

# Using NBA Star Players Rather than relying on One Star: A multi-level Study on the Work Goal Achievements of organizations and individuals

YUN-ZHONG WANG\*, FANG-YILO\*\*

(\* ) Lecturer, Center for Design & Culture Research, Department of Design, Hubei Institute of Fine Arts

(\*\* ) Professor, Department of International Business, Feng Chia University  
Visiting Professor, University of Illinois at Urbana-Champaign, U.S.A.

*This research explores the influence of NBA stars' individual ability, teamwork contribution, and organizational resource endowment on the achievement of work goals. We adopt multi-level analysis and take data from the NBA's 30 teams that each play 82 games in the regular season, obtaining 2,460 games. HLM results find that star players who provide support to their teams are able to help achieve work goals. An organization that has a good team climate and focuses its resources on its star players is beneficial for the achievement of work goals. Nevertheless, over-reliance on star athletes has a negative impact on organization.*

KEY WORDS: Person-organization Fit, Team work effect, Star capability, Achievement of work goals, HLM (Hierarchical *Linear Models*).

## Introduction

A large number of studies has pointed out that the individual ability of employees is key to improving organizational performance (Gambardella et al., 2015; Manuti et al., 2017). Based on this, Wright (2014) suggests that compared to ordinary employees, star employees have a disproportionate contribution and role in the growth of organizational performance. Chen and Garg (2018) put forward the "80-20 Rule", which means that 80% of an organization's work is often completed by 20% of the employees, and those

---

Correspondence to: Fang-Yi Lo, Professor, Department of International Business, Feng Chia University (e-mail:fylo@fcu.edu.tw)

who are really capable of doing and completing this work are often star employees. However, from the perspective of organizational learning, the key to achieving work goals is to let the right person do the right thing, rather than relying on one person with outstanding ability.

Following this line of thought, we notice the same phenomenon in the National Basketball Association (NBA). Star athletes are regarded as top performers, have talent capability, are disproportionately productive, and facilitate their organizations to improve overall performance (Ernst & Vitt, 2000). Hence, a question arises: How do stars' knowledge and capability influence their organization? Generally, there are two situations when a star transfers to another team: there is an immediate decline in performance, or the group becomes better. Is this decline or increase derived from the star's capability changing or from a team's strategic decision-making? Groysberg (2008) notes that an organization hiring stars may be perceived as doing something that is value-destroying and which may not actually improve the team's competitive advantage. This view obviously implies star capability and talent change with organization. Similarly, Stiroh (2007) observes that a star's capability could change after obtaining a higher salary, especially the longer the signed contract is; however, subsequent individual performance typically turns worse and worse instead of getting better. In fact, even the superstar cannot represent a competitive advantage for an organization unless organization-specific skills and capabilities contribute to the star's performance (Peteraf, 1993). When an organization has an over-reliance on a star, it may cause the normal operations of the organization to be roiled or even inefficient (Yukl, 1999). Moreover, Call et al. (2015) provide a possible interpretation for stars' contribution in an organization, in which there is a certain deviation between the working abilities that the organization values and those that the individual understands. An organization hopes that stars' abilities can be duplicated, but the stars may be unwilling to share their skills. Hence, the conflict between the organization and the individual may result in worse overall team performance.

After summarizing above the general theoretical view of previous research on this issue and pointing out the character of scarcity and value of a star, we have to admit that a star's capability at integrating into an organization and the subsequent partnership can ameliorate the situation and status of the group. We also note that the necessary prerequisite of star value creation is organization-specific capability rather than residing in individual talent. Past research mainly discusses the tacit knowledge and capability embedded in organizational structures and emphasizes that stars transfer their ability to a new team, which results in the achievement of value creation.

Hence, an organization needs star employees to achieve complex work goals, rather than building up teams to help stars complete the work themselves. In other words, a subtle relationship exists between an organization and its stars. An organization needs star employees to bring innovative ideas and suggestions to the organization through their unique personal charm and working ability. Therefore, our study believes that the fit between individuals and organizations is an important basis for achieving strategic goals. Based on the person-organization fit theory (P-O Fit), stars and teams greatly match work goals when the organization and the individual are highly dependent upon one another (O'Reilly et al., 1991).

### **Literature review**

The concept of P-O Fit originally discusses work satisfaction and performance in a learning organization. Fernández-Mesa & Alegre (2015) believe that organizational learning can effectively promote personal work performance, but in fact, good performance does not mean that individual work goals can be achieved (Hung et al., 2011), especially when personal profit is sacrificed when organizational growth moves higher. When standing by the organization, some personal characteristics acquired by groups through the process of continuous learning will be transformed into competitiveness and create future growth (Senge, 1990; Marquardt, 1996). However, the vision of an organization is different from personal work goals. Thus, whether an organization and a person are a proper fit seems particularly important. This study thus proposes the importance of star employees as individual contributors and aims to explore whether the organization shapes stars or stars make organizations.

### **STAR**

The uniqueness and scarcity of stars make them different. Prior research suggests that for both stars and their organizations, the alignment or fit between individual and group determine their value (Posner, 1992). Organizations typically adopt ideologies to restrict stars' activity and to justify the team decision making to individuals (Weiss and Miller, 1987). They hope stars are attracted to organizations, because individuals' value and goals run in accordance with groups. However, the star-specific individual difference also is eroded from organizational ideologies.

A learning organization emphasizes the importance of skills' imitation

and transfer capabilities. Chen and Garg (2018) state that building a team around stars helps to improve the utilization rate of them when organizations and individuals depend on each other. To do so, stars should improve their personal work goals and expectations as their seniority grows and promote organizational learning through the fit process. Similarly, the organization also hopes to rely on stars' excellent capabilities and qualities, which can help non-star employees achieve their work goals. In spite of the group's hope that the unique skills and abilities of stars can be imitated, learned, and even absorbed, when the stars in organizations have more abundant resources and higher status than non-star employees, they are in fact more likely not willing to face a situation whereby others in the organization have the same status as themselves (Aguinis & O'Boyle, 2014). In view of this, our study divides a star's abilities into individual ability and cooperation ability. Individual ability emphasizes the star's personal contribution, while cooperation ability highlights the star's ability to provide feedback to the organization. The significance of this division lies in that we clearly know that there are stars who do not want to share their abilities. In cross-level research, we must further understand whether the abilities of different attributes at the individual level improve when combined with the organizational competitive advantages at the group level and have an impact on the achievement of work goals. Accordingly, the first hypothesis proposed in this study runs as follows.

**H1: A star's cooperation ability contributes more to the achievement of work goals than does individual ability**

*Individual ability*

From the past literature, the hierarchical relationship between an organization and an individual facilitates improved synergy performance. For instance, Humphrey and Schmitz (2002) suggest that an organization's encouragement to employees can make them feel happy and together in spirit, which is also the most effective way to stimulate individual ability. On the contrary, Tepper (2000) points out that inhibiting employees' individual ability, attacking employees' self-confidence, or suppressing employees' enthusiasm will reduce employees' willingness to achieve work goals. Therefore, this study believes that if stars can receive more preferential treatment and resources, even by obtaining some privileges in the organization, then this will be more conducive to giving play to their individual ability. The next research hypothesis is as follows.

**H1-1: The individual ability of a star improves the achievement of work goals***Cooperation ability*

In spite of stars' talent being unique, organizations always try to avoid over-individualization of employees via suppressing their individual differences. Therefore, stars are always scarce in an organization that motivates and effectively helps non-star employees through learning (Collings, 2014), as the organization wants them to be homogeneous with others. Stewart and Barrick (2000) believe that making non-star employees absorb the abilities of star employees will improve individual work abilities. From this, an organization needs stars, but it will not make full use of stars' unique skills and abilities or even fear that their personality or eccentric talents will damage the organization. Thus, we find in competitive sports that talented athletes are often required to perform more in line with team needs. In other words, organizations usually give priority to employees whose skills exactly match their work goals. Therefore, this paper offers the following hypothesis.

**H1-2: The cooperation ability of a star improves the achievement of work goals**

## TEAM

From the view of organizational learning, stars interacting with other members in the group are in the process of knowledge or technology transfer. The interdependent relationship is sometimes between organizations and individuals, in which stars' talent is regarded as not naturally given, but rather due to hard work and excellent self-learning ability. Marquardt (1996) believes that the characteristic of a learning organization is that individual learning can promote the formation of a certain learning atmosphere within the organization. Hence, organizations with stars usually emphasize their need to fit organizational goals and visions as a team. For instance, when NBA stars first join a team, other members of the team must go through a long period of adjustment as well. Only when the star is fully integrated into the organization can a good teamwork effect be formed; when this reaction occurs, team cohesion will change. This reveals the organizational culture and teamwork effect formed by mutual support, trust, and respect between star and non-star employees.

We further divide teamwork into 4 key factors: (1) team competitiveness, (2) team cohesiveness, (3) team climate, and (4) team reliance. Past research indicates that organizational competitiveness and working environ-

ment actively impact performance (Zain & Kassim, 2012). It also implies an organization can improve the competitive advantage that relies on an excellent team climate and cohesiveness, whereas team cohesiveness increases with the individual reliance on a group. However, the individual difference of stars results in the group exhibiting an over-reliance on them, reducing the probability of achieving work goals. We notice a conflict between team cohesiveness and reliance. Therefore, the next hypothesis is as follows.

## **H2: Team cohesiveness contributes more to the achievement of work goals than team reliance**

### *Team competitiveness*

Tainsky et al. (2014) take the NBA as an example to explain that team competitiveness helps increase the local audience as well as raise demand for products around the relevant stars. It means that competitive teams have created a fertile ground for cultivating and offering more possibilities for stars. In addition, team competitiveness and star capability also can form a virtuous circle from the individuals' mutual recognition and empathy (Mulholland, 2004). When an individual identifies with another one, team competitiveness will turn into a driving force of a learning organization, thus spurring individuals to face work more actively, because their identity is strong. Therefore, this study proposes the following hypothesis.

## **H2-1: Team competitiveness improves the achievement of work goals**

### *Team cohesiveness*

We further find that strong individual identity easily triggers the problem of a fit between an individual and an organization. Based on the P-O fit theory, Amos & Weathington (2008) suggest that cohesive teams need to match individuals in many aspects, such as personality, ability, interest, personality traits, and values, while they also have feedback positive impacts on the organization. Therefore, this study believes that individual work goals are sure to be achieved through joint efforts between star and non-star members of teams. In an environment where individuals and organizations depend on each other, team cohesiveness is bound to have a positive role in promoting the realization of work goals. The next hypothesis follows.

**H2-2: Team cohesiveness improves the achievement of work goals***Team climate*

This study considers the situation of emotional fit between organization and individual from the perspective of P-O fit. Hence, we believe that team climate can be regarded as the embodiment of individuals' emotional links within an organization, which can affect the organization's innovation ability, partner relations, work intentions, etc. and may further lead to changes in its performance and visions. Pirola-Merlo et al. (2002) similarly point out that research and development (R&D) teams are hindered in organizational performance or organizational behavior to a large extent by the factors of individuals' emotions. A not very good team climate may trigger friction between star and non-star employees or even contradictions between individuals and the organization. On the contrary, a very good team climate can play a positive intermediary role between the strategic orientation of an organization and the objectives of individuals (Gil, et al., 2005). Thus, this study presents the following.

**H2-3: Team climate improves the achievement of work goals***Team reliance*

After discussing the above issues, it is particularly important to analyze whether or not organizations should rely on star employees. Taking the NBA as an example, teams have different attitudes towards star players; for instance, the Spurs do not rely too much on the performance of stars on the basketball court, as the coaches have an absolute voice, and players are more like parts of a large instrument. These star players are often not encouraged to perform too outstanding beyond the coach's expectation; instead, they are needed to show only the skills the team needs, and these tactics are strictly implemented according to the coach's instructions. This purpose is two-fold. First, it reduces the unknown factors in a game as much as possible; second, it inhibits the stars from performing better. We believe that no matter the staff's ability and performance, the organization should accept a person's excellent side, but also bear the unknown risks that it may bring. Therefore, giving star employees more trust and space means that organizations have to bear more factors of uncertainty. According to the empirical research of Chen et al. (2018), a team's trust in and expectation of stars will make them perform better, and the team's chemical reaction will be better. However, does an over-reliance on stars' per-



sonal abilities or skills still help organizations or individuals achieve their work goals? Thus, this study presents the next hypothesis.

## **H2-4: Team reliance declines the achievement of work goals**

### *Organizational resource endowment*

Past scholars have fully tested the aspect of organizations' resource endowment in regards to the direct relationship between organizational competitive advantage and performance. From the resource-based theory, this study considers different levels of competitive advantage, including organizational and individual levels, and believes that the relationship between teamwork effect, organizational resource endowment, and star individuals may have an interaction effect. Jaramillo et al. (2011) point out that organizational resource endowment, employee satisfaction, and organizational reputation have positive effects on organizational performance and achievement of work goals. On this basis, our research utilizes the concept of cross-level analysis to emphasize the correlation between organizational-level resources and individual-level capabilities and focuses on the impact of organizational resource endowment on shaping individual capabilities. Accordingly, this study proposes the following hypothesis.

## **H3: Organizational resource endowment influences the achievement of work goals**

### *Organizational slack*

From the perspective of the resource-based view, it is known that slack resources affect organizational performance, thus influencing the achievement of work goals (Renn et al., 2001). George (2005) takes listed companies as an example and states that slack in the human resources and finances of organizations has a positive effect on their financial performance. Accordingly, we believe that the more organizational slack resources there are, the greater this helps to achieve work goals. Therefore, the next hypothesis is set forth.

## **H3-1: Organizational slack improves the achievement of work goals**

### *Organizational size*

The performance of an organization is considered to be closely related to its size and the external environment (Stanwick & Stanwick, 1998). General-



ly speaking, the larger the organization is, the richer are its human resources. From the advantage of organizational resources, this also means that a larger organizational scale implies easier access to the R&D and innovation performances of enterprises (Real et al., 2014). Similarly, Gentry (2013) proposes that the larger the organizational scale is and the more talents it reserves, the better is the innovation performance of enterprises, and the better is the improvement of the R&D and innovation capabilities of organizations. Accordingly, this research states the next hypothesis.

### **H3-2: Organizational size improves the achievement of work goals**

#### *Organizational resource allocation*

As Chen and Garg (2018) stress, star employees in an organization take on more work than non-star employees. Our study believes that this is actually an embodiment of the organization's resource allocation, and the organization will tend to integrate superior resources to allow more star employees, who are more capable and trustworthy, to perform more important work. In the process of making good utilization of stars, star individuals will also receive more organizational resources. Accordingly, Aral and Weill (2007) explain that when an organization needs talents, the allocation of resources spurs a change in organizational performance. When organizations need star employees to display their skills, they should also be given the corresponding resource allocation to help them finish their work smoothly. Therefore, we set the following hypothesis.

### **H3-3: Organizational resource allocation improves the achievement of work goals**

#### **Research Framework**

Individual level: Our study examines the influence of star capability on the achievement of work goals. Star capabilities include two types: individual ability and cooperation ability.

Group level: Our study investigates the effect of teamwork and organizational resource endowment on the achievement of work goals. The team cooperation aspect includes team competitiveness, team cohesiveness, team climate, and team reliance on stars, while the organization's resource endowment aspect contains organizational slack, organizational size, and organization resource allocation. The research framework is in Figure 1.

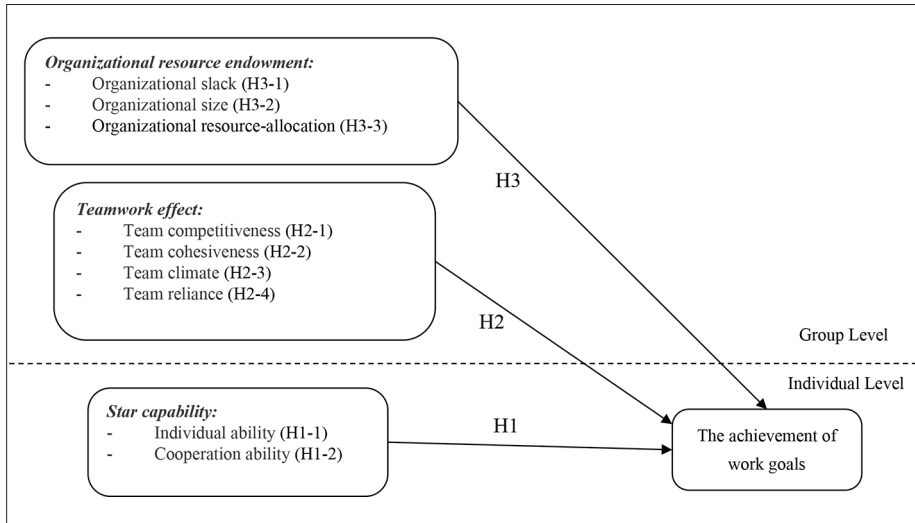


Figure. 1. - Framework.

## Methodology

Our research takes the NBA as the background, because it has long been a target by many scholars in the field of human resources. We believe that this sport is not only an audience event, but also a successful business case with just under 100 years of development (Simmons & Berri, 2011). The intensive human capital, well-established salary system, and abundant marketing resources in the NBA are of great significance for scholars to further explore the relationship between organization and human capital. In addition, the interaction between players can reflect the mutual trust between the organization and individuals (Day et al., 2012). In summary, the NBA is suitable for verifying the theory of this study.

## SAMPLE DATA

This study takes regular season data (the 2018-2019 season), as published by Basketball Reference, as an analysis sample (<https://www.basketball-reference.com>). The database is widely used in prior research and endorsed by experts in NBA analytics (e.g. Chen and Garg, 2018; Kubatko et al, 2007). Following the NBA's official set-up, we divide the 30 teams in the league into East/West, for a total of 2460 related datapoints. According to

the definition of stars on the NBA official website, we use Value Over Replacement Player (VORP) to screen out the stars of each team and measure the abilities of such stars to obtain the individual-level sample data required for this study (Aguinis et al., 2012).

## Measure

### DEPENDENT VARIABLE

#### *The achievement of work goals*

Researchers of NBA games often regard the game outcome as a criterion to measure the achievement of team or individual goals (Lacey et al., 2016; Pilette et al., 2010). Thus, this paper modifies the measurement method of Halevy et al. (2012) by taking the difference between the result scores of the two teams to measure the achievement of the work goal. We believe that setting a dummy variable can only indicate a win or a loss of a game, but in actual games, players have more and higher goals to pursue, especially for star players, whose desire for victory is fully reflected on the court. Therefore, we adopt the difference of the game score to measure the achievement of the work goals.

## Independent Variable

### Individual-level:

#### *Star capability*

### INDIVIDUAL ABILITY

This study uses ESPN's official game score to measure the star's individual abilities, which include the measurement of three parts: scoring ability, support ability, and consuming team resources and turnover (Chang, 2018). This is expressed in the following equation:

$$\text{Individual ability}_{ij} = PTS_{ij} + SA_{ij} - CR_{ij} \quad (1)$$

First, we discuss the part of the stars' scoring ability. It is denoted by in equation (1), indicating the score contributed by star  $i$  in  $j$  games. Different positions on the court (e.g., center, guard, forward) have various obligations and roles, which influence the score a star player can get in a game.

Second, we discuss the part of support ability and consuming team resources. Here,  $SA_{ij}$  and  $CR_{ij}$  denote a star's auxiliary contribution to  $j$  games and his consumption of team resources, respectively. The measurement of  $SA_{ij}$  includes the four factors of assists, rebounds, steals, and blocks, which are denoted in this study as  $AST_{ij}$ ,  $RB_{ij}$ ,  $STL_{ij}$ , and  $BLK_{ij}$  in the following equation:

$$SA_{ij} = (AST_{ij} + RB_{ij} + STL_{ij} + BLK_{ij}) \times VBP \quad (2)$$

We note that VBP (Value of Ball Possession) means the average score of star players in 82 games (Mateus et al., 2015). In addition, the measurement factors of  $CR_{ij}$  include field goal missed, turnover, and personal foul, which are denoted as  $FGM_{ij}$ ,  $TOV_{ij}$ , and  $PF_{ij}$ , respectively. Based on this, we get the following equation:

$$CR_{ij} = (FGM_{ij} + TOV_{ij} + PF_{ij}) \times VBP \quad (3)$$

We combine Equations (1), (2), and (3) to obtain Equation (4):

$$\begin{aligned} Individual\ ability_{ij} = & PTS_{ij} + (AST_{ij} + RB_{ij} + STL_{ij} + BLK_{ij}) \times VBP \quad (4) \\ & - (FGM_{ij} + TOV_{ij} + PF_{ij}) \times VBP \end{aligned}$$

## COOPERATION ABILITY

Compared with the individual ability of stars, scholars in the field of organization also pay attention to their cooperative abilities. Whether the stars can have good chemical interactions with the organization is the fundamental path for maximizing a star's utility. Therefore, we note that many studies have different ways to statistically evaluate the overall performance of a player. For example, the Hollinger game score (Hollinger, 2005) and Allen Barra's rating system (Striroh, 2007) usually include points scored, field goals and attempts, rebounds, assists, steals, blocked shots, and so as data relevance of a game. Accordingly, we divide a star's cooperation ability into three parts: direct cooperation, indirect cooperation, and miss cooperation.

We specifically denote direct cooperation by assists, while indirect cooperation includes steals, blocks, and rebounds. All of above the indices reveal that a star adopts a direct or indirect way to increase teammates' odds of an effective and transformative offense. Cooperation ability consists of these essential factors, and thus we modify Allen Barra's model as:

$$\begin{aligned} \text{Cooperation ability}_{ij} = & 1.0AST_{ij} + (1.4BLK_{ij} + STL_{ij} + 0.85ORB_{ij} + 0.5DRB_{ij}) \\ & - (0.6FGM_{ij} + 0.8TOV_{ij}) \end{aligned} \quad (5)$$

From equation (5) the embodiment of a star's ability after weight calculation highlights the importance of team cooperation. For an organization, what matters is not the level of a star's ability, but whether the star can integrate into the organization. For the part of direct cooperation, we set the weight of assists at 1.0, which is regarded as a baseline. According to Allen Barra's rating system, we define the weight of indirect cooperation and miss cooperation, which include blocks, steals, offensive rebounds, defensive rebounds, field goals missed, and turnovers at 1.4, 1.0, 0.85, 0.5, 0.6, and 0.8, respectively.

### Group-level:

#### *Teamwork effect*

#### TEAM COMPETITIVENESS

This paper refers to McGoldrick and Voeks's (2005) discussion of the competitiveness of NBA teams and notes that a team's victory rate is the embodiment of its competitiveness. In other words, a team with a high victory rate means that the team has stronger competitiveness. Therefore, this study takes the victory rate of each team in 82 seasonal games as the measure of team competitiveness.

#### TEAM COHESIVENESS

Team cohesiveness is also an expression of trust among members of an organization. According to Zhang et al. (2019), stronger team cohesion leads a team in all aspects of data, with defensive rebounds and turnovers being the key indicators to measure weak teams. On the other hand, strong teams play a decisive role in running enthusiasm and offensive efficiency. Taylor et al. (2017) also point out that a team will experience travel stress during long-distance flights for away games, thus leading to the team's weak cohesiveness and a decrease in its competitive efficiency.

This paper holds that a decrease in a team's competition enthusiasm, whether due to fatigue or other reasons, inevitably reduces its cohesiveness and causes a crisis of trust among the players. However, all such issues are

reflected in the team's offensive efficiency. Therefore, based on the Moore and Scott (2013) model, we take the Effective Field Goal Percentage of the team as a measure of team cohesiveness:

$$TeamEFG_{tj} = \frac{(FG_{tj} + 0.5 \times TFG_{tj})}{FGA_{tj}} \quad (6)$$

Effective Field Goal Percentage (EFG) = (field goals + 0.5 \* three-point field goals) / field goals attempted by team  $t$  in  $j$  games.

#### TEAM CLIMATE

According to the NBA on-court chemistry effect, as noted by Maymin et al. (2013), when the fit between players is greater, the team atmosphere is better, and the players' performance on the court is more positive. When the team climate is worse, the players will play passively during the game; at this time, the increase in forced and unforced errors by the team is the embodiment of a player's state and team climate (Zhang et al., 2017). Therefore, this study takes the number of team turnovers in the match as the measure of team climate. Considering that teams with fewer turnovers denote better teamwork ability, we use turnover as the proxy variable of team climate and multiply it by "-1".

#### TEAM RELIANCE

According to Chen and Garg (2018), the dependence of NBA organizations on star athletes can be measured by the concept of shot balance; the higher the team's star dependency is, the more shots the star takes. Therefore, we modify the shot balance model, as defined by Shea and Baker (2012), to obtain:

$$Shot\ balance_{tj}^k = \frac{\sum_{k=0}^n S_{tj}^k \log(S_{tj}^k)}{\sum_{k=0}^n M_{tj}^k \log(M_{tj}^k)} \quad (7)$$

Here,  $S_{tj}^k$  is the number of shots taken by star  $k$  in  $j$  games for team  $t$ . In the same way,  $M_{tj}^k$  is star  $k$ 's playing time for team  $t$  in  $j$  games. According to this, the star's shot balance in the team is obtained. It should be noted that this study only measures players whose VORP value is determined as STAR. We find that the star shot balance of some teams is 0; for example, the Suns.

In other words, these teams do not exhibit star dependence. We define this type of team as a civilian team, whereby the higher the shot balance is, the more over-reliance the team has on its stars.

### *Control variable*

#### COACH EXPERIENCE

To avoid the confounding effect of related variables, we add a control variable for coach experience. In competitive games, star performance and game stats not only denote individual capability, but also depend on the team coach. Koschmann (2019) takes the NFL as a case study to indicate that better coaches strengthen player incentives to perform. Thus, we utilize coach experience as a controlling variable. It is measured by the coach's regular season win percentage.

### *Organizational resource endowment*

#### ORGANIZATIONAL SLACK

The stability of the organizational structure is closely related to the reserve of talents. According to the description of Solow (1994) in the organization growth theory, redundant personnel are helpful to the long-term development of the organization in the future. Based on this, we believe that, although NBA teams can only register 14 players on the active list, each team will reserve fresh troops outside the player list. According to the list of season players, as published on the official website of the NBA, this study includes the reserve players of each team in the NBA Gatorade League and uses the number of reserve players as a measure of organizational slack.

#### ORGANIZATIONAL SIZE

Following the definition of the NBA salary cap (Késenne, 2000), this study uses the team budget size as a measure for the scale of organizational resources. In order to form an expensive team or obtain superstars, when a team's salary and team expenses exceed the limit of the NBA salary cap and it pays a luxury tax, we consider this organization size as being larger. We obtain a summary of NBA contracts from the website <https://www.basketball-reference.com> and process the data with a logarithm in order to limit their equivalent difference.



## ORGANIZATIONAL RESOURCE ALLOCATION

Based on the perspective of pay dispersion, this research utilizes the salary difference of players as a measure of employee resource allocation. For instance, Carleton et al. (2016) consider that controlling tenure and salary reveals the abusive leadership influenced task performance over players' careers. Indeed the controlled salary dispersion leads to a formed hierarchy that even hurts cooperation and performance in an organization. Some star players are reduced income does not help to organizational performance in a contract year. Instead, the health competition leads to different salaries that can effectively facilitate coordination and performance between star and non-star employees. The salary cap effectively limits transactions between teams and players, enabling each team to reduce the gap in human resource allocation as much as possible. Hence, this study follows Bloom (1999) and conducts a standard deviation treatment on players' salaries of each team to measure organizational resource allocation.

### Estimation Methods

This study utilizes HLM for multi-level analysis, as human capital and team resources in an organization are concepts of different levels (Todd et al., 2005). Therefore, if we use ordinary least squares (OLS), then we cannot effectively reveal the cross-level relationship characteristics. Similarly, organizational resource endowment is a competitive advantage at the organizational level. Therefore, in order to understand the impact of individual-level capability and group-level competitive advantage on the realization of work goals, it is obvious that the HLM research method is more appropriate. We divide this study into 4 steps: Null Model, Random Intercept Model, Intercept as Outcome Model, and Random ANCOVA Model.

#### *Null Model*

The Null Model is also called the unconstrained model, and its significance lies in the necessity of testing the sample data for analysis by HLM. In other words, the data must have multi-level characteristics to conform to the algorithm of the HLM model. The equation of the Null Model is:

Individual-level:

$$\text{Personal work goals}_{ij} = \beta_{0j} + \gamma_{ij} \quad (8)$$

Group-level:

$$\beta_{0j} = \gamma_{00} + \mu_{0j} \quad (9)$$

In this model, neither equation (8) nor equation (9) have set independent variables. At this time, the chi-square of the variance components of the model must be significant before HLM analysis is meaningful.

In order to understand the degree of variance and obtain the percentage of individual levels of variance of work goals at the group level, we calculate the intra-class correlation coefficient (ICC) for the null model and further test the reliability of the model as follows:

$$ICC = \frac{\tau}{\tau + \sigma (\text{variance})^2} \quad (10)$$

### Random Intercepts Model

The meaning of the Random Intercepts Model is to test the influence of individual-level independent variables on dependent variables. We denote the variables of individual ability and cooperation ability as  $IA_{ij}$  and  $CA_{ij}$ , respectively, and set the multi-level equation as follows:

Individual-level:

$$\text{Personal work goals}_{ij} = \beta_{0j} + \beta_{1j} IA_{ij} + \beta_{2j} CA_{ij} + \gamma_{ij} \quad (11)$$

Group-level:

$$\beta_{0j} = \gamma_{00} + \mu_{0j} \quad (12)$$

$$\beta_{1j} = \gamma_{10} + \mu_{1j} \quad (13)$$

$$\beta_{2j} = \gamma_{20} + \mu_{2j} \quad (14)$$

According to the suggestion of Nakagawa and Schielzeth (2013), the degree to which the independent variable at the individual level explains the variance of the dependent variable is indicated by  $R^2$  of the model, and the equation is:

$$R^2 = \frac{\sigma_{\text{null}}^2 - \sigma_0^2}{\sigma_{\text{null}}^2} \quad (15)$$

The closer the value of  $R^2$  is to 1, the better is the fit index of the model.

### *Intercept as Outcome Model*

The Intercept as Outcome Model is exactly the opposite of the above-mentioned Random Intercepts Model. This model tests the influence of group-level independent variables on dependent variables. We define each variable as a dimension of teamwork effect - namely, team competitiveness, team cohesiveness, team climate, and team reliance - as  $TCom_{ij}$ ,  $TCoh_{ij}$ ,  $TClm_{ij}$ , and  $TRel_{ij}$ , respectively. In the same way, we denote the variables of the dimension of organization resource endowment - namely, organizational slack, organizational size, and organizational resource allocation - as  $Oslack_{ij}$ ,  $Osize_{ij}$ , and  $ORA_{ij}$ , respectively, and obtain the following equation:

Individual-level:

$$Personal\ work\ goals_{ij} = \beta_{0j} + \gamma_{ij} \quad (16)$$

Group-level:

$$\begin{aligned} \beta_{0j} = & \gamma_{00} + \gamma_{01} TCom_{ij} + \gamma_{02} TCoh_{ij} + \gamma_{03} TClm_{ij} \\ & + \gamma_{04} TRel_{ij} + \gamma_{05} Oslack_{ij} + \gamma_{06} Osize_{ij} + \gamma_{07} ORA_{ij} + \mu_{0j} \end{aligned} \quad (17)$$

### *Random ANCOVA model*

The Random ANCOVA Model, which is the core of this article, uses HLM's cross-level features to analyze the comprehensive effect of different-level independent variables on the realization of work goals and determines the influence of individual-level factors and group-level factors on the realization of work goals. The equations for the Random ANCOVA Model are:

Individual-level:

$$Personal\ work\ goals_{ij} = \beta_{0j} + \beta_{1j} IA_{ij} + \beta_{2j} CA_{ij} + \gamma_{ij} \quad (18)$$

Group-level:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} TCom_{ij} + \gamma_{02} TCoh_{ij} + \gamma_{03} TClm_{ij} + \gamma_{04} TRel_{ij} + \gamma_{05} Oslack_{ij} + \gamma_{06} Osize_{ij} + \gamma_{07} ORA_{ij} + \mu_{0j} \quad (19)$$

$$\beta_{1j} = \gamma_{10} + \mu_{1j} \quad (20)$$

$$\beta_{2j} = \gamma_{20} + \mu_{2j} \quad (21)$$

## Results and Discussions

### Descriptive statistics

Table I shows the descriptive statistical results of Pearson's double correlation testing, including the variables' correlation statistics of mean, standard deviation, correlation coefficients, and variance inflation factor. According to the descriptive statistics, there is no obvious multi-collinearity among the respective variables.

In order to check whether this topic is suitable for a cross-level study, the results of the Null Model and ICC are obtained according to equations (8), (9), and (10), as shown in Table II.

The results indicate that there are significant differences in the achievement of work goals at the organizational and team levels,  $\chi^2 = 271.274$ ,  $df = 29$ , and  $p < 0.001$ ; therefore, HLM is suitable for cross-level analysis in this study. In addition, Faul et al. (2009) believe that ICC should be at least greater than 0.13 to indicate that the sample data have multi-level characteristics, and it is necessary to use cross-level research methods for analysis. In this research,  $ICC = 0.192$ , which meets this condition.

### The Empirical Analysis of the HLM Model

According to the above equation, we integrate the results of the random intercept model, intercept as outcome model, and random ANCOVA model, as seen in Table III.

According to the fit result of the random intercept model, the individual ability of a star significantly improves the achievement of work goals ( $\gamma = 0.11$ ,  $p = 0.02$ ); thus, *Hypothesis 1-1* is supported. Similarly, the results support *Hypothesis 1-2*, meaning that the cooperation ability of a star significantly improves the achievement of work goals ( $\gamma = 0.16$ ,  $p = 0.00$ ). Through the comparison of coefficients  $\gamma$ , cooperation ability is higher 0.05 than individual ability. Thus, *Hypothesis 1* is supported, in that a star's cooperation ability contributes more to achieve work goals than does individual ability. It is worth noting that this model uses the group-level independent variable of coach experience as a control variable, and  $R^2 = 0.277$ . The result shows that the star capability factor at the individual level can explain 27.7% of the impact on the achievement of work goals.

We further observe the group-level intercept as the outcome model so as to understand the effects of teamwork and organizational resource endow-

TABLE I  
Descriptive Statistics

Level	Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10
Star capability	1. $IA_{jt}$	0.81	10.93	1									
	2. $CA_{jt}$	10.50	13.47	0.53	1								
Teamwork effect	3. $TCom_{jt}$	0.50	0.15	-0.23	0.17	1							
	4. $TCob_{jt}$	0.48	0.01	-0.05	0.03	0.57	1						
	5. $TCIm_{jt}$	-12.96	0.83	-0.07	0.15	0.12	-0.29	1					
Control variable	6. $TRel_{jt}$	0.21	0.21	-0.58	-0.10	0.48**	0.23	0.19	1				
	7. $TCExp_{jt}$	0.51	0.11	-0.37*	-0.78	0.45*	0.18	0.25	0.55**	1			
Organizational resource endowment	8. $OsIack_{jt}$	19.40	3.21	0.21	-0.31	-0.41*	-0.02	-0.43*	-0.33	-0.27	1		
	9. $OsIze_{jt}$	8.10	0.02	-0.30	-0.17	0.49**	0.20	0.06	0.51	0.24	-0.32	1	
	10. $ORA_{jt}$	15.74	0.25	-0.20	0.07	0.67	0.40*	0.13	0.64	0.47**	-0.55	0.59	1

† Correlation is significant at the 0.10 level.

\* Correlation is significant at the 0.05 level.

\*\* Correlation is significant at the 0.01 level (2-tailed).

TABLE II  
Results Of The Null Model

Random effect	Standard deviation ( $\tau$ )	Variance component ( $\sigma^2$ )	Chi-square (df)	P-value
Intercept	4.206	17.698	271.274 (29)	0.000
Individual-level	13.180	173.717		
<b>ICC</b>		<b>0.192</b>		
Deviance		19731.277		

TABLE III  
Results of HLM Models

Model	Random Intercepts Model		Intercept as Outcome Model		Random ANCOVA Model	
	$\gamma$ (se)	$t$ (p)	$\gamma$ (se)	$t$ (p)	$\gamma$ (se)	$t$ (p)
$IA_{\bar{j}}$	0.11(0.05)	2.27*			0.09(0.05)	1.93(0.06)†
$CA_{\bar{j}}$	0.16(0.04)	3.66***			0.13(0.04)	3.20(0.00)***
$TCom_{\bar{j}}$			24.81(1.80)	13.71***	20.61(3.50)	5.87(0.00)***
$TCob_{\bar{j}}$			43.54(18.46)	2.35*	87.52(28.88)	3.03(0.00)***
$TClm_{\bar{j}}$			0.78(0.28)	2.70**	0.89(0.52)	1.70(0.10)†
$TRel_{\bar{j}}$			-1.71(1.85)	-0.92	-17.51(4.08)	-4.28(0.00)***
$TCExp_{\bar{j}}$	16.79(5.91)	2.84***	1.45(2.19)	0.66	0.11(3.30)	0.03(0.97)
$Oslack_{\bar{j}}$			0.13(0.07)	1.80†	0.23(0.12)	1.92(0.06)†
$Osize_{\bar{j}}$			0.92(4.34)	0.21	1.04(7.69)	0.13(0.89)
$ORA_{\bar{j}}$			2.08(1.08)	1.92†	3.10(1.69)	1.82(0.08)†
$\sigma^2$	12.79		0.03		1.89	
$\tau$	3.57		0.17		1.37	
Deviance	19612.402		19629.876		19546.732	
$R^2$	0.277		0.998		0.893	

Note: †  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$ , and \*\*\*  $p < .005$ .

ment on the realization of work goals. The results show that  $TCom_{ij}$ ,  $TCob_{ij}$ , and  $TClm_{ij}$  all have significant positive effects on *Personal work goals<sub>ij</sub>*, with coefficients of  $\gamma = 24.81$  ( $p = 0.00$ ),  $\gamma = 43.54$  ( $p = 0.02$ ), and  $\gamma = 0.78$  ( $p = 0.01$ ), respectively. The coefficients of each independent variable can be regarded as the weight of their influence on dependent variables, which means that team cohesiveness plays the most obvious role in achieving work goals, fol-

lowed by team competitiveness and team climate, respectively. However, it is worth noting that team reliance on a star has no significant effect on the realization of work goals in the intercept as the outcome model ( $\gamma = -1.71$ ,  $p = 0.20$ ).

As another important component of the group level, according to our research findings, organizational resource endowment and resource allocation have an active and positive impact on achieving work goals; their coefficient  $\gamma$  of  $Oslack_{ij}$  and  $ORA_{ij}$  is 0.13 ( $p = 0.08$ ) and 2.08 ( $p = 0.06$ ), respectively. The more slack the organization has, the more stable the team structure is. Rational use and allocation of resources are more conducive to the realization of work goals. In addition, we infer that organizational size plays a decisive role in the realization of personal vision. If a team has an abundant budget, then it can least be regarded as a willingness to rebuild or develop the organization. It is implied that an organization with more opportunities and resources tend to invest in star employees. However, the influence of organizational size on the achievement of work goals is not significant ( $\gamma = 0.92$ ,  $p = 0.83$ ).

We do note that in this model  $R^2 = 0.998$ , which also shows the group-level teamwork effect and various factors of organization resource endowment, which explain 99.8% of the impact on the realization of work goals. In other words, this study reveals that the realization of personal goals is still greatly influenced by organizational level factors. Therefore, further observation of the random ANCOVA model is required to verify the organization-level hypotheses.

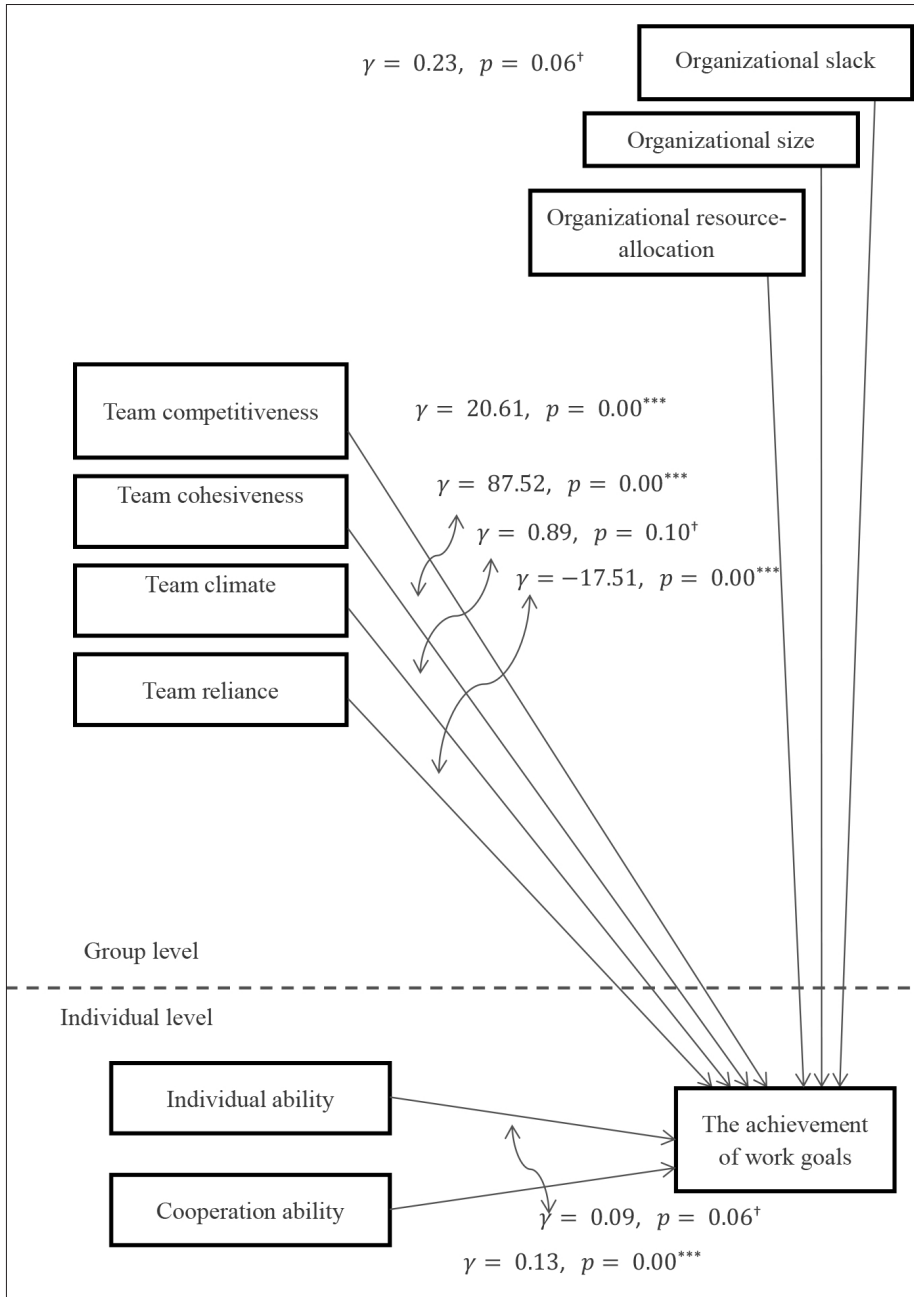
### A comparison analysis of the HLM Model

This study focuses on the impact of star capability, organizational resource endowment, and teamwork effect on the achievement of work goals. Therefore, we collate the results of the random ANCOVA model, as shown in the following figure. We further compare the results of the model with those of the two models to analyze the impact of the synergy of cross-level competitive advantages on the achievement of work goals.

As shown in the figure, when the random ANCOVA model is compared with the random intercepts model, the coefficient  $\gamma$  of both individual and cooperation ability decreases. This reveals that organizational-level factors offer more explanation than personal ability.

At the group level, we further find that the teamwork effect has a significant influence on the achievement of work goals; the coefficients of  $TCom_{ij}$ ,  $TCob_{ij}$ , and  $TClm_{ij}$  are  $\gamma = 20.61$  ( $p = 0.00$ ),  $\gamma = 87.52$  ( $p = 0.00$ ), and  $\gamma =$





Note:  $^\dagger p < .10$ ,  $* p < .05$ ,  $** p < .01$ , and  $*** p < .005$ .

Figure. 2. - Results of the Random ANCOVA Model.

0.89 ( $p = 0.10$ ), respectively, indicating that team competitiveness, team cohesiveness, and team climate all significantly positively affect the realization of work goals. Therefore, *Hypothesis 2-1*, *Hypothesis 2-2*, and *Hypothesis 2-3* are supported. In addition, we note that if a team relies excessively on the ability and performance of its stars, then this will significantly negatively affect the realization of work goals ( $\gamma = -17.51$ ,  $p = 0.00$ ). This also reflects that over-reliance erodes stars' enthusiasm for work. Thus, *Hypothesis 2-4* is supported. Team reliance declines the achievement of work goals.

Through a comparison analysis between the random ANCOVA model and the intercept as outcome model, we see that the coefficient of  $TCoh_{ij}$  almost doubles, which means that organizational cohesiveness is a decisive factor to realize the personal vision of employees. Together with the decline in  $TCom_{ij}$ , it reflects the slight difference of a star's individual ability to the results under the combined effect of team effect. The influence of organizational cohesiveness on the achievement of work goals is greatly strengthened. By contrary, the coefficient of  $TRel_{ij}$  reflects negative significance in achievement of work goals. It presents that an over-reliance on star capability in a team effect weakens the influence of organizational competitive advantage on the achievement of work goals. In other words, whether the stars fit with the organization team and whether the organization can create a cohesive team are particularly important for achieving work goals. Thus, *Hypothesis 2* is supported, in that team cohesiveness contributes more to achieving work goals than team reliance.

Versus the comparison results of the above-mentioned aspects in different models, the results of the organization resource endowment aspect in each model do not change much. The coefficients  $\gamma$  of endogenous variables  $Oslack_{ij}$  and  $ORA_{ij}$  in the random ANCOVA model are 0.23 ( $p = 0.06$ ) and 3.10 ( $p = 0.08$ ), respectively, which are an increase of 0.10 and 1.02, respectively, as compared with coefficient  $\gamma$  in the intercept as the outcome model. This shows that cross-level competitive advantages, including organizational slack and resource allocation, have a further promotion effect on the realization of work goals under the comprehensive effect.

In spite *Hypothesis 3-1* and *Hypothesis 3-3* being supported, we note that the p-value of almost 0.10 indicates that the resource endowment or advantages exhibit a significant effect, but are somewhat marginal compared to other variables. We conclude that rationally-distributed resources are inferior to the full use of a star's cooperation ability, and that a proper fit between the individual and organization is obviously more helpful to achieve work goals. The relationship between organizational size and the realization of work goals still has no significant feature ( $\gamma = 1.04$ ,  $p = 0.89$ ). Thus, *Hypoth-*

esis 3-2 is not supported. The model  $R^2 = 0.893$  also shows that the model designed in this study has a good overall fit index as well as good reliability and validity.

## **Conclusion**

Based on stars' influence toward the achievement of work goals in a learning organization under an interdependent working environment between organizations and individuals, we emphasize the process of how they share knowledge and ability in an organization. In a highly dependent environment, we believe that the transfer of knowledge and the imitation of skills by individuals in an organization are affected and limited by complex factors. Hence, we utilize a star's ability rather than reliance on individual skill and capability being particularly important things. From past research, we know that the competitive advantage of stars is their unique ability to create barriers to duplicating them. When stars differentiate their competitive advantages, they are gradually lost due to their knowledge and skills being learned and imitated by other individuals. Thus, their irreplaceable ability decreases (Keller, 2014). Stars may not be willing to share their unique skills. In addition, our research concludes that if stars show a willingness and ability to cooperate, then this increases the achievement of the work goals, which outweighs their individual ability.

## **Contributions**

The contribution of this study is to supplement issues related to organizational human capital. Previous studies have shown that competition between star employees and non-star employees within an organization reduces team efficiency, and that star employees attach more importance to their position on the team (Loch et al., 2000). We extend and supplement this according to a cross-level perspective. From the perspective of employees, whether they have star potential or ability, they all hope to gain the recognition and trust of the organization. Therefore, it is indeed easier for star employees to gain the trust of the organization and obtain a higher team position.

From the perspective of organizational resource endowment, we similarly find that the difference in resource allocation helps employees realize their self-worth and improve their efficiency to accomplish their work goals. The traditional idea is that stars get the most of an organization's resources, thus limiting the ability development of other employees in the organization

(Tzabbar & Kehoe, 2014); however, this is not the case. Although 80% of wealth falls into 20% of the pockets, we should also note that these 20% of people have achieved 80% of work goals. Therefore, when team resources are geared more toward stars, the realization of the organization's and individuals' work goals is more likely to happen.

According to our empirical results, we further observe contradictions within an organization. On the one hand, an organization must trust stars, give them more resources, and make full use of their abilities; on the other hand, when an organization relies too much on stars, it is not conducive to the realization of work goals. In a work environment of over-reliance, the organization's trust in ordinary employees gradually decreases or even disappears. At the same time, a sharp increase in the organization's trust in star employees will further lead to a vicious circle in its operations; non-star employees will change from having a lack of original ability to a lack of self-confidence and responsibility, while star employees will be overwhelmed. In the NBA, this is often reflected in the decline of players' collective consciousness and participation in games. Thus, there is not just a phenomenon that role players dare not or do not want to assume more team responsibilities in the league. It is also the case that star players may give up better contracts and change teams in order to win a championship.

In response to this contradiction, we believe that star employees not only are unable to support the entire team, but they also become dispensable transparent people when they cannot integrate into the organization. When considering the team effect of an organization, past literature has often neglected whether star ability matches the atmosphere, cohesiveness, and competitiveness of the organization (Call et al., 2015). Therefore, we propose dividing the abilities of star employees into individual ability and cooperation ability and find that the latter can help organizations and individuals to achieve their work goals more effectively. In other words, in an environment where organizations and individuals depend on each other, feedback from star employees' organizations can increase their organizational learning ability, which enables them to give full play to their strengths, thus making full use of their unique skills and completing their work goals.

### **Limitations and future research directions**

We propose several areas for future research, which can also help address some of the limitations of the current study given the scope of our empirical analysis. First, concerning our model specification, an empirical

test of the dichotomic “win-lose” dependent variable of the achievement of work goals is one future direction. Given the limitation of the HLM research method, the current research adopts the real score as a dependent variable to capture a star player’s ultimate goal of obtaining a higher score rather than just winning a single game. In competitive games, real scores may depend on the levels of opponents. Bearing this in mind, future research may use the dummy variable with other research methodology to capture the win-lose outcome variable. Second, as a potential identification, the current paper entails cross-sectional research. We suggest that future studies can work towards conducting longitudinal research. Third, a further step can examine other measures of the current research variables. One can explore the process of learning and transfer knowledge and ability from a star employee to other employees in an organization.

### **Practical implications**

Based on the viewpoint of organizational learning, this study focuses on the comprehensive effects of different levels of competitive advantages between organizations and individuals regarding the achievement of work goals. According to three different dimensions, teamwork effect and resource endowments at the organizational level have significant impacts on employee capabilities at the individual level. When star employees are comfortable in an organization, they will demonstrate better team cooperation ability, in order to contribute to the realization of individual goals. Therefore, we find that star employees’ feedback to the organization is a mechanism that explains the interdependent relationship between the two - that is, whether employees rely on their individual ability to achieve their work goals or on the conditions created by the organization to achieve their work goals. Our study points out that, at the individual level, even star employees’ unique individual ability has nothing to do with the completion of their work goals, and employees must be compatible and have the ability to give feedback to the organization to help realize their personal vision. Moreover, at the organizational level, an over-reliance of enterprises on star employees can become the core factor that restricts the realization of work goals. An organization must allocate resources rationally and make effective use of its staff’s expertise, in order to be more conducive to the realization of the work goals of itself and its employees.

Our findings are based on the cross-level research method and help propose a direction for organizational management and organizational learning.

Enterprises should have more resource endowments, reserve more human resources, and form obvious differences in resource allocation, which in turn help star employees to obtain more resources and promote them to provide feedback to the enterprise. In other words, organizations should use star employees to cultivate non-star employees within the organization and not just target the working ability of star employees. When employees in an organization are assimilated, a rational manager should find a balance between the individual contributions and the organizational contributions of its stars.

## REFERENCE

- Aguinis, H., Gottfredson, R. K., & Joo, H. (2012). Using performance management to win the talent war. *Business Horizons*, 55(6), 609-616.
- Aguinis, H., & O'Boyle Jr., E. (2014). Star performers in twenty-first century organizations. *Personnel Psychology*, 67(2), 313-350.
- Amos, E. A., & Weathington, B. L. (2008). An analysis of the relation between employee — Organization value congruence and employee attitudes. *The Journal of Psychology*, 142(6), 615-632.
- Aral, S., & Weill, P. (2007). IT assets, organizational capabilities, and firm performance: How resource allocations and organizational differences explain performance variation. *Organization Science*, 18(5), 763-780.
- Bloom, M. (1999). The performance effects of pay dispersion on individuals and organizations. *Academy of Management Journal*, 42(1), 25-40.
- Call, M. L., Nyberg, A. J., & Thatcher, S. (2015). Stargazing: An integrative conceptual review, theoretical reconciliation, and extension for star employee research. *Journal of Applied Psychology*, 100(3), 623.
- Carleton, E. L., Barling, J., Christie, A. M., Trivisonno, M., Tulloch, K., & Beauchamp, M. R. (2016). Scarred for the rest of my career? Career-long effects of abusive leadership on professional athlete aggression and task performance. *Journal of sport and exercise psychology*, 38(4), 409-422.
- Chang, S. C. (2018). Capability and opportunity in hot shooting performance: Evidence from top-scoring NBA leaders. *PLoS one*, 13(2), e0179154.
- Chen, J. S., & Garg, P. (2018). Dancing with the stars: Benefits of a star employee's temporary absence for organizational performance. *Strategic Management Journal*, 39(5), 1239-1267.
- Collings, D. G. (2014). Integrating global mobility and global talent management: Exploring the challenges and strategic opportunities. *Journal of World Business*, 49(2), 253-261.
- Day, D. V., Gordon, S., & Fink, C. (2012). The sporting life: Exploring organizations through the lens of sport. *The Academy of Management Annals*, 6(1), 397-433.
- Ernst, H., & Vitt, J. (2000). The influence of corporate acquisitions on the behaviour of key inventors. *R&D Management*, 30(2), 105-120.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G\* Power 3.1: Tests for correlation and regression analyses. *Behavior research methods*, 41(4), 1149-1160.
- Fernández-Mesa, A., & Alegre, J. (2015). Entrepreneurial orientation and export intensity: Examining the interplay of organizational learning and innovation. *International Business Review*, 24(1), 148-156.

- Gambardella, A., Panico, C., & Valentini, G. (2015). Strategic incentives to human capital. *Strategic Management Journal*, 36(1), 37-52.
- Gentry, R. J., & Shen, W. (2013). The impacts of performance relative to analyst forecasts and analyst coverage on firm R&D intensity. *Strategic Management Journal*, 34(1), 121-130.
- George, G. (2005). Slack resources and the performance of privately held firms. *Academy of Management Journal*, 48(4), 661-676.
- Gil, F., Rico, R., Alcover, C. M., & Barrasa, A. (2005). Change-oriented leadership, satisfaction and performance in work groups: Effects of team climate and group potency. *Journal of Managerial Psychology*, 20(3/4), 312-328.
- Groysberg, B., Lee, L. E., & Nanda, A. (2008). Can they take it with them? The portability of star knowledge workers' performance. *Management Science*, 54(7), 1213-1230.
- Halevy, N., Chou, E. Y., Galinsky, A. D., & Murnighan, J. K. (2012). When hierarchy wins: Evidence from the National Basketball Association. *Social Psychological and Personality Science*, 3(4), 398-406.
- Hollinger, J. (2005). *Pro basketball forecast: 2005-2006*. Dulles, VA: Potomac.
- Humphrey, J., & Schmitz, H. (2002). How does insertion in global value chains affect upgrading in industrial clusters? *Regional Studies*, 36(9), 1017-1027.
- Hung, R. Y. Y., Lien, B. Y. H., Yang, B., Wu, C. M., & Kuo, Y. M. (2011). Impact of TQM and organizational learning on innovation performance in the high-tech industry. *International Business Review*, 20(2), 213-225.
- Jaramillo, F., Mulki, J. P., & Boles, J. S. (2011). Workplace stressors, job attitude, and job behaviors: is interpersonal conflict the missing link? *Journal of Personal Selling & Sales Management*, 31(3), 339-356.
- Késenne, S. (2000). The impact of salary caps in professional team sports. *Scottish Journal of Political Economy*, 47(4), 422-430.
- Keller, R. H. (2014). Is team based tacit knowledge transferable? Players as strategic resources. *Journal of Management Policy and Practice*, 15(4), 40-50.
- Koschmann, A. (2019). How coaching ability moderates player incentives to perform: A hierarchical Bayesian approach of the NFL. *Journal of Sport Management*, 33(4), 331-342.
- Kubatko, J., Oliver, D., Pelton, K., & Rosenbaum, D. (2007). A starting point for analyzing basketball statistics. *Journal of Quantitative Analysis in Sports*, 3(3), 1-24.
- Lacey, R., & Kennett-Hensel, P. (2016). How expectations and perceptions of corporate social responsibility impact NBA fan relationships. *Sport Marketing Quarterly*, 25(1), 21-33.
- Loch, C. H., Huberman, B. A., & Stout, S. (2000). Status competition and performance in work groups. *Journal of Economic Behavior & Organization*, 43(1), 35-55.
- Manuti, A., Impedovo, M. A., & Palma, D. D. (2017). Managing social and human capital in organizations: communities of practices as strategic tools for individual and organizational development. *Journal of Workplace Learning*, 29(3), 217-234.
- Marquardt, M. J. (1996). *Building the learning organization: A systems approach to quantum improvement and global success*. New York, NY: McGraw-Hill.
- Mateus, N., Gonçalves, B., Abade, E., Liu, H., Torres-Ronda, L., Leite, N., & Sampaio, J. (2015). Game-to-game variability of technical and physical performance in NBA players. *International Journal of Performance Analysis in Sport*, 15(3), 764-776.
- Maymin, A., Maymin, P., & Shen, E. (2013). NBA chemistry: Positive and negative synergies in basketball. *International Journal of Computer Science in Sport*, December.
- McGoldrick, K., & Voeks, L. (2005). "We Got Game!" An Analysis of Win/Loss Probability and Efficiency Differences Between the NBA and WNBA. *Journal of Sports Economics*, 6(1), 5-23.
- Moore, S., & Scott, J. (2013). *Beware in Air: Altitude's Influence on NBA Game Outcomes*. Journal of Undergraduate Research and Scholarly Excellence. Fort Collins: JUR.



- Mulholland, K. (2004). Workplace resistance in an Irish call centre: slammin', scammin'smokin' an' leavin'. *Work, employment and society*, 18(4), 709-724.
- Nakagawa, S., & Schielzeth, H. (2013). A general and simple method for obtaining R<sup>2</sup> from generalized linear mixed-effects models. *Methods in Ecology and Evolution*, 4(2), 133-142.
- O'Reilly III, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal*, 34(3), 487-516.
- Piette, J., Anand, S., & Zhang, K. (2010). Scoring and shooting abilities of NBA players. *Journal of Quantitative Analysis in Sports*, 6(1), 1-23.
- Pirola-Merlo, A., Härtel, C., Mann, L., & Hirst, G. (2002). How leaders influence the impact of affective events on team climate and performance in R&D teams. *The Leadership Quarterly*, 13(5), 561-581.
- Posner, B. Z. (1992). Person-organization values congruence: No support for individual differences as a moderating influence. *Human Relations*, 45(4), 351-361.
- Real, J. C., Roldán, J. L., & Leal, A. (2014). From entrepreneurial orientation and learning orientation to business performance: Analysing the mediating role of organizational learning and the moderating effects of organizational size. *British Journal of Management*, 25(2), 186-208.
- Renn, R. W., & Fedor, D. B. (2001). Development and field test of a feedback seeking, self-efficacy, and goal setting model of work performance. *Journal of Management*, 27(5), 563-583.
- Shea, S. M., & Baker, C. E. (2013). Basketball analytics: Objective and efficient strategies for understanding how teams win. Create Space Independent Pub. Platform.
- Senge, P. (1990). *The fifth discipline: The art and practice of organizational learning*. New York: Simon & Schuster.
- Simmons, R., & Berri, D. J. (2011). Mixing the princes and the paupers: Pay and performance in the National Basketball Association. *Labour Economics*, 18(3), 381-388.
- Stiroh, K. J. (2007). Playing for Keeps: Pay and Performance in the NBA. *Economic Inquiry*, 45(1), 145-161.
- Solow, R. M. (1994). Perspectives on growth theory. *Journal of Economic Perspectives*, 8(1), 45-54.
- Stanwick, P. A., & Stanwick, S. D. (1998). The relationship between corporate social performance, and organizational size, financial performance, and environmental performance: An empirical examination. *Journal of Business Ethics*, 17(2), 195-204.
- Stewart, G. L., & Barrick, M. R. (2000). Team structure and performance: Assessing the mediating role of intra team process and the moderating role of task type. *Academy of Management Journal*, 43(2), 135-148.
- Tainsky, S., Xu, J., Salaga, S., & Mills, B. M. (2014). Spillover benefits to local enthusiasm: Increases in league-wide interest as a consequence of local sports team competitiveness. *Journal of Economics and Business*, 74, 1-10.
- Taylor, E. C., Bernerth, J. B., & Maurer, J. D. (2017). Running on empty: The effects of aggregate travel stress on team performance. *Journal of Business and Psychology*, 32(5), 513-531.
- Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal*, 43(2), 178-190.
- Todd, S. Y., Crook, T. R., & Barilla, A. G. (2005). Hierarchical linear modeling of multilevel data. *Journal of Sport Management*, 19(4), 387-403.
- Tzabbar, D., & Kehoe, R. R. (2014). Can opportunity emerge from disarray? An examination of exploration and exploitation following star scientist turnover. *Journal of Management*, 40(2), 449-482.
- Weiss, R. M., & Miller, L. E. (1987). The concept of ideology in organizational analysis: The

- sociology of knowledge or the social psychology of beliefs?. *Academy of Management Review*, 12(1), 104-116.
- Wright, P. M., Coff, R., & Moliterno, T. P. (2014). Strategic human capital: Crossing the great divide. *Journal of Management*, 40(2), 353-370.
- Yukl, G. (1999). An evaluative essay on current conceptions of effective leadership. *European Journal of Work and Organizational Psychology*, 8(1), 33-48.
- Zain, M., & Kassim, N. M. (2012). The influence of internal environment and continuous improvements on firms' competitiveness and performance. *Procedia-Social and Behavioral Sciences*, 65, 26-32.
- Zhang, S., Lorenzo, A., Zhou, C., Cui, Y., Gonçalves, B., & Angel Gómez, M. (2019). Performance profiles and opposition interaction during game-play in elite basketball: Evidences from National Basketball Association. *International Journal of Performance Analysis in Sport*, 19(1), 28-48.
- Zhang, Y., Liang, Q., & Fan, P. (2017). Strategic core change, faultlines and team flux: Insight from punctuated equilibrium model. *Journal of Organizational Change Management*, 30(1), 54-75.