

The Formation, Maintenance, and Mobility of Status Hierarchy in High School Football Teams: A Sociological Study of Starter and Substitute Positions

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Abstract: American football is a highly popular sport worldwide. A football team consists of starters and substitutes, with the former accounting for the majority of the playing time. In addition, they enjoy significant prestige and influence within the team. Traditional literature suggests that ability-related factors are the most critical determinants of starter/substitute status, ignoring the importance of social factors. Based on Social Stratification Theory, this study collected the perspectives of 25 high school and college varsity football players and two team coaches. It also examined the determinants of starter/substitute positions, which include 15 relevant influence factors. These factors exert differential effects on player mobility between starter and substitute positions at the beginning of the season and during the season. The 15 factors were further grouped into three domains: Ability-related Factors, Social Factors, and Opportunities. Due to the Matthew Effect, starters are not easily displaced by substitutes. In order to counteract the Matthew Effect, four approaches were identified: Physical Development, Learning from the Sidelines, Individualized Training, and Trust Building. These findings extend Social Stratification Theory to the domain of competitive sports, elucidating mechanisms to mitigate the Matthew Effect.

Keywords: sports; American football; starters; substitutes; backup players; mobility mechanisms; social stratification theory; Matthew effect

1. Introduction

American football is an extremely popular sport, with annual college football revenue exceeding \$10 billion. According to statistics, there are over 130 Division I college football teams in the United States, which is the largest number in the world. Their total annual revenue accounts for 46% of the total annual revenue from all sports programs at these universities [1]. American football also attracts a global audience. Taking the 2014–2015 season as an example, the Football Bowl Subdivision (FBS), the highest level of collegiate football in the United States, ranked second in the world with an annual attendance of 37.91 million spectators (The one ranked first was Major League Baseball (MLB), which recorded a total attendance of 73.74 million spectators in 2014), far surpassing renowned leagues such as the NBA, the NHL, the German Bundesliga, the English Premier League, and the Spanish La Liga [1]. American football teams and athletes can also be found in Asia, Oceania, Europe, and other parts of the world. In October 2023, the 141st Session of the International Olympic Committee officially approved flag football as an official event of the 2028 Los Angeles Olympics. This will greatly promote American football's global popularization.

In the NFL, football teams comprise both starters and substitutes. Unlike association football (soccer), which typically permits only three to five substitutions per match [2], American football operates an unlimited substitution system: players may be freely replaced in whole or in part between plays (or at the end of offensive/defensive series), and individual players can enter and leave the game repeatedly. There are approximately 22 to 25 core starters on an NFL roster, followed by 23 to 26 rotational substitutes. Each player is assigned exclusively to one of three units—offense, defense, and special teams—in order to maintain high intensity play.

American football teams consist of starters and substitutes, with the former accounting for the majority of playing time. In addition, the former enjoys superior prestige and influence within the team. Conventional wisdom holds that ability-related factors are the most critical determinants of starter/substitute status, but it underestimates the significance of social factors. Based on Social Stratification Theory, and using questionnaire surveys and one-to-one interviews, this study collected the perspectives of 25 high school and college varsity football players and two team coaches regarding the determinants of starter/substitute positions, and identified 15 relevant influencing factors.

The path to starting is hard. Starters typically surpass substitutes in ability and competitive experience. Coaches are unlikely to elevate a substitute to a starting role unless the starter is absent for an extended period. Beyond ability and experience, many other factors determine whether a player becomes a starter. For example, starters who compete regularly develop strong on-field chemistry with fellow starters and earn teammates' trust—forms of social capital that substitutes cannot readily compensate for in the short term. Further, a starter who trains consistently and diligently delivers more stable performance in critical games or decisive situations. In sum, multiple interrelated factors influence a player's starter or substitute status. In this regard, this study explores the following research question: *Which factors determine a player's starter versus substitute status on an American football team?*

Over time, substitute players gain skills and experience that may even surpass those of starters. Consequently, the status of starter and substitute should change dynamically, with most players having the opportunity to become starters. However, this is not always the case in practice. In many teams, starting positions are consistently monopolized by a small number of star players, while the majority of substitutes never receive sufficient playing time. In professional leagues where competitive performance is prioritized, if physical attributes and playing ability were the most decisive factors for becoming a starter, the aforementioned situation would not logically occur—especially given that the competitive condition of starters gradually declines with age. In the National Football League (NFL), the average career length for all players is only 3.3 seasons, with undrafted free agents averaging merely 1.6 years, while first-round high draft picks average 9.3 years [3]. Accordingly, this paper proposes a second research question: *Why are starters difficult to displace by substitutes?*

More often than not, starting players are difficult to displace, which is a discouraging fact for substitutes—particularly those possessing notable physical talent, competitive skills, and motivation. Although promotions from substitute to starter are relatively infrequent, every team experiences such transitions each season. This suggests that some substitutes can, through their own effort, achieve upward mobility from substitute to starter. Accordingly, this study poses a third research question: *What actions can substitutes take to facilitate their transition to starter status?*

In order to address the aforementioned research questions, this study conducted one-to-one interviews with 25 American football players and two coaches from high school and collegiate teams (Appendix A). Several key insights were obtained from the resulting qualitative data. 15 distinct factors affected a player's status as a starter or substitute, according to open coding. These factors were synthesized into seven overarching categories: *Experience*, *Talent*, *Chemistry*, *Consistency*, *Contribution*, *Compatibility*, and *Contingencies*. Experience refers to a player's involvement in diverse athletic disciplines, which includes not only American football but also basketball, soccer, tennis, among others. During competitive play, talent is a combination of physical attributes, technical skills specific to the sport, rapid skill acquisition ability, and tactical execution reliability. A player's chemistry refers to how well they work with their teammates, including interpersonal relationships and tactical communication. Consistency pertains to the stability of a player's performance, which consists of two sub-factors: consistent participation in team training and stable on-field performance (i. e., minimizing errors). Contribution refers to a player's input to the team, further subdivided into leadership within the team and assistance to teammates. Compatibility refers to the alignment between a player's condition and

the team's goal of achieving optimal competitive performance, specifically including competitiveness in their assigned position and whether the position they occupy is affected by the absence of a regular starter. Finally, Contingencies refer to constraining factors such as physical health status (i.e., being free from injury).

Through further selective coding, the seven factor types identified above were consolidated into three dimensions that influence starter–substitute status: *Ability-related factors* (comprising Experience and Talent), *Social-related factors* (comprising Chemistry, Consistency, and Contribution), and *Opportunity-related factors* (comprising Compatibility and Contingencies). In short, when there is an opening for a starter at a player's position, a player who possesses the relevant abilities and strong social attributes has a greater likelihood of becoming a starter. Conversely, if the three dimensions are absent (or only partially present), the player is more likely to remain a substitute. Additionally, this study distinguishes mobility between starter and substitute roles into two temporal phases—season outset and in-season—and finds that the determinants of mobility differ markedly between these phases.

Regarding the second research question of this study, the findings indicate that the Matthew effect can well explain why starting players are difficult to replace by substitutes. Specifically, although many substitute players possess good physical talent and football experience, starters hold a first-mover advantage. Once they secure a starting position, they receive more attention from coaches and more opportunities to play, thereby further developing stronger game performance and accumulating more game experience, which in turn consolidates and defends their starting status. In contrast, although substitute players can also improve their abilities through opportunities such as consistent training, the limited playing time afforded to them from the outset leads to a gap with starters not only in ability and experience but also in various social factors (relationship with teammates, communication, leadership, etc.).

The findings of this study indicate that, despite a pronounced Matthew Effect within school-based football programs, four broad strategies can effectively assist substitutes in attaining starter status. As a first point, high school and college athletes are still developing physiologically, and American football has highly heterogeneous positional demands that vary significantly from position to position: linemen have a greater need for muscle mass and strength, while running backs have a greater need for rapid acceleration and maximum sprinting velocity [4,5]. Substitutes can maximize their body composition and physical capabilities by using evidence-based nutritional strategies and targeted physical conditioning. Even though substitutes don't initiate games, they can gain a broader analytical perspective. From this vantage point, they can observe starters' tactical execution and analyze their opponents' offensive and defensive strategies. Through team immersion and observation, substitutes can develop tactical acumen and game intelligence that are difficult to acquire through practice alone, increasing their chances of starting the game. Third, individualized training regimens can specifically address certain physical deficiencies; for instance, sprint-specific drills can enhance acceleration, while progressive resistance training can strengthen the lower body. Last but not least, coaches will be more confident in a player's abilities and experience if he or she is able to communicate well with teammates and coaches. The likelihood of a substitute transitioning to a starting role increases if they perform consistently and reliably both in training and in competition.

This study yielded substantial theoretical and practical implications. As opposed to traditional applications of Social Stratification Theory to political and economic domains, this study identifies new variables that influence status mobility in competitive sports. Contrary to extant literature, which mainly attributes starting positions to athletic merit, the study suggests social and opportunity factors are equally important for athletes. In competitive sports, there is a lack of research exploring how to counteract this phenomenon to facilitate upward mobility from substitute to starter, although previous scholarship has invoked the Matthew effect as a microlevel mechanism of social stratification. By identifying four strategies that allow substitutes to transition into starting positions, the study contributes to the literature on the Matthew effect.

Athletes, coaches, and managers can benefit from this study. Human capital assets include both core starters and rotational substitutes. Utilizing the determinants identified in this article, managers can cultivate substitutes who currently lack starting qualifications but exhibit high potential. Players should be provided with training and nutrition interventions tailored to address specific deficits as part of their evaluation and development. This will enable them

to maximize their potential and improve their performance on the field. For athletes, the findings highlight specific domains for improvement—spanning technical, physical, and social dimensions—that can assist them in counteracting the cumulative disadvantages associated with the Matthew effect, raising their performance, and improving their chances of landing a starting spot. Additionally, despite the majority of participants in this study being high school football players, elite professional leagues (e.g., the NFL, NBA) have a similar structural separation between preseason and in-season phases in which retirements and draft selections lead to roster vacancies. Therefore, the conclusions of this study have highly transferrable implications for professional sports.

The paper consists of six sections. The purpose of Section 2 is to provide background information on American football and to review the existing literature in regard to the factors that determine whether a player becomes a starter. In Section 3, the social stratification theory and the Matthew Effect are described as the theoretical framework for this study. The research methodology is described in Section 4. A descriptive statistical analysis of the outcomes addressing the three research questions is presented in Section 5. The research's theoretical contributions, practical implications, and limitations are discussed in Section 6. An overview of the study concludes Section 7 of the paper.

2. Background

2.1. Starters and Substitutes in American Football

American football's starter–substitute relationship is central to roster construction, tactical execution, injury management, and performance evaluation. At “replacement–rotation” positions such as the offensive and defensive lines, rotation preserves playing intensity and reduces fatigue-related errors. Often, the backup is an important factor that impacts game outcomes at critical positions (e.g., quarterback). Thus, the management of substitutes has significant implications for team human-resource allocation, tactical design, and compensation contracts [6].

Substitutes serve as injury replacements, rotation players (to reduce fatigue), and special-team contributors. A team in the NFL typically carries 53 players. The remaining five will be inactive for the game, as 48 are active on game day. Among the 53, there are typically 22 primary starters (11 in a base offensive formation and 11 in a base defending formation). Special teams generally include three specialist starters (kicker, punter, and long snapper). It is common for defensive substitutes or defenders to fill special team roles. The rotational depth players are also provided with one or two substitutes at each position. It varies markedly by position, with highwear positions being reliant on deeper backup pools [7].

In comparison to the NFL, domestic social club leagues in China (such as the CNFL) often have insufficient roster depth. A large number of players are required to fill multiple roles across offense, defense, and special teams. The substitute reserve is also much smaller than in the US. The majority of positions have only one substitute or no substitute at all.

2.2. Factors Affecting Starter Positions

In general, substitutes are less capable of performing than starters. Nevertheless, some substitutes are able to improve and become starters after being given consistent playing time. Depending on the player's age, the role they play will also differ: younger substitutes who appear repeatedly have a higher probability of promotion while older substitutes tend to be short-term replacements or mentors for younger players. There are significant barriers to promotion for critical control positions (e.g., quarterback), while easier rotational positions (e.g., linemen, edge roles) allow relatively easier upward mobility [8]. In addition, coaches' trust, intrateam politics, player training attitude, and team strategy affect starter-substitute status significantly [9].

3. Theoretical Perspectives

3.1. Social Stratification Theory (SST)

3.1.1. Key Concepts

The concept of social stratification refers to the process by which society categorizes individuals and groups into hierarchically ordered strata in which unequal distributions of resources are institutionalized and may even

be passed on to future generations [10]. A stratification system may be classified as closed or open. Often, a closed system rewards individuals based on their attributes, whereas an open system rewards individuals based on their achievement status.

Ascribed status versus achieved status: Ascribed status refers to attributes individuals are born with and cannot autonomously choose, including family background, gender, and social origin. Compared with attainment status, achieved status refers to a social position attained through post-natal education, skill accumulation, personal effort, and comprehensive ability [11]. It is evident that attributed factors continue to influence individuals' lifelong opportunities, even in modern societies dominated by meritocracy.

Social mobility: It refers to the change in an individual's position within society's hierarchical structure, usually distinguished as intragenerational mobility (class or status changes occurring within an individual's career) and intergenerational mobility (class shifts across parent-child generations). The insufficient mobility of social strata tends to rigidify or ossify them [12].

Theory of three forms of capital: Among Bourdieu's distinctions are economic capital (e.g., wealth, assets), social capital (e.g., social networks, relationships) and cultural capital (e.g., education, aesthetic tastes, habitual dispositions). A combination of these three forms of capital contributes to the intergenerational transmission of class advantages through institutions such as education and the labor market [13].

Social Cleavages/Fault Lines: Class, gender, and racial divisions constitute social cleavages. Social inequality crystallizes when multiple dimensions of disadvantage -- including those of economic status, education, and health —intersect and reinforce one another, resulting in stable class boundaries that are difficult to penetrate.

An overview of key concepts from social stratification theory and their manifestations in American football is presented in Figure 1. First, within the stratification system, “Goods and Assets” correspond to game-specific abilities and skills, such as running speed, explosive power, agility, and the position-specific skills required. For example, a quarterback must possess sharp vision, judgment, and the ability to pass accurately, while running backs must possess quick acceleration and nimble movements. The ability and skill of an athlete is more likely to be entrusted with significant responsibilities by their coaches if they possess these abilities and skills. It is also more likely that they will contribute to the team's success.

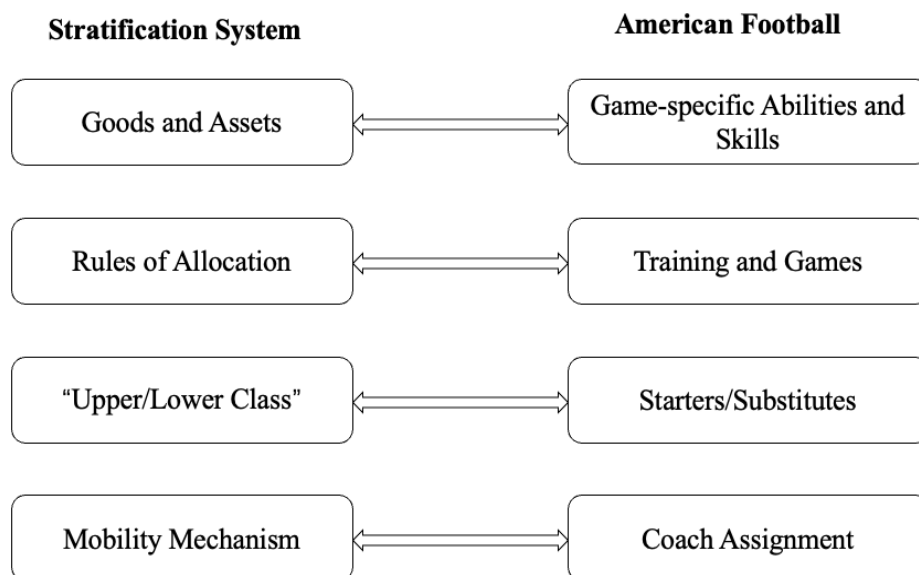


Figure 1. Social Stratification in American Football.

Second, the “Rules of Allocation” refer to distributional rules within a social system. The rules of American football are embodied in training and competition. In order to improve their skills and capabilities, players should participate more frequently in training sessions and matches. Sports are an example of a stratification system in which core assets cannot be conferred by gift or appointment, as they must be acquired through targeted training and exposure to the sport [5]. As a result of this requirement, professional sport differs

significantly from other forms of social stratification.

Additionally, starters constitute a “higher class” in American football, while substitutes constitute a “lower class”. In the NFL, for example, star starters receive substantial salaries and lucrative endorsement and appearance fees. The majority of their fans are loyal to their teams, and they play a central tactical role within them. As a result, substitute players generally earn less money, lack endorsement income, and have a limited degree of influence, voice, and tactical status within the team.

Finally, the coaching staff is usually responsible for making decisions regarding the transition between starters and substitutes. In order to maximize performance, coaches generally avoid starting players with inferior ability or skill. Nevertheless, when the differences in ability between candidates are minimal, a range of other factors are taken into account in the selection process. Players with extensive competitive experience are more likely to be selected for the starting lineup than players who are equally skilled but have less game experience.

3.1.2. Classical Theoretical Perspectives of SST

Marx argued that ownership of production means is at the root of social stratification. There are two classes of society: the bourgeoisie, who own capital, and the proletariat, who sell their labor power. There is a relationship between class exploitation and class conflict. While this binary class analysis framework effectively explains socio-economic exploitation, it struggles to accommodate the expanding middle class in modern societies and does not account for stratification dimensions independent of economic factors, such as social prestige [14].

Unlike Marx, Weber proposed three independent dimensions of societal stratification: class (market situation and financial opportunity), status groups (social prestige and honor), and party power (political dominance). This three-dimensional view is often distorted in reality. For example, university professors possess a higher level of social prestige but possess relatively limited wealth, as opposed to wealthy businessmen.

According to [10], social stratification is an important mechanism for society: by conferring greater rewards and prestige on crucial, high-skill occupations, society encourages skilled individuals to perform core societal functions. There has been considerable criticism of this perspective. It has been argued by Tumin that the “functional importance” of occupations cannot be objectively determined, and that stratification effectively suppresses the development of disadvantaged groups, essentially serving to protect the privileges of elite groups [15]. According to recent research, ascriptive factors such as family background continue to significantly influence individuals’ educational outcomes and labor market outcomes [16].

A microlevel manifestation of social stratification theory in competitive sport occurs in American football, where occupational stratification and unequal development among athletes are prevalent. According to classical stratification theory, individual status divergence is the result of the combined effects of ascriptive endowments and abilities. Through unequal distributions of resources, opportunities, and prestige, structural cleavages are formed, hardening intergroup hierarchies [11,17]. As a result of additive conditions—family background, social resources, early training environments—and athletes’ acquired sports skills, specialized abilities, and competitive experience—a distinct hierarchical order is constructed among athletes. Although traditional meritocratic accounts hold that standardized selection mechanisms in sport can attenuate birth related inequalities and achieve ability-based mobility, a growing body of research indicates that mobility in sport does not rely solely on athletic performance alone. Athletes’ career trajectories continue to be shaped by structural barriers and cumulative advantages [18].

3.2. *Matthew Effect*

As a dynamic mechanism for explaining social inequality reproduction, the Matthew Effect effectively compensates for the limitations of static social stratification theories. The study also explains the dynamic amplification process through which athlete stratification occurs. Merton proposed this theory, stating that initial minor advantages can form a self-reinforcing cycle of cumulative advantage, leading to hierarchical differentiation [19]. Insufficient intergenerational mobility and economic fissure solidification are fundamentally driven by this. For athletes who possess early resource advantages, superior coaching guidance, systematic training conditions, and frequent competition opportunities are available. The accumulation of competitive experience, athletic honors, and

social capital enables them to further consolidate their professional status and competitive edge [20]. It is likely that athletes with resource disadvantages, even if they possess equal or superior innate talent, will experience developmental difficulties. Inadequate training and early opportunity deprivation partially account for such phenomenon. Through prolonged training and selective selection, minor initial disparities become more pronounced, ultimately resulting in significant hierarchical gaps in career attainment [21].

According to research in the sociology of sports, the Matthew Effect contributes to the solidification of stratification in competitive sports. As a result of the effective integration of adaptive factors and stratification outcomes, this can be achieved. Differences in family economic, cultural, and social capital affect athletes' early participation conditions and specialized skills [22]. Status bias and signal screening in event selection, media exposure, commercial sponsorship, and team selection decisions continue to amplify these disparities. The result is a stable professional stratification, characterized by pronounced status crystallization and mobility blockage among athlete populations [23]. The ostensibly open competition system within the sports obscures underlying structural inequality. The Matthew Effect crystallizes ascriptive resources into stable occupational hierarchies, suppressing upward mobility. Career development can then be stratified based on criteria other than athletic ability. It reveals the inherent logic of class reproduction among athletes.

This study examines the Matthew Effect at the individual level. In the literature, policy level remedies such as diversified evaluation systems are of limited utility because sport rules and athletes' performance capacities are relatively fixed. The same is true for athletes, as commercial organizations can select niche markets to avoid direct competition. As a result, practical solutions tend to focus on helping athletes resolve these developmental tensions. Decomposing grand objectives into deliberately designed, small, achievable tasks and accumulating incremental achievements is strongly recommended. Positive feedback flows from small wins that build confidence [24]. These prescriptions remain general and offer no concrete guidance for how football players can overcome developmental bottlenecks. Thus, identifying and synthesizing feasible strategies for mitigating the Matthew Effect is the aim of this study.

4. Research Method

A questionnaire survey and one-to-one interviews were used to address the research questions posed above. The first step in this study was the development and administration of a questionnaire to multiple players from high school teams in mainland China. The second step consisted of constructing separate interview guides for starters and substitutes (Appendices C and D). One-to-one interviews were conducted with each player, lasting approximately 30 min. As a third step, two school coaches were interviewed one-to-one using an interview guide. Each interview lasted approximately one hour. Lastly, an interview guide for professional players who played on U. S. high school and collegiate teams was prepared (Appendix E). Three such athletes were interviewed one-to-one online for approximately 40 min. All interviews were recorded and transcribed for analysis. The resulting textual data was analyzed using grounded theory coding procedures.

The qualitative analysis followed Strauss and Corbin's three-phase grounded theory coding procedure [25]. First, *open coding* was applied to the interview transcripts: two researchers read the transcripts line-by-line, fragmented the raw data, assigned initial codes, and derived preliminary concepts and categories. As part of the second phase, axial coding was used to analyze the emerging categories. To establish logical links between primary categories and their subcategories, I explored causal conditions, contextual factors, action/interaction strategies, and consequences. Finally, *selective coding* was used to identify the core category and integrate all relevant categories around it. For the purpose of developing and refining the ground model, constant comparison was conducted across the datasets. The coding process was terminated when theoretical saturation was reached, i.e., no new concepts were revealed by additional data.

5. Findings

5.1. Demographics and Background of Interviewees

In this study, 27 individuals were interviewed. Participants included 25 football players and 2 coaches (see

Appendix A). Twenty-two of the 25 players were members of high school varsity teams in mainland China. The remaining three players were members of high school or college teams in the United States. Five of the 22 players attending school in mainland China are currently in ninth grade. There were two students in the 10th grade, nine in the 11th grade, and six in the 12th grade. There were 19 male players and 6 female players. In terms of football experience, all three players from U.S. high school or college teams had more than eight years of playing experience. It was significantly higher than that of players from mainland Chinese high schools. A total of eight of the players had less than one year's experience, while nine had over one year but less than two years.

In terms of their roles within the team, 15 of the 25 players were starters (including three starters from U.S. high schools or colleges), while the remaining 10 players were rotational starters or substitutes. The 25 players represented 15 members of the offensive unit, including seven wide receivers (WR), four running backs (RB), two quarterbacks (QB), one offensive lineman (OL), and one tight end (TE). A total of 10 players were assigned to the defensive unit, including 7 defensive backs (DBs) and 3 edge rushers.

Finally, 22 high school players reported playing sports other than American football. According to descriptive statistics, 17 students regularly played basketball, seven played tennis, seven played soccer, six played ultimate (Frisbee), four played badminton, three played volleyball, two played track and field, and one did fencing, figure skating, and karate.

5.2. Two Stages of Player Positional Mobility

Throughout the year, positions between starters and substitutes vary considerably. It is common for 12th grade players to leave the team at the beginning of each new school year (which also marks the beginning of the new season), while freshmen enter the 9th grade from middle school, creating a variety of opportunities for players to advance to starting positions. It is not uncommon for some players to be demoted from starter to substitute during the course of the season. Substitutes have limited opportunities to be promoted to starting positions. This study analyzes the situations of starter/substitute positional changes and the factors influencing these changes across two phases—the “New Season” and “During the Season”—as shown in Figure 2.

For analytical convenience, transitions to starter status are coded with the prefix “ST”. For instance, ST11 indicates a transition to starter status, where the first digit “1” indicates the New Season phase and the second digit “1” indicates the first scenario within that phase. Substitute status is designated by the prefix “SU”. The first digit “2” indicates the During Season phase, while the second digit “2” indicates the second scenario within that phase. For instance, SU21 indicates a transition to substitute status.

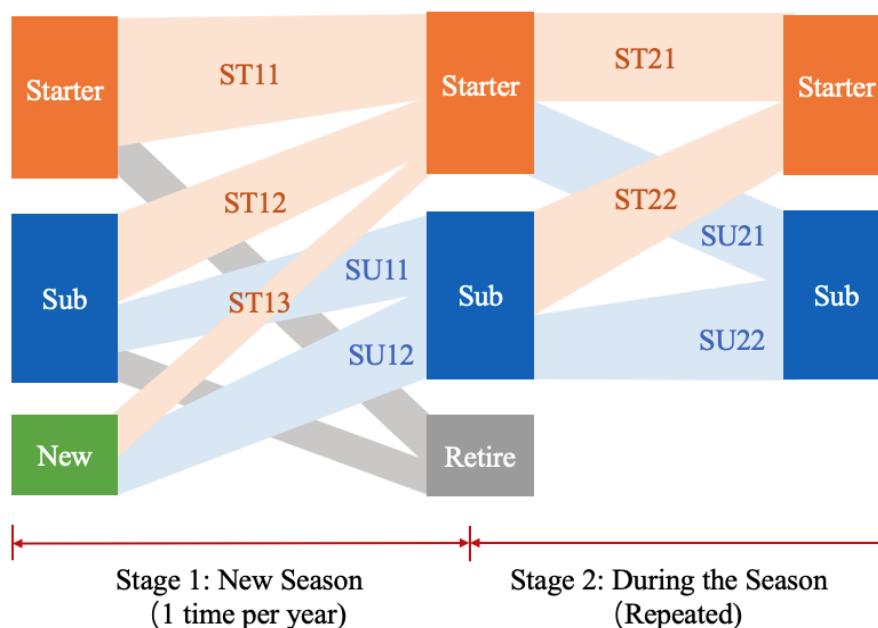


Figure 2. Mobility of Starters and Substitutes. Note: It is unlikely for a Starter to be de-promoted to a Sub when new seasons begin.

Figure 2 shows three New Season starter scenarios: ST11, ST12, and ST13. Players who were starters in the previous season and are still starters in the current season are referred to as ST11. The ST12 category refers to players who were substitutes in the previous season and are promoted to starters at the beginning of the new season. A ninth grader referred to as ST13 is a new member of the school team who is assigned starter roles upon entry into the school. Two New Season substitute scenarios are available, SU11 and SU12. A SU11 player was a substitute last season and remains a substitute in this season; a SU12 player is a ninth-grade newcomer.

On the right side of Figure 2, there are two scenarios in which a player becomes a starter during the season. ST21 and ST22 are these scenarios. In particular, ST21 pertains to players who were starters at the beginning of the season and remained starters during the mid-season. The ST22 refers to players who were substitutes at the beginning of the season, but were promoted to starter status by the coach during the course of the season. It is also possible for a player to become a substitute during the middle of the season, namely SU21 and SU22. SU21 refers to players who were starters at the beginning of the season but were demoted to substitute status in the middle of the season. The term SU22 refers to players who were substitutes at the beginning of the season and remained substitutes throughout the season.

5.3. Factors Affecting Positional Mobility

The American football game places a great deal of demands on its players. In spite of the fact that athletic talent is unquestionably valuable, it is not sufficient on its own. One coach commented as follows: *“In flag football, athletic ability is important, but it is not the only thing that decides success. Speed, agility, and reaction ability can help a player, but football is a game with many decisions happening quickly. A player who understands positioning, timing, and communication can usually contribute more consistently”*.

In the following section, I examine the causes and specific influencing factors of the nine scenarios listed in Table 1. Since there are a lot of scenarios to discuss, some similar cases are grouped together for comparison. ST11 and ST21, for example, both require maintaining a starting position. As opposed to the former, the latter occurs during the season. It is highly meaningful to compare the differences in influencing factors between these two scenarios. A similar comparison can be made between ST12 and ST22 (both representing promotion from substitute to starter), as well as between SU11 and SU22 (both representing remaining a substitute). We will discuss the final three scenarios (ST13, SU12, and SU21) separately because they differ considerably from one another.

5.3.1. ST11 vs. ST21 (Starter to Starter)

A ST11 indicates a player who started the previous season and will continue to be starter in the next season. ST21 indicates players who begin the upcoming season as starters and continue to be starters throughout the season. The interview data indicates that extensive football experience is a key driver of both outcomes: coaches rely on experienced players to mentor teammates and deliver stable performances in critical games and decisive plays, an important requirement both at the beginning and throughout the season. Further, ST11 is influenced by two additional factors: Leadership and Relationships with Teammates. In periods of extensive roster turnover, leadership can assist in stabilizing the mindsets of younger players. Relationships between teammates—including in-game encouragement and off-field rapport—contribute to the retention of a player as a starter. In an interview, one coach observed: *“I expect upperclassmen to become examples for others. They should understand the team system and help create a positive environment”*. Mentoring Other Players and Reliability in Tactical Execution are the two other influencing factors for ST21. In the former case, starting players are able to offer practical assistance to younger players in terms of football techniques and tactics. In an interview, one coach stated: *“A senior player should not only perform individually. They should help younger players”*. During matches, the latter refers to the starter’s ability to comprehend and implement the coach’s tactical instructions, thereby securing crucial games or plays. Teams require starters to provide more immediate and direct assistance to their teammates throughout the season, as opposed to the relatively indirect support expected at the beginning of a season. Although both situations involve retaining a starter position, the specific skills and qualities required of players differ.

Table 1. Factors Affecting the Mobility of Starters and Substitutes.

	Season	Role Changes	Factors
1	New	ST11 (ST-ST)	Football Experience Leadership Relationship with Teammates
2	New	ST12 (SU-ST)	Football Experience Practice Attendance Starter Vacancy
3	New	ST13 (New-ST)	Starter Vacancy Physical Talent Football Experience
4	New	SU11 (SU-SU)	Absence of Quick-learning Poor Communication Insufficient Practice Attendance
5	New	SU12 (New-SU)	Lack of Physical Talent Lack of Football Experience Lack of Athletic Experience
6	During	ST21 (ST-ST)	Football Experience Mentoring Reliability in Tactics Execution
7	During	ST22 (SU-ST)	Football Experience Practice Attendance Quick-learning
8	During	SU21 (ST-SU)	Injury Less Mistakes in Games Positional Competition
9	During	SU22 (SU-SU)	Quick-learning Communication Positional Competition

5.3.2. ST12 vs. ST22 (Substitute to Starter)

Players who were substitutes in the previous season may be promoted to starters in the new season under ST12. An ST22 refers to a player who was a substitute at the beginning of the season, but was promoted to a starter during the course of the season. According to Table 1, both types of players are required to possess Football Experience and Practice Attendance. To be more specific, the former refers to substantial experience in football games and competitions. The latter refers to the ability to consistently participate in team training. The reason for this is that only players who exhibit both of these characteristics can demonstrate their potential to the coaching staff. Additionally, they may be assigned to start later games. Nonetheless, ST12 has a distinctive feature: starter vacancy, which refers to a shortage of starting players in the same position. Many players will depart at the beginning of the upcoming season due to graduation, among other factors. ST22 has a special factor: quick-learning, which refers to the player's ability to quickly master the team's tactics and required skills. Promotion from substitute to starter is limited during the season, unlike at the beginning. This opportunity is only available to substitutes who demonstrate rapid improvement and outstanding performance in limited playing time. One coach observed, *"There have been players with good physical ability who did not improve as much as expected. Sometimes they relied too much on natural ability and did not focus on learning the game. Talent can help someone start, but long-term development requires effort"*.

5.3.3. SU11 vs. SU22 (Substitute to Substitute)

SU11 refers to players who were substitutes in the previous season and are still substitutes at the start of the new season. Players designated as SU22 begin the upcoming season as substitutes and remain in that role throughout the season. Both situations are characterized by poor learning abilities and poor communication with coaches or

teammates. In the first case, this refers to a limited ability for the athlete to acquire skills quickly and assimilate tactical information; in the latter case, it refers to a lack of interaction between the coach and the player. As a result of these factors, players are unable to improve quickly or form a cohesive team on the field. Due to this, it is difficult to gain the trust of coaches and obtain starting opportunities. In an interview, one coach remarked: *“A player can make amazing plays, but if they cannot communicate or make decisions under pressure, it affects the whole team”*. Another factor for SU11 is Insufficient Practice Attendance, which refers to a lack of consistent participation in regular training. During the beginning of the school year, this factor is especially relevant, as high school students face significant academic pressure and are also involved in various extracurricular activities. If a player is not able to attend football training, they will not be able to improve their skills rapidly and therefore cannot be promoted to the starting lineup. The SU22, however, has an additional factor: Positional Competition, which refers to intense competition at the same position. Due to the limited number of players per position, even if a substitute performs significantly better than their own prior performance, they cannot replace the existing starter.

5.3.4. ST13 (New to Starter)

Players who have been directly promoted to starter status at the beginning of the current season are referred to as ST13. The principal determinants of this outcome are Starter Vacancy, Physical Talent, and Football Experience. Starting vacancies are the most influential factor: senior players often leave at the beginning of the season, leaving vacancies for substitutes or incoming recruits to fill. Newly recruited players will be given these opportunities if no suitable substitute exists. Second, Physical Talent is important: American football is a highly competitive sport that places high demands on physical attributes—particularly speed, power, and agility—so recruits with superior physical qualities are more likely to be chosen. A newcomer with Football Experience (such as participation in middle-school teams or community clubs) has a greater chance of being chosen as a school-team starter.

5.3.5. SU12 (New to Substitute)

SU12 refers to the situation in which an individual team member is designated as a substitute at the beginning of the upcoming season. In practice, many young players begin their team careers as substitutes, for Lack of Physical Talent, Lack of Football Experience, and Lack of Athletic Experience. First, as for lack of physical talent, it is important to note that many of the players in 9th grade are still in the process of developing their physical abilities. In spite of this, they may still be selected for observation and development by the varsity team. The likelihood is that they will begin their team careers as substitutes. Furthermore, some players did not participate extensively in football training or competitions during middle school, resulting in a lack of knowledge and experience. As a third factor, there is a lack of athletic experience, i.e., a lack of experience in other sports that are relevant to the field. Soccer and ultimate frisbee are two sports that require agile running ability on open fields and are therefore relatively relevant to football. Conversely, sports such as badminton, tennis, and volleyball are less closely related to football fundamentals. A new players who lacks experience in sports such as soccer and ultimate frisbee is more likely to become a substitute player.

5.3.6. SU21 (Starter to Substitute)

In-season demotion to substitute is signified by SU21. The primary causes include Injury, In-game Mistakes, and Positional Competition. A significant factor is injury: when a starter sustains an injury that prevents normal participation, the coach must remove the player from the starting role temporarily and evaluate the player's ability to resume that role after a period of physical recovery. A second factor is frequent mistakes made by the starter in games, particularly errors that negatively affect the team's outcome, which may lead the coach to replace the starter. In this regard, one coach observed in an interview: *“If a player repeatedly makes mistakes or cannot complete their responsibilities, we have to consider changes”*. The final factor is Positional Competition. It is possible for substitutes or new players to develop rapidly during the course of the season, reaching or even surpassing the overall performance of the starting players. Coaches may also decide to replace certain starters in such cases in order to observe the subsequent results. During the interview, one coach stated the following:

“Senior players usually have more experience, but experience alone cannot guarantee a position. If someone stops improving or stops putting effort into the team, younger players should have a chance”.

This study further coded the nine role-change scenarios described above in two steps: axial coding and selective coding. The axial coding phase linked the 15 factors identified in the open coding stage to players’ performance as starters or substitutes and consolidated similar factors. Based on axial coding, seven categories emerged: *Experience*, *Talent*, *Chemistry*, *Consistency*, *Contribution*, *Compatibility*, and *Contingencies*. Table 2 presents the mapping between these axial codes and the underlying open coding items.

Table 2. Factor Coding.

Open Coding	Axial Coding	Selective Coding
Athletic Experience	Experience	Ability-related Factors
Football Experience		
Physical Talent	Talent	
Football Skills		
Quick-learning		
Reliability in Tactics Execution		
Relationship with Teammates	Chemistry	Social Factors
Communication		
Practice Attendance	Consistency	
Less Mistakes in Games		
Leadership	Contribution	Opportunities
Mentoring (Helping team members)		
Positional Competition	Compatibility	
Starter Vacancy		
Injury	Contingencies	

Experience includes both football-specific experience as well as participation in other sports (e.g., basketball, association football). Talent refers to athletic endowments as well as football-specific skills, including physical attributes, technical proficiency, rapid learning ability, and reliability in tactical execution. Chemistry refers to relations between teammates, including the quality of the relationships and the ability to communicate effectively. Consistency captures stable performance in training and competition, specifically regular participation in team practice and committing few or no on-field errors. The term Contribution refers to a player’s contribution to the team, including his leadership and his assistance to teammates. A player’s Compatibility with a team is determined by their fit together. It includes the ability to perform at a particular field position as well as the availability of a superior starter at that position. Finally, Contingencies refer to unforeseen events, such as injuries to players.

Using the results of the axial coding, this study identified and categorizes the factors into three types: *Ability-related factors*, *Social Factors*, and *Opportunities*. Within the Ability-related factors category, there are two subcategories: Experience and Talent. The Social Factors entail three indicators: Chemistry, Consistency, and Contribution. Table 2 provides two indicators of Opportunities: Compatibility and Contingencies.

5.4. Matthew Effects and Mitigation Strategies

The second research question of this study asked: “Why are starters difficult to replace by substitutes?” Upon reviewing the literature, it appears that this difficulty may be related to the Matthew Effect: some players become starters for contingent reasons and are subsequently given more opportunities to play and receive targeted training from the team, thereby strengthening their abilities. However, substitutes do not possess this initial advantage and are therefore unable to overcome or replace incumbents, regardless of their physical

endowment. This conjecture was corroborated in the interviews. For example, one starter remarked:

If I've already proven I can do something in a game, the coach will probably trust me before someone who hasn't had that opportunity. This creates a fascinating cycle. The starter gets more playing time because the coach trusts him. Because he gets more playing time, he has more opportunities to demonstrate that his trust was justified. The backup, meanwhile, may have fewer opportunities to prove he deserves the same trust.

Figure 3 illustrates the specific mechanism of the Matthew Effect in American football. A player attains starter status in the first stage. Consequently, he gains access to more opportunities (including increased playing time, more targeted training, and better relationships with teammates). This enhances his ability to perform at his position, ultimately strengthening and consolidating his position as a starter. As a result of this continuous cycle, substitute players find it increasingly difficult to surpass starters.



Figure 3. Matthew Effect in American Football.

Once the Matthew Effect is evident, the critical question is whether substitutes are able to break out of this cycle and compete for starter positions. In this study, 25 football players were interviewed and four strategies were identified that facilitate promotion: *Physical Development*, *Learning from the Sideline*, *Individualized Training*, and *Trust Building* (see Figure 4).

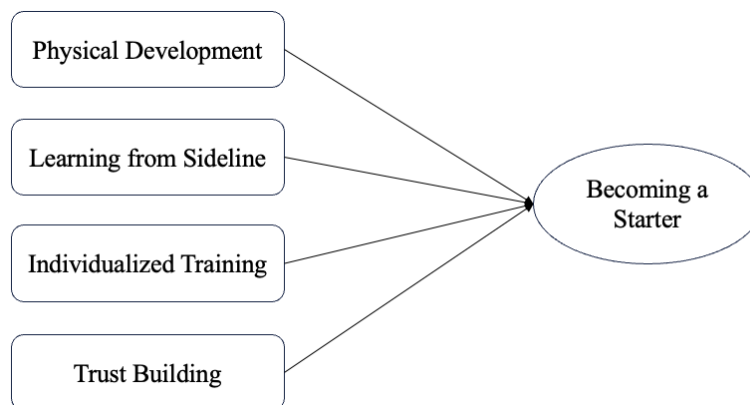


Figure 4. Strategies to Mitigate the Matthew Effect.

5.5. Physical Development

High school was a time when many players had not yet fully matured physically, and certain skills specific to American football were not fully developed. It is possible to address these issues through the use of targeted dietary regimens and training, thereby enabling players to gradually reach or even exceed the level of starters. One starter recalls the following about targeted dietary regimens:

To gain the size necessary for my position, the coaching staff placed me on a specialized diet. Gaining weight for football is not just about eating more. It was very structured. It was an integral part of training. It wasn't

just, “You should eat a lot”. There was a purpose behind it. Coaches’ perceptions of my body changed as a result of the changes in my body.

One of the principal limitations of another player was a slow initial acceleration. In order to rebuild the player’s capacity and confidence, the coach recommended targeted training interventions. He recalled:

There were times when I felt limited by my body. If you are unable to execute the play physically, then understanding the play won’t help you. As a result, physical development becomes a part of the process.

5.6. Learning from Sideline

The fact that substitute players cannot take the field most of the time does not mean they cannot learn or improve. Observation and analysis from the sidelines are effective methods of learning. As a player is on the field, he focused on the immediate surroundings. It is difficult, however, for a starting player to observe everything that is happening on the field in a comprehensive manner due to factors such as obstructed vision and on-field noise. Additionally, starters must manage their attention differently depending on the position they play and the tasks assigned to them. It is instead imperative that they focus on matters that are relevant to their own positions. A quarterback, for example, is generally concerned with the running routes of his own receivers and the defensive players covering them. An offensive lineman focuses his attention on the running backs and offensive linemen.

On the other hand, sideline observers have an excellent vantage point, enabling them to observe everything happening on the field and gain insight into the opponent’s defensive or offensive strategies, as well as their teammates’ strengths and weaknesses. Additionally, sideline substitutes are able to observe how starting players in the same position deal with different game situations. Furthermore, they can observe how opposing players organize their defense. As a result, for substitute players, observing the game from the sidelines represents a valuable learning experience. When fully utilized, it can enhance their competitive performance and game awareness. One player interviewed vividly described his mindset and behavior while watching from the sidelines:

I used to be small and not very strong when I was younger. When I was around other players, I realized they could do things I couldn’t. I couldn’t suddenly become the star. I started paying attention to what I could control. Learning was one of them. Whenever I wasn’t playing, I listened. I watched what happened before the play. Later, I watched people line up. I’d watch how defensive players react to formations. Instead of just watching a receiver catch the ball, I’d pay attention to his first few steps. I’d look at what the linebackers look at. When I was a substitute, I realized the sideline could almost be another classroom. As I sat there during games, I kept wondering: Why did the starter do that? How did the defender move? What did he see that I didn’t? Sometimes I watched a player for an entire drive instead of the ball. That became really important to me.

A substitute player who comprehends the dynamics and tendencies unfolding on the field will often be able to capitalize on that knowledge when given the opportunity to enter play. In this way, the disadvantage of a late entry can be turned into an advantage. The interviewee further noted:

There was a time when I would only come into games in certain situations. Maybe I’d get in a few plays, then back off. During those few plays, I was solely focused on proving myself. It was important to me to make something happen. But then I started treating every time I stepped onto the field as a test. I already knew the information if I watched the starter the whole drive before. I knew what the defense was doing. I knew how the defensive backs were acting. It was clear what kind of space was available. As a result, I wasn’t starting from scratch when I stepped in. That was probably the biggest thing I learned.

5.7. Individualized Training

Substitute players can also benefit from targeted training. Some players selected for school teams possess distinct abilities or experiences, whereas others display deficiencies in certain areas. In some cases, players possess excellent physical fitness, but they lack game awareness, uncertain about when to execute certain movements or how to make appropriate route-running decisions. Conversely, some players exhibit a high level of game awareness, but are not physically fit. It is possible to accelerate skill development for such players

through targeted training. One participant in the interview stated the following:

My coach's special training was important not just because it improved my physical condition. Instead, it gave the coaching staff a way to invest in me. I was treated like a player who wasn't ready, but could become ready by working hard. That made a big difference to me. It didn't seem like every backup player got the same kind of attention.

In another example, a player described how he gradually improved his initial acceleration by receiving individualized training and ultimately secured increased playing opportunities:

It's possible to recognize the play correctly and still be late. That's worse than not knowing what's going on. I need to learn more if I don't understand the play. But when you understand what's going on and your body doesn't react fast enough, you realize the problem is somewhere else. If you're a DB, half a second can make all the difference. I started noticing when I was losing ground. Is my first step too slow? Did I turn my hips too late? Did I react when the receiver accelerated? Do I have the wrong angle? Getting better at defense isn't one big problem anymore. I started breaking it down into smaller pieces. I focused more on acceleration and reaction than running. After turning, I worked on changing directions, reacting to movement, and maintaining speed. Also, I started watching how fast DBs moved. They weren't just fast, they created that speed. Sometimes it wasn't just about running faster. They moved before I did. I learned that football speed isn't just about top speed. It's also anticipating, reacting, positioning, and moving efficiently. That was probably the most important thing I learned. That changed how I played. I got more opportunities eventually.

5.8. Trust Building

Several players stressed the importance of earning the trust of the coach during the interviews. The concept of “trust” is not one-dimensional. Rather, it includes a wide range of information, such as the player's ability, awareness, overall understanding of the game, etc. A player vividly described the process of realizing how important it is to have a coach's trust:

Just because you're there doesn't mean you'll play. When I was younger, I spent a lot of time watching more experienced players. It wasn't always easy to tell the difference. There are some players who are physically gifted. There are others with years of experience. There were some who developed strong relationships with their coaches and teammates. Slowly, I realized the starting position was a form of trust. Whenever a coach puts you in a critical situation, they're basically saying, “I trust you not to mess this up”. That kind of trust takes time. You have to prove you're worth investing in. Players are not only competing on the field. They also compete for attention, specialized instruction, and eventually more responsibility.

Another player discussed the difficulties associated with “trust building”. In his view, gaining a coach's trust is not an easy task. Throughout their training, athletes must engage in multidimensional preparation and maintain sustained patience. He remarked:

It's so important to have trust in your coach. Trust isn't something you ask for. You build it. When you do what you're supposed to do, a coach trusts you. You showed up. You know the playbook. You communicate. You don't make the same mistake over and over. You respond well when the coach corrects you. Eventually the coach thinks, if I put him in, I'll get what I want. When a coach doesn't know whether a player will make the right decision, that uncertainty can affect playing time.

One player pointed out that a coach's trust in a player is different from the coach's liking for that player. It's more about player reliability on the field than trust. Here's what he said:

“Coach's trust” was sometimes misunderstood. Coaches don't always like you more. Coaches think putting you on the field won't cause any problem. When the coach tells you to cover someone and you do it consistently, that builds trust. Coaches hesitate if you make the same mistake repeatedly, no matter how good you are. Whenever I got an assignment from the coach, I tried to be predictable in an appropriate way.

Last but not least, the four strategies are not mutually exclusive. As a matter of fact, they are complementary and mutually reinforcing. In this regard, one player described how Physical Development and Individualized Training enhanced his confidence and capabilities:

However, I don't think my size alone makes me successful. If I'd grown bigger but stayed mentally slow, I'd just be a more powerful version of myself. I needed both of them. I needed to get stronger physically and learn the game. Eventually, the two things reinforced each other. As I got stronger and more confident, I could execute things I had already learned mentally.

6. Discussion

Using Social Stratification Theory, this study identified 15 factors that influence whether a player becomes a starter or a substitute on high school varsity teams. Axial Coding and Selective Coding allowed these factors to be categorized into three major categories: Ability-related Factors, Social Factors, and Opportunities. Further, the analysis concludes that the Matthew Effect is the primary reason why starting players are difficult to replace, and summarizes four methods for promoting substitutes to starters. The findings of this study are both theoretically significant and practically relevant in nature.

6.1. Theoretical Implications

The Social Stratification Theory (SST) has been successfully applied to economic, political, and educational research to explain a wide range of social phenomena. However, its application to competitive sports, in particular American football, has been limited. Using high school football teams as a case study, this study examines how starters and substitutes transition from one role to the next at the beginning of the season and during the course of the season. As a result, fifteen related determinants are identified, extending SST's empirical domain to competitive sports.

The existing literature on player rotation emphasizes human resource management, tactical design, and compensation contracts [6]. In contrast, the present findings indicate that role transitions are a social phenomenon that is influenced by factors other than ability. Societal factors and opportunities structures play equally significant roles in determining role transitions. Sports are characterized by athletic skills and performance capacities. In contrast to monetary or patrimonial wealth, they cannot be inherited, conferred, or purchased. These skills must be acquired through sustained training, competitive exposure, and coordinated interaction with teammates. Based on this perspective, it might be expected that social and cultural factors would limit the rotation of positions. This study contradicts that expectation. To become a starter, one must not only possess talent and experience, but also demonstrate social behaviors, including maintaining good relationships with teammates, effective communication, on-field chemistry, attendance at regular training sessions, minimizing errors in competition, demonstrating leadership, and assisting teammates on a proactive basis. American football is a highly competitive sport, injuries and multiplayer competition for the same position are common, and mobility determinants differ significantly between preseason and in-season. A player's ability, social, and opportunity factors determine whether he or she is selected as a starter.

The study contributes theoretically to the literature on cumulative advantage in sport by analyzing the Matthew Effect and possible countermeasures. In contrast to previous studies that viewed the Matthew Effect as impossible to reverse through individual effort, our findings suggest that the phenomenon is not insurmountable, at least in American football. We identified four strategies that materially assist substitutes in overcoming Matthewian cumulative disadvantages: Physical Development (to mitigate deficits in physical endowment), Learning from the Sideline (to acquire tactical knowledge and game knowledge without immediate playing time), Individualized Training (to target and remediate specific weaknesses), and Building Trust with Coaches (a patient, sustained process that can secure playing opportunities). Using these mechanisms, substitutes can disrupt the cumulative advantage and increase their prospects for promotion to starting positions.

6.2. Practical Implications

Newcomers also enter professional leagues through the draft at the beginning of each season. Moreover, players retire as a result of age, injury, and other factors. It is important to note that although the subjects of this

study are only high school/college varsity football players, the findings regarding factors influencing the status of substitutes and starters at different stages of the season (i.e., at the beginning of a new season as well as during the season) also have implications for professional sports leagues.

The findings of this study have practical implications for football managers, coaches, and player groups. While starting players have generally stronger abilities on average, they also have a higher salary/cost burden. In contrast, although many substitute players may currently be less capable than starters, their foundational abilities (including physical fitness and athletic ability) make them eligible for promotion to starting roles in the future. Managers should also recognize that a candidate's ability is not the only factor that determines whether or not he or she will become a starter. Providing certain players—especially younger ones—with appropriate opportunities may enable the team to achieve better performance at a lower salary cost.

Coaches should recognize that some ability gaps between starters and substitutes are the result of nonperformance factors. As part of their development efforts, head coaches should devote some time to younger players and reserve players. The purpose of this approach is to increase roster depth in the event of starter injuries, as well as to promote the development of the entire squad rather than only the starters, thereby maintaining player health over the course of a long season and increasing competitive outcomes.

The study's findings, particularly those concerning the Matthew Effect, provide concrete guidelines for reserve players seeking a starting position. Prospects should understand that gaining starter status is a combination of ability, social capital, and opportunity. Substitutes can increase their chances of promotion to the starting lineup with enough patience, targeted remediation of technical and physical deficits, and sustained efforts to earn the trust of coaches through consistent performance and engagement.

6.3. Limitations and Future Research

There are several limitations to this study that need to be addressed in future research. The first limitation of this study is the limited number of interviewees selected for this study, who were mainly located in a few high schools in mainland China. Additionally, it included a small number of players and coaches from American high school and college teams. Research in the future could include additional schools, additional countries and regions, and players from diverse cultural and racial backgrounds. As a result, the study's results would be more generalizable. The second issue is that the sample size used in this study is relatively small. Further research could involve interviewing more players and coaches in order to validate and deepen this research. In addition, this study employed a qualitative research methodology. There is no quantitative statistical analysis in this paper, despite the fact that it identified and summarized some factors not covered in the existing literature. Future quantitative research should examine the reliability of the conclusions.

7. Conclusions

In this paper, the determinants of starter versus substitute status in American football are identified and examined. The traditional literature emphasizes ability-related factors such as athletic ability and technical skill, but underestimates the importance of social factors. Based on Social Stratification Theory, 25 school team American football players and two coaches were interviewed. The study analyzed the data and identified fifteen factors that influence starter/substitute status. In the early part of the season, these factors have a different effect than in the middle of the season. As a result, I further aggregated the fifteen factors into three domains—Ability-related factors, Social factors, and Opportunities—of which the latter two play a comparable role in determining positional outcomes. In this way, the study extends the empirical application of Social Stratification Theory to competitive sports.

Furthermore, the results of this study indicate that substitute players cannot easily replace starting players due to the Matthew Effect. Substitutes can, however, rapidly close the gap with starters through physical development, learning from the sidelines, individualized training, and developing trust, and eventually join the team as starters. Based on these findings, a key question surrounding the Matthew Effect is addressed—namely, how to break the cycle of poor social mobility caused by starting players' first-mover advantages. This research holds theoretical significance for fields such as sociology and sports management, while also offering important practical implications for team managers, coaches, and players. Hopefully, the findings of this study will inspire

and motivate further research in the area of inequality in sports. Future research will also utilize quantitative methods to further validate and extend the conclusions presented in this work.

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Institutional Review Board Statement

Not applicable.

Data Availability Statement

The data is available upon request.

Conflicts of Interest

The author declares no conflict of interest.

Appendix A. Football Players and Coaches Interviewed for this Study

Table A1. Profile of Interviewees.

Player	Gender	Grade	Position	FB Exp.	Other Games	Role	Loc.	Duration *
A	Male	10	RB	0.5	Basketball, Tennis	Rotational	China	30
B	Female	9	RB	0.5	Basketball, Badminton	Regular starter	China	30
C	Male	12	WR	2	Basketball	Regular starter	China	30
D	Male	9	Rusher	0.5	Basketball, Tennis, Badminton	Rarely plays	China	30
E	Male	11	WR	2	Basketball, Soccer, Frisbee	Regular starter	China	30
F	Female	12	WR	1.5	Figure Skating	Rotational	China	30
G	Male	11	DB	1.5	Basketball, Soccer, Karate	Regular starter	China	30
H	Male	12	DB	2	Basketball, Tennis, Frisbee	Rotational	China	30
I	Male	9	WR	0.5	Basketball	Rotational	China	30
J	Male	11	WR	0.5	Tennis, Frisbee	Substitute	China	30
K	Male	11	QB	2	Basketball, Soccer, Track&Field	Regular starter	China	30
L	Male	11	Rusher	1.5	Basketball, Soccer	Regular starter	China	30
M	Male	11	DB	1.5	Basketball, Volleyball	Regular starter	China	30
N	Male	10	Rusher	0.5	Basketball, Soccer, Tennis, Frisbee	Rotational	China	30
O	Male	11	WR	1	Basketball, Soccer	Regular starter	China	30
P	Female	9	DB	0.5	Tennis, Frisbee, Fencing	Rotational	China	30
Q	Female	12	RB	1.5	Basketball	Rotational	China	30
R	Male	11	RB	1.5	Basketball, Soccer, Volleyball, Track&Field	Regular starter	China	30
S	Female	12	DB	1.5	Badminton	Regular starter	China	30
T	Female	9	QB	0.5	Volleyball, Tennis, Badminton, Frisbee	Regular starter	China	30
U	Male	12	WR	2	Basketball	Regular starter	China	30
V	Male	11	DB	1.5	Basketball	Rotational	China	30
W	Male	12	OL	8	N/A	Regular starter	US	40
X	Male	Freshman	TE	9	N/A	Regular starter	US	40
Y	Male	Freshman	DB	8	N/A	Regular starter	US	40

Table A1.Cont.

Player	Gender	Grade	Position	FB Exp.	Other Games	Role	Loc.	Duration *
Z	Male	N/A	N/A	15	N/A	Coach	China	60
AA	Male	N/A	N/A	14	N/A	Coach	China	60

* In minutes.

Appendix B. Questionnaire Survey of American Football Players in Mainland China

Thank you for taking the time to participate in this research. This questionnaire is part of a sociology research project that explores how starting and substitute roles are formed, maintained, and experienced within a high school football Team. The goal of the study is to better understand how players and coaches perceive team roles, opportunities, and position changes over the course of a season.

This questionnaire collects some basic background information and your initial perspectives. Based on the responses, participants may be invited to take part in a follow-up interview to discuss their experiences in greater depth.

Your participation in this questionnaire is voluntary. All responses will be kept confidential and used only for this research project. Any findings presented in reports or presentations will be anonymized, and no personally identifiable information will be shared.

Thank you again for your participation. Your experiences and perspectives are an important contribution to this study.

Section I. Background Information

1. Name

2. Grade

- ☐ Grade 9
☐ Grade 10
☐ Grade 11
☐ Grade 12

3. Height (cm)

4. Weight (kg)

5. Primary Playing Position

- ☐ Quarterback (QB)
☐ Running Back (RB)
☐ Wide Receiver (WR)
☐ Offensive Line (OL)
☐ Defensive Line (DL)
☐ Linebacker (LB)
☐ Defensive Back (DB)
☐ Other: _____

Secondary Position (optional):

Section II. Football Experience

6. How many years have you played football?

- ☐ Less than 1 year
☐ 1–2 years

- ☐ 2–3 years
- ☐ More than 3 years

7. How long have you been on the football team?

- ☐ Less than one semester
- ☐ About one year
- ☐ About two years
- ☐ More than two years

8. Do you participate in football training outside of school?

- ☐ Yes, I regularly train or play outside school.
- ☐ Occasionally.
- ☐ No.

9. Approximately what percentage of team practices do you attend?

- ☐ More than 90%
- ☐ 75–90%
- ☐ 50–75%
- ☐ Less than 50%

10. Besides football, which other sports do you regularly participate in? (Multiple answers allowed)

- ☐ Basketball
- ☐ Soccer
- ☐ Volleyball
- ☐ Track & Field
- ☐ Tennis
- ☐ Badminton
- ☐ Frisbee
- ☐ Other: _____
- ☐ None

Section III. Current Team Role

11. Which best describes your current playing role?

- ☐ Regular starter
- ☐ Rotational player
- ☐ Mostly substitute
- ☐ Rarely plays

12. Do you currently hold any leadership role? (Multiple answers allowed)

- ☐ Team Captain
- ☐ Position Leader
- ☐ Other leadership responsibility
- ☐ None

13. During last season, how many games did you play?

- ☐ All games
- ☐ Most games
- ☐ Some games

☐ None

14. During last season, how many games did you start?

- ☐ Every game I played
☐ Some games
☐ None

15. On average, how much playing time do you receive?

- ☐ Nearly the entire game
☐ Most of the game
☐ About half of the game
☐ Limited playing time
☐ Rarely play

Section IV. Experiences

16. During your time on the team, have you ever changed between being a starter and a substitute?

- ☐ I have always been a starter.
☐ I moved from substitute to starter.
☐ I moved from starter to substitute.
☐ I have experienced both.
☐ I have always been a substitute.

17. How satisfied are you with your current role on the team?

- 1 ☐ Very dissatisfied
2 ☐
3 ☐
4 ☐
5 ☐ Very satisfied

18. Overall, do you think the current starting lineup is fair?

- 1 ☐ Strongly disagree
2 ☐
3 ☐
4 ☐
5 ☐ Strongly agree

Section V. Your Perspectives

19. In your opinion, what are the three most important factors that influence whether a player becomes a starter? (Select up to three.)

- ☐ Football skills
☐ Physical ability
☐ Football knowledge
☐ Practice attendance
☐ Work ethic
☐ Coach's trust
☐ Leadership
☐ Teamwork
☐ Communication

- ☐ Experience
- ☐ Playing position needs
- ☐ Positive attitude
- ☐ Extra training outside school
- ☐ Seniority
- ☐ Academic performance
- ☐ Other: _____

20. Is there anything else you think is important in determining who becomes a starter?

21. Approximately what is your current unweighted GPA? (Optional)

- ☐ Below 2.5
- ☐ 2.5–2.99
- ☐ 3.0–3.49
- ☐ 3.5–3.79
- ☐ 3.8–4.0
- ☐ Prefer not to answer

Appendix C. Starter Interview Guide (Mainland China)

Theme 1. Football Background

Could you tell me about your football journey?

Possible prompts:

- How did you first become interested in football?
- How did you join the school team?
- What was your first season like?

Theme 2. Becoming a Starter

Could you tell me the story of how you first became a starter?

Possible prompts:

- How long had you been on the team?
- Was there a particular moment when you realized you were ready to become a starter?
- What do you think helped you earn that opportunity?

Theme 3. Maintaining a Starting Position

What do you think helps a player remain a starter?

Follow-up:

- Do you feel your current starting position is secure?
- Why or why not?

Theme 4. Qualities of a Starter

In your opinion, what qualities are most important for becoming a starter?

Possible prompts:

- Athletic ability
- Football knowledge
- Experience
- Leadership

- Work ethic
- Communication with teammates

Theme 5. Opportunities After Becoming a Starter

Since becoming a starter, have you noticed any changes in your opportunities within the team?

Possible prompts:

- Playing time
- Practice opportunities
- Coach feedback
- Leadership responsibilities
- Trust from teammates

Theme 6. Support

Who has influenced or supported you the most in your football journey?

Possible prompts:

- Coaches
- Teammates
- Family
- Friends
- Your own efforts

Theme 7. Backup Players

What role do backup players play within the team?

Follow-up:

- How important are backup players to the team's success?
- How do starters and backup players interact?

Theme 8 (Optional)

If the participant trains outside school: Could you tell me about your football training outside school?

Possible prompts:

- Where do you train?
- How often do you train?
- Why did you decide to train outside school?

Theme 9 (Optional)

If the participant has a high GPA: Do you think your approach to academics has influenced your development as a football player?

If yes:

- In what ways?

Appendix D. Rotational starters and Substitutes Interview Guide (Mainland China)

Theme 1. Football Background

Could you tell me about your football journey?

Possible prompts:

- How did you first become interested in football?

- How did you join the school team?
- What has your experience on the team been like?

Theme 2. Becoming a Starter

How do players usually become starters on this team?

Follow-up:

- Have you ever felt that you were close to becoming a starter?
- Could you tell me about that experience?
- What do you think influenced the coach's decision?

Theme 3. Qualities of a Starter

In your opinion, what qualities are most important for becoming a starter?

Possible prompts:

- Athletic ability
- Football knowledge
- Experience
- Leadership
- Work ethic
- Communication

Theme 4. Personal Development

What do you think would help you become a starter?

Follow-up:

- What are you currently trying to improve?
- What challenges have you experienced?

Theme 5. Support

Who has influenced or supported you the most in your football journey?

Possible prompts:

- Coaches
- Teammates
- Family
- Friends
- Your own efforts

Theme 6. Opportunities

Do you think starters receive different opportunities from backup players?

Possible prompts:

- Playing time
- Practice opportunities
- Coach attention
- Leadership opportunities

Theme 7. Backup Players

What role do backup players play within the team?

Follow-up:

- How important are backup players?

- How do backup players contribute to the team?

Theme 8 (Optional)

If the participant trains outside school: Could you tell me about your football training outside school?

Possible prompts:

- Where do you train?
- How often?
- Why?

Theme 9 (Optional)

If the participant has a high GPA: Do you think your approach to academics has influenced your football development?

If yes:

- In what ways?

Appendix E. Coach Interview Guide

Section I. Selection Criteria

Imagine two players.

- Player A is more athletic.
- Player B has better technical skills and game understanding.

Who would you choose as a starter? Why?

Follow-up:

- Are there situations where your answer would change?

Section II. Mobility

How often does the starting lineup change?

Follow-up:

- Under what circumstances do you change the lineup?
- Can freshmen become starters?
- Can senior players lose their starting positions?
- What usually causes these changes?

Section III. Player Development

When evaluating new players, what qualities do you look for first?

Follow-up:

- Does this change as players become older or more experienced?
- How do your expectations differ between freshmen and upperclassmen?

Section IV. Coaching Philosophy

Besides winning games, what are your main goals as a coach?

Possible prompts:

- Player development
- Leadership
- Character development
- Team culture

- Enjoyment
- College recruitment
- Academic balance

Section V. Reflection

Could you describe a player who exceeded your expectations?

- What surprised you?

Could you describe a player who did not develop as expected?

- What do you think happened?

Appendix F. Professional Player Interview Guide (US)

Football Background

Did you play football in high school?

Lineup Decisions

How are starting positions usually determined in professional football?

Mobility

How often does the starting lineup change?

Seniority

How important is seniority in determining the lineup?

Coach's Trust

How important is a coach's trust when deciding the starting lineup?

Opportunities

Can two players with similar ability receive different opportunities?

If yes:

- Why do you think this happens?

Comparison

What are the biggest differences between high school football and professional football in terms of choosing starters?

Advice

Based on your experience, what advice would you give to a high school football coach about selecting starters and developing players?

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