

## Structural relationship between organizational justice, organizational trust, and knowledge sharing and innovative behavior: Focus on professors from Chinese sport universities

ZHENGGEN LIN<sup>1</sup>, HONGBUM SHIN<sup>2</sup>

<sup>1</sup>Department of Social Sports, Shenyang Sport University, CHINA

<sup>2</sup>Department of Sport and Leisure Studies, Keimyung University, KOREA

Published online: March 31, 2021

(Accepted for publication March 15, 2021)

DOI:10.7752/jpes.2021.02110

### Abstract:

This study attempted to derive a theoretical background which could help sport university organization manage human resource and draw a more effective operating scheme. For this reason, it focuses on innovative behavior from professors of Chinese sport universities undergoing rapid social change. Within that context, this study is designed to examine demonstratively the influencing relationship between professor innovative behavior of sport universities in China and the things such as organizational justice, organizational trust and knowledge sharing. To achieve this goal, a questionnaire was distributed to 300 professors who work at sport universities in China from which 271 responses were collected. For the empirical study, frequency analysis, reliability analysis were executed by using SPSS 21.0. Additionally, confirmatory factor analysis and structural equation modeling were performed with AMOS 21.0. The following significant results were derived from the analysis. First, organizational justice that professors of sport universities perceived had a positive effect on organizational trust. Second, distributive justice and interactional justice of professors of sport universities had a positive effect on knowledge sharing, but procedural justice had no effect on knowledge sharing. Third, organizational trust that professors of sport universities perceive had a positive effect on innovative behavior. Fourth, knowledge sharing that professors of sport universities had a positive effect on innovative behavior. This study provides some meaningful theoretical implications of strategic scheme for human resource management in sport university organizations. Due to the restrictions imposed by some immanent limitations, this study suggests a scheme that manages sport university professors' innovative behavior to overcome immanent limitations.

**KeyWords:** Organizational justice, Organizational trust, Knowledge sharing, Innovative behavior, Sport professor

### Introduction

#### *The necessity of the research*

In recent years, the importance of organizational change and innovation has been emphasized as intellectual capital, which is non-financial assets, such as the organization's system and human resources capabilities are perceived to create more value. Innovation is the pursuit of new, goal-oriented, and organized changes (Drucker, 1985). While companies in the past focused only on improving the productivity of their organizations, they have recently emphasized the innovation performance that can create high added value by adapting to a competitive and fast-changing business environment (Park, 2002; Seo, Kim, & Yoon, 2013).

Since the individual members of the organization develop, disseminate, and modify ideas, the starting point of innovation, the innovation of the organization begins with the innovative behavior of individual members. The innovative behavior of organizational members is defined as an intentional act of creating, introducing, and executing new ideas that help improve the role of one's task or organization's performance (West & Farr, 1989). This is seen as an important factor in creating a competitive advantage for enterprises as it can lead to increased the productivity of an organization without the need for additional costs.

The importance of innovative behavior is also emphasized in university organizations. Recently, university organizations have been trying to meet the needs of the times to shift from knowledge acquisition to knowledge creation paradigm. In other words, in order to continue the development of university organizations and secure a competitive advantage at a time when it is necessary to form a system that systematically helps create new knowledge, the innovation that pursues various changes must be introduced, and such innovative behavior is required from university professors.

In the early 1950s, China's education had a craze to learn the former Soviet Union as it pushed for reforms in the 'model of the former Soviet Union', and higher education developed in the direction of the overall 'former-Sovietization'. In order to advance into the industrial society more quickly, the main focus was on fostering industrial engineers, but the development efforts in the fields of academic freedom and educational innovation

have been neglected. Teaching by rote-type education formed on this basis has seriously hindered the formation of active and independent self-directed learning skills by overlooking objective principles, comprehension, and knowledge levels and making students mechanically memorizing. In the early days of the founding, China did not have an efficient system for higher education development, so it was decided to imitate the education system of the former Soviet Union by the political form in a special historical environment at the time. Against this backdrop, in November 1952, Hwadong College of Physical Education, the first sport university in China, and five other sport universities were established. These six sport universities led the rapid development of Chinese sports. During this period, the education system of Chinese sport universities was modeled after the system of the former Soviet Union and greatly influenced the development of elite sports as well as the private school system and the planned economy system (Koo, 1999).

Meanwhile, as sport-related departments have developed into departments that teach a variety of convergent subjects such as sport management, sport marketing, sport physiology, and/or sport sociology, professors were required to be able to convey knowledge to students by combining sport theory and practical skills perfectly. Continued self-innovation behavior of university professors can be an important factor in avoiding mere knowledge transfer and responding to the new paradigm of knowledge creation. However, since university professors perform professional and repetitive tasks based on their own experience and knowledge, they have shown many limitations in changing existing work behaviors and creating new thinking. Therefore, active efforts and management at the university organization level are needed to enhance the creative thinking of professors and to induce innovative behavior, and measures should be devised to promote them. To this end, research should be carried out to identify various leading variables that could affect professors' innovative behavior.

Variables that can promote innovative behavior are presented in a variety of prior studies, among which members' trust for their organization is noted as representative variables affecting innovative behavior (Kim & Park, 2008a; Gomez & Rosen, 2001; Lewis & Bunker, 1996; Zeffane & Connell, 2003). Organizational trust is the assessment and confidence for the entire organization that the organization will perform actions beneficial, at least not harmful, to its members (Tan & Tan, 2000), which serves as a lubricant to the operation of the organization. The existence of trust between professors and university organizations is an important key because a university is an organization that develops potential effects on the future rather than merely one whose performance is evaluated in terms of financial aspects. Also, the degree of professors' confidence in the organization depends on their passion and attitude. Therefore, it can be predicted that professors' trust in the organization in university organizations will have a significant effect on innovative behavior.

On the other hand, knowledge sharing is closely related to innovative behavior in that it seeks to create human capital within an organization, which is drawing keen attention as a leading variable in innovative behavior. Knowledge sharing is defined as the degree to which an individual actually shares his or her knowledge with others (Bock & Kim, 2002), which maximizes the utilization of knowledge by sharing the knowledge assets held within an organization, thereby enhancing organizational capabilities. Knowledge sharing plays an important role in the university organization. In particular, in the trend of the scale and importance of sport education growing and developing into detailed departments and specialized academic areas, it is necessary for professors to share knowledge in order to combine practical skills and theories. Since such knowledge sharing has a decisive role in changing professors' work behavior and creating new thinking, knowledge sharing will have an active effect on professors' innovative behavior.

Despite the recent growing interest in innovative behavior along with rapid social changes in China, researches on innovative behavior occurring in university organizations have been insufficient, especially in managing the innovative behavior of professors at sport universities. It is necessary for more researchers and university organizations to conduct researches to establish the relationship between the knowledge sharing and innovative behavior of professors. Therefore, the purpose of this study aims to identify the effect of organizational justice, organizational trust, and knowledge sharing that are perceived by professors at sport universities in China on their innovative behavior. This will be to foster competent students and further influence the sport industry positively by providing a theoretical foundation for helping them manage human resources and for the efficient operation of university organizations.

*Theoretical background and the research hypotheses*

As a result of prior research on the relationship between organizational justice and organizational trust, the personnel administration justice can be interpreted as having a very positive effect on organizational trust which is one of the important factors. Pearce, Brabyiczki, and Bakacsi (1994) report that although distributive justice and procedural justice show different influences in the study of the relationship between organizational justice and organizational trust, there is a positive relationship between organizational justice and organizational trust. In addition, according to the separate analysis of trust in the superiors and organizational trust in the study on organizational justice and trust, the results showed that procedural justice had a higher effect on organizational trust, and interactional justice had a relatively high effect on the trust in the superiors (Lee & Choi, 2004).

Cho (2006) analyzed the members of an organization in the private sector (tourist hotel workers) through a study on the effect of justice perception on organizational trust and reported that distributive justice, procedural justice, and interactional justice have significant positive effects on organizational trust. A study of Yoon and

Hong (2001) on hotel employees also found that they had positive effects on organizational trust, consistent with Cho's findings (2006). These findings suggest that the confidence in the organization will be very high if the opportunity for adequate compensation and promotion is guaranteed for members of the organization who are passionately engaged in their duties. Based on the above findings, this study established the following hypotheses:

- Hypothesis 1: *Distributive justice will affect organizational trust.*
- Hypothesis 2: *Procedural justice will affect organizational trust.*
- Hypothesis 3: *Interactional justice will affect organizational trust.*

Looking at the prior research on the relevance of organizational justice and knowledge sharing, it reported verification of the effectiveness in distributive and procedural justice is done to some extent and that of the effectiveness of interactional justice with the justice heuristic theory can reduce the dilemma of knowledge sharing (Park, Son, Lee, & Yoon, 2009). It was also said that it was more important than anything else to clearly present the compensation structure that individuals would gain through knowledge sharing through redesigning the compensation structure in the distributive justice (Cabrera & Cabrera, 2002).

Bonacich and Schneider (1992) found that members who appreciate group identity in procedural justice actively involve in knowledge sharing, and this group identity increases through procedural justice. It is also reported that in the group-value theory, the fair procedure of an organization makes members feel that they are meaningful beings within the organization and serves to enhance the group identity (Lind & Tyler, 1988). Thus, procedural justice has the effect of making a strong sense of belonging, such as group identity, and thus serves to increase knowledge sharing. The perception of interactional justice with superiors in an organization plays a role in reducing the dilemma of knowledge sharing, one of cooperative behavior, followed by a very high sense of belonging to the group and cooperative behavior as one perceives oneself as being respected as a member of the organization. Through this, it can be expected that perception of organizational justice serves as a leading variable to promote knowledge sharing (De Cremer, 2002). Based on the above findings, this study established the following hypotheses:

- Hypothesis 4: *Distributive justice will affect knowledge sharing.*
- Hypothesis 5: *Procedural justice will affect knowledge sharing.*
- Hypothesis 6: *Interactional justice will affect knowledge sharing.*

According to the study of organizational trust and innovative behavior, a key distinction between members' trust and other attitude variables is that it includes a psychological state in which members are willing to take risks or vulnerabilities in interdependent relationships (Song & Kim, 2011). In this respect, organizational trust is very closely related to organizational innovation involving future uncertainties. On the other hand, organizational trust would not matter when carrying out risk-free tasks, but the role of trust in the organization leading the innovation can be said to be very important because the innovation process with a variety of changes involves the risk of failure (Rousseau et al. 1998). In general, organizations with a well-established trust can be more flexible and encourage voluntary participation and cooperation by reducing the cost of auditing, control, and transactions (Lee, Cho, & Park, 2009), while organizations with a high level of distrust among their members find it difficult to expect from individual members to actively comply with organizational norms or to creatively resolve issues (Henle, 2005). In other words, it is difficult to expect active and innovative task actions from members who have lost confidence in the organization, and they are more likely to express negative feelings toward and resist the changes that the organization is pushing for. In this regard, Lewis and Bunker (1996) said that confidence in the organization must be maintained in order to promote cooperation and reduce resistance in the process of innovation and that confidence in the organization was recognized as a prerequisite to starting the innovation (Gomez & Rosen, 2001). Zeffane and Connell (2003) also argued that in order for organizational innovation to work smoothly, members' trust in the organization must be based. The study by Kim and Park (2008b) identified a negative correlation between management trust and innovation resistance among its members, but no significant effect was shown, while Susanto (2008) found that communication, support, and mutual respect and trust within the organization created a positive attitude toward organizational change. Based on the above findings, the following hypotheses were established in this study:

- Hypothesis 7: *Organizational trust will affect innovative behavior.*

In order to determine the cause of the members' innovative behavior in an organization, most prior studies derived research results through various variables related to personal, business, relational, and organizational characteristics (Kim, Kim, & Lee, 2004). Knowledge sharing is closely related to innovative behavior among them in that it promotes the creation of intellectual capital within an organization, drawing attention as a leading variable for innovative behavior.

Knowledge sharing can be defined as an activity or a degree of sharing knowledge with other members within an organization to which they belong (Bock & Kim, 2000). Knowledge sharing also serves to improve work performance and capabilities by reducing the time, cost, and trial and error (Lee & Cha, 2007). In addition, research on the relationship between knowledge sharing and innovative behavior suggests that smooth

knowledge sharing activities by members of the organization lead to innovative behavior (Kim & Chung, 2008; Damanpour, 1991). Innovation comes from creative ideas and is carried out in smooth communication between the members. In empirical studies that shed light on the relationship between knowledge sharing and innovative behavior, Kim et al. (2012) reported that knowledge sharing promotes members' innovative behavior by inducing the creation of new knowledge, and new ideas are created through the dissemination and sharing of knowledge, so knowledge sharing plays an important role in the members' innovative behavior (Jin, 2008).

In addition, Kim and Chung (2008) suggests that intellectual capital has a significant effect on innovative behavior. In sum, knowledge sharing plays a very important role as a variable that triggers innovative behavior. Based on the above findings, the following hypotheses were established for this study.

Hypothesis 8: *Knowledge sharing will affect innovative behavior.*

**Material & methods**

*Instrument*

Six variables are used in this study: distributive justice, procedural justice, interactional justice, organizational trust, knowledge sharing, and innovative behavior. In order to achieve the objectives of this study, appropriate measuring tools were chosen along with the definitions for each of the following variables:

Organizational justice in this study was defined to the extent that members of an organization perceive that they are treated fairly by the organization and consists of three sub-variables: distributive justice, procedural justice, and interactional justice. Distributive justice is the extent to which the members perceive that their inputs are being fairly compensated by the organization, and procedural justice is expressed by the members of the organization as being impartial in the decision-making process and procedures within the organization, and interactional justice is defined as the members' perception of the justice of interpersonal treatment shown in the course of the decision-making process and execution of policies or procedures. To measure the organizational justice used in this study, the questionnaire used by Ha and Ha (2015); Lee and Hong (2011); Joo and Seok (2011); Seo, Son, and Chang (2015) was modified and supplemented in this study, with Colquitt's research as a basis (2001).

Organizational trust means the degree of positive confidence that members of an organization have in the organization (Kim, 2007). To measure organizational trust, the organizational trust scales of Lee, Kim, and Lee (2010), which were reconstructed based on the research of McAlister (1995), Rousseau et al. (1998), were modified and supplemented to match this study.

Knowledge sharing refers to the extent to which members of an organization actually share their knowledge among themselves. For the purpose of measuring knowledge sharing, the questions of the knowledge sharing measurement scale developed by Lee (2001) and the questionnaire developed by Faraj and Sproull (2000) used in studies by Park, Son, Lee, and Yoon (2009); Kim and Hong (2013) were modified and supplemented for this study.

Innovative behavior refers to the extent to which members of an organization provide new ideas and strive to implement them for the purpose of enhancing the organization's performance, and to measure innovative behavior, the survey developed by Scandura, Gren, and Novak (1986) and used in research by Byun, Park, and Lee (2012); Kim and Hong (2013) was revised and supplemented.

*Data collection*

Of the more than a thousand colleges and universities in China, 14 sports colleges are currently established and operated independently, and there are other sports-related colleges and departments within more than 100 universities of education. In this study, in order to identify the effect of organizational justice on organizational trust, knowledge sharing, and innovative behavior, among 14 Chinese sports universities in consideration of the ranking and location, five universities including Beijing Sport University, Shanghai University of Sport, Wuhan Sports University, Chengdu Sport University, and Shenyang Sport University were selected. Questionnaires were distributed to 300 professors working in those five universities, and 271 were selected as research subjects, except 29 who insincerely responded to the survey. Table 1 shows the characteristics of the subjects.

Table 1. Demographic Information of Participants

	Characteristics	Frequency	Percentage(%)
Gender	Mal	157	57.9
	Female	114	42.1
Age	20's	29	10.7
	30's	125	46.1
	40's	79	29.2
	50's	38	14.0
Education Level	Bachelor	25	9.2

Position Rank	Master	174	64.2
	Doctor	72	26.6
	Teaching Assistance	34	12.5
	Instructor	71	26.2
	Associate Professor	122	45.0
	Professor	44	16.2
Working Period	Below 10 years	110	40.6
	11-20 years	91	33.6
	21-30 years	47	17.3
	Above 30 years	23	8.5
Total		271	100

*Data analysis*

The data collected for this study was analyzed using SPSS 21.0 and AMOS 21.0. First, frequency analysis was conducted to determine the demographic characteristics of the research subjects. Second, reliability analysis and confirmatory factor analysis were performed to verify reliability and validity of the measuring tools, and correlation analysis was performed to identify the approximate relationship between variables. Third, structural equation modeling analysis was conducted for research models and hypothesis testing.

Prior to the verification of the research hypotheses using the structural equation model, confirmatory factor analysis and reliability analysis were conducted to ensure the validity and reliability of the measuring tools. In addition, the overall measurement model analysis was performed to verify the reliability and validity of the overall variables (concentration validity and discriminant validity). The results of confirmatory factor analysis by research unit showed that the t-values for each observed variable were significant, and the final results of confirmatory factor analysis of each variable are shown in Table 2. It showed  $\chi^2=13.324(df=5, p<.001)$ , RMSEA=.079, GFI=.980, NFI=.922, and CFI=.995 for knowledge sharing, and  $\chi^2=31.528(df=14, p<.001)$ , RMSEA=.068, GFI=.968, NFI=.984, and CFI=.991 for innovative behavior.

Table 2. Confirmatory Factor Analysis

Measurement scale	Item count	Final item count	$\chi^2$	df	RMSEA	GFI	NFI	TLI	CFI
Distributive justice	3	3	-	-	-	-	-	-	-
Procedural justice	3	3	-	-	-	-	-	-	-
Interactional justice	3	3	-	-	-	-	-	-	-
Organizational trust	3	3	-	-	-	-	-	-	-
Knowledge sharing	5	5	13.324	5	.079	.980	.922	.990	.995
Innovative behavior	7	7	31.528	14	.068	.968	.984	.987	.991

**Results**

The analysis results of the measurement model considering all items of measurement scale are as shown in Table 3. The goodness-of-fit index of the overall measurement model is  $\chi^2= 371.338(df=237, p<.001)$ , RMSEA=.046, GFI=.898, NFI=.951, TLI=.979, CFI=.982 and can be assessed to have satisfactory overall data suitability. The Cronbach's coefficient was found to be higher than the .6 standard as it showed from .910 to .965, ensuring the reliability of the measuring tools. As a result of analyzing the concept reliability to evaluate the concentration validity, it showed from .844 to .946, which is higher than the acceptance standard of .7, and the AVE value was also higher than the acceptance standard of .5 with from .643 to .777, so the concentration validity of the measuring variables was secured.

Table 3. Measurement Model Analysis

Variables	Questions	$\lambda_x$	t value	$\alpha$ coefficient	Concept reliability	AVE value
Distributive justice	I am duly rewarded for my efforts in the university work.	.800	-			
	I received reasonable compensation based on my contribution to the university I work for.	.816	21.609***	.929	.874	.699
	I received reasonable compensation for the result of	.823	21.748***			

-----						
-----						
my efforts in my work.						
-----						
Procedural justice	I can have an opportunity to express my opinions and feelings when there are procedural problems with my boss' decisions.	.740	-			
	My boss' decisions were always subject to consistent standards and procedures.	.846	20.028***	.917	.844	.643
	My boss' decisions were based on accurate and reliable procedures.	.794	19.321***			
Interactional justice	I was treated courteously by my boss.	.856	-			
	I was treated respectfully by my boss.	.695	18.480***	.910	.849	.652
	My boss is kind to me.	.769	20.001***			
Organizational trust	My university always keeps its promises.	.845	-			
	I don't think our university is cheating professors.	.868	25.713***	.942	.890	.730
	I can rely on what my university does.	.821	24.176***			
Knowledge sharing	I share the work knowledge and know-how I gained from my experience with my colleagues.	.848	-			
	I exchange and share information, knowledge, and skills related to my work with my colleagues.	.911	30.298***			
	I share my own useful knowledge with my colleagues.	.874	28.129***	.965	.946	.777
	I have tried to share my knowledge effectively with my colleagues.	.814	25.146***			
	I have provided my knowledge at the request of my colleagues.	.780	23.674***			
Innovative behavior	I have proposed and tried to implement new ideas to solve difficult or convoluted problems	.763	-			
	I have introduced innovative ideas to my work in a systematic way.	.776	20.665***			
	I have developed creative ideas related to my work.	.779	20.759***			
	I have tried to get support for innovative ideas.	.813	21.744***	.960	.936	.677
	I have tried innovative ideas for efficient work performance and work improvement.	.818	21.867***			
	I have tried to provide creative ideas that were different from others in carrying out my work.	.786	20.954***			
	I have systematically planned and pushed ahead with my new ideas.	.680	18.124***			
Measurement model suitability	$\chi^2 = 371.338(df=237, p<.001)$ , RMSEA=.046, GFI=.898, NFI=.951, TLI=.979, CFI=.982					

\*\*\*p<.001

Correlation analysis was performed by comparing the square value of the correlation coefficient with the AVE value according to the method presented by Fornell and Larcker (1981) for the purpose of determining the discriminant validity of the scales. When the square value of the correlation coefficients between the constructs exceeds AVE value, it is considered that there is a problem with the discriminant validity, but as shown in Table 4, any square value of the correlation coefficients does not exceed AVE, proving the discriminant validity.

Table 4. Correlation between Constructs

Variables	1	2	3	4	5	6
1. Distributive justice	.699a					
2. Procedural justice	.696**	.643a				
3. Interactional justice	.591**	.638**	.652a			
4. Organizational trust	.694**	.770**	.661**	.730a		
5. Knowledge sharing	.628**	.510**	.643**	.578**	.777a	
6. Innovative behavior	.605**	.495**	.563**	.562**	.777**	.677a

\*\*p<.01, a=AVE value

*Goodness-of-fit of the research model*

In this study,  $\chi^2/df$ , RMSEA, GFI, NFI, TLI, and CFI were considered as goodness-of-fit indices for the structural model and evaluated. As a result of the structural model analysis, Figure 1 shows individual estimates of the structural equation model as a proposed model composed of hypotheses proposed in this study. The overall fit of the structural model in this study is  $\chi^2=540.092$  (df=242,  $p<.001$ ), RMSEA=.068, GFI=.869, NFI=.929, TLI=.954, and CFI=.959, showing it to be relatively suitable.

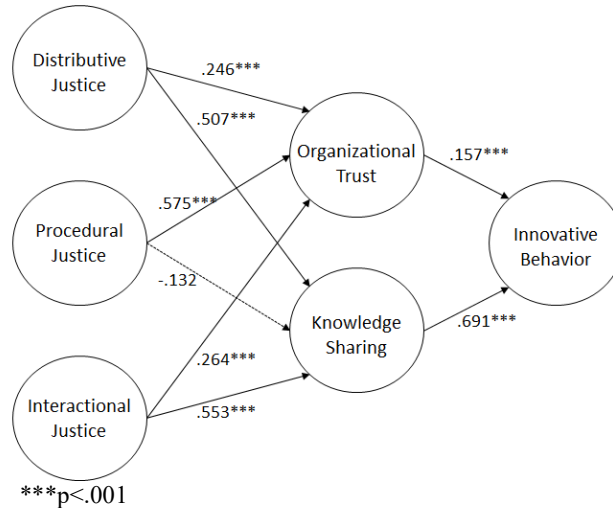


Figure. 1. Result of Structural Equation Modeling

*Hypotheses testing*

The results of the hypotheses test on the relationship between organizational justice, organizational trust, knowledge sharing, and innovative behavior, which are the constructs of this study, are as shown in Table 5 below.

Table 5. Test Results of Research Hypotheses

Hypotheses	Path	Path coefficient	Standard error	t vale	Adoption status
H1	Distributive justice → Organizational trust	.246	.064	3.520***	Adopted
H2	Procedural justice → Organizational trust	.575	.068	7.882***	Adopted
H3	Interactional justice → Organizational trust	.264	.042	6.097***	Adopted
H4	Distributive justice → Knowledge sharing	.507	.067	6.065***	Adopted
H5	Procedural justice → Knowledge sharing	-.132	.065	-1.628	Rejected
H6	Interactional justice → Knowledge sharing	.553	.047	9.943***	Adopted
H7	Organizational trust → Innovative behavior	.157	.045	3.206***	Adopted
H8	Knowledge sharing → Innovative behavior	.691	.062	11.889***	Adopted

$\chi^2=540.092$ (df=242,  $p<.001$ ), RMSEA=.068, GFI=.869, NFI=.929, TLI=.954, CFI=.959.

\*\*\*p<.001.

**Discussion**

*Relationship between organizational justice and organizational trust*

Distributional justice has been shown to have a positive, statistically significant effect on organizational trust, a result that supports the preceding studies (Yoon & Hong, 2001; Cho, 2006) that stated the positive correlation between distributional justice and organizational trust. According to Korsgaard and Roberson (1995), it was argued that only when assessments and rewards were made to suit an individual's performance or records can members build trust in the organization. Therefore, in this study, it can be interpreted that the more professors who work at the Chinese sports universities perceive that they have received due compensation for their efforts and that they have received reasonable compensation based on their contribution to the university, the more they believe that they are receiving stable support from the university organization, which increases trust in the university organization.

An analysis of the relationship between procedural justice and organizational trust shows a positive correlation, which is consistent with the preceding study (Seo, 2015; Lind & Tyler, 1988) that reported that procedural justice affects job satisfaction. Lind and Tyler (1988) emphasized the importance of procedural justice in the Group Value Model, which states that most people perceive high values for social interactions and that others must treat them fairly to form a cooperative partnership. In other words, in order for a trust relationship to be formed between an organization and its members, it must be perceived that the procedures undertaken in the organization are progressing fairly (Seo, 2015). Therefore, in this study, it can be interpreted that the more the professors perceive that consistent standards and procedures are applied to the decisions made by the university and that they are given the opportunities to express their opinions and feelings when there are procedural problems in the decisions made by the university, the more they trust and rely on the university.

Finally, interactional justice has been shown to have a positive effect on organizational trust, a result consistent with prior studies (Kim, 2007; Lee & Choi, 2004; Chung, 2012) that reported that interactional justice affects organizational trust. Chung (2012) argued that day-to-day work in an organization is done through a social interaction process with a boss or colleagues and that members of the organization who recognize that they have received fair treatment from a superior during the process of social interaction in the organization have increased confidence in the organization. Therefore, it can be interpreted in this study that the more kindly and courteous the professors of the Chinese sports universities have been treated by the organization, the more they have confidence in the organization in which they work.

#### *Relationship between organizational justice and knowledge sharing*

Distributional justice has been shown to have a positive effect on knowledge sharing, a result that supports the preceding study (Cabrera & Cabrera, 2002), which argued for a positive relationship between distributional justice and knowledge sharing. Cabrera and Cabrera (2002) argued that the higher distributional justice among members in an organization, the lower the individual knowledge sharing dilemma. Therefore, in this study, it can be interpreted that the more reasonable the professors at the Chinese sports universities recognize that they have received reasonable compensation for their efforts in their work, the more they want to share the knowledge and know-how they have gained from their experience.

An analysis of the relationship between procedural justice and knowledge sharing showed that procedural justice had no significant effect on knowledge sharing. These results are contrary to the preceding study (Bonarch & Schneider, 1992) that argued that procedural justice had a positive effect on knowledge sharing. This is thought to be the case when the professors refuse to share knowledge in order to secure their own competitiveness, given the situation in which several professors are in charge of a single subject in the case of Chinese sports universities. In other words, it can be interpreted that procedural justice, which implies the future rewards perceived by the professors working in Chinese sports universities, has no direct effect on knowledge sharing. This view can be linked to the argument of the study of Kim and Hong (2013) that the fear of losing the power of their knowledge by sharing it and the inability to retrieve shared knowledge may lead to more interest in current compensation than in future one and that procedural justice, representing future rewards, does not affect knowledge sharing.

An analysis of the relationship between interactional justice and knowledge sharing showed that interactional justice had a positive effect on knowledge sharing. This is consistent with the previous study (De Cremer, 2002) that reported that interactional justice affected knowledge sharing. De Cremer's study (2002) suggested that the perception of interactional justice done by superiors-in other words, when members of an organization perceive that they have been respected-increases the sense of belonging to the group and results in much stronger cooperative behavior. Therefore, in this study, the higher the level of interactional justice that the professors perceive, the more actions of knowledge sharing appear, which can be interpreted that the more politely and courteously the university organization behaves, the greater the sense of belonging to the organization, which will lead to voluntary exertion of their passion.

#### *Relationship between organizational trust and Innovative behavior*

An analysis of the relationship between organizational trust and innovation behavior shows that organizational trust has a positive significant effect on innovative behavior, supporting prior studies (Lee, Cho, & Park, 2009; Gomez & Rosen, 2001; Lewicki & Bunker, 1996; Rousseau et al. 1998). Rousseau et al. (1998) state that risk creates opportunities for trust and one takes risks with trust. They further argued that while organizational trust does not play a significant role in performing risk-free tasks, the role of trust is very important in promoting voluntary innovative behavior because of the high burden of failure in the process of innovative behavior that requires a variety of changes.

Unlike universities in other countries, Chinese sports universities do not separate teachers' and administrative positions, so administrative members manage professors and sometimes interfere with class and learning activities. Thus, a university organization with a well-established trust can induce voluntary participation and cooperation from professors because of the low waste of resources from monitoring and control of professors and the reduced transaction costs. Conversely, within an organization where distrust prevails, professors who have lost confidence in the university organization are likely to show a variety of innovation resistance



behaviors, such as challenging their bosses or managers, trying to prevent change directly in the course of the university organization introducing new changes, trying to form groups among their colleagues that support their opinions based on their complaints and grievances, and secretly avoiding and rejecting innovation activities.

Therefore, from the results of this study, it can be interpreted that the higher the confidence in the organization, the more actively the professors who work at Chinese sports universities participate in innovative behavior, while the more distrustful the organization is, the harder it is to expect individual efforts to solve the problem creatively.

*Relationship between knowledge sharing and innovative behavior*

Since 1992, Chinese sports universities have blindly increased the number of subjects and recruited students in large numbers to receive good university evaluations. They have been expanding with a variety of convergent departments, not just teaching the practical subjects, and developing new majors that are socially required as elite sports become sports for all. Along with the development of society, people are making various demands for sports and physical education, and Chinese sports universities should try to reduce overlapping departments through mutual compromise and coordination and increase new departments through selection and concentration to contribute to social development by fostering talent. Through this, they should make active efforts to contribute to improving the quality of life and health of the people. However, the sad reality is that students who are trained with repeated cramming by Chinese sports universities are not responding well to the social demand.

Thus, through the results of this study, professors at Chinese sports universities may enhance their capabilities, create numerous creative ideas, and at the same time display active innovative behavior by sharing knowledge through smooth communication.

**Conclusions & Recommendations**

For today's university organizations, innovation seeking various changes has become an essential condition for them to meet the needs of the times to shift from knowledge acquisition to knowledge-generating paradigm, and to ensure the continued development of university organizations and competitive advantage. At this point, this study can find its significance in that it presented the theoretical basis for strategic measures for human resource management of sport university organizations by clarifying the relationship between organizational justice, organizational trust, knowledge sharing, and innovative behavior with Chinese sport university professors as research subjects. Based on the results of this study, the implications are as follows.

The results of this study that organizational justice directly affects organizational trust and knowledge sharing of Chinese sport university professors indicate that efforts should be made to enhance organizational justice within the organizations of Chinese sports universities. Specifically, a fair assessment of an individual's performance will have to be made. Additional compensation will have to be made for achievements and performances other than the standard workload on the basis of completing the workload required by the universities. Therefore, it is judged that the introduction of incentives related to innovative behavior can have a very positive effect. It also suggests that efforts to ensure justice in the decision-making process should precede. In the case of Chinese university organizations, most of the decisions are made with authority in the executive branch, which is why there is relatively little opportunity for professors to participate in decision making. To overcome this, therefore, smooth communication between administration departments and professors should be encouraged.

Continuous efforts to build trust in the organization, along with securing organizational justice in the relationship between organizational justice and organizational trust, will have to be made. Once trust is broken in the relationship between the university organization and professors, a lot of time, money, and effort will have to follow to restore it. Therefore, it will be necessary to review from time to time whether the implicitly formed psychological contract relationship in the relationship between the university organization and professors is faithfully implemented, and besides organizational justice, human resource management strategies utilizing various variables that can directly affect organizational trust have to be established. Through this, it is judged that the individual's emotional belief in the organization can be maintained despite the lack of organizational justice perceived by professors.

It can be learned that smooth knowledge sharing activities among professors must be carried out in order to enhance the innovative behavior of professors at Chinese sports universities. In order to gain a lasting competitive advantage amid fierce competition among Chinese sports universities, constant innovation is required, and since the main players of this innovation are the professors, great efforts must be made to promote their innovative behavior. Therefore, the managers of Chinese sports universities should establish a knowledge sharing system to ensure smooth communication among the professors, and if it is systematically managed to compensate for new changes and innovations related to their work rather than simply relying on practices within university organizations that can cooperate with each other in a reciprocal relationship, it will be possible to maximize the creation of innovative behavior through knowledge sharing.

Based on the purpose of this study, the relationship between each variable was established using appropriate research methods and meaningful facts were provided, but some limitations were found. Therefore several recommendations are provided for follow-up the future researches accordingly.

First, a professor at a Chinese sport university is not a position in which education and administration are completely separated. Some professors hold an administrative position as well. Accordingly, there are some professors in charge of administrative positions among the subjects of this study, which raises the problem of generalization of the subjects. Therefore, it is necessary to conduct the research including the administrative positions that professors are responsible for in the future.

Second, since professors working for Chinese sport university organizations may have different perceptions of organizational justice depending on their work period, it will be necessary to study the differences in perception of organizational justice among professors considering demographic factors in future studies.

Third, in this study, we have measured the level of innovative behavior of the professors, which has never been used in Chinese sports universities, so it is thought that the question of the validity of the scale may arise as the research team has secured statistical verification and validity through the process of modifying and supplementing according to the situation of Chinese sports universities. Of course, statistical verification has secured the validity of the measuring tools, but it is believed that the types of innovative behavior that professors perceive can be more diverse in that practical education and various administrative tasks are combined due to the nature of the Chinese sport university organizations. Therefore, it is believed that future research will provide more meaningful implications if the measuring tools that reflect the characteristics of Chinese sport university organizations to identify innovative behavior of the professors are developed.

Fourth, there are some questions in the questionnaire that require a response to negative behavior. It is difficult to assess whether the answers were given honestly or not because respondents may be in a psychological state of conflict when they are required to respond to items that are not desirable behavior patterns within the university organization (Han, 2008). In other words, attention should be paid to self-defensive and biased responses in the process of measuring negative variables. Therefore, in future studies, efforts should be made to minimize biased or normative responses from those surveyed by applying more diverse expressions in constructing measuring questions.

## References

- Bock, G. W., & Kim, Y. G. (2002). Breaking the myths of rewards: An exploratory study of attitudes about knowledge sharing. *Information Resources Management Journal*, 15(2), 14-21.
- Bonacich, P., & Schneider, S. (1992). Communication networks and collective action. In W. G. Liebrand, D. M. Messick, & H. A. M. Wilke (Eds.), *A social psychological approach to social dilemmas*. Oxford, England: Pergamon Press.
- Byun, C.B., Park, S.J., & Lee, H.J. (2012). The structural relations among hotel employees' job attitudes, customer orientation, and job performance. *International Journal of Tourism and Hospitality Research*, 26(5), 357-374.
- Cabrera, A., & Cabrera, E. F. (2002). Knowledge-sharing dilemmas. *Organization Studies*, 23(5), 687-710.
- Cho, S.B. (2006). The Effects of hotel restaurants employee's perceived fairness of the rewards on the reliability and the service quality: Focused on the deluxe hotel restaurants employees in Seoul. *International Journal of Tourism and Hospitality Research*, 20(2), 279-291.
- Chung, M.Y. (2012). A Study of relationships among self-esteem, spiritual well-being and mental health to establish spirituality courses for nursing students. *Korean Journal of General Education*, 6(3), 721-741.
- Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, 30(3), 386-400.
- Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of Management Journal*, 34(3), 555-590.
- De Cremer, D. (2002). Respect and cooperation in social dilemmas: The importance of feeling included. *Personality and Social Psychology Bulletin*, 28, 1335-1341.
- Drucker, P. F. (1985). *Innovation and entrepreneurship: Practice and principles*. London: Heineman.
- Faraj, S., & Sproull, L. (2000). Coordinating expertise in software development teams. *Management Science*, 46(12), 1554-1568.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Gomez, C., & Rosen, B. (2001). The leader-member exchange as a link between managerial trust and employee empowerment. *Group & Organization Management*, 26, 53-70.
- Ha, J.P., & Ha, J. (2015). Organizational justice-affective commitment relationship in a team sport setting: The moderating effect of group cohesion. *Journal of Management and Organization*, 21(1), 107-124.
- Han, K.H. (2008). Multi-dimensional approach of the determinants and moderators on production employees' counter-productive work behavior. *Korea Journal of Business Administration*, 21(6), 2771-2798.
- Henle, C. A. (2005). Predicting workplace deviance from the interaction between organizational justice and personality. *Journal of Managerial Issues*, 17(2), 247-263.

- Jin, D.S. (2008). *A study on the antecedents and outcomes of knowledge management activities at the individual & group levels of analysis*. (Unpublished doctoral dissertation). Soongsil University, Seoul.
- Joo, H.C., & Seok, B.G. (2011). Perceived organizational justice and organizational citizenship behavior as mediator of the relationship between organizational trust and organizational cynicism in sports facilities. *Korean Journal of Sport Science*, 22(2), 1939-1954.
- Kim, D.J., Kim, Y.M., Hwang, S.B., & Kim, Y.W. (2012). The impacts of perceived organizational justice on the innovative behaviors of organizational members: Focusing on the mediating effects of knowledge sharing. *Korean Corporation Management Research*, 42, 237-258.
- Kim, H.G. (2007). A study on the causal relationships among organizational justice, organizational trust, and organizational citizenship behavior. *Korean Public Administration Review*, 41(2), 69-94.
- Kim, I.C., Kim, J.W., & Lee, J.W. (2004). Determinants of innovative work behavior. *Journal of Business Research*, 19(2), 282-317.
- Kim, J.J., & Park, K.K. (2008a). A study on the relation between personal characteristics and psychological resistance to change & organization commitment. *The Korean Journal of Industrial and Organizational Psychology*, 21(3), 429-450.
- Kim, J.J., & Park, K.K. (2008b). A study on the multi-dimensional approach of employee resistance to organizational change. *Korean Journal of Management*, 16(3), 1-41.
- Kim, K.J., & Chung, B.K. (2008). A study on the moderating effects of information system characteristic between social capital and knowledge sharing. *Journal of Human Resource Management Research*, 15(3), 1-18.
- Kim, M.S., & Hong, K.S. (2013). The impact of organization justice on social capital and knowledge sharing. *Korea Journal of Business Administration*, 26(5), 1123-1148.
- Koo, J.U. (1999). *History of Chinese Education*. Seoul: Chaek Sa Rang.
- Korsgaard, M. A., & Roberson, L. (1995). Procedural justice in performance evaluation: The role of instrumental and non-instrumental voice in performance appraisal discussions. *Journal of Management*, 21(4), 657-669.
- Lee, H.J., & Cha, Y.J. (2007). A study on the influence of organizational culture on the knowledge management: With focus on the central government officials' perceptions. *Korean Policy Sciences Review*, 11(1), 105-128.
- Lee, J.H., & Choi, I.B. (2004). Relationship among organizational justice, trust and organizational effectiveness. *Korean Journal of Management*, 12(1), 93-132.
- Lee, J.K., & Hong, S.B. (2011). The influence of handball team teacher's transformational leadership on organizational justice, and organizational performance of middle and high schools. *Korean Journal of Physical Education*, 12(1), 93-132.
- Lee, J.W., Cho, J.Y., & Park, S.H. (2009). Relationship of organizational justice and trust perceived by teachers. *The Educational Research Institute*, 7(1), 73-95.
- Lee, S. (2001). The impact of knowledge sharing, organizational capability and partnership quality on IS outsourcing success. *Information & Management*, 38, 323-335.
- Lewicki, R.J., & Bunker, B.B. (1996). Developing and maintaining trust in work relationships. In R. M. Kramer & T. R. Tyler (Eds.), *Trust in organizations: Frontiers of theory and research* (pp. 114-139). Thousand Oaks, CA: Sage.
- Lind, E.A., & Tyler, T.R. (1988). *The social psychology of procedural justice*. New York: Plenum Press.
- McAllister, D.J. (1995). Affect and cognition based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal*, 38(1), 24-59.
- Park, H.T., Son, S.Y., Lee, S.J., & Yoon, S.K. (2009). A study on the relationship between organizational justice and knowledge sharing. Conference Proceeding: *Korean Academic of Management*, 2009(2), 555-584.
- Park, T.H. (2002). A Study on the effect of knowledge sharing to job satisfactions. *Journal of Human Resource Management Research*, 2, 109-132.
- Pearce, J. L., Branyiczki, I., & Bakacsi, G. (1994). Person-based reward systems: A theory of organizational reward practices in reform-communist organizations. *Journal of Organizational Behavior*, 15, 261-282.
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, 23(3), 393-404.
- Scandura, A., Graen, G., & Novak, M. A. (1986). When managers decide not to decide autocratically: An investigation of leader-member exchange and decision influence. *Journal of Applied Psychology*, 71, 579-584.
- Seo, H.M. (2015). *The influence of perceived organizational justice on innovation resistance among employees in sport organization: The mediating effects of organizational trust* (Unpublished doctoral dissertation). Sungkyunkwan University, Seoul.
- Seo, H.M., Kim, S.H., & Yoon, S.H. (2013). Moderating effects of multi-dimensional organizational commitment between knowledge sharing and Innovative behavior among instructors in sport centers. *Korean Journal of Sport Management*, 18(1), 45-58.
- Seo, H.M., Son, J.H., & Chang, K.R. (2015). The influence of perceived organizational justice on innovation resistance among instructors in sport centers: The mediating effects of organizational trust. *Korean Journal of Physical Education*, 54(2), 253-267.

- Song, U.S., & Kim, Y.B. (2011). The relationship between organizational trust and innovational behavior: Focusing on the mediation impacts of the organizational commitment. *Social Science Studies*, 26(3), 127-151.
- Susanto, A.B. (2008). *Organizational readiness for change: A case study on change readiness in a manufacturing company in Indonesia*. Retrieved from [http://www.ib-ts.org/spring2008/A\\_B\\_Susanto.pdf](http://www.ib-ts.org/spring2008/A_B_Susanto.pdf)
- Tan, H.H., & Tan, C.S.F. (2000). Toward the differentiation of trust in supervisor and trust in organization. *Genetic, Social and General Psychological Monographs*, 126(2), 241-260.
- West, A., & Farr, J. L. (1989). Innovation at work: Psychological perspectives. *Social Behavior*, 4, 15-30.
- Yoon, S.H., & Hong, K.O. (2011). Study on the influence for the organizational citizenship behaviors and trust on equity perception of work place in the travel employees. *Journal of Hospitality and Tourism Studies*, 5(1), 157-190.
- Zeffane, R., & Connell, J. (2003). Trust and HRM in the new millennium. *International Journal of Human Resource Management*, 14(1), 3-11.