

2. Eight independent variables were used in this study. Other variables might be of equal or perhaps greater importance, and it is recommended that future studies consider other offensive statistics as well as defensive statistics (i.e., number of double plays, percentage of attempted steals foiled, players picked off a base, and a statistic to explain exceptional defensive plays by a single player) .
3. As with most predictive studies, it would be useful to replicate the procedures but use a longer time frame for gathering the data. This study addressed the concerns voiced about earlier studies by virtue of having a 19-year-period from which relevant data was secured versus the earlier studies which used time frames of three and ten-years. Perhaps a longer window would further extend this study.
4. Examining the PI of MLB teams during distinct periods of a season might be of interest, especially if it included information of the availability of player resources during those times. The issue of using replacement players and trying to determine the value of a replacement player might give some insights on whether particular players were of extreme value or whether it was the confluence of all players. Also such an analysis might shed light on the issue

of manager talents, assuming a manager was the person who made the decisions about acquiring and replacing players.

5. Extrapolating the idea of studying managerial succession to other professional sports teams would be a useful undertaking, especially if there were an opportunity for doing a correlational exercise between or among several sets of data.
6. Modifying the nature of this study to focus on the possible relationship(s) between management and leadership in professional sports might reveal interesting facts, particularly if it was learned that the nature of an organization determined if there was distinctiveness or overlap among the two, or more, levels of an organization.
7. Another suggestion is that future research might consider issues of leadership (i.e., transactional, transformational, *liaise faire*; traits; dyad relationships; etc.) as it applied to managerial succession. Perhaps it would be valuable to employ one or more of the currently available data collecting tools for studying leadership behaviors (i.e., Kouzes & Posner, 1995; The Leadership Practices Inventory) and possibly pursuing a mixed method study. To acquire qualitative data might mean it would be prudent to limit the scope of a study but the notion of acquiring rich and deep information could give researchers another dimension to reflect upon when labels, such as scapegoating are considered.

8. It was recognized that the model used for this study was incomplete in terms of identifying more and possibly stronger predictors of team efficiency: team culture, manager risk-behavior(s), selected defensive statistics, other offensive statistics, player attitude scales, team manager and individual player relationships, player availability on a consistent basis, media support, fiscal solidarity of an organization and its ability to retain 'star' players, and the philosophy of general managers and owners with regard to winning and financial solidarity.
9. The information from this study should be considered as an important initial step into the critical exploration of team efficiency. The dynamics of human interactions cannot be ignored when trying to determine factors contributing to a winning productivity index, and efforts should be made to identify and study them under the varying conditions associated with a MLB team.

CHAPTER SIX

SUMMARY

This was an ex post facto, nonexperimental, constructive replication study. It revisited the earlier work Grusky (1961, 1963), Gamson and Scotch (1964), Gordon and Becker (1964), and was encouraged by urgings from Blau (1962) and Borg and Gall (1995) to continually pursue questions of scientific interest until sufficient information was obtained to justify a conclusion. The earlier publications conflicted on whether Major League Baseball managerial succession reflected scapegoating behaviors. Shedding more light on that issue was an interest of this study; also there was appeal in learning if selected independent variables were predictive of a team's productivity index.

Nineteen-years of relevant data were collected from 26 of the 30 MLB teams. The four teams excluded were relatively new expansion teams. The dependent variable was team efficiency (productivity index = PI) as reflected by won-loss records during the tenure of a specific manager with a given team. Eight independent variables were selected as predictors: on-base percentage, on-base plus slugging percentage, walks plus hits per nine-innings, stolen base efficiency, total team salaries, length of manager tenure, average strikeouts per nine-innings, and won-loss percentage. The study's interest was in learning if one or more of the independent variables could predict the dependent variable of team efficiency. Conclusions were presented in Chapter Five and are repeated below..

Conclusions

1. Managerial succession of many Major League Baseball managers may reflect scapegoating behavior, as expressed by Gordon and Becker (1964), and explained in Chapter One.
2. It was noted that the OBS and WHIP statistics accounted for 26% of the variance when predicting the dependent variable of team efficiency. Player personnel available to a team apparently were the determining factors influencing productivity indices. But a cautionary word needed to be inserted because those players had to be available consistently, and they needed to expend maximum efforts.
3. Conventional thinking on financial resources led to a belief that when more money was spent on the acquisition of star players it translated into better teams, and improved productivity indices. The descriptive data on total team salaries (Figure 11) encouraged such thinking, but was not supported by the inferential analyses. Consequently it must be considered that money spent on a team was not a significant criterion for enhancing a PI.
4. The validity of the three explanations from Gamson and Scotch (1964) pertaining to MLB managerial succession were considered. Each is commented upon below.
 - a. MLB managers could be entrusted to further the development of talented but young players. If accepted, this premise meant a manager was not expected to show a favorable, or winning PI immediately.

- b. The second issue identified by Gamson and Scotch (1964) was there was a finite pool from which managers were selected. Grusky (1963) also supported that point when he said that management probably made managerial changes to appease the fans. That claim was attractive because there was no clear evidence of managers being the reason for improved productivity indices.
 - c. With recognition of the importance of the OBS and WHIP statistics and apparent lack of evidence to support the singularly unique and critical contributions from a MLB team manager it was concluded that many instances of managerial succession likely were reflective of scapegoating behaviors.
- 5. The research question of whether MLB manager succession reflected winning games on a playing field was answered by using a quote from Leo Durocher (1975, p. 115), "Nobody can take a manager's job while he's winning, and nobody can save it if he's not." Absent winning there was little that prevented a MLB manager from being fired.
- 6. It was recognized that the model used for this study was incomplete in terms of identifying more and possibly stronger predictors of team efficiency: team culture, manager risk-behavior(s), selected defensive statistics, other offensive statistics, player attitude scales, team manager and individual player relationships, player availability on a consistent basis, media support, fiscal solidarity of an organization and its ability to retain 'star' players, and the

philosophy of general managers and owners with regard to winning and financial solidarity.

7. The information from this study should be considered as an important initial step into the critical exploration of team efficiency. The dynamics of human interactions cannot be ignored when trying to determine factors contributing to a winning productivity index, and efforts should be made to identify and study them under the varying conditions associated with a Major League Baseball team.

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