

*BEISBOL: THE INTERNATIONAL PASTIME*

A Dissertation

by

JASON P. SOSA

Submitted to the Office of Graduate Studies of  
Texas A&M University  
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2007

Major Subject: Kinesiology

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Approved by:

Chair of Committee,	Michael Sagas
Committee Members,	George B. Cunningham
	Gregg Bennett
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## ABSTRACT

*Beisbol: The International Pastime.* (May 2007)

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Chair of Advisory Committee: Dr. Michael Sagas

The purpose of this study was to assess the influence of positional segregation on Latino Major League Baseball players. The process of positional segregation is often perceived as being negative in practice, but has been detected in many professional sport organizations within present time. Numerous studies have examined positional segregation in sport, but many of these studies analyze a singular perspective between Caucasian and African American players. Thus, their findings may be limited and may not entirely explain the positional segregation phenomena. The intent of this dissertation was to further explore the relationship between racioethnicity, country of origin, and skin color and their influence on where Latino Major League Baseball players will be positioned in regards to centrality.

To accomplish this purpose, archival data was used to create three independent samples for the 1995, 2000, and 2005 seasons. Logistic regression was utilized to analyze each independent season with centrality acting as the dependent variable and all other remaining variables acting as independent variables or control variables.

The results suggest Latinos may not be negatively perceived by managers and teammates, as Latinos were frequently found to play in central positions within each independent year and perspective of centrality. Mixed results were discovered in regards to country of origin. Generally, Latino baseball players from foreign countries

were found to play in central positions within each perspective more often than non central positions. Skin color indicated results that suggested the tone of a player's skin indicated where the athlete would be positioned in regard to centrality. Latinos players who were dark skinned were often marginalized to non central positions, while those players who were lighter skinned most often played in central positions.

Generally, the findings of this dissertation further support previous works within positional segregation. Latinos are commonly found to play in central positions in regards to racioethnicity. Skin color suggests that the color of one's skin will indicate the importance of the player in reference to centrality. These results may oppose those studies that claim positional segregation has diminished within present time. These findings suggest positional segregation is stable within professional baseball.

## DEDICATION

I wish to dedicate this dissertation to my parents, Col. Jose and Delia Sosa. Their support, encouragement, and unconditional love have helped me overcome hard times and reaffirmed their constant presence. Without their dedicated support and sacrifice, this degree might not have been possible. Thank you for the countless opportunities you both have given me to be successful.

To my extended family, I say thank you for your support and encouragement during this endeavor. Their affection and incessant love have meant a great deal to me as I strive to represent them well in my walk in life. The examples you have provided me have challenged me to excel and overcome the difficult challenges life poses. I hope to be a similar example for the family of our future.

To those friends who I cherish most, I show appreciation to you as you have kept me sane throughout the completion of my degree. I will forever remember your kind words and constant support throughout this process.

Finally, to the many other Latinos who continue to grow and become successful within this great nation. Never forget your roots and always remember to reach out a hand to the youth of our future. Clear eyes, full hearts, can't lose!

## ACKNOWLEDGMENTS

I recognize that without the support of my doctoral committee, this study would have encountered tremendous difficulties. Their guidance in the entirety of the dissertation process has ensured the quality of this dissertation.

I sincerely thank my committee members for taking time out of their busy schedules to serve on my committee. I would especially like to thank Dr. Michael Sagas for serving as my committee chair and mentor throughout my graduate experience at Texas A&M University. For three years, he has dedicated his time and effort on preparing me to become a scholar within the Sport Management discipline. His constant support and encouragement have inspired me to give back to my future students as he has willingly done for me. I would also like to extend a thank you to Dr. George B. Cunningham for his time and extremely insightful assistance. Without his “initial” challenge to better myself I may not have been as motivated to compete at a higher level within our discipline.

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## CHAPTER I

### INTRODUCTION

The American culture values success, innovation, competition, and equality. These values are even more present in the sports that are played within American society (Eitzen & Sage, 2003). Further, the study of sport is integral to identifying social structures and conflicts within public institutions. Simply, the attitudes and behaviors witnessed within sport often reflect the attitudes and behaviors of the greater society (Frey & Eitzen, 1991). Baseball is one such sport that symbolizes American values, attitudes, and behaviors. Baseball has a formal structure, keeps accurate records of the daily occurrences throughout a season, and utilizes performance standards. As such, baseball is a useful source for exploring and testing hypotheses regarding organizational and societal behavior (Grusky, 1963). Through the study of baseball, the treatment of racioethnic groups and their progress within society may be evident. Further, the term racioethnicity will be used throughout in reference to physically and/or culturally related groups (Cox, 1993; Elsass & Graves, 1997; Friday, Friday, & Moss, 2003).

Arguably, the face and culture of baseball has changed (Regalado, 2002). Although there still is a Caucasian majority playing in Major League Baseball (MLB), African American players have begun to dwindle, and the Latino players' culture and influence has become an emergent presence (Lapchick, 2005). At a surface glance, it

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This dissertation follows the style of *Journal of Sport Management*.

seems that the composition of the teams and number of marquis players have a different look and sound from the traditional teams of a historical era. The racioethnicities of the players are no longer solely American, but also include those of Latino descent. Other racioethnicities have begun to make a noticeable presence within MLB, but arguably the most identifiable is the Latino baseball player. Latinos have become a dominant presence within MLB at all levels, player, team, and executive level (Lapchick, 2005). For example, according to Lapchick's (2005) *Racial and Gender Report Card*, Latinos comprise 28.7% of the players on opening-day rosters and 13.2% of the employees at MLB's Central Office, with four individuals occupying vice president positions, and 10% holding managerial positions. At first glance these numbers seem diminutive, but in comparison to data reported by Lapchick in 1997, these numbers have increased considerably. The 1997 *Racial Report Card* reports that at the player level Latinos occupied 24% of the opening-day roster positions, but of the professional staff at MLB's central office only 3% was Latino, and at the Manager level, only one Latino was represented (i.e., Felipe Alou of the Montreal Expos) (Lapchick, 1997). These participation percentages for Latino MLB players are above the population percentages of Latinos within the United States. Hajnal and Trounstine (2005), in their voter turnout study, report that Latinos constitute 12% of the total population. As such, it may be inferred that the cultural composition of MLB may be changing.

The above example suggests that, based on the changes occurring within MLB, it may be important to study the differences amongst diverse groups of people. More specifically, it can be argued that it is timely to study the influence and impact the

Latino baseball player has on MLB. Much research has been conducted throughout sport with Caucasian and African American players as the primary focus, but little has been presented with Latinos as the focal point of the study. Further, the works identifying Latinos as a population within their sample have tended to merge this group into a minority category without differentiation between groups (Gonzalez, 1996). As a result, the influence of Latino baseball players on MLB is left unclear.

An integral area of research that is of critical importance within baseball and other sports, such as football, is positional segregation -- commonly known as stacking by position. The positional segregation literature suggests racial stacking of players within professional sports reflects the composition of the athletes on the playing field (Frey & Eitzen, 1991; Lapchick, 2005; Lewis, 1995). As a result of the stacking process, racioethnic minorities tend to be excluded from leadership or directing positions on the playing field, where Caucasian players have traditionally filled these positional roles. There are numerous examples throughout the stacking literature that have shown that racioethnic minorities are represented in higher numbers within particular sports, while underrepresented in others (Lewis, 1995). An antecedent or possible cause for this phenomena is purported to be the individual athlete's race (Braddock, 1981).

Traditional research in this area has shown that racioethnic minority athletes are often placed in positions that require less critical thinking and leadership qualities (Hairston, 2004). As a result, placement in these "non-central" positions influences their opportunities within the team and post career. For example, Anderson (1993)

conducted a study of National Collegiate Athletic Association (NCAA) Division I head coaches, and the results indicated many career-opportunity differences between Caucasian and African American football players. Specifically, after their playing careers were over, Caucasian players were selected for more head coaching positions than African American players. Further, the positions filled by African American coaches were skill positions, or those coaching opportunities less central to the team decision making.

A similar study conducted by Leonard, Ostrosky, and Hachendorf (1990) found that career advancement and upward social mobility were related to positions played on the baseball diamond. Braddock (1981) examined the relationship between position played and career advancement and concluded that centrality of position played was frequently related to the race of the athlete. Again, the sample of these studies consisted of Caucasians and African Americans excluding other racioethnic groups. Little research has been conducted within positional stacking with Latino baseball players as part of the analysis. Those studies that have considered the Latino population within their sample suggest Latinos are stacked at the second base and short stop positions (Gonzalez, 1996). Although these positions (e.g., second base and short stop) are important, in analyzing the Latino baseball player growth within MLB, provided by the *Racial and Gender Report Card* (2005), it would seem that Latinos should be significantly represented in other central positions throughout the infield as well (Lapchick, 2005). According to Grusky (1963) and Loy and McElvogue (1970), those players who occupy the catcher position have a higher probability of entering the

“manager” position once their playing careers are over. As such, given the increase in numbers of Latinos within MLB (Lapchick, 2005), Latinos should also be favorably represented at the catcher position. Although not all MLB players will seek out the coaching profession once their playing careers have come to terms, the ability to assume the “manager” position is more favorable for those in the infield (Anderson, 1993; Grusky, 1963; Loy & McElvogue, 1970)

The dearth of research on Latinos itself provides a practical issue worthy of investigation, as scholars and practitioners continue to broaden their knowledge of Latinos and their collective influence on the game of baseball. More specifically, research on Latinos and their placement in positions of centrality is needed. Evidence that the numbers of Latino baseball players has continued to grow each year lends value to studying the concept of centrality in this context. Thus, the present study was administered to gain a better understanding of centrality and placement of Latino baseball players within the context of MLB teams. The race of a player and the number of games played at a position were used as variables to assess positional stacking in this framework, and to provide information on potential career advancement of these players. The basic problem, purposes, research questions, and definitions of the study are provided below.

#### *Statement of the Problem*

Current data suggest that Latino baseball players are continuing to grow in numbers each year (Lapchick, 2005). Further, research conducted within positional stacking has traditionally combined Latino baseball players with African American



players. This process has created an indistinct picture of what positions Latino baseball players actually occupy. Additionally, scant empirical literature has suggested that Latino baseball players have been traditionally placed into only two central positions, second base and short stop (Gonzalez, 1996). Given the recent increase in numbers of Latino baseball players (Lapchick, 2005), this group of players should become more dominant in other positions of centrality. As such, the separate categorization of Latino baseball players from other races indicates the need for further research in positional stacking.

#### *Purpose of the Study*

The purpose of the study was to investigate potential positional segregation of Latino Major League baseball players as has been traditionally been presented throughout the literature. Additionally, I attempted to expand the dearth of research on Latino professional baseball players as a distinct group and their positioning on the baseball diamond. Further, I attempted to identify innovative ways in which to analyze the link between centrality and positional segregation. Specifically, I utilized a sample of professional baseball players within MLB to examine: (a) the placement of Latino baseball players in central and non-central positions, (b) the influence of skin color dictating where lighter vs. darker skin Latino baseball players are positioned, (c) the influence of nationality on centrality within the Latino racioethnic group, (d) the interaction effects of skin color and country of origin in predicting centrality, and (e) the influence of time on centrality.

In a supplementary section, a different perspective of centrality within baseball is presented. The sample utilized the same player data with the addition of variables that have traditionally been ignored within the academic literature, these pertaining to a practitioner's approach to managing a baseball team. These new questions will examine the research questions below, utilizing a practitioner approach identifying the formal structure of field placement as three distinct areas.

### *Research Questions*

Based on the purposes of the study, the following research questions were formulated to guide the study. The literature supporting the development of each is provided within the next chapter.

1. What positions are Latino MLB players playing within the 1995, 2000, and 2005 seasons?
2. After controlling for speed and slugging average, what is the relationship between the player's racioethnicity and playing a central position?
3. Controlling for speed and slugging average, will lighter skin toned Latino players play in more central positions over darker skin toned Latino baseball players within MLB in each of the three seasons under study?
4. After controlling for speed and slugging average, does country of origin affect the placement of Latino baseball players within positions of centrality as compared to non central positions in each of the three years studied?
5. After controlling for speed and slugging average, does skin color and country of origin interact in predicting centrality?

6. Is there a time effect on the outcomes of racioethnic growth on centrality over the time period under study?

### *Significance of the Study*

The dearth of research on Latinos within sport has sparked a need to expand the research on this particular racioethnic group. Although, Latinos have fallen under similar scrutiny as African Americans, due to their similarities in being racioethnic minorities, there is a distinct difference between the two cultural backgrounds. As such, to better understand the influence and impact of Latinos on MLB, it is important to differentiate appropriately between distinct racioethnic groups. Further, with the exception of a small number of studies (Gonzalez, 1996; Gonzalez, 2002), Latinos have not been correctly categorized as an independent racial group. The present study attempted to further clarify the distinction between Latinos and other racial groups, while examining potential positional segregation.

### *Contents of the Dissertation*

The dissertation is organized into five chapters. Chapter I introduces the scope of the study and the applied importance of the project. Chapter II identifies relevant literature pertaining to positional segregation and centrality. Theoretical frameworks explaining centrality and its link to positional segregation are also presented in this chapter. Chapter III details the research methodologies used to conduct the study, while Chapter IV reports the results of the data analysis. Chapter V presents the conclusions and implications in conjunction with potential future research endeavors.

## CHAPTER II

### CONCEPTUAL FRAMEWORK

#### *Chapter Organization*

The purpose of this chapter is to provide a background of literary works and relevant theory related to the objectives of study. Further, each of the six research questions used to guide the study are presented. As such, there are numerous subsections used throughout the chapter. First the importance of studying positional segregation and centrality is provided. Second, the foundation of centrality theory and its link to positional segregation is described. Reviewing these works is intended to increase understanding of the topic and the significance of this dissertation. Third, the literature relevant to understanding positional segregation and centrality is offered. Finally, the research questions which guide the study are presented.

#### *The Importance of Positional Segregation Research*

Individuals within American society should be granted the opportunity to succeed in modern opportunities. These opportunities are not limited only to the traditional business world, but also within the sport industry. Those who wish to become executives within sport organizations, athletic directors within the collegiate ranks, and coaches at all levels of sport should have equal access and opportunities to fulfill their endeavors (Tang & Smith, 1996), regardless of their race, sex, age, etc. The same argument can be made within America's pastime, baseball.

Vast literature highlights the struggles of minority groups attempting to enter the sporting arena (Gonzalez, 2002; Lapchick, 2005; Margolis & Piliavin, 1999). African

Americans represent one minority group that has received much attention within the literature. The historical works administered within sport identify the struggles this particular racioethnic group have come to bear, such as entrance into professional leagues, unequal pay, and positional segregation (Smith & Harrison, 1997). Social researchers and the like have paid much attention to the phenomenon of positional segregation, or stacking, as an explanation for these discriminatory acts.

The positional segregation phenomenon within sport has been heavily studied within the past thirty years (Gonzalez, 2002). Although much of the work within this area has become stagnate as of late, there are a number of reasons why it is important to refocus attention to this phenomenon. A relevant reason to focus on this area of research is the increase in racioethnic diversity within the United State's borders. Furthermore, it is important to focus on different racioethnic groups aside from the traditional Caucasian-African American comparisons. As suggested, one such group that is need of attention within the positional segregation and centrality literature in particular is the Latino athlete.

Identifying positional segregation, if in any, towards Latinos within sport, is due to sport reflecting the attitudes and values of the greater society (Lapchick, 2005; Eitzen & Sage, 2003). Additionally, there has been substantial population growth within the particular racioethnic group (U.S. Census Bureau, 2006). As a result, Latinos are the fastest growing racioethnic group, in reference to population numbers, within the United States (U.S. Census Bureau, 2006). As such, the Latino baseball player participation growth in MLB is similar to their population growth within the United

States. Although Latinos are outnumbered in many sports, the Latino baseball player is slowly moving towards becoming the majority within Major League Baseball (Lapchick, 2005).

It is important to report the growth in number of different racioethnic groups to identify potential growth in power and authority (Smith, 2002). Although, numbers alone do not decide majority power, in time if those groups who are growing exponentially do not obtain similar power, then social issues such as racism may be warranted for study.

#### *Positional Segregation Defined*

For a better understanding of positional segregation within this study's context, it is important to provide a thorough definition of the term. Positional segregation is the implicit placement of racial minority players in specific positions, while allowing other groups to play at randomly assigned playing positions (Gonzalez, 2002). Thus, minority baseball players are placed in these positions based on racioethnicity and traditional stereotypes, not solely for their playing abilities. The placement of Latinos in these positions regardless of their playing abilities potentially represents a discriminatory practice. From this definition, it can be inferred that positional segregation is the end result of social isolation (Postelwaite & Silverman, 2005). As a result of social isolation, Latino players within MLB traditionally may be excluded from playing within the professional ranks via the systematic discrimination and segregation tactics of positional segregation. As such, traditionally, positional segregation has been used to keep minority numbers low or disproportionate (Jones,

2002). However, this may not be an accurate argument, as the numbers of Latino baseball players have grown exponentially (Lapchick, 2005).

### *Discrimination and Segregation Defined*

Terms that are important to the positional segregation literature are “discrimination” and “segregation”. Prior to visiting the relevant work that has been completed within the stacking literature, it is important to understand these two important terms. As such, definitions and examples will be provided from prominent works within these areas.

Americans have learned that all members of society should share equally (Wilson, 2002). In historical documents central to America’s identity, every individual is seen as equal and should be provided an equal opportunity to succeed within life. Those individuals or groups who are not afforded this right are often victims of discrimination (Stockdale & Crosby, 2004). Therefore a working definition within this study suggests that discrimination is the denial of equal opportunity or rights to any individual (Stockdale & Crosby, 2004). Within this particular study of positional segregation in baseball, denying minority athletes access to central positions (e.g., catcher and other infield positions) without considering the individual’s athletic abilities, would constitute discriminatory acts by those making playing-position decisions such as coaches, scouts, and general managers.

Further, denying athletes access to the central positions within baseball may also potentially deny minority athletes leadership and decision making opportunities on and off the playing field (Gonzalez, 2002). Historically, this has been evident in analyzing

the composition of coaches, scouts, and general managers within MLB (Lapchick, 2005). White males fill the majority of these leadership and decision-making positions. The lack of minority representation in these specific positions may be the direct result of positional segregation and the discriminatory acts involved (Gonzalez, 2002). The placement of these minority athletes in non central positions due to discrimination may be a direct link to segregation patterns on the playing field (Loy & McElvogue, 1970).

To further illustrate the link between stacking, discrimination, and segregation, a definition of the term segregation is warranted. Segregation is the extent to which persons of various racial or ethnic groups are disproportionately represented in a particular job or occupation (Stockdale & Crosby, 2004). Baseball has historically fallen victim to segregation practices. It was not until 1947 when the first African American, Jackie Robinson, entered MLB, which has often been charged as a “token” gesture (Hewitt, Munoz, Oliver, & Regoli, 2005). Other players such as Willie Mays and Henry “Hank” Aaron fell subject to discriminatory acts of coaches, as these players were placed or segregated to positions that would have minimal impact on fellow teammates. Thus, these African American players, along with many others, were socially isolated on the teams and sport in which they represented (Postelwaite & Silverman, 2005). The same holds true for Latino baseball players, as these players faced similar social isolation (Regalado, 2002). The minority baseball player commonly dined, shared hotel rooms, and spent free-time with members of his own race. Thus, it has been argued that segregation of teammates based on racioethnicity



made playing baseball a racially hostile sporting environment (Postelwaite & Silverman, 2005).

Analyzing and identifying potential incidents of discrimination and segregation within sport are important. Sport, especially “America’s pastime,” should be depleted of discrimination and segregation. The literature suggests sport, including baseball, mirrors the values and influences of the greater society (Eitzen & Sage, 2003). As a result, the question must be asked: Is America a society filled with values of inequality and premeditated placement of individuals to ensure failure instead of success? If minorities within sport are still underrepresented and denied access to central positions, then an explanation and conclusions could be made to identify how to solve this dilemma.

#### *Theoretical Frameworks Explaining Positional Segregation*

Positional segregation can be best explained by the theory of centrality introduced by Grusky (1963). The premise of centrality theory suggests that the placement of individuals within the organization is based on interdependence on one another, interaction amongst the team, and the spatial location of the decision making process. Grusky (1963) further argues for two types of stratified positions within an organizational structure: central and non-central. Those individuals placed in positions that will influence the effectiveness of the organization will be placed in positions of centrality (Bivens & Leonard, 1994). For example, individuals who occupy central positions within an organization commonly have high interaction with other workers, influence the fate of members within the organization, and determine the level of

effectiveness within organizational outcomes (Grusky, 1963). Further, placement in these central positions potentially increases the degree of discrimination, given the increased importance of the position, toward the individual. Grusky (1963) further elaborates that those individuals who occupy central positions are often the most well-liked due to their dependency on their other teammates. Those responsible for placing players in positions (e.g., general managers and coaches) will potentially select a player in whom they trust, or one similar to themselves, to occupy central positions (Tsui & Gutek, 1999). The trust level, may be arguably higher for those individuals within the high interaction positions (central positions) than the lower trust level for those athletes who play in the low interaction (non central positions). Lavoie (1989) further suggests minority athletes must perform at superior levels to be considered for these central positions, a factor creating high barriers of entry. Conversely, Blalock (1967) suggests that non-central positions require less skilled employees who will have minimal effect on the destiny of fellow employees and minute interaction to the decision making processes. Thus, these individuals have less impact on the overall effectiveness of the organization. These positions are potentially less subject to discriminatory acts.

From this example, it may be inferred that athletes who are selected for central positions may be treated differently than those who occupy non central positions. Grusky (1963) suggests those athletes who play in central positions are well-liked and are highly depended upon those closest in spatial location to them. Conceivably, athletes chosen for central positions may be afforded the opportunity to be closely mentored by the coaching staff and to receive leadership training due to higher forms of

interaction between the players and coaching groups. Therefore, these athletes may potentially be treated differently from non-central position athletes.

As such, the centrality theory is ideal for analysis in a sport context because of the organizational basis of sports teams (Eitzen & Sage, 2003) and because of the research that suggests that minority athletes may be potentially discriminated against (Lewis, 1995). The link between centrality theory and positional segregation is relevant because those individuals occupying central positions will have the greatest interaction with others, will be potentially favored, and will have a stronger commitment to the team and influence on the organization's effectiveness. If Caucasian athletes occupy these positions disproportionately compared to racioethnic minorities, more specifically Latinos, then there is a possibility of access and treatment discrimination toward minorities by the general management, scouts, or coaches. Access discrimination suggests certain racioethnic minority groups are not privy to certain field positions and positions of power within the team and organization settings (Kahn, 1991). Conversely, in reference to treatment discrimination, those who are afforded access to opportunities may be treated differently and assigned various meaningless job tasks and assignments (Perry, Hendricks, & Broadbent, 2000).

Further, most important research suggests that centrality, and its effects on positional segregation, will influence the career outcomes and social mobility of the athlete's post-player career (Anderson, 1993; Kahn, 1991; Lewis, 1995). Grusky (1963) further identifies the opportunities of players in central positions, more specifically catcher, while identifying the link between field position and becoming a

“field manager.” Additionally, within his work he found that those who played at the catcher position would be most likely to obtain a management position once the respective playing career was over. Kahn (1991) further suggests that African American baseball players believe they receive unequal treatment and less attention relative to Caucasians. The noticeably high barriers of entry to central positions coupled with the differences in treatment amongst groups may deter minorities from seeking central positions. That is, when athletes are placed in positions that limit their effects on the team, these athletes may begin to self-limit themselves and to lose the necessary motivation to gain entry to those positions that may increase their impact on the organization’s (team’s) effectiveness (Ilgen & Youtz, 1986). These contentions, coupled with the literature reviewed indicating the saliency of centrality and the reviewed positional segregation studies, suggests that positional segregation of minority athletes may be prevalent and subsequently prevent minority athletes from being in positions to make decisions and more centrally influence the effectiveness of the team.

#### *Review of Previous Positional Segregation Research*

Preliminary research in positional segregation contends that race influences the decisions of managers and coaches in the placement of athletes (Bellemore, 2001). This claim is based on research suggesting minority athletes are placed on their respective playing fields according to their race, and potentially not according to their playing ability (Loy & McElvogue, 1970). Further, centrality research suggests the positioning of athletes will have an effect on their post-playing career opportunities (Anderson, 1993). Only a few studies have explicitly examined positional segregation and

centrality among Latino athletes (e.g., Bellemore, 2001; Gonzalez, 1996; Gonzalez, 2002). As such, a review of the literature will be presented within a focus on Caucasians and African Americans for a better understanding of positional segregation and centrality and their influence on minority athletes.

The origin of positional segregation research stems from Loy and McElvogue's (1970) classic piece on positional segregation and its link to Grusky's (1963) centrality theory. As such, this study has been considered the foundation upon which others have attempted to create a link between discrimination and team sports. Positional segregation related to centrality contends that minorities are placed in positions that are not central to the success of the team or organization (Loy & McElvogue, 1970). The relationship between playing positions and power to make decisions is based on the phenomenon of centrality provided by Grusky (1963). Centrality suggests spatial distance from the decision making within a formal structure in an organization (Evans, 1997). In more simple terms, centrality is the phenomenon of how far one is, based on formal position, from the center of the action.

Although Loy and McElvogue (1970) are often cited as the premier works throughout the positional segregation literature, an initial study focusing on discrimination within baseball was conducted by Rosenblatt (1967). Rosenblatt's (1967) motivation for the work was the integration of Jackie Robinson into baseball in 1947. Rosenblatt contended that it was not true integration, but tokenism. As a result, the minority players would have a harder time playing within the leagues, as their performances had to be significantly better than Caucasians to sustain tenure within

professional baseball. Thus, these players retired earlier than the average baseball player during that era. Although this study did not focus on positional segregation, it was a premier study highlighting potential discrimination toward minority groups within professional baseball.

Loy and McElvogue (1970) followed with their work. Their effort is considered the first empirical piece to analyze the effects of positional segregation on race and player positions utilizing the centrality theory provided by Grusky (1963). Results from their work indicated that African Americans predominantly played non-central positions of outfield, while Caucasian players played the central thinking positions of catcher, pitcher, and infield. Their work was significant in that it was among the first to identify racial segregation and discrimination within baseball.

Another more thorough study was conducted by Curtis and Loy (1978) who examined positional segregation across many studies. Curtis and Loy (1978) was the first meta-analysis performed within the positional segregation literature. The results of studies with positional segregation as the focus further indicated the problem of discrimination amongst and within teams. Again, within their work, positional segregation was found to be prominent within baseball. Their results indicated that Caucasian players dominated high status/reward positions, while the low status/reward positions were predominantly occupied by minority players.

The work that was done within the early positional segregation literature examined player positions and who occupied those positions. Not until Medoff's (1986) work was an explanation offered as to why the stacking phenomenon might be

occurring. Medoff (1986) took an economic approach to explain why positional segregation occurs. The economic approach suggests that individuals will make choices conducive to their availability of resources. Results from his study indicated that economically, minority athletes could not afford the appropriate training necessary to play the higher skilled positions instead of the lesser skilled positions. Further, Medoff (1986) suggests that in time, as population numbers grew, access to quality development resources would increase. As a result of growth and increased purchasing power, minority groups would be able to afford the quality training needed for the more central positions within the infield. Medoff (1986) was able to make these claims by combining sociological literature with an econometric approach.

Like Medoff (1986), Lavoie (1989) used the economic hypothesis to identify racial stacking within sport. Medoff (1986) argued that minorities choose to play non-central positions due to the training (and available resources) involved in playing the more central positions. Lavoie (1989) disagreed with this argument suggesting that minority athletes do not choose to be placed solely in non-central positions. Within Lavoie's (1989) work, the results indicated that coaches chose where minority athletes played. Lavoie (1989) suggests that is difficult to measure the productivity of marginal players as such. Managers, scouts, or coaches may subjectively judge these players with criteria unrelated to the actual performance of the individual athlete. These characteristics that may be considered subjectively are leadership, discipline, and mental toughness. Thus, as a result of these subjective decisions, and potentially irrelevant measurements of athletic ability, choice as to where players are placed on the

playing field lay in the hands of the coaches and managers, and may have lead to possible player/position discrimination.

Not until Smith and Seff (1990) had performance been considered as a factor in the positional segregation literature. Within their work, salary and productivity were considered in advancing the positional segregation literature. Results from this study were consistent with the historical studies within positional segregation indicating that African American players had to be superior to their Caucasian teammates to play on a regular basis. Further, the study identified that African American baseball players were not privy to playing in central playing positions (Smith & Seff, 1990).

The previously reviewed articles indicated discrimination in the form of segregation, or the placement of minority players in non-central positions. Not until Phillips (1991) had any research been done to counter argue this claim. Phillips (1991) identified a rise in minorities within central positions. More specifically, within his analysis of African American baseball players, Phillips (1991) found that based on the rise of African American players at the shortstop position, discrimination within baseball was decreasing. Although Phillips (1991) claimed that discrimination began to decrease within professional baseball, no explanations or implications of the decrease in discrimination were given aside from an increase in numbers of black baseball players playing professionally.

Lavoie and Leonard (1994) attempted to provide an explanation as to why racial segregation existed within baseball. Their reasons are similar to those offered by Blalock (1967). When managers are unable to assess a player's talent objectively, the



player will fall under subjective discrimination (Lavoie & Leonard, 1994). In their article, the authors state, “Stacking is due to a form of racial discrimination. The more difficult it is to accurately and objectively measure performance, the higher the probability that subjective less relevant factors will be taken into account when hiring or promotion decisions are made” (Lavoie & Leonard, 1994, p. 141).

### *Latinos and Positional Segregation*

The reviewed work within the positional segregation literature appears to lack breadth on diverse minority groups, as the general focus of these works identifies positional segregation amongst African Americans and Caucasians. As such, many Latinos and other minority racioethnic groups have not been represented throughout the literature. Consequently, a review of the work with Latinos as a primary focus will be reviewed.

Gonzalez (1996) presented results that diametrically oppose the traditional positional segregation literature. Additionally, Gonzalez (1996) presented 42 years of baseball data to examine stacking within the major leagues with the Latino baseball player as the primary focus. The results of this study indicated that Latino players are stacked in the central positions of second base and short stop, which are clearly central positions defined by traditional stacking studies (e.g., Bellemore, 2001; Brown & Bear, 1991; Medoff, 2004).

Gonzalez’s (1996) sample consists of players participating within MLB during the 1950 to 1992 seasons. As a result of integration in 1947, this 42-year period was selected to identify potential stacking of Latino baseball players by position. Although

justifications of this time period are reasonable, they may not be representative of the events within MLB at the present time. As such, it may be important to reassess the placement of Latino baseball players in a more recent time frame (e.g., 1995 to 2005).

Additionally, Gonzalez (1996) fails to identify potential physical abilities that may influence where players are positioned. One such skill that has been identified as being an important skill for baseball players is speed (Margolis & Piliavin, 1999). Therefore, to further increase the knowledge of where Latinos are positioned, in regards to centrality, it may be important to include the physical aspect of speed within the analysis.

To examine another context in the stacking Latino baseball players, Gonzalez (2002) examined the Major League Baseball Draft and its effects of stacking Latino baseball players. The results from this work indicated that two out of three Latino players are not drafted, and those players who are not drafted are overrepresented at shortstop and second base (Gonzalez, 2002). Further, the results indicated that those players who were drafted were not stacked at any particular position.

As previously mentioned, the time period after the 1994 player strike saw an increase in international players within MLB (Meredith, 2006). Gonzalez (2002) analyzes a segment of this time period (i.e., 1995-1999), but in a different perspective utilizing the MLB draft. The draft is considered an important avenue in professional sports, but it does not accurately portray who is “actually” playing within MLB. For example, Shepherd and Shepherd (2002) suggest that many immigrant Latino players are not drafted, but selected for Major League teams through the “free agent” system.

As such it may be important to carry positional segregation research, more specifically focused toward Latinos, further and identify where players are coming from and where they are being positioned in regards to centrality. Finally, no physical attributes were discussed as influencing draft or positional assignments.

In a more recent study in positional segregation, Sack et al. (2005) found similar results. Although their study focused on Caucasian and African American baseball players, they categorized Latino baseball players as well. Within their study, only one year of data (i.e., 1999) were collected, and the authors concluded that positional segregation was still prevalent within MLB. Further, this article used physical skills such as speed and power hitting in attempts to determine where players are positioned in regards to centrality. Ultimately, power hitting was dropped due to the high correlation with slugging average. Thus, speed was the only physical skill operationalized within the study. With the use of a multivariate analysis, Caucasian players were found most often in positions of centrality while African American players were found in less central positions. In regards to the Latino baseball players, again it was found that these players were overrepresented at short stop and second base positions. However, little was offered as to what other positions this group was playing.

Additionally, the process in which speed was measured may not be the best process to do so. Sack et al., (2005) suggested speed be measured as a ratio of successful attempts to steal a base. Further, the success rate of steals only considered steal attempts from first to second base. Most attempts for steals do occur from first to second base, but other bases may be stolen through the course of a season (e.g., second

to third base). As such, it may be best to use the actual number of stolen bases throughout a season to operationalize speed.

Sack et al. (2005) offers little insight as to what is happening currently within MLB. There is no research that offers an explanation or description of Latino baseball players and their positioning in regards to centrality utilizing data collected after the year 2000. Further, an increase in participation numbers of Latino baseball players (Lapchick, 2005) may suggest an expansion of playing opportunities in positions other than short stop and second base. Thus, it is important to analyze a 10 year time period to the most present year of available player data. As such within the context of this study the era under study will be 1995 to 2005.

#### *Practitioners' Centrality Perspective*

Within the academy, scholars conceptualize relationships much differently than practitioners in the field (Blenkinsopp & Stalker, 2004; Extejt & Smith, 1990). This is not to say that what has been accomplished within the academy is insufficient in increasing knowledge and understanding of theory, but often there is a great discrepancy between what happens in a laboratory setting and what “really” happens within the field. Diversity research is one such area in which there are countless differences amongst academics and practitioners (Harrison, Price, & Bell, 1998; Tsui & Gutek, 1999; Roberson, Kulik, & Pepper, 2003). As such it is important to review the relevant literature within baseball from a practitioner, or more specifically, a coaching perspective.

Contrary to the academic perspective of centrality, with those positions within the infield versus the outfield practitioners and coaches may identify centrality as those positions “right up the middle” of the baseball diamond (Morgan & Lally, 2005; Ripken, Ripken, & Burke, 2004). Such positions would consist of catcher, second base, short stop, and center field. For example, if one were to stand behind home plate and look into center field, those positions in sight would be central to the formal structure of the team. From a coach’s perspective, these “up the middle” or central positions are most important to the effectiveness and success of the team. Additionally, these positions possess three “captains” or leaders on the field. The catcher and second baseman or shortstop has often been identified as the infield captain, while the center fielder is thought of as the captain of the outfield (Lopez & Kirkgard, 1996). Further, contrary to traditional positional segregation literature, the first and third base positions are not “central” to the success of the team, but are more peripheral in nature. As such, these positions are labeled “peripheral” positions. Finally, the right and left field positions are non central positions, following similar frameworks within the traditional segregation literature.

To better understand the positions played within the game of baseball, a brief explanation of each, along with positional characteristics, will be provided from a coaching/practitioner perspective. Further, these positions will be discussed in three distinct groups: central, peripheral, and non central positions.

### *Central Positions*

*Catcher.* The catcher is most often referred to as the “quarterback” of the team (Morgan & Lally, 2005). He is in command of the team while on the field, and often times will be the teams chosen captain. According to Ripken, et al. (2004), the catcher position is a direct liaison between the coaching staff and the players. Regularly, the catcher is called upon to control the overall pace of the game by directing his pitcher and the formation of the players on the field. For example, the catcher recommends the pitches that should be thrown to an individual batter by receiving signs from the dugout and relaying them to the pitcher. Further, the catcher will signal to the field players to play more to the left, right, shallow, or deep as directed from the coaching staff within the dugout. As such, the catcher position is often occupied by a bright and “take charge” individual (Morgan & Lally, 2005).

*Second Base.* An individual chosen to play second base is one who is athletic and proactive (Ripken, Ripken, & Burke, 2004). Further, this player is bright and instinctive in nature. Occasionally, the second baseman is the secondary captain of the infield, who relays the commands from the catcher to the rest of the infield. Additionally, this position is highly interactive, as many hit balls often hit travel toward the second baseman (Morgan & Lally, 2005). Overall, the second baseman is an integral part of the infield, and at times serves as a communication line from the catcher to the outfield positions.

*Short Stop.* The short stop position is arguably the most important position within the infield (Morgan & Lally, 2005). On most teams, the short stop is the captain

of the infield. This is due to the great athleticism this individual possesses (Lopez & Kirkgard, 1996). Athletically speaking, this position is occupied by an individual who is quick, possesses a strong arm, and can hit consistently. Finally, similar to the second baseman, the short stop is a highly interactive position. The short stop is responsible for most, if not all, the double plays within a game, as well as many defensive “put outs” (Morgan & Lally, 2004). As such, the short stop position is central to the effectiveness and outcomes of the team.

*Center Field.* Finally, within a coach’s perspective, the center field position is also considered a central position, as the center fielder commands the outfield (Morgan & Lally, 2005). The centerfielder is an assertive individual who directs the outfield in pursuing fly balls to the outfield areas. As such, many coaches identify the center fielder as the “captain” of the outfield (Lopez & Kirkgard, 1996). Further, the centerfielder is very quick, has arguably the strongest arm on the team, and hits well. Conversely, within the academic literature, the centerfielder is often overlooked as a central position, as it is often labeled as being a non central position. As such, contrary to the relevant work within positional segregation, the centerfielder is “central” to the team’s effectiveness and overall success within a coaching perspective.

#### *Peripheral Positions*

*First and Third Base.* The first and third base positions are most frequently occupied by those who are not highly athletic in nature (Morgan & Lally, 2005). In reference to the first baseman, his primary duty on the field is to catch any throws from other players within the infield. Occasionally, the first baseman will field ground balls,

but most often the first baseman will catch balls thrown to him for successful outs. The third baseman has a strong arm to make outs across the baseball diamond. Yet, the third baseman's athletic ability is often less than those individuals playing second base, shortstop, or center field.

These two positions make the most impact on the offensive side of the game (Ripken, Ripken, & Burke, 2004). Traditionally, these athletes who play first and third base are the "hitters" on the team. Further, the first baseman is often called on to play left or right field in some instances. As such these positions are not directly central to the success of the team, but peripheral in nature.

#### *Non-Central Positions*

*Left and Right Field.* This section is written for the practitioner from a practitioner's perspective. As such, it is important to note that not one position on the baseball field is unimportant. In reference to centrality, social mobility, and the opportunities afforded to those who play in more central positions, the left-and right-field are considered non central. As mostly seen in traditional positional segregation literature, the left and right field positions lack the power to direct or make executive decisions that will impact the overall outcome of the team.

Further, those individuals who play these positions are lower in athletic ability compared to the center fielder, short stop, second baseman, and catcher (Ripken, Ripken, & Burke, 2004). The left and right field positions are similar to the peripheral positions of the first and third baseman. As previously mentioned, those players who occupy the



first and third base positions may also interchangeably play left and right field (Morgan & Lally, 2005). Finally, the left and right fielders are the best hitters on the team.

The practitioner's perspective is slightly different from what has been presented in the academic literature on positional segregation. This diverse perspective on centrality and its effect on positional segregation may be another way to think about centrality within the sport of baseball. The positional segregation literature was introduced within the late 1960s and 1970s, thus society potentially has changed in its viewpoints on where players are positioned on the playing field. This may be especially true within the game of baseball. As such, it may be important to analyze positional segregation within baseball from a diverse perspective.

#### *Research Questions*

The preceding literature review, coupled with a description of the theory of centrality, was provided to give an enhanced understanding of the basic problem under study. A comprehensive review of the literature on positional segregation and its impact on minority athletes was provided. Although there was much work attributed to the minority athlete within MLB, there is a dearth of literature with the Latino baseball player as the primary focus. Further, due to the increased population numbers of Latino baseball players within MLB, it is posited that Latinos may not be subject to the traditional positional segregation phenomena. For example, Lapchick (2005) suggests that the increase of Latino baseball players within MLB has increased steadily over the past 10 years. As such, due to the increase in participation numbers of Latino baseball players, this particular ethnic group may noticeably occupy central positions other than

second base and short stop. The following research question is offered to assess the status of Latino players' positions:

*RQ1: What positions are Latino baseball players playing within the 1995, 2000, and 2005 seasons?*

#### *Speed and Slugging Average*

There are numerous skills that are very important to a baseball player's overall skill set. One such skill that is arguably the most important within a player's skill set is speed (Sack et al., 2005). Presently, scouts and general managers who are looking for future talent identify speed as the most important skill while evaluating potential players for teams (Lewis, 2004). For example, according to Lewis (2004), when scouts recruit prospective players and invite them to a "viewing," the first thing a prospect will do is run the 60 yard dash. Further, different positions on the playing field have different levels of speed necessary for that particular position. For example, some of the quickest players on a team will play in the middle infield (e.g., second base and short stop) and in the outfield, while slower players will play catcher, first, or third base. Although the quicker players play in the middle infield, Gonzalez (1996) suggests that Latino players are short, agile, and relatively slow. Although this may not be the case in all situations, attributes will generally depict where a player will play. According to Grusky (1963), the outfielder is more offensive in nature and is usually a "power hitter," while athletes playing in the infield positions are placed there due to their speed and ability to bunt and hit for bases. The anomaly within this positions framework associated with speed

would be the first base position. This position may easily be filled by a converted outfielder (e.g., Lance Berkman of the Houston Astros) (Grusky, 1963).

A player's ability to hit the ball is another important skill that is not only central to the player's overall ability, but also salient to the team's overall success in a season. Sack et al. (2005) suggest that slugging average is important to the overall offensive success of the team. Grusky (1963) further suggests that players who hit well or are more offensively oriented will play first, third, and the outfield positions. Home runs were not included in this study due to their high intercorrelation with slugging average (Sack et al., 2005)

As such, it is important to analyze speed and hitting ability within the stacking literature to better predict the placement of baseball players in positions of centrality. Speed and the ability to hit may potentially be the underlying factors in the placement of athletes in positions rather than race. For example, using number of stolen bases as an indicator of speed, a player successfully stealing a large number of bases within a season should be assigned to the center field or middle infield positions. Although speed is an important variable within the positional segregation literature, it is often neglected within the analysis (Margolis & Piliavin, 1999). The same holds true for a player's hitting ability. Without offensive characteristics, such as hitting, it may be difficult for a team to be successful within any given season. Omitting important variables, such as speed and slugging average, may lead to imprecise results. As such, speed and slugging average will be used as indicators to where a player may be positioned on the playing field.

*RQ2: After controlling for speed and slugging average, what is the relation between the player's racioethnicity and playing a central position?*

#### *Skin Color*

Much of the previous literature conducted within positional segregation has incorrectly categorized Latinos as African American based on of skin color (Hewitt, Munoz, Oliver, Regoli, 2005; Jiobu, 1988). Gonzalez (1996) deemed this practice to be incorrect and problematic. To create a clearer picture of positional segregation, it is important to distinguish, correctly, darker skinned Latinos from African American baseball players. Reasons for doing this is, traditionally, darker skin colored athletes have been categorized as African American. Differences in physical appearances, especially appearance of skin color, affect many opportunities for individuals (Gomez, 2000). The gain or loss of opportunity due to skin color is not only limited to Caucasians and African Americans (Keith & Herring, 1991), but also includes Latinos.

There are skin variation components within each racioethnic class of individuals within culture and society. For example, within the Latino culture, there are diverse skin tones that differentiate one person from another within the same racial category. The same is true within African American culture. There are individuals with very light skin, and to the other extreme, individuals with very dark or "black" skin tones. The literature suggests that skin tone will have a significant effect on the career outcomes of the individual (Hughes & Hertel, 1990). More specifically, in regards to Latinos, dark skinned Latinos have been found to possess lower socioeconomic status and to receive less education and lower wages than Latinos with lighter skin tones coupled with more

European facial features (Arce, Murguia, & Frisbie, 1987). As such, it can be inferred that individuals with darker skin contrasts may be discriminated against more often than those minorities with lighter skin tones. Thus, the following research question is offered to identify if similar implications of skin color among Latino baseball players within MLB exists:

*RQ 3: Controlling for speed and slugging average, will lighter skin toned Latino players play in more central positions over darker skin toned Latino baseball players within MLB in each of the three seasons under study?*

#### *Country of Origin*

The increase in Latino baseball players within MLB may be attributed to the rise in foreign Latino baseball players. Teams within MLB have expanded their scouting trails to other countries, not limiting themselves within the United States' borders (Shepherd & Shepherd, 2002). Popular areas outside the country in which baseball scouts have begun to harvest new talent are within Latin America and the Caribbean Nations. Within Latin American countries such as Venezuela and Mexico, baseball scouts have found new talents that that have lead to increased success of their respective teams. The Caribbean Nations of The Dominican Republic and Cuba have also been popular nations in which a wealth of talent has been found. These two regions combined have been able to change the face of baseball, allowing diversity and differences in culture to manifest itself within America's pastime.

The country in which a player resides may affect the perceptions of the individual. Card (2005) suggests that the increased debate on immigration has spurred

many to further investigate the impact of the immigrant workforce within the United States borders. According to Essess, Dovidio, Jackson, & Armstrong (2001), the rise in multiculturalism, due to the rise in global business, creates ill feeling toward immigrants working within the United States' borders. Further, Klein (1991) suggests that there is a rise in immigrant baseball players migrating from South American and Caribbean countries to play within America's professional leagues.

Additionally, it may be argued that the American born Latinos may be placed in more central positions due to their upbringing within America's education system. Within the United States, players who wish to enter the MLB draft traditionally have finished high school or some college (Perry, 2006). Conversely, players who are drafted from Latin countries may not have the same educational training. As such, managers may be reluctant to place these players in the "thinking" positions historically cited by positional segregation scholars. As such, the following research question explored where American born Latino players are positioned in comparison to foreign born Latino baseball players.

*RQ4: After controlling for speed and slugging average, does country of origin affect the placement of Latino baseball players within positions of centrality as compared to non central positions in each of the three years studied?*

#### *Skin Color and Country of Origin*

Skin color and country of origin have been independently found to affect minorities within the previous literature (Essess, Dovidio, Jackson, & Armstrong, 2001; Card (2005); Gomez, 2000; Hughes & Hertel, 1990). Further, speed and slugging

average are important skills to analyze in reference to where a player is positioned on the field (Margolis & Piliavin, 1999). To increase the understanding of each factor and its affect on centrality in baseball, it is important to analyze the interaction of skin color and country of origin of Latino MLB players on centrality, while controlling for speed. The following is offered to this end:

*RQ5: After controlling for speed and slugging average, do skin color and country of origin interact in predicting centrality?*

#### *Influence of Time*

To fully understand the influence of the Latino baseball player within MLB, it is important to assess time. Reasons for identifying each season under study separately is to assist in identifying any trends over the 10 year period of data collection. Further, it is important to assess time due to many influential changes that occur within society. For example, as time passes, there are many laws that are instated (e.g., Affirmative Action), growth of racioethnic populations (e.g., Latinos), and changes amongst sport leagues and teams (e.g., expansion teams). In reference to the positional segregation literature, much of the work that has been done has analyzed only one year of data (Hewitt et al., 2005; Maguire, 1988; Sack et al., 2005), thus prohibiting a full understanding of the positional distribution of Latino MLB players. As suggested, time was assessed by using three independent years of data over a 10 year time frame.

*RQ 6: Is there a time effect on the outcomes of racioethnic growth on centrality over the time period under study?*

### *Summary of Review of Conceptual Framework*

In summary, the review of the conceptual framework, with reference to positional segregation supports the notion that minority athletes are potentially discriminated against. Specifically, the findings indicate that minority athletes are often denied access to central positions, due to their influence on the overall effectiveness of the team. As such, the limited access to these central positions may further limit these minority athletes' occupational choices once their playing careers are over.

However, due to the increase of the Latino participation numbers within MLB, the relevant works within positional segregation may be inconsistent at the present time. As presented by Lapchick (2005), these inconsistencies may continue to grow as the participation numbers of Latino athletes begin to occupy slots on MLB rosters. Thus, the research questions were offered to explore positional segregation amongst the Latino population over three distinct time frames. Further, this study adds a practitioner's perspective to the positional segregation literature. It may be important to analyze centrality from a practitioner's perspective, one who studies the game intently, rather than from a pure academic perspective. Finally, the study also adds new variables to consider in this literature such as the explanation of skin color, country of origin, speed, slugging average, and its effect on positional segregation.



### CHAPTER III

#### METHODOLOGY

In 1994, Major League Baseball suffered a major strike that made a significant impact on athletes', owners', and society's perception of professional baseball (Hadley, Ciecka, & Krautmann, 2005). Financial burdens on the owners and the league were at the helm of the strike. Players throughout the league were against allowing a league salary cap, while owners and league officials made a strong push to cap team salaries to make the teams even and create a proportionate competitive league (Schmidt & Berri, 2002). Unable to come to an agreement, between players and team owners, the players decided to strike abruptly ending the 1994 season in midyear. The player strike lasted for one season, allowing play to commence the following year. During this post-1994 strike era, the game of baseball began to change demographically (Schmidt & Berri, 2002). Further, within this time period there has been a steady increase in growth within the Latino participation numbers within professional baseball (Lapchick, 2005). As such, three independent seasons (1995, 2000, and 2005) within the post-1994 strike era were utilized within this study.

#### *Sample & Procedure*

The sample for this study consisted of all MLB players who played in the previously mentioned seasons. Traditionally, positional segregation literature has heavily relied on archival data in printed form. Such resources used as references to extract player data are brochures and media guides (Berghorn et al, 1988), baseball cards (Hanssen, 1998), and record book data (Fabianic, 1994). This particular study

followed previous works that have utilized the Baseball Encyclopedia (Timmerman, 2002; Gonzalez, 1996) as its primary database for reference. Additionally, Topps Inc. baseball cards were used for the determined seasons to further assist in increasing reliability in player information and answering exploratory questions.

The subjects analyzed within this study are baseball players who played within the predetermined season for a Major League team. More specifically, the population of players used in this study includes all positions with the exception of pitchers and designated hitters (DH). Reasons for omitting pitchers from the population is due to the irregularity of playing opportunity and their performance data being considerably different from those playing in other positions (Sack et al., 2005). Further, the DH was omitted from the population due to the distinctly offensive nature of the position (Gonzalez, 2002). The players in the DH role only hit for their respective team and do not fulfill any defensive duties. Further, those players who saw limited playing time were eliminated from the sample as well. For example pinch runners, pinch hitters, and players who were brought up from the minor leagues as part time players to replace starters with injuries. As such, only those players who played at least 50 games within the predetermined season were utilized within the population sample. Finally, each player was independently coded by country of origin, position, number of games played, number of successfully stolen bases, slugging average (total bases per time at bat), racioethnicity, and skin color contrast. All data were extracted from two primary sources: *The Sports Encyclopedia Baseball 2006* and complete sets of Topps Inc. baseball cards from each of the three years under study.

The final sample for this study consisted of 942 Major League Baseball players across the three years under study. Each individual year (e.g., 1995, 2000, and 2005) served as an independent sample within the context of this study. As such, descriptive demographic data of the players used within each year under study are displayed in Table 1. During the 1995 season the demographic data consisted as follows: Caucasian players 52% (n = 147), African American players 25% (n = 73), and Latino players 23% (n = 64). The 2000 season data indicated changes within the demographic composition of players. Caucasians were still the majority demographic group consisting of 48% (n = 159) of the sample population, but the Latino player population increased to 31% (n = 100) and the African American population decreased to 21% (n = 67). Finally, a similar trend in the demographic data was indicated in the 2005 season. The 2005 season consisted of 52% Caucasians (n = 169), 32% Latinos (n = 103), and 16% African Americans (n = 53).

### *Measures*

*Racioethnicity.* The racioethnicities used within this study were Latinos, African Americans, and Caucasians. The term racioethnicity is used in reference to physical and/or culturally distinct groups (Cox, 1993; Elsass & Graves, 1997; Friday, Friday, & Moss, 2003). Complete sets of Topps Inc. baseball cards were used in determining the racioethnicity of each player. Each baseball card contains a color picture, name of player, place of birth, short bio, and career statistics for the player subject.

A Latino baseball player, in the context of this study, was operationally defined as an individual with a Spanish surname, who currently resides in a Spanish speaking country, or who was born in a Spanish speaking country. Subsequently, African Americans were operationally defined as individuals with dark complexion, without Spanish surnames, and neither born or residing in a Spanish speaking country. Additionally, Caucasian players were identified within the context of this study as not being classified as Latino or African American. Finally, for analyses the racioethnic variable was categorical in nature and represented as follows: 1 = Caucasian, 2 = Latino, and 3 = African American.

*Centrality.* Within this particular study, centrality was operationalized in three different ways. The traditional method operationlizing centrality is discussed first, and each modification of centrality will follow. Diverse perspectives of centrality are provided in an attempt to bridge the understanding of centrality between the practitioner (e.g., coaches and managers) and those within the academy.

Following traditional centrality methodology, central positions were defined as infield positions (e.g., catcher, short-stop, first, second, and third bases), with the exception of the pitcher. Non-central positions were operationally defined as the outfield positions (e.g., left-, center-, and right-field). Within the traditional centrality method, the centrality variable will be dichotomous in all analyses as follows: 0 = Central position and 1 = Non central position (Gonzalez, 1996).

Subsequently, to further test centrality from a practitioner's perspective, the centrality variable was slightly modified to include the center fielder position. Within

the coaching profession, coaches and managers identify the center fielder as the captain or leader of the outfield (Morgan & Lally, 2005). As such, in analyzing a revised centrality from a practitioner's perspective, central positions consisted of the infield positions (e.g., catcher, short stop, first, second, and third bases) and the center fielder. The remaining outfield positions (e.g., left and right field) were categorized as non central in nature. As within the traditional evaluation of centrality, the central variables were dichotomous in nature (i.e., 0 = Central position and 1 = Non central position).

Finally, the centrality variable was categorized into three different categories or areas on the baseball field. This "multinomial" centrality perspective was developed in response to the practitioner's perceptions of centrality as the "up the middle" positions (e.g., catcher, second base, short stop, and center field) (Morgan & Lally, 2005). Traditionally, managers and scouts place their most trusted players in these positions (Ripken, Ripken, & Burke, 2004). Those players who occupy the remaining infield positions (e.g. first and third base) are still important to the outcomes of the team, but are more peripheral in nature. For example, the skill sets in these positions are quite different from those who play in the "up the middle" positions. Players who are placed at first or third base are usually slower and can be rotated to the left and right outfield positions frequently. Not to discredit these positions on the playing field, it was decided to name these positions as "peripheral". As such, centrality within this perspective was operationalized as central (e.g. catcher, second base, short stop, and center field), peripheral (e.g., first and third base), and non central (e.g., left and right field). The

multinomial centrality variable in this instance was coded as 1 = central, 2= peripheral, and 3 = non central.

To determine a player's position and proper centrality coding, *The Sports Encyclopedia Baseball 2006* manual was referenced. Within this manual, players are categorized by the team by which they were employed. Further, each player is listed by position in which he played any number of games. In this study's context, the position in which the player played the greatest number of games was used for position and centrality coding. Additionally, only games in which the player actively played at least 50 games was considered for the analysis. This minimum number of games was used due to sufficient performance data that may be collected for the individual player, and a player appearing 50 games is considered a "full-time" Major League Baseball player (Jiobu, 1988). For example, if Alex Rodriguez played 12 games as shortstop and also played 120 games at third base, he was listed as the third basemen for his respective team. The additional starts at other positions that are recorded within *The Sports Encyclopedia Baseball 2006* manual were not considered within this study. Furthermore, MLB's online player archive was consulted for verification within the data. Once more, the pitcher position was not used within this study due to the differences in measurement of performance and the volatility in playing time.

*Speed.* The number of successfully stolen bases within a season was operationalized as an indicator of the player's speed. The number of stolen bases is merely a gauge of success and not a direct measurement of speed (Sack et al., 2005). Although it is difficult to measure speed of an athlete without direct measures, such as

60 yard dash time, the number of stolen bases within a season is an indicator of what positions most often attempt to steal bases. Margolis & Piliavin (1999) suggest that the success rate of steals is a direct correlation to speed and acceleration. Rationally, players who are attempting to steal are assumed to be the quicker players on the team.

*Skin Color.* Accurately measuring skin color without error is difficult devoid of sophisticated instruments, such as a spectrophotometer (Hughes & Hertel, 1990). This being the case, skin color was operationalized within this study utilizing a panel of examiners to determine the variants of skin color. Telles and Lim (1998), in their study of stratification on Brazilians, utilized interviewers to document the interviewees as “light/fair,” “somewhat dark (brown),” and “dark (black).” As such, to operationalize skin color within the context of this study a panel of outside raters reviewed the total Latino baseball player sample within each individual year under study. Latino baseball players’ player cards (Topps Inc.) were used by the panel to identify skin color contrasts within the sample of players. The panel reviewed each sample of Latino player cards independently and rated them on a five point Likert-type scale with the following anchors: 1 = “light/fair,” 2 = “fair/tan,” 3 = “somewhat dark (brown),” 4 = “dark brown,” 5 = “black” (Telles & Lim, 1998). Once each member independently rated the sample, the raters met to come to a consensus on any skin color disagreements. Upon establishing consensus within the panel, the skin color data was entered into the data base.

*Country of Origin.* Country of origin was operationalized as a dichotomous variable, as born in the United States or born outside the United States. Further, Topps

baseball cards for the determined seasons in conjunction with *The Sports Encyclopedia Baseball 2006* were referenced to indicate country of origin. In any instance that there was a difference in information from the two sources, the official website for MLB was also consulted. These data will be coded as 0 = born inside the United States and 1 = born outside the United States for analyses.

#### *Data Analysis*

The proposed research questions dictated the proper statistical analysis to be used throughout the completion of this study. Additionally, to explore the diverse perspectives of centrality, each research question was asked to identify any differences in the perspectives of centrality. Thus, each research question was asked within each perspective of the centrality variable. The decision to do this was made in attempt to increase understanding of centrality within academia and the field.

*Research Question One.* Research question one asked, “What positions are Latino baseball players playing within the 1995, 2000, and 2005 seasons?” Although this question may be simple in nature, it may still be relevant and timely to the discussion of the Latino participation growth and influence on MLB. As indicated by Lapchick (2005) the participation numbers of Latino baseball players within professional baseball has steadily increased since the 1994 MLB strike. Further, this research question intended to identify the areas of centrality in which Latinos are most frequently positioned. To answer research question one, two Chi-Square analyses were performed.



The initial Chi-Square analysis made use of the following variables: racioethnicity and position. Racioethnicity was operationalized as the independent variable (IV) while position was considered as the dependent variable (DV). A subsequent Chi-Square analysis analyzed racioethnicity in relation to centrality. As such, racioethnicity acted as the IV and centrality as the DV. The outcomes of these analyses identified the frequencies of where racial groups are playing by position centrality.

*Research Question Two.* Identifying where Latinos are most frequently playing is an important component of this study. To only identify where Latinos are playing based on racioethnicity may potentially limit the findings of this study. As such, it is important to analyze other important variables that may influence the placement of athletes within the game of baseball. According to Sack et al. (2005), speed and slugging average are important indicators in determining the placement of the athlete by position. Therefore research question two asked, “After controlling for speed and slugging average, what is the relationship between race and centrality in identifying where Latinos are playing?” To identify the relationship between racioethnicity and centrality by controlling for speed and slugging average, three binomial logistic regressions (one for each year of data) were conducted. Racioethnicity was operationalized as the IV, centrality as the DV, and speed and slugging average acted as control variables.

*Research Question Three.* Research question three asked “When considering only Latino players, and controlling for speed and slugging average, does skin color

affect the placement of Latino baseball players in positions of centrality?” Again, three binomial logistic regressions (one for each year of data) were performed to determine the proposed relationship between skin color and centrality among Latino baseball players. Within the analysis, skin color acted as the IV and centrality as the DV. Within this analysis only the Latino population within the sample was tested.

*Research Question Four.* Research question four asked, “Where are Latino players that are from other countries placed in regards to centrality?” To determine if country of origin influenced centrality, Chi-Square analyses were conducted. Country of origin served as the IV, while centrality functioned as the DV in this analysis. This procedure was conducted in two steps. First, the total population sample was used to determine the influence of country of origin on centrality. Second, only Latino players were used to identify any effects of country of origin on centrality. Two analyses were performed due to the potential of players originating in other countries such as Canada or Japan outside of the traditional Latin countries. Further, separate analyses were performed for each of the three years under study. Finally, to determine if other variables such as speed and slugging average influenced the placement of players in regards to country of origin, binary logistic regression was conducted to further explore the research question. In similar fashion to the other research questions, speed and slugging average were used as control variables. The analyses were performed for each year under study.

*Research Question Five.* The interaction of skin color and country of origin on centrality was also explored. Research question five asked, “Controlling for skin color

and slugging average, does skin color and country of origin interact in predicting centrality?” Three separate Logistic regressions were performed in an attempt to identify an interaction between skin color and country of origin in predicting centrality. Skin color and country of origin were the assigned IV’s, along with the control variables, while centrality was designated as the DV. The interaction term was built and loaded as the final variable to assess any interaction effects.

*Research Question Six.* Research question six asked, “Is time a difference across three years on any of the analyses offered?” To assess changes of time, for the three independent years (e.g. 1995, 2000, and 2005) were aggregated into one comprehensive data set. Subsequently, the influence of time was assessed with a crosstabs analysis

Additionally, to explore these research questions within a multinomial centrality perspective, a multinomial logistic regression analysis was performed. This analysis is similar to the binomial logistic as it attempts to predict the best model for the data set (Hair, Black, Babin, Anderson, & Tatham, 2006). To further explore the diverse perspectives within the context of this study, multinomial analysis is deemed an appropriate analysis due to the dependent variable’s consisting of three or more categories (Hair et al., 2006).

## CHAPTER IV

### RESULTS

#### *Research Question One*

Research question one was concerned with the positioning of Latino baseball players during the 1995, 2000, and 2005 seasons. Results in support of this question, as well as positioning of other racioethnic groups, are illustrated within Table 2. During the three years under study, Latino MLB players were found in various positions, but were most often positioned at second base and short stop positions. Additionally, there was an increase in frequency at the catcher position within the 2005 season of data under study. The 1995 season identified that Latino players occupied the second base position (31%, n = 11) and short stop positions (43%, n = 13) more frequently than any of the other positions on the playing field. It is important to further note within this particular year that the catcher position was often played by Latinos as it was the third most occupied position amongst the Latino sample (25%, n = 10). Mixed results were seen during the 2000 season under study. Within this particular year, Latino players were found to most often occupy the various positions within the playing field. During the 2000 playing season Latinos were found to occupy the left field position (41%, n = 21) most often within their racioethnicity, followed by the short stop position (57%, n = 18). Additionally, the Latino baseball player within this particular year under study was found to be evenly placed within the second base (37%, n = 14) and catcher positions (31%, n = 14). Analyzing these two years has shown a potential growth of the Latino baseball player in other positions within the playing field, but most noteworthy at the

catcher position. Finally, the 2005 season under study illustrates similar results to the preceding years, less the non central position of left field. Within the 2005 season the Latino baseball player was most dominant at the short stop (56%, n = 20) position, followed by the catcher position (37%, n = 17). Although Latino players within this particular year were also found to frequently occupy second base (38%, n = 16), the catcher position seemed to be grow exponentially within the three years under study resulting in the second most played position amongst Latino baseball players. These findings within the data may suggest that the growth of the Latino baseball player increased their opportunity for playing additional central positions other than those traditionally reported (e.g. second base and short stop).

#### *Research Question Two*

The second research question was explored by means of categorical data analysis (crosstabs) and binary logistic regressions. The dependent variable throughout the analyses processed was centrality. Further, the control variables utilized within the totality of the analyses were slugging average and the number of stolen bases within each particular season under study (e.g., 1995, 2000, and 2005). The primary intent of research question two was to identify positional segregation amongst Latino baseball players in each of the three years under study. More specifically, research question two's primary purpose was to identify where Latinos predominantly play based on the areas of centrality (e.g., central vs. non central positions). An initial crosstabs analysis was administered to identify the areas of centrality in which Latinos were most predominantly placed. Table 3 illustrates the results of this analysis for each of the

three years under study. The 1995 season's results indicated that differences in a player's racioethnicity predicts placement in central and non central positions,  $\chi^2 (2, N = 284) = 42.95, p < .001$ . Further, the results indicated Caucasian baseball players were often placed in central positions (74%,  $n = 109$ ) rather than non central positions (26%,  $n = 38$ ). Latino baseball players followed similar positional patterns. Latinos were found to occupy central positions (66%,  $n = 42$ ) more often than non central positions (34%,  $n = 22$ ) within the 1995 season. African American players within the 1995 season yielded different results. During the 1995 season, African American baseball players were most often placed in non central positions (71%,  $n = 52$ ) over central positions (29%,  $n = 21$ ).

The 2000 season under study revealed similar results to those found in the 1995 season. Racioethnicity was found to be an indicator of where a MLB player would be placed in regards to the centrality construct,  $\chi^2 (2, N = 326) = 36.78, p < .001$ . Caucasians were most often found to play in central positions (70%,  $n = 112$ ) rather than non central positions. Latinos, analogous to the 1995 season, played central positions (66%,  $n = 100$ ) more frequently than non central positions (34%,  $n = 34$ ). African American MLB players frequently played non central positions (72%,  $n = 48$ ) and less frequently played in central positions (28%,  $n = 19$ ). Further, it is interesting to note regardless of an increase in the population size within the 2000 season ( $N = 326$ ), placement of racioethnic group by centrality was consistent with previous works dedicated to positional segregation (Bellemore, 2001; Brown & Bear, 1999; Gonzalez, 2002; Medoff, 2004; Sack et al., 2005). Finally, the demographic size of African

American players decreased in this particular year ( $n = 67$ ); while the Latino MLB player population increased ( $n = 100$ ).

Similar to the 1995 and 2000 seasons under study, within the 2005 season racioethnicity identified where players would most often play in reference to central vs. non central positions  $\chi^2 (2, N = 325) = 35.29, p < .001$ . Results from the 2005 season under study revealed Caucasians MLB players were still the majority, and played central positions (64%,  $n = 109$ ) more often than non central positions (36%,  $n = 60$ ), Latino MLB players played central positions (69%,  $n = 71$ ) more frequently than non central positions (31%,  $n = 32$ ), and African Americans played non central positions (77%,  $n = 41$ ) more often than central positions (23%,  $n = 12$ ). Additionally, the results indicated an increase in participation growth of the Latino player from the 1995 season ( $n = 64$ ) to the 2005 season ( $n = 103$ ). Conversely, the African American baseball player showed a decrease in participation from 1995 ( $n = 73$ ) to the 2005 season ( $n = 53$ ). Although each season was analyzed independently, it is important to note the increase and decrease in participation numbers within certain racioethnic groups (e.g., Latinos and African Americans).

The above results revealed significant effects of racioethnicity and placement in areas of centrality, but lack the addition of control variables (e.g. speed and slugging average). To better discover whether or not racioethnicity predicts a player's opportunity to play central or non central positions, it is important to utilize these control variables in assessing this particular relationship. As such, a binary logistic

regression was administered to identify a relationship, if any, between racioethnicity and centrality. Results from this analysis are found in Table 4.

The 1995 season results indicated that racioethnicity, while controlling for speed and slugging average, is an indicator of where MLB players will be positioned on the playing field  $\chi^2 (4, N = 284) = 67.01, p < .001$ . The results indicated no difference between the placement of Latino and Caucasian players in regards to centrality during the 1995 season, odds ratio (OR) = 1.34 95% and confidence interval (CI) = .72, 2.72. Conversely, there was a difference in where African Americans play. The results indicate the odds of African American baseball players playing non central positions during the 1995 season are 398% greater than the other racioethnic groups within the sample (OR = 4.98; CI = 2.56, 9.70).

The 2000 season indicated similar results to what was found within the 1995 season understudy. Once again, after controlling for speed and slugging average, racioethnicity significantly predicted where players would be placed in reference to centrality  $\chi^2 (4, N = 326) = 47.49, p < .001$ . There were no differences found amongst Caucasian and Latino players and centrality suggesting Latino baseball players, as well as Caucasian players, are typically found in central positions. Further, the results indicated a significant difference between African American players and the other racioethnic groups in positions of centrality. The odds that African American players would play in non central positions was 423% more than other players within the population sample (OR = 5.23; CI = 2.51, 10.90).



Results during the 2005 season are similar to the previous two independent years under study. Once again racioethnicity, while controlling for speed and slugging average, was a significant predictor of centrality  $\chi^2(4, N = 325) = 40.42, p < .001$ . Latinos and Caucasian players were found to play similar positions, as the data indicated no significant difference in position played in reference to centrality. Generally, Latinos and Caucasians are playing in central positions within the 2005 season under study. Conversely, there was a significant difference in position played for African American players amongst all other racioethnic groups. The odds of African Americans playing in non central positions are 423% greater than other racioethnic groups (OR = 5.23; CI = 2.51, 10.90).

The independent results of each of the three years under study further provided evidence that positional segregation still exists in MLB. Latinos are being afforded an opportunity to play in central positions while African American players are still being segregated by position, more specifically to the non central positions.

### *Research Question Three*

Research question three intended to further explore the influence of skin color on placement of Latino players in positions of centrality. To identify effects of skin color on centrality, speed and slugging average were once again employed as control variables within binary logistic regression. Further, only Latinos from the population sample were used in each of the analyses for the three years under study. The results of the analyses may be found in Table 5.

Skin color proved to be a significant predictor of centrality within the 1995 season,  $\chi^2 (3, N = 63) = 25.22, p < .001$ . The 1995 data indicated a significant difference between the darker skinned players versus the lighter skinned players. Those players who were “dark brown” or “black” were found to play in non central positions 227% more often than those who were “light/fair” and “brown” skinned players (OR = 3.27; CI = 1.73, 6.18).

Similar results were discovered within the 2000 season under study. While controlling for speed and slugging average, skin color did predict the placement of Latino players in areas of centrality,  $\chi^2 (3, N = 100) = 23.99, p < .001$ . Similar to the 1995 season, the data identified that “dark/brown” and “black” skinned Latino baseball players would play non central positions 110% more often than other skin color types (OR = 2.10; CI = 1.43, 3.09). These results suggest that those players with darker skin color have a higher probability to be placed in non central positions, while those players with lighter skin color will have a higher percentage of playing in central positions.

The 2005 season under study, once again, produced similar results to those found in the 1995 and 2000 seasons. After controlling for speed and slugging average, skin color was still a significant predictor of placement in areas of centrality,  $\chi^2 (3, N = 103) = 12.62, p < .01$ . Consistent with the two previous years, the odds of Latinos with darker skin tones playing non central positions were higher than the odds of these players playing central positions (OR = 1.81; CI = 1.26, 2.58).

These findings suggest that skin color may impact the area of centrality in which a Latino baseball player will play. Under the three independent years of study, the

results were consistent. The light skinned Latinos seemed to occupy central positions significantly more often than darker, or “black” skinned Latinos.

#### *Research Question Four*

To explore the effects of country of origin, similar analyses utilizing crosstabs and binary logistic regression were performed for each individual year under study. Further, there were two steps performed for each year under study. First, the entire population sample was utilized to see the effects of country of origin on centrality. Next, only the Latino sample was considered to identify any effects of country of origin on placement in central positions amongst Latino players only.

To better illustrate the results of the data, a crosstabs analysis was performed to provide a Chi-Square score and frequencies within the data. Table 6 provides the outcome of the analysis. The 1995 season data suggested that country of origin was not a significant predictor in where a player was positioned on the playing field  $\chi^2 (1, N = 284) = 1.14, p = .29$ . Similarly, the 2000 season under study provided a non significant finding, suggesting the lack of relationship between country of origin and position placement,  $\chi^2 (1, N = 326) = 1.67, p = .20$ . Conversely, the 2005 season identified country of origin and centrality as a significant relationship,  $\chi^2 (1, N = 325) = 7.98, p < .001$ . This independent analysis within the 2005 season suggested 54% ( $n = 127$ ) of the players born in the United States played in central positions. Further, the analysis indicated that 71% ( $n = 69$ ) of the players who were born outside of the United States also played in central positions. These findings suggest that players who are born

outside the United States may be afforded equal opportunity to play in central positions compared to those players born in the United States.

To fully test the model, or the relationship between country of origin and centrality, speed and slugging average were entered as control variables in the logistic regression analysis. These results are summarized in Table 7. The 1995 season indicated country and centrality as a significant model for predicting position placement on the field  $\chi^2 (3, N = 284) = 44.40, p < .001$ . In further investigation of the data, centrality was not significantly affected by the country of origin of the players within the 1995 season. Reasons for this may be due to the high number of players born within the United States ( $n = 235$ ) versus the relatively low number players born outside the United States ( $n = 49$ ).

Similar results were identified within the 2000 season under study. Utilizing country of origin to predict centrality proved to be a significant predictor model  $\chi^2 (3, N = 326) = 17.89, p < .001$ . Although the model was significant, the data illustrated no relationship between country of origin and centrality. Reasons for this may once again be attributed to the large number of players born in the United States ( $n = 240$ ), compared to the smaller number of players who were born outside the United States ( $n = 86$ ).

Country of origin, while controlling for speed and slugging average, proved to be a significant predictor of centrality once again in the 2005 season under study,  $\chi^2 (3, N = 325) = 20.06, p < .001$ . Contrary to the results found within the 1995 and 2000 season, the 2005 season results indicate that country of origin will influence the

positioning of players within the 2005 season. More specifically, those players who were born outside the United States were 53% less likely to play in non central positions (OR = .47; CI = .27, .80).

Research question four was explored in two distinct processes in attempts to identify the effects of country of origin on centrality. Within the second analysis, only Latinos were used. The initial crosstabs results are depicted in Table 8. The 1995 season indicated a non significant relationship between the player's country of origin and centrality on the baseball field  $\chi^2 (1, N = 63) = .94, p = .33$ . Similar results were indicated within the 2000 season under study. Once again, within the 2000 season, there was not a significant relationship between country of origin among Latino baseball players and centrality  $\chi^2 (1, N = 100) = .10, p = .75$ . Finally, equivalent results were discovered within the 2005 season. Where a Latino baseball player was born was not significantly related to centrality  $\chi^2 (1, N = 103) = .65, p = .42$ .

To further explore the effects of country of origin within the Latino sample on centrality while controlling for speed and slugging average, logistic regression was also performed within each of the independent years under study. Results from these analyses are illustrated in Table 9. The results within the 1995 season indicated that country of origin within the Latino sample did not adequately predict placement within positions of centrality,  $\chi^2 (3, N = 63) = 5.79, p = .12$ . Further, the 2000 season under study identified similar findings. Within the 2000 season, analyzing Latinos only, country of origin once again did not predict centrality,  $\chi^2 (3, N = 100) = 7.4, p = .06$ .

Finally, equivalent results were indicated within the 2005 season under study,  $\chi^2 (3, N = 103) = 1.23, p = .75$ .

#### *Research Question Five*

The intent of research question five was to further explore the interaction effects of a player's country of origin and skin color on positions of centrality. Once again, the data were analyzed independently for each year under study. Results relating to these findings are depicted in Table 10.

The 1995 season indicated a significant predictability model for the data,  $\chi^2 (5, N = 63) = 36.71, p < .001$ . In further investigation of the interaction effects, the data suggested a non significant relationship between the skin variants (e.g., light/fair, tan, brown, dark brown, and black) and country of origin (i.e., born in the United States versus born outside the United States).

The seasonal data for the 2000 year under study produced similar results. The interaction model, utilizing the control variables, proved to be significant,  $\chi^2 (5, N = 100) = 27.13, p < .001$ . Additionally, the data suggest no difference in placement of Latino baseball players in regards to the interaction variable of skin color and country of origin on placement in central or non central positions. Finally, the 2005 season under study explain similar findings. The predictability of the model once again proved to be significant,  $\chi^2 (5, N = 103) = 15.22, p < .01$ , while there were no differences in placement of central and non central positions based on the interaction of skin color and country of origin within the Latino player sample.

*Research Question Six*

Time was assessed utilizing a trends analysis aggregating all three years together. Not all research questions were able to be explored due the nature of the analysis. As such, only the effects of racioethnicity on centrality were explored within research question six.

The trends analysis suggests there were significant differences across the three years under study in regards to racioethnicity and participation,  $\chi^2(4, N = 942) = 9.10, p < .05$ . These results are depicted within Table 11. Caucasian MLB players were found to increase in participation numbers over the three years under study. Although Caucasian participation increased, the proportion of Caucasian representation within the total population of players was consistent across the three years under study. Further, the results indicated a substantial growth in Latino representation across time. Within 1995, Latinos represented only 23% ( $n = 64$ ) of the total player population, while in 2005 Latinos increased their representation to 31% ( $n = 103$ ) of the total population. Finally there were also proportion increases across time in reference to African American baseball players. Within the three years under study, the greatest representation for African Americans was during 1995. During 1995 African American baseball players represented 25% ( $n = 72$ ) of the player population. This proportion changed across the year 2000 (20%,  $n = 66$ ) and 2005 (18%,  $n = 60$ ) as proportionality of African American baseball players steadily declined over the three years under study.

The effect of centrality over the three years under study was also explored. The purpose of this investigative process was to identify if there was a significant change in

racioethnic proportionality within central and non central positions. These results are indicated in Table 12. The results indicated change in proportionality of the studied racioethnic groups within centrality over the three years under study,  $\chi^2 (10, N = 935) = 23.68, p < .01$ . The Latino player population indicated a positive growth within central positions across the three years under study. During the 1995 season, only 15% (n = 43) of the Latino player population played in central positions, while during the 2005 season this percentage grew to 23% (n = 73). Conversely, the African American players suffered a decrease in placement within central positions. The analysis further indicated African American players during the 1995 season only occupied 7% (n = 21) of the central positions, while declining to 3% (n = 12) during the 2005 season. Finally, the Caucasian player population remained stable across the time periods under study as this racioethnic group occupied central positions most often.

#### *Revised Centrality*

Research questions one through six intended to explore the effects of different variables on a traditional operationalized centrality methodology. In the traditional conceptualization of centrality, the infield positions are considered “central”, while the outfield positions are considered “non central”. To further bridge the gap between practitioners (i.e., coaches and managers) and scholars, additional research questions were explored within a practitioner’s view point. As such, the centrality variable was modified. In regards to research questions 1a through 5a, central positions were operationalized as catcher, first base, second base, third base, short stop, and center field. Non central positions consisted of the left and right field positions.



*Research Question 2a.* The purpose of research question 2a was to explore the relationship between the player's racioethnicity and playing a central position. The results for each year under study are indicated in Table 13. The Chi-Square analysis suggests that during the 1995 season, racioethnicity predicted the areas of centrality in which a player was positioned,  $\chi^2 (2, N = 284) = 20.18, p < .001$ . The 1995 data further reveals that all racioethnicities will play in more central positions over non central positions.

Caucasian players were found to play central positions 83% (n = 122) of the time, Latino players 75% (n = 48), and finally African American's 55% (n = 40) of the time. In a similar fashion, the 2000 data concluded racioethnicity did affect the positioning of players in areas of centrality,  $\chi^2 (2, N = 326) = 9.28, p < .05$ . Caucasian players were most dominant at the central positions (79%, n = 126) rather than non central position within their race (21%, n = 33). The Latino player sample indicated similar results as the majority of Latino players played in central positions (74%, n = 74) rather than non central positions (26%, n = 26) within the 2000 season.

Additionally, African American players were found to be prevalent in more central positions (60%, n = 40), rather than non central positions (40%, n = 27). Finally, in reference to the 2005 player data, the chi square analysis revealed that racioethnicity did not affect positional centrality on the playing field,  $\chi^2 (2, N = 325) = 2.15, p = .34$ .

To further investigate the effects of a player's racioethnicity on centrality, the relationship was tested with the use of control variables. Speed and slugging average were once again used as the control variables to test the relationship between the revised

centrality variable and the racioethnicity of the player. The results from these analyses for the three years under study are depicted in Table 14. The 1995 data suggested the model predicting the relationship between racioethnicity and the revised centrality variable, while controlling for speed and slugging average, was significant,  $\chi^2(4, N = 284) = 64.21, p < .001$ . Further, the logistic regression analysis revealed that there is no difference between Caucasian, Latino and African American players in reference to the revised centrality variable. These findings are quite different from those found in the initial centrality perspective. Further, these findings are dissimilar to the many works dedicated to positional segregation and African American baseball players within professional baseball.

Results within the 2000 season under study produced similar results to the 1995 season. Once again, the model of racioethnicity predicting centrality while controlling for speed and slugging average proved to be significant,  $\chi^2(4, N = 326) = 24.32, p < .001$ . Additionally, the results indicated, in reference to Latinos and Caucasians, there was not a significant difference in positions of centrality between the two racioethnic groups. Conversely, African Americans were playing in quite different positions than Caucasians and Latinos within the 2000 season under study. African American players, while controlling for speed and slugging average, were 163% more likely to play in non central positions compared to other racioethnic groups (OR = 2.63; CI = 1.38, 5.02). Contrary to the preceding two independent years under study, the 2005 results differed. The 2005 results indicated that racioethnicity, while controlling for speed and slugging

average, was not a significant predictor of where players would be positioned in reference to centrality  $\chi^2(4, N = 325) = 6.57, p = .16$ .

*Research Question 3a.* The purpose of research question 3a was to explore the effects of skin color and position placement utilizing the revised centrality variable. The results of the analyses for the three independent years under study are summarized within Table 15. The 1995 year under study results indicated, while controlling for speed and slugging average, skin color was a significant predictor of centrality,  $\chi^2(3, N = 63) = 25.22, p < .001$ . The results from the analysis suggested darker skinned athletes (i.e., dark brown and black) are more likely to play in non central positions (OR = 3.27; CI = 1.73, 6.18).

Similar results were found within the 2000 season of player data. The skin color of a player, while controlling for speed and slugging average, did significantly predict where athletes were positioned in reference to centrality,  $\chi^2(3, N = 100) = 16.61, p < .01$ . Players who were darker in skinned were found to play in non central positions more often than those players with lighter in skin (OR = 1.50; CI = 1.04, 2.17).

The 2005 year under study indicated that skin color, while controlling for speed and slugging average, would predict centrality,  $\chi^2(3, N = 103) = 12.84, p < .01$ . The results indicated a significant difference in those players with dark brown to black skin tones; as these players were 82% less likely to play in central positions (OR = 1.82; CI = 1.25, 2.63).

*Research Question 4a.* Exploring the effects of country on centrality was the basis of research question 4a. Additionally, the intent of research question 4a was to explore the affects of country of origin on a revised conceptualization of centrality (e.g., adding the center fielder). Finally, similar to the analyses ran on the traditional centrality variable, research question 4a explored the effects of country of origin on revised centrality utilizing the population sample for the specified year and a separate analysis utilizing only the Latino sample within the population. Results from the three years under study are summarized in Table 16.

The prediction model of country of origin and placement of baseball players proved to be significant within the 1995 season under study,  $\chi^2 (3, N = 284) = 59.36, p < .001$ . Further, the results indicate there are no differences in central versus non central positions between those players born within the United States and those players born outside of the United States within the 1995 season under study. The 2000 season indicated similar results to those establish within the 1995 season under study. The model consisting of country of origin, while controlling for speed and slugging averaged, proved to be a significant predictor of centrality,  $\chi^2 (3, N = 326) = 15.84, p < .01$ . Moreover, the results further indicated that players born outside the United States were placed in positions similar to those players who were born within the United States. Finally, the 2005 season under study further indicated that country of origin, while controlling for speed and slugging average, was a significant predictor of centrality,  $\chi^2 (3, N = 325) = 7.62, p < .05$ . The analysis further revealed that those players born outside the United States did not differ in their positions of centrality.

As reported, the exploration of country of origin and its effects on the revised centrality variable was conducted in two stages. The second stage of the analysis was conducted utilizing a sample of only Latino baseball players for the three years under study. Results for the three years under study are depicted within Table 17. Country of origin as a predictor of the placement of players within central or non central positions did not prove to be a significant predictor model within the 1995 season,  $\chi^2 (3, N = 63) = 5.79, p = .12$ . The 2000 season data under study yielded different results. Within the 2000 season under study, country of origin, utilizing the control variables, proved to be a significant indicator of centrality by position,  $\chi^2 (3, N = 100) = 12.81, p < .01$ . Further, the data suggested that those Latino baseball players born outside of the United States did not play in significantly different positions than those Latino baseball players born within the United States. Finally, similar to the 1995 season under study, the 2005 season utilizing a Latino only sample resulted in a non significant predictor model of country of origin on a revised centrality variable,  $\chi^2 (3, N = 103) = 2.20, p = .53$ .

*Research Question 5a.* Skin color was found to be a significant indicator of where players are positioned with regards to centrality. As such, it was the intent of research question 5a to explore the effects of skin color and country of origin on the revised centrality variable. The analyses for the three years under study utilized the Latino population only. Results from these analyses are indicated in Table 18.

The interaction of skin color and country of origin, while controlling for speed and slugging average, was further found to be a significant predictor model of the revised centrality variable within the 1995 player data,  $\chi^2 (6, N = 63) = 31.87, p < .001$ .

Additionally, the results indicated no difference in centrality within the interactions of skin color and country of origin. Similar results were present within the 2000 season under study. The interaction of skin color and country of origin proved to be a significant predictor of centrality,  $\chi^2(6, N = 100) = 19.24, p < .01$ . Further, the data suggested no differences in centrality based on skin color and country of origin. Finally, the 2005 data suggested the predictor model to be significant,  $\chi^2(6, N = 103) = 17.73, p < .01$ . Again, skin color and country of origin did not indicate differences in centrality within the 2005 season under study.

#### *Multinomial Centrality*

Research Questions 2a through 5a intended to explore the effects of diverse variables on a revised centrality variable. Specifically, this variable included all infield positions and defined the center field position as central in nature. As such, the infield positions and the addition of the center field positions were operationalized as central positions while the left and right field positions were deemed non central positions. To further explore the positional segregation topic, it was thought that centrality may be operationalized into three areas: central, peripheral, and non central. As such, the centrality variable was further modified. In similar fashion to research questions 2a through 6a, research questions 2b through 5b intended to further explore positional segregation utilizing a multinomial centrality approach (i.e., central, peripheral, and non central). Once again the intentions of these analyses are to bridge the gap between the practitioner and academics within sport.

*Research Question 2b.* Similar to research question 2a, research question 2b intended to identify the effects of racioethnicity, while controlling for speed and slugging average, on the multinomial centrality variable. Again, the three years under study were individually analyzed utilizing a multinomial regression approach to explore research question 2b.

For a clear understanding of the data analyses, a crosstabs analysis was administered to identify frequencies of position play within the three areas of centrality between the racioethnic groups studied. These results are indicated within Table 19. The Chi-Square analysis suggests racioethnicity is a significant predictor of where a player within the 1995 season will play,  $\chi^2 (4, N = 284) = 31.05, p < .001$ . Further, the results indicate Caucasian players are most dominant at the central positions (50%,  $n = 73$ ), while marginally represented at the peripheral (33%,  $n = 49$ ) and non central positions (17%,  $n = 25$ ). Latino MLB players within the 1995 season are also well represented at central positions (63%,  $n = 40$ ) over peripheral (12%,  $n = 8$ ) and non central (25%,  $n = 16$ ) positions. Conversely, African Americans are slightly more represented at the non central positions (46%,  $n = 33$ ) over central positions (42%,  $n = 31$ ), and are poorly represented within peripheral positions (12%,  $n = 9$ ).

Diverse results were encountered within the 2000 season under study. Racioethnicity proved to significantly predict position placement within the three areas of centrality,  $\chi^2 (4, N = 326) = 25.43, p < .001$ . Within the 2000 season under study, Caucasian MLB players predominantly played in central positions (44%,  $n = 70$ ), followed by peripheral (35%,  $n = 55$ ) and non central (21%,  $n = 34$ ) positions. The

results further indicate Latinos play in central positions (58%, n = 58) most often, followed by non central positions (16%, n = 16) and peripheral positions (26%, n = 26). Additionally, these findings may suggest that Latino MLB players may only be offered the opportunity to play in central or non central positions due to the reduced frequency at peripheral positions. The African American player population produced results similar to the other racioethnic groups within the 2000 season. African Americans were found to play in central positions more often (51%, n = 34) than non central positions (40%, n = 27), but are still less represented at peripheral positions (9% n = 6). The results for the 2000 season contradict many findings produced thus far concerning African Americans and their access to central positions. Further, similar to Latino players, African American players seem to be restricted to central or non central positions within the 2000 season.

In similar fashion to the 1995 and 2000 season data, racioethnicity was found to be a significant predictor of position placement within the three areas of centrality. While there were similarities in model prediction, the data suggested different positional opportunities within centrality between the racioethnic groups. Latinos played in central positions (50%, n = 50) more frequently than peripheral (30%, n = 31) and non central (20%, n = 21) positions. Additionally, Caucasian players played in peripheral positions (38%, n = 64) more often than central (34% n = 58) and non central (28%, n = 47) positions. Finally, African Americans were found to play in peripheral positions (51%, n = 27) most often, followed by non central (32%, n = 17) and central (17%, n = 9) positions. These findings suggest that Latino baseball players are playing more



central positions overall, while growing in participation numbers. The data further suggest that Caucasian players are not as dominant in central position, but are most dominant within the peripheral positions within the 2005 season. Finally, the results suggest African Americans are diminishing in participation numbers and are still dominant within the non central positions.

The above analyses lack the use of control variables. To further assess the affects of racioethnicity on the three areas of centrality, control variables (e.g., speed and slugging average) were utilized within multinomial logistic regression. The results of the three independent years under study are represented in Table 20.

The 1995 multinomial logistic regression results indicate racioethnicity, while utilizing the control variables, predicted positioning within the three areas of centrality,  $\chi^2(4, N = 284) = 20.69, p < .001$ . The comparison results further indicate no differences in Latinos playing in central positions in comparison to Caucasian players. While the data did not indicate a significant difference in central and non central positions between Latinos and Caucasians, there was a significant difference in peripheral and central positions amongst Latinos and Caucasians. Latinos were found to be 68% less likely to play in peripheral positions over non central positions (OR = .32; CI = .10, .75). These results further support the findings within the cross tabs analysis above. Conversely, African American baseball players within 1995 are 238% less likely to play in central positions over non central positions (OR = 3.38; CI = 1.57, 7.27).

Once again, racioethnicity proved to be a significant predictor of centrality within the 2000 season,  $\chi^2(4, N = 284) = 20.05, p < .001$ . Further, in comparison to Caucasian players, for Latinos and African Americans there was no significant difference found between playing in central and non central positions. Different results were indicated in reference to peripheral positions. In comparison between peripheral and central positions, Latinos baseball players were 60% less likely to play in peripheral positions over central positions (OR = .40; CI = .18, .75). Similarly, African Americans were 73% less likely play in peripheral positions over central positions (OR = .27; CI = .10, .76).

Racioethnicity proved to be a significant predictor of centrality within the 2005 season under study. In comparison between Caucasians, Latinos were found 47% less likely to play in peripheral positions over central positions (OR = .53; CI = .29, .96). Conversely, African American players were 176% more likely to play in peripheral positions over central positions (OR = 2.76; CI = 1.13, 6.76). Comparing central and non central positions provided different results. The data indicated the Latinos were 51% less likely to play in non central than central positions (OR = .49; CI = .26, .95), while African Americans player were 138% more likely to play in non central than central positions (OR = 2.38; CI = .92, 6.17).

*Research Question 3b.* The intent of research question 3b was to explore the effects of skin color on the placement within central, peripheral, and non central positions amongst Latino MLB players within the three years under study. As such, only the Latino samples from each of the three independent years were assessed.

No results will be reported for the 1995 season. The small sample size of Latino baseball players ( $n = 63$ ) made it difficult to conduct a multinomial logistic regression analysis. More data was needed, but the parameters of the research design did not allow for additional players. The 2000 season indicated skin color did not adequately predict centrality while using control variables,  $\chi^2(8, N = 284) = 11.78, p = .16$ . Similar results within the 2005 data were found. Skin color did not significantly predict centrality,  $\chi^2(8, N = 284) = 14.87, p = .06$ .

*Research Question 4b.* The purpose of research question 4b was to explore the effects of where a player was born and centrality. Within the multinomial analysis of centrality, only Latino baseball players were assessed. The 1995 results indicated country of origin, while controlling for speed and slugging average to be an insufficient predictor model for predicting centrality,  $\chi^2(2, N = 63) = 1.60, p = .45$ . Similar results were found within the 2000 season under study. The model proved to be a non significant predictor of centrality,  $\chi^2(2, N = 100) = 1.21, p = .55$ . Finally, the 2005 year under study produced comparable results as the model was a poor predictor of centrality,  $\chi^2(2, N = 103) = 3.18, p = .20$ .

*Research Question 5b.* The interaction of skin color and country of origin, while controlling for speed and slugging average, was explored within research question 5b. No results for the 1995, 2000, and 2005 seasons under study will be reported due to the insufficient sample sizes.

## CHAPTER V

### DISCUSSION, LIMITATIONS, IMPLICATIONS, RECOMMENDATIONS, AND CONCLUSION

The purpose of the current study was to investigate the relationship between positional segregation and centrality among Latino MLB players. Further, the primary aim of the study was to explore positional segregation during the modern era of professional baseball in regards to the Latino player. Latino participation numbers within MLB have increased steadily within the past 15 years (Lapchick, 2005). As such it was deemed necessary to revisit the positional segregation literature and the implications for Latinos within MLB. The following sections contain the discussion of findings relative to each research question explored within the study, the limitations of this study, the implications of the findings, the recommendations for future study, and the conclusion.

#### *Discussion of the Findings*

*Research Question One.* The results from the study indicate Latinos are well-represented within central positions, which is quite different from what others have found within the positional segregation literature (e.g., Gonzalez, 1996). Traditional positional segregation literature suggests Latinos are only centralized within the short stop and second base positions (Gonzalez, 1996; Sack et al., 2005); the results of this study indicate a third position. The catcher position, arguably the most important position (Ripken et al., 2004), is also frequently occupied by Latino MLB players. Reasons as to why Latinos were found to be dominant at second base, short stop, and

catcher may be due to the increase in participation numbers of Latino baseball players and the increase in the number of Latino pitchers within professional baseball. Due to the yearly growth of Latinos within MLB, Latino baseball players should begin to occupy more positions within baseball. It is important to note the Latinos are not only playing in these three positions (i.e., short stop, second base, and catcher), but are also well represented throughout the other positions within MLB across the three years under study.

*Research Questions 2, 2a, & 2b.* Discussion of research questions two through 2b will be presented within this section to help the reader identify the differences within the results between the diverse perspectives of centrality. Each section is headed with the appropriate heading to further aid in understanding the discussion in regards to positional segregation and its diverse perspectives of centrality.

*Traditional Centrality.* The results of the study indicated instances of positional segregation amongst racioethnic groups. Latinos, the focus group of the study, were found to play in more central positions over non-central positions according to the traditional centrality theory within each independent year under study. As previously discussed, Latinos were most often found to be positioned at second base, short stop, and catcher. According to Grusky (1963) and Bivens & Leonard (1994), these positions are considered central to the outcomes of the team as they are highly interactive and possess some type of leadership qualities within the team.

Further, from these results it may be inferred that as a result of the growth of the Latino player within central positions, there should be a growth amongst Latinos within

managerial positions within baseball. Additionally, as Latinos play in more central positions, those who choose not to enter the coaching profession may also be competitive in achieving positions of centrality within other organizations and businesses across diverse industries (Anderson, 1993; Kahn, 1991; Lewis, 1995). This argument is based on centrality theory (Grusky, 1963), which suggests these players are positioned to be key players and leaders on the team. These players should have developed the necessary leadership and management skills needed to be successful outside of baseball (Bivens & Leonard, 1994), potentially resulting in higher socioeconomic status, better pay, and increased social mobility within the organization.

Additionally, the results of this study indicated Caucasians are still predominantly playing in central positions. As such, Caucasians frequently play in all infield positions, and are not marginally placed in a specific central position (e.g., second base or short stop). Further, this particular racioethnic group is very much involved in the decision making efforts within the team and are central to its overall success. Finally, as indicated by Lapchick (2005), Caucasian males encompass the majority of the executive positions within MLB and among the coaching staffs across the teams within the professional leagues.

The results of this study further indicate that African American baseball players are being segregated to non-central positions. Within the traditional centrality perspective, African Americans are significantly found to play left, center, and right field. Thus, these players may not be privy to the communication necessary to aid in the decision making processes within the team. Further, as a result of African

Americans' not being able to play in central positions, their leadership and management training among the respective teams is likely minimal. Lacking these salient characteristics may lead to less than desirable positions after their playing careers are over. Finally, the results of this study indicate a decline in participation amongst African Americans within MLB.

*Revised Centrality.* Latinos, within the revised centrality perspective, were also found to play in more central positions than non central positions. Again, this is a positive association between MLB and Latinos. The results possibly indicate that Latino baseball players are being accepted as players for their abilities and may not be segregated to positions of limited responsibility. Further, Caucasian players are still well represented at central positions over non central positions. Finally, contradictory to the traditional perspective of centrality, African American players were found to play in central positions repeatedly more often than non central positions within the revised centrality perspective. These results are quite different from what has been reported within other positional segregation works (Brown & Bear, 1991; Grusky, 1963; Lavoie & Leonard, 1994). Based on these results, from a revised centrality perspective, African Americans are central to the successes and failures of the team. Further, the results may further surmise that African American players are being trained in leadership and management characteristics. This being the case, this particular racioethnic group should be obtaining positions of importance outside of their playing careers. Historically, this has not been the case, as there is minimal representation of African Americans within coaching staffs and front offices within MLB. However,

these arguments are based on a practitioner's perspective that suggests the center fielders are the "captains" of the outfield (Morgan & Lally, 2005).

*Multinomial Centrality.* Within the multinomial centrality perspective (i.e., central, peripheral, and non central positions), Latinos were found to play in central positions over peripheral and non central positions. Similar to those positions within the traditional and revised centrality perspective, these positions predominantly consist of short stop, second base, and catcher. Once more, this particular racioethnic group was established within positions that are central to the effectiveness and overall outcomes of the team. As such, within the multinomial perspective, Latinos within MLB should be making a significant impact on their respective team performances. Theoretically, these Latino baseball players could be afforded positions of stature once their playing careers are over. As such if these players choose to enter the coaching profession, they should be afforded equal opportunities to head coaching positions among the teams within MLB.

Similar results were indicated for the Caucasian players within each of the three years under study. As such, Caucasian baseball players should still encompass many coaching and other managerial positions along with their Latino colleagues. Conversely, the same results were not found for African American players. In similar fashion to the traditional perspective of centrality, African American players were most often positioned within non central positions. Furthermore, African American players were found to be almost non-existent within the peripheral positions. Generally, these players are not playing in the positions that make significant defensive impacts on their



respective teams. Further, this disturbing trend of limited access to central positions for African American players suggests access discrimination may be very much present within MLB in the present time. The data additionally revealed decreased participation numbers for this particular racioethnic group. As within the traditional perspective of centrality, a potential reason for the depletion in numbers amongst African American players may be due to access discrimination as a result of positional segregation and the limited number of opportunities to make a difference on one's team.

*Research Question 3, 3a, & 3b.* Discussion of research questions 3 through 3b are presented in a similar fashion to the above research questions. Each section is headed appropriately to further aid in understanding the discussion in regards to positional segregation and its diverse perspectives of centrality.

*Traditional Centrality.* The results, utilizing Latinos only, suggests skin color as a significant predictor of centrality across the three years under study (i.e., 1995, 2000, 2005). Latinos with lighter skin color were positioned in more central positions, while Latinos with darker skin color were most often positioned within non central positions. The results further indicate potential discrimination towards Latinos who have darker skin color, as these players are most often playing non central positions. Once more, these positions are not central to the development, effectiveness, and overall success of the team (Grusky, 1963; Medoff, 2004). Further, these players within these non central positions are considered to possess low interaction characteristics, as they are not privy to the central decision making processes of the team (Grusky, 1963). This finding is consistent with many of the skin color studies administered outside of sport (Gomez,

2000; Hughes & Hertel, 1990). These studies outside of sport suggest Latinos with darker skin will have fewer opportunities to increase their socioeconomic status and compete for higher level employment opportunities, and they have been found to have lower access to education (Keith & Herring, 1991). These findings further place an importance on the decision to distinguish black Latinos from African American players within MLB.

*Revised Centrality.* The results within the revised centrality perspective are similar to those produced within the traditional centrality perspective. Latino baseball players who are “black” or possess a dark skin tone were marginalized to non central positions. This finding is compelling as it comes from within a practitioner’s perspective of placing players based on importance to the team. From this skin color finding, questions may be raised as to why darker skinned players are not afforded access to central positions. Again, these findings are similar to those that have been produced in social science studies (e.g. Gomez, 2000; Keith & Herring, 1991; Hughes & Hertel, 1990).

*Multinomial Centrality.* Dividing centrality into three areas produced results contrary to the preceding two perspectives. The results, within this final perspective, indicate skin color to be irrelevant in regards to centrality for two of the three years under study. The relationship between skin color and centrality was not able to be fully assessed due to the extremely small sample size of Latino baseball players within this particular season under study. Further, within the 2000 and 2005 seasons under study, skin color was not found to be significantly related to the centrality.

*Research Questions 4, 4a, and 4b.* Discussion of research questions 4 through 4b are presented in a similar fashion to the above research questions. Each section is headed appropriately to further aid in understanding the discussion in regards to positional segregation and its diverse perspectives of centrality

*Traditional Centrality.* The results for the population sample of players within the 1995 and 2000 season indicated country of origin (i.e., born within the United States or being born outside the United States) did not indicate where a player would be positioned in reference to centrality. The results were different for the 2005. The results within this season suggested that those players who were from other countries would play in central positions over non central positions. These results are interesting, especially within the present time as the United States is in constant debate on immigration issues. Further, studies that have been presented outside of sport suggest workers from other countries may be perceived negatively and may not have the same opportunities for advancement and recognition (Card, 2005; Essess et al., 2001). These findings may not be true within MLB, as many league marquis players are of Latino descent. Meredith (2006) suggests that more than 80% of the 2006 MLB All Star Game's starters were Latinos. As a final point, it is important to note that the composition of players who were born outside the United States were Latino. From these results it may be possible that MLB within the present time is bearing witness to a significant cultural change. Once again, this change has come from Latinos' increasing their representation on MLB rosters by 35% (Merideth, 2006). Further, the fans of

baseball within the United States are being educated and treated to a cultural experience while attending and watching a MLB game.

The research question further intended to explore the effects of country of origin and centrality on the Latino baseball player. The results for the three seasons under study were similar to those found within the population sample. Data from the 1995 and 2000 seasons indicated no differences within centrality among players who were born within the United States and those who were born outside the United States. The 2005 results indicated Latinos who were born outside the United States would play in central positions more often than in non central positions. Within the present time, this finding is intriguing, as Latinos within the United States have been heavily scrutinized due to current debates on immigration and immigration laws (Card, 2005). MLB may be more receptive to the international player in attempts to increase a once failing fan base. Merdith (2006) suggests MLB has increased its focus on recruiting Latino players in attempts to capture the growing Latino population within the United States. As a result, there may be a positive perception of recruiting international players within MLB to the consumer.

*Revised Centrality.* The results within the revised centrality suggested that there were no differences in centrality between those players born within the United States and those players born outside the United States. The results were consistent across the three years under study. In similar fashion to the traditional centrality perspective, Latinos were also explored independently from the population sample. The findings

suggest Latino MLB players were not placed in central or non-central positions based on country of origin of the player.

*Multinomial Centrality.* Findings within the trinomial perspective indicated that Latino baseball players born in the United States were not placed in central or non central positions based on centrality.

*Research Questions 5, 5a, and 5b.* Concern for immigration and the outcomes of skin color for various racioethnic groups spurred the exploration of the interaction of country of origin and skin color. Within the three perspectives (traditional, revised, and trinomial centrality), the interaction of country of origin and skin color did not produce findings that would suggest the interaction of the two variables would indicate the positional play of an individual player.

*Research Question 6.* The results for research question six indicated mixed results between each racioethnic groups proportionality of centrality across time. Latino baseball players were found to increase in proportionally within central positions each year under study. This time effect may be attributed to the growth in participation numbers of this particular racioethnic group (Lapchick, 2005). Once more, the efforts of MLB to recruit Latino players may be a distinct indicator of access to professional baseball and ultimately to MLB. A reverse effect was seen for African American players. As the three years were assessed conjointly, the results suggested African American baseball players are consistently decreasing in participation numbers and in their placement within central positions. African American players were most often found to play in more non central positions than central positions across the three years

under study. To date, there are few successful programs within MLB to recruit African American players to play within grass-roots, youth, collegiate, and professional programs (Meredith, 2006). These poor efforts in attempts to increase participation among African American athletes to play baseball may be a direct indicator result of the diminishing number of African American players within MLB. Finally, Caucasians were found to be represented proportionally at central positions through each of the three years under study.

#### *Limitations of the Study*

Although this study aids in better understanding potential causes of positional segregation with a primary focus on the Latino MLB player population, several limitations to the scope of the study need to be addressed:

1. The findings of this study are based on the use of secondary data and the link between theories. The players and coaches were not independently sampled to identify their perceptions of positional segregation.
2. One primary source, *The Sports Encyclopedia Baseball 2006*, was used to gather data about the subjects within the study.
3. Color was assessed using Topps Inc. baseball cards, based on four independent raters' coming to a panel agreement. The viewpoints or the ultimate decision of the panel may differ across the general population.
4. Although the time period across the three independent years equaled 10 total years, the data only independently identifies results for the independent year under study.

*Implications for the Sport Management Field*

As suggested, more attention is needed concerning the Latino athlete in sport. Latinos have grown in population size within the United States (US Census Bureau, 2006). Due to the growth within this racioethnic group, the Latino athlete will begin to play more sports that have been traditionally been dominated by Caucasians and African Americans. As such, it is important as practitioners and scholars within sport to identify issues that are inherent to Latinos and their participation within sport. To date, there is a dearth of knowledge of the Latino participant within recreational, youth, and high school, collegiate, and professional sport. The lack of research on Latino athletes may inhibit the sport management academy in entirely understanding the social intricacies within sport. As this particular group of people continues to grow within the United States, the focus of Caucasian and African American comparisons must also include the influence or effects of the Latino participant.

Traditionally, baseball has been captivated by the Caucasian athlete and consumer. Due to demographic changes within the United States and the increased globalization within sport, Latino athletes are changing the culture of the game. No longer are the star players for any MLB team solely Caucasians or African Americans, but most often are Latinos. Those who work within the field as practitioners have begun to identify the need to market to the Latino consumer (Eros, 2006; Meredith, 2006), but generally scholars within sport have fallen behind. Further, many coaches within baseball have been trained and played within an era of baseball where the Latino athlete was not considered to be a significant part of the team as they are now. To

better facilitate their coaching and managing, it is important to provide information on diversity of values, nationalities, and culture to those who are unaware of these important attributes. Moving forward is the goal of many teams and organizations, and a lack of understanding of human resources, especially those human resources that are from outside the United States, may inhibit progress and success.

#### *Future Research Recommendations*

1. Future research should ascertain qualitative or quantitative methods of perceptions of managers, general managers, and players toward Latino baseball players within MLB.
2. With regard to professional outcomes associated with positional segregation, further studies should identify the positions of players while playing professional baseball and the selected careers, and career positions, once their playing careers have come to term.
3. Future research within positional segregation should be ascertained at the minor league level. Exploration of positional segregation at the minor league level may lead to reasons why MLB players are positioned where they are during their tenure within the major league level. Further, although the present study failed to show a relationship between country and centrality, this research may be best completed at the minor league level. Many of the minor leagues have a diversity of country of origins within their respective divisions.



4. Finally, revisiting Grusky's (1963) work on the correlation between position played and opportunities to become the manager of a team, it may be important to reassess which positions will lead to prominent coaching positions.

### *Conclusion*

Positional segregation at the time of this study is an important construct to explore with professional baseball. Although many believe the link between centrality and positional segregation is diminished, there are still examples within all areas of sport in which the phenomena still exist. Within football, many of the quarterbacks and head coaches are Caucasian. In similar fashion, within the NBA, many of the players within the league are African American, but yet the majority of the head coaches are Caucasian. Finally, even within MLB, there is a significant amount of Latinos within MLB and yet a dearth of managers who are Latino or even African American.

To make this point clear, an example is warranted. Currently (i.e., 2006), within MLB there are two Latino managers throughout MLB. Further, there is only one African American manager within this particular professional league. The dearth of minority managers within MLB suggests the relationship between centrality and positional segregation may not be robust, but there are indications of some forms of access discrimination within sport and leadership positions.

As such, within the academy it is important to continue to develop links and relationships between centrality and positional segregation to identify the solutions as to why these phenomena occur (when they occur). Additionally, exploring diverse racioethnic groups, aside from the traditionally Caucasian and African American

comparison, may lead scholars to the true nature of the relationship between positional segregation and centrality and further inform the boundary conditions of our academic theories (Bettenhausen, 1991).

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APPENDIX A

TABLES

Table 1 Major League Baseball player Demographics Data

Demographic	1995 Season (N = 284)	2000 Season ( N = 326)	2005 Season (N = 325)
Racioethnicity			
Caucasian	147 (52%)	159 (48%)	169 (52%)
Latino	64 (23%)	100 (31%)	103 (32%)
African American	73 (25%)	67 (21%)	53 (16%)

Table 2 Frequency of Racioethnic Groups by Position

	Catcher n (%)	First Base n (%)	Second Base n (%)	Third Base n (%)	Short Stop n (%)	Left Field n (%)	Center Field n (%)	Right Field n (%)
<i>1995</i>								
Caucasian	29 (72%)	22 (68%)	19 (52%)	27 (79%)	12 (40%)	12 (32%)	13 (34%)	13 (35%)
Latino	10 (25%)	5 (16%)	11 (31%)	3 (9%)	13 (43%)	8 (22%)	6 (16%)	8 (22%)
African American	1 (3%)	5 (16%)	6 (17%)	4 (12%)	5 (17%)	17 (46%)	19 (50%)	16 (43%)
Total	40 (100%)	32 (100%)	36 (100%)	34 (100%)	30 (100%)	37 (100%)	38 (100%)	37 (100%)
<i>2000</i>								
Caucasian	30 (67%)	27 (75%)	17 (45%)	28 (69%)	11 (29%)	15 (34%)	12 (29%)	19 (44%)
Latino	14 (31%)	4 (11%)	14 (37%)	12 (29%)	21 (57%)	18 (41%)	9 (21%)	8 (19%)
African American	1 (2%)	5 (14%)	7 (18%)	1 (2%)	5 (14%)	11 (25%)	21 (50%)	16 (37%)
Total	45 (100%)	36 (100%)	38 (100%)	41 (100%)	37 (100%)	44 (100%)	42 (100%)	43 (100%)
<i>2005</i>								
Caucasian	28 (62%)	32 (73%)	18 (49%)	20 (54%)	12 (33%)	28 (64%)	14 (32%)	17 (45%)
Latino	17 (37%)	7 (16%)	14 (38%)	16 (44%)	20 (56%)	9 (21%)	8 (18%)	12 (32%)
African American	1 (1%)	5 (11%)	4 (13%)	1 (2%)	4 (11%)	7 (15%)	22 (50%)	9 (23%)
Total	46 (100%)	44 (100%)	36 (100%)	37 (100%)	36 (100%)	44 (100%)	44 (100%)	38 (100%)

Table 3 Crosstabs of Racioethnicity of Player by Centrality

	Caucasians	Latinos	African Americans
	n (%)	n (%)	n (%)
<i>1995<sup>a</sup></i>			
Central	109 (74%)	42 (66%)	21 (29%)
Non Central	38 (26%)	22 (34%)	52 (71%)
<i>2000<sup>b</sup></i>			
Central	112 (70%)	66 (66%)	19 (28%)
Non Central	47 (30%)	34 (34%)	48 (72%)
<i>2005<sup>c</sup></i>			
Central	109 (64%)	71 (69%)	12 (23%)
Non Central	60 (36%)	32 (31%)	41 (77%)

Note a.  $\chi^2 (2, N = 284) = 42.95, p < .001$

b.  $\chi^2 (2, N = 326) = 36.78, p < .001$

c.  $\chi^2 (2, N = 325) = 35.29, p < .001$

Table 4 Binomial Logistic Regression of Racioethnicity and Centrality

	B (SE)	95% CI for OR		
		Lower	OR	Upper
<i>1995<sup>a</sup></i>				
Constant	-3.18 (0.81)***		.04	
Speed	.06 (.02)***	1.03	1.06	1.09
Slugging Average	3.99 (1.75)*	1.74	54.25	1688
Latinos	.33 (.34)	.72	1.34	2.72
African Americans	1.60 (.34)***	2.56	4.98	9.70
<i>2000<sup>b</sup></i>				
Constant	-2.48 (.65)**		.08	
Speed	.03 (.01)*	1.01	1.03	1.06
Slugging Average	3.13 (1.36)*	1.61	22.92	326
Latinos	.16 (.28)	.68	1.17	2.02
African Americans	1.71 (.33)**	2.51	5.23	10.90
<i>2005<sup>c</sup></i>				
Constant	-1.02 (.72)		.360	
Speed	.02 (.01)	1.00	1.03	1.05
Slugging Average	.78 (1.64)	.09	2.19	54.22
Latinos	-.23 (.27)	.45	.76	1.29
African Americans	1.65 (.38)***	2.51	5.23	10.90

Note a. Model  $\chi^2(4, N = 284) = 67.01, p < .001$

b. Model  $\chi^2(4, N = 326) = 47.49, p < .001$

c. Model  $\chi^2(4, N = 325) = 40.03, p < .001$

$p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Table 5 Skin Color Predicting Centrality of Player

	B (SE)	95% CI for OR		
		Lower	OR	Upper
<i>1995<sup>a</sup></i>				
Constant	-8.43 (2.62)*		.00	
Speed	.04 (.03)	.98	1.04	1.11
Slugging Average	7.55(4.65)	.21	1901.76	2.00
Skin Color	1.18 (.32)***	1.73	3.27	6.18
<i>2000<sup>b</sup></i>				
Constant	-5.21 (1.33)***		.01	
Speed	-.01 (.02)	.95	1.00	1.04
Slugging Average	4.48 (.2.51)	.64	88.42	12194
Skin Color	.74 (.20)***	1.43	2.10	3.09
<i>2005<sup>c</sup></i>				
Constant	-3.62 (1.37)*		.03	
Speed	-.01 (.02)	.95	.99	1.04
Slugging Average	1.97 (2.69)	.04	7.20	1394
Skin Color	.59 (.18)**	1.26	1.81	2.58

Note a. Model  $\chi^2 (3, N = 63) = 25.22, p < .001$

b. Model  $\chi^2 (3, N = 100) = 23.99, p < .001$

c. Model  $\chi^2 (3, N = 103) = 12.62, p < .01$

$p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$



Table 6 Crosstabs of Country of Origin by Centrality

	United States	Outside United States
	Observed	Observed
<i>1995<sup>a</sup></i>		
Central	139 (59%)	33 (67%)
Non Central	96 (41%)	16 (33%)
<i>2000<sup>b</sup></i>		
Central	140 (58%)	57 (66%)
Non Central	100 (42%)	29 (34%)
<i>2005<sup>c</sup></i>		
Central	127 (54%)	69 (71%)
Non Central	107 (46%)	26 (29%)

*Note. a.*  $\chi^2 (1, N = 284) = 1.14, p = .29$

*b.*  $\chi^2 (1, N = 326) = 1.67, p = .20$

*c.*  $\chi^2 (1, N = 325) = 7.98, p < .001$

Table 7 Country of Origin and Centrality

	B (SE)	95% CI for OR		
		Lower	OR	Upper
<i>1995<sup>a</sup></i>				
Constant	-2.75 (.76)***		.06	
Speed	.08 (.02)***	1.05	1.08	1.11
Slugging Average	3.99 (1.67)*	2.05	53.92	1421
Outside USA	-.41 (.36)	.33	.66	1.35
<i>2000<sup>b</sup></i>				
Constant	-1.96 (.610)**		.14	
Speed	.04 (.01)**	1.02	1.04	1.07
Slugging Average	3.00 (1.30)*	1.57	20.03	254
Outside USA	-.41 (.27)	.39	.66	1.27
<i>2005<sup>c</sup></i>				
Constant	-1.03 (.69)		.36	
Speed	.04 (.01)**	1.02	1.04	1.07
Slugging Average	1.61 (1.57)	.23	5.01	109
Outside USA	-.72 (.27)**	.28	.483	.82

Note a. Model  $\chi^2 (3, N = 284) = 44.40, p < .001$

b. Model  $\chi^2 (3, N = 326) = 17.89, p < .001$

c. Model  $\chi^2 (3, N = 325) = 20.06, p < .001$

$p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Table 8 Crosstabs of Latino Population Country of Origin by Centrality

	United States	Other
	n (%)	n (%)
<i>1995</i> <sup>a</sup>		
Central	11 (58%)	31 (70%)
Non Central	8 (42%)	13 (30%)
<i>2000</i> <sup>b</sup>		
Central	10 (62%)	56 (67%)
Non Central	6 (38%)	28 (33%)
<i>2005</i> <sup>c</sup>		
Central	9 (60%)	62 (70%)
Non Central	6 (40%)	26 (30%)

*Note.* a.  $\chi^2 (1, N = 63) = .94, p = .33$

b.  $\chi^2 (1, N = 100) = .10, p = .75$

c.  $\chi^2 (1, N = 103) = .65, p = .42$

Table 9 Latino Players Country of Origin and Centrality

	B (SE)	95% CI for OR		
		Lower	OR	Upper
<i>1995<sup>a</sup></i>				
Constant	-2.09 (1.69)		.12	
Speed	.06 (.03)	1.00	1.06	1.12
Slugging Average	3.27 (3.61)	.02	26.22	30741
Outside USA	-.68 (.60)	.16	.50	1.64
<i>2000<sup>b</sup></i>				
Constant	-3.16 (1.63)**		.04	
Speed	.01 (.02)	.97	1.01	1.06
Slugging Average	5.88 (2.31)*	3.91	358.45	32887
Outside USA	-.32(.60)	.23	.73	2.3
<i>2005<sup>c</sup></i>				
Constant	-1.25 (1.24)		.29	
Speed	.01 (.02)	.97	1.01	1.05
Slugging Average	1.90 (2.63)	.04	6.70	1166
Outside USA	-.47 (.58)	.20	.62	1.9

Note a. Model  $\chi^2(3, N = 63) = 5.79, p = .12$

b. Model  $\chi^2(3, N = 100) = 7.4, p = .06$

c. Model  $\chi^2(3, N = 103) = 1.23, p = .75$

$p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Table 10 Interaction of Skin Color and Country of Origin on Centrality

	B (SE)	95% CI for OR		
		Lower	OR	Upper
<i>1995<sup>a</sup></i>				
Constant	-8.43 (3.14)		.00	
Country of origin	-7.30 (3.48)*	.00	.00	.62
Skin Color	1.97 (.68)**	1.87	7.22	27.78
Interaction	1.31 (.80)	.78	3.71	17.62
<i>2000<sup>b</sup></i>				
Constant	-4.25 (1.78)**		.01	
Country of Origin	-2.11 (1.68)	.01	.12	3.22
Skin Color	1.19 (.73)	.80	3.31	13.73
Interaction	.33 (.86)	.26	1.39	7.46
<i>2005<sup>c</sup></i>				
Constant	-2.61 (1.67)		.07	
Country of origin	-1.50 (1.65)	.01	.22	5.65
Skin Color	1.27 (.97)	.54	3.56	23.57
Interaction	-.15 (1.03)	.12	.87	6.48

Note a. Model  $\chi^2 (5, N = 63) = 36.71, p < .001$

b. Model  $\chi^2 (5, N = 100) = 27.13, p < .001$

c. Model  $\chi^2 (5, N = 103) = 15.22, p < .01$

$p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Table 11 Trend Analysis of Racioethnic Group Growth

	1995	2000	2005
	n (%)	n (%)	n (%)
Caucasian	147 (52%)	160 (49%)	170 (51%)
Latino	64 (23%)	100 (31%)	103 (31%)
African American	72 (25%)	66 (20%)	60 (18%)

Note  $\chi^2(4, N = 942) = 9.10, p < .05$

Table 12 Trend Analysis of Racioethnic Group Playing in Central Positions

	1995	2000	2005
	n (%)	n (%)	n (%)
Caucasian	109 (38%)	112 (34%)	109 (34%)
Latino	43 (15%)	66 (20%)	73 (23%)
African American	21 (7%)	19 (5%)	12 (3%)

Note  $\chi^2(10, N = 942) = 23.65, p < .01$

Table 13 Crosstabs of Racioethnicity of Player by Revised Centrality

	Caucasians	Latinos	African Americans
	n (%)	n (%)	n (%)
<i>1995<sup>a</sup></i>			
Central	122 (83%)	48 (75%)	40 (55%)
Non Central	25 (17%)	16 (25%)	33 (45%)
<i>2000<sup>b</sup></i>			
Central	126 (79%)	74 (74%)	40 (60%)
Non Central	33 (21%)	26 (26%)	27 (40%)
<i>2005<sup>c</sup></i>			
Central	124 (73%)	82 (80%)	37 (70%)
Non Central	45 (27%)	21 (20%)	16 (30%)

Note a.  $\chi^2 (2, N = 284) = 20.18, p < .001$

b.  $\chi^2 (2, N = 326) = 9.28, p < .05$

c.  $\chi^2 (2, N = 325) = 2.15, p = .34$



Table 14 Binomial Logistic Regression Racioethnicity by Revised Centrality

		95% CI for OR		
	B (SE)	Lower	OR	Upper
<i>1995<sup>a</sup></i>				
Constant	-5.00 (0.86)***		.01	
Speed	-.04 (.01)**	.93	.96	.99
Slugging Average	12.36 (2.01)***	232164	232163	12030963
Latinos	-.46 (.34)	.33	.64	1.24
African Americans	.66 (.35)	.97	1.94	3.88
<i>2000<sup>b</sup></i>				
Constant	-3.91 (.72)***		.02	
Speed	.00 (.01)	.98	1.00	1.03
Slugging Average	5.59 (1.45)***	15.43	266.36	4598
Latinos	.30 (.31)	.74	1.35	2.48
African Americans	.97 (.33)**	1.38	2.63	5.02
<i>2005<sup>c</sup></i>				
Constant	-2.57 (.78)**		.08	
Speed	.00 (.01)	.97	1.00	1.03
Slugging Average	3.63 (1.74)*	1.24	37.76	1147
Latinos	-.36 (.30)	.38	.69	1.26
African Americans	.10 (.38)***	.54	1.11	2.26

Note a. Model  $\chi^2$  (4,  $N = 284$ ) = 64.21,  $p < .001$

b. Model  $\chi^2$  (4,  $N = 326$ ) = 24.32,  $p < .001$

c. Model  $\chi^2$  (4,  $N = 325$ ) = 6.57,  $p = .16$

$p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Table 15 Skin Color Predicting Centrality

	B (SE)	95% CI for OR		
		Lower	OR	Upper
<i>1995<sup>a</sup></i>				
Constant	-8.43 (2.62)**		.00	
Speed	.04 (.03)	.98	1.04	1.11
Slugging Average	7.55 (4.65)**	.21	1.90	2.00
Skin Color	1.19 (.32)***	1.73	3.27	6.18
<i>2000<sup>b</sup></i>				
Constant	-5.44 (1.35)***		.00	
Speed	-.02 (.03)	.93	.98	1.03
Slugging Average	7.15 (2.6)**	7.81	12.74	208032
Skin Color	.41 (.19)*	1.04	1.50	2.17
<i>2005<sup>c</sup></i>				
Constant	-4.10 (1.42)**		.02	
Speed	-.04 (.02)	.95	1.00	1.04
Slugging Average	2.71 (2.73)	.07	14.98	3164
Skin Color	.60 (.19)**	1.26	1.82	2.63

Note a. Model  $\chi^2 (3, N = 63) = 25.22, p < .001$

b. Model  $\chi^2 (3, N = 100) = 16.61, p < .001$

c. Model  $\chi^2 (3, N = 103) = 12.84, p < .01$

$p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Table 16 Country of Origin and Revised Centrality

	B (SE)	95% CI for OR		
		Lower	OR	Upper
<i>1995<sup>a</sup></i>				
Constant	-4.96 (.86)***		.01	
Speed	-.03 (.01)*	.94	.97	.99
Slugging Average	12.47 (2.01)***	5008	295430	13437498
Outside USA	-.60 (.36)	.27	.55	1.11
<i>2000<sup>b</sup></i>				
Constant	-3.58 (.69)***		.03	
Speed	.01 (.01)	.99	1.01	1.04
Slugging Average	5.54 (1.44)***	15.10	254.42	4286
Outside USA	-.01 (.30)	.51	.91	1.62
<i>2005<sup>c</sup></i>				
Constant	-2.57 (.70)**		.08	
Speed	.00 (.01)	.98	1.00	1.03
Slugging Average	3.71 (1.74)*	1.37	41.10	12.33
Outside USA	-.52 (.31)**	.33	.60	1.10

Note a. Model  $\chi^2 (3, N = 284) = 59.36, p < .001$

b. Model  $\chi^2 (3, N = 326) = 15.84, p < .01$

c. Model  $\chi^2 (3, N = 325) = 7.62, p < .05$

$p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Table 17 Latino Players Country of Origin and Revised Centrality

	95% CI for OR			
	B (SE)	Lower	OR	Upper
<i>1995<sup>a</sup></i>				
Constant	-2.09 (1.69)		.12	
Speed	.06 (.03)	1.00	1.06	1.12
Slugging Average	3.27 (3.61)	.02	26.22	30741
Outside USA	-.68 (.60)	.16	.50	1.64
<i>2000<sup>b</sup></i>				
Constant	-4.12 (1.27)**		.02	
Speed	-.00 (.03)	.95	1.00	1.05
Slugging Average	8.25 (2.55)**	25.88	3808	560321
Outside USA	-.68 (.62)	.15	.51	1.72
<i>2005<sup>c</sup></i>				
Constant	-1.59 (1.27)		.20	
Speed	.01 (.02)	.97	1.01	1.06
Slugging Average	2.64 (2.70)	.07	14.08	2812
Outside USA	-.59 (.58)	.18	.55	1.74

Note a. Model  $\chi^2 (3, N = 63) = 5.79, p = .12$

b. Model  $\chi^2 (3, N = 100) = 12.81, p < .01$

c. Model  $\chi^2 (3, N = 103) = 2.20, p = .53$

$p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Table 18 Interaction of Skin Color and Country of Origin on Revised Centrality

	B (SE)	Lower	OR	Upper
<i>1995<sup>a</sup></i>				
Constant	-6.73 (2.79)*		.00	
Country of origin	-5.57 (2.98)	.00	.00	1.31
Skin Color	.95 (.42)*	1.13	2.59	5.91
Interaction	1.05 (.75)	.66	2.85	12.32
<i>2000<sup>b</sup></i>				
Constant	-6.04 (1.90)**		.00	
Country of Origin	.05 (1.57)	.05	1.05	22.68
Skin Color	1.35 (.73)	.91	3.86	16.33
Interaction	-.79 (.84)	.09	.46	2.37
<i>2005<sup>c</sup></i>				
Constant	-2.91 (1.68)		.06	
Country of origin	-2.15 (1.74)	.00	.12	3.48
Skin Color	1.22 (.95)	.53	3.38	21.73
Interaction	.08 (1.03)	.14	1.08	8.18

Note a. Model  $\chi^2 (6, N = 63) = 31.87, p < .001$

b. Model  $\chi^2 (6, N = 100) = 19.24, p < .01$

c. Model  $\chi^2 (6, N = 103) = 17.73, p < .01$

$p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

Table 19 Crosstabs of Racioethnicity of Player by Multinomial Centrality

	Caucasians	Latinos	African Americans
	n (%)	n (%)	n (%)
<i>1995<sup>a</sup></i>			
Central	73 (50%)	40 (63%)	31 (42%)
Peripheral	49 (33%)	8 (12%)	9 (12%)
Non Central	25 (17%)	16 (25%)	33 (46%)
<i>2000<sup>b</sup></i>			
Central	70 (44%)	58 (58%)	34 (51%)
Peripheral	55 (35%)	16 (16%)	6 (9%)
Non Central	34 (21%)	26 (26%)	27 (40%)
<i>2005<sup>c</sup></i>			
Central	58 (34%)	50 (50%)	9 (17%)
Peripheral	64 (38%)	31 (30%)	27 (51%)
Non Central	47 (28%)	21 (20%)	17 (32%)

Note a.  $\chi^2 (4, N = 284) = 31.05, p < .001$

b.  $\chi^2 (4, N = 326) = 25.43, p < .001$

c.  $\chi^2 (4, N = 325) = 16.84, p < .01$

Table 20 Multinomial Regression of Racioethnicity on Centrality

	Peripheral vs. Central			Non Central vs. Central		
	B (SE)	OR	95% CI	B (SE)	OR	95% CI
<i>1995</i>						
Intercept	-5.61 (1.19)***			4.81 (1.02)***		
Speed	-.15 (.04)***	.87	.81-.93	.02 (.02)	1.01	
Slugging Average	13.34 (2.49)***	618350	4712 - 81129321	-12.05 (2.26)***	5.86	7.02 - 70065
African Americans	-.19 (.49)	.83	.32 – 2.17	1.22 (.39)**	3.38	1.57 – 7.27
Latinos	-1.14*	.32	.13 – .80	.14 (.40)	1.15	.53 – 2.51
<i>2000</i>						
Intercept	-5.31 (1.02)***			-4.17 (.84)***		
Speed	-.17 (.04)***	.85	.79 - .91	-.02 (.02)	.98	.95 – 1.01
Slugging Average	10.28 (1.94)***	29192	649 - 131283	9.33 (1.74)***	11234	374 - 337351
African Americans	-1.30 (.52)*	.27	.01 – .76	.53 (.36)	1.69	.84 – 3.40
Latinos	-1.01 (.40)*	.37	.18 – .75	-.10 (.33)	.90	.47 – 1.74
<i>2005</i>						
Intercept	-2.53 (.96)**			-2.80 (1.04)**		
Speed	-.01 (.02)	1.00	.96 – 1.02	-.01 (.02)	.99	.96 – 1.03
Slugging Average	8.80 (2.03)***	6634	123 - 355723	8.37 (2.18)***	4293	59.56 - 309477
African Americans	1.02 (.46)*	2.76	1.13 – 6.76	.87 (.49)	2.38	.92 – 6.17
Latinos	-.64 (.30)*	.53	.29 – .96	-.71 (.34)*	.50	.26 – .95

Note. a. Model  $\chi^2(4, N = 284) = 20.69, p < .001$

b. Model  $\chi^2(4, N = 284) = 20.05, p < .001$

c. Model  $\chi^2(4, N = 284) = 16.63, p < .001$

$p < .05^*, p < .01^{**}, p < .001^{***}$

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