The Relationships between Servant Leadership Perceived by Athletic Major Students and Innovation and Career

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Abstract

Background/Objectives: In recent years, the core technology of the fourth industrial revolution has created new sport industry and business. To preoccupy the opportunities that stem from the flows of the times, it is strongly required for existing teaching methods to be changed. On the basis of this notion, the present study aims to examines the relationships among professors’ servant leadership perceived by athletic major students, innovation, and career search behavior.
Methods/Statistical analysis: The participants consist of college students whose majors are physical education of Y, K, B, and H-University in Seoul, Gyeonggi, Chungcheong, and Gangwon provinces in Korea. A total of 250 questionnaires were distributed, and 213 questionnaires were collected and analyzed. PASW 18.0 and AMOS 18.0 were employed for demographic analysis, reliability analysis, confirmatory factor analysis, correlation analysis and structure equation modeling analysis.

Findings: First, servant leadership has a positive influence on innovative behavior. Second, innovative behavior positively affects career search behavior. Third, servant leadership does not have a positive effect on career search behavior. Fourth, innovative behavior plays a role as a mediator in the relationship between servant leadership and career search behavior.

Improvements/Applications: To enhance students' career search behavior, various supporting plans and programs should be provided so that students innovative behavior can flourish. What is more, schools should implement a variety of measures so that professors constantly improve their servant leadership.

Key Words: servant leadership, innovative, career search, college students, athletic Major

1 Introduction

As the definition of career, 'a path one heads for', career does not simply mean the process of self-definition for choosing certain jobs. One's career should correspond to his/her talent, aptitude, ability, and values. Thus, long-term goals which embrace overall life plans should be set rather than focusing on short-term ones.

Despite the importance of setting long-term goals, sport major students usually have troubling choosing their own career path mainly because of dissatisfaction with a current major, insufficient career education programs, lack of understanding on the mechanism of sport industry in general, uncertainty of getting a job in the field related to their major. Sport major students seem to have the limited knowledge when it comes to getting a job in the field. That is, they do not know much about what kinds of jobs are available.
in the sport field, which are sports trainers and instructors, health management professionals, sport research professionals, sport marketing professionals, sport media professionals, etc.\cite{1}.

It was announced that about 130 million dollars will have been invested until 2010 in Sport ICT convergence industry to occupy a wearable market and help the development of new technology by the Ministry of Science and ICT and the Ministry of Trade, Industry, and Energy\cite{2}. In addition, various other industries have been integrated with the sport industry, such as tourism, medical, games, and fashion. As a result, the sport industry is rapidly changing\cite{3,4}.

Recently, interdisciplinary study has been empathized, resulting in the changes of existing industries and the academic ecosystem. To responding to the change of the times, it is required for sport major students to prepare themselves for keeping up with the new era by plan their future career accordingly. Therefore, it is the time that sport major students should get ready to preoccupy new opportunities arising in the sport industry before other major students do.

For the active career preparation behavior and the right decision for future career, students should be able to develop their own capability self-initiatively\cite{5,6}. That is, they should get ready to take responsibility for what they choose and have independent and active ways of life\cite{7}. In other words, innovative behavior is required for students to develop their capability and self-regulate themselves so that they can come up with novel and creative ideas\cite{8,9}. It is the innovative behavior that is often recognized as one of the most required traits that students in the era of 21st century should have\cite{10,11}.

To guide students’ adequate career searching and innovative behavior, the roles of educators like professors in college are very important. Especially sport major students whose views related to future career are relatively narrow, the importance of interactive educational methods, which help students and professors communicate effectively, show mutual respect, care for each other, and cooperate to establish better future career, are emphasized\cite{5,6,8}. In other words, helping and motivating students internalize self-directed learning is critical\cite{12}. In this respect, the servant leadership should be empathized as it induces potential capability and psychological empowerment by stimulating confidence, self-esteem,
and psychological well-being so that members display the maximum of abilities through leaders understanding members\textsuperscript{13,14,15}. In sum, for sport major students to have adequate career search behavior, not only is students’ endeavor essential, but also the role of professors and the educational environment to support them are. Therefore, the present study intended to examine the relationships between the professors servant leadership and students innovative and career searching behavior.

2 Research Model and Hypothesis

Based on the necessity and the previous research, this study set up the following hypothesis and research model. In Figure 1

H1. Servant leadership has a positive effect on innovative behavior.

H2. Innovative behavior has a positive effect on career search behavior.

H3. Servant leadership has a positive effect on career search behavior.

H4. Innovative behavior mediates the relationship between servant leadership and career search behavior.

![Figure 1. Research model](image-url)
3 Methods

3.1 Participants and Procedure

The college students whose major is sport participated in the study. They are from four different colleges in different cities in Korea (i.e. Seoul, Gyeonggi, Chungcheong, Gangwon area). The participants were chosen through the convenience sampling method which is the part of the non-probability sampling method. A total of 250 copies of survey questionnaire were distributed, and they were asked to fill out the questionnaire using self-administration method. Of the 250 copies of the questionnaire, 37 inadequate copies were excluded and a total of 213 copies were analyzed.

3.2 Instrument

For the study, a questionnaire was used, which consisted of question items with 5 Likert scales (Strongly Disagree to Strongly Agree) related to servant leadership, self-leadership, creativity, and innovative behavior.

For servant leadership, the question items were adapted from previous studies and modified for the purpose of the study, consisting of 11 question items \(^{8,16,17}\). The question items measuring the innovative behavior were also adapted from previous studies and modified, consisting of 6 question items \(^{6,18,19}\). The question items for Career search behavior were adapted from previous and modified, having 6 question items \(^{20,21,22}\).

3.3 Data Analysis

PASW 18.0 was utilized for descriptive statistics to find out sociodemographic. To estimate the adequacy of the proposed model, we followed two-step modeling \(^{23}\), measurement model and structural model. First, measurement model was estimated with confirmatory factor analysis (CFA), and structural model by structural equation modeling (SEM). Before analyzing the data, various assumptions regarding CFA and SEM were tested. Multicollinarity was examined using correlation analysis. Outliers were investigated via boxplot, and normality was tested with skewness and kurtosis.
Based on the suggestions from previous studies, several appropriate measures were adopted which included chi-square statistic ($\chi^2$), comparative fit index (CFI), Tucker-Lewis Index (TLI) and root mean square error of approximation (RMSEA). Any values of RMSEA between .06 and .08 indicate acceptable fit. Previous study suggested that the CFI and TLI larger than .90 indicate an acceptable fit. Construct validity was assessed with the examination of convergent validity and discriminant validity. Convergent validity was evaluated through standardized factor loading and Average Variance Extracted (AVE) value. In addition, discriminant validity was assessed by comparing squared correlation and AVE between constructs of the proposed model.

Two tests were conducted to examine internal consistency of items for each construct with the following tests: (a) Composite reliability (> .70) and (b) AVE (> .50).

Upon the completion of CFA, SEM was used to test hypotheses. The same fit index criteria as in the CFA were adopted to inspect the goodness of fit level in the structural model. The Servant leadership was used as exogenous variables, innovate behavior was treated as mediating and endogenous variables, and career search behavior was treated as endogenous variable. By means of SEM, direct effect and indirect effect were tested. For the statistical significance of indirect effect, Sobel test was used. When Sobel’s Z value is equal or above 1.96, it concludes that there is statistical significance in the mediating effect.

4 Results

4.1 Confirmatory Factor Analysis

Before implemented the CFA, several assumptions were inspected. All skewness (-.871 to .009) and kurtosis (-.499 to 2.383) values fell well within the acceptable threshold, which indicates that the data were normally distributed (Hair et al., 2006). To identify multivariate outliers, if there are any, the Mahalanobis distance values were calculated utilizing AMOS 18 and none were detected. The results of these pre-assumption tests confirmed that proceeding to CFA was appropriate. Overall, goodness-of-fit indices revealed that the measurement model fit the data well ($\chi^2 = 460.414$, df =
Further, all AVE values were above .507. It is shown in Table 1.

### Table 1. Confirmatory Factor Analysis results

<table>
<thead>
<tr>
<th>Factor</th>
<th>Item</th>
<th>Standardized estimate</th>
<th>Error variance</th>
<th>CR</th>
<th>AVE</th>
<th>Cronbach's α</th>
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<tr>
<td></td>
<td>A_1</td>
<td>.903</td>
<td>.238</td>
<td>.599</td>
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<td></td>
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<td>.254</td>
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<td></td>
<td>A_3</td>
<td>.795</td>
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<td></td>
<td>A_4</td>
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<td>.905</td>
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</tbody>
</table>

$\chi^2=60.414$, $df=227$, CFI=.930, TLI=.922, RMSEA=.070

### 4.2 Correlation

PPMCC (Pearson product-moment correlation coefficient was yield to examine Multicollinearity expected between research variables. The results show that there are statistically positive relationships between every variable, and the correlation coefficient was less than .80, which means that there is no Multicollinearity effect. It is shown in Table 2.
4.3 Hypotheses Testing

The overall model fit was significant enough ($x^2 = 460.414$, df = 227, CFI = .930, TLI = .922, and RMSEA = .070). According to the SEM results, Hypothesis 1, there would be a positive relationship between servant leadership and innovative behavior, was supported ($\beta = .373$, t = 5.201). Hypothesis 2, there would be a positive relationship between innovative behavior and career search behavior, was supported ($\beta = .403$, t = 5.038). However, Hypothesis 3, there would be a positive relationship between servant leadership and career search behavior, was not supported ($\beta = .063$, t = .930). Hypothesis 4, Innovative behavior would have a mediating effect in the relationship between servant leadership and career search behavior, was also supported (Z = 3.612, p < .001). It is shown in table 3.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Path</th>
<th>$\beta$</th>
<th>SE</th>
<th>z-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Servant leadership → Innovative behavior</td>
<td>.375</td>
<td>.072</td>
<td>5.04***</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2</td>
<td>Innovative behavior → Career search behavior</td>
<td>.483</td>
<td>.080</td>
<td>5.84***</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3</td>
<td>Servant leadership → Career search behavior</td>
<td>.063</td>
<td>.088</td>
<td>0.70</td>
<td>Rejected</td>
</tr>
<tr>
<td>H4</td>
<td>Servant leadership → Innovative behavior → Career search behavior</td>
<td>.166</td>
<td>.085</td>
<td>1.86**</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

The results of the present study are as follows:
First, as the servant leadership of professors positively influences students’ innovative behavior, the first hypothesis is accepted. This implies that professors’ servant leadership is important to evoke students’ active and independent behavior. Professors’ servant leadership is likely to support students’ initiatives. Thus, it is important for professors to give students more authority in the process of study so that students can take responsibility. In addition, professors should be able to show their empathy and respect to their students. To support professors, school should provide workshops and seminars so that professors will be able to train themselves to have servant leadership. In the end, professors’ servant leadership will be lead to students innovative behavior.

Second, students’ innovative behavior affects their career search behavior positively. Thus, the second hypothesis is accepted. This means that the improvement of innovative behavior, one of the characteristics of self-leader, helps improve the career search behavior. The effective ways to improve students’ innovative behavior and professors servant leadership should be considered.

Third, the result shows that professors’ servant leadership does not influence students’ career search behavior. Thus, the third hypothesis is denied. The result indicates that activating professors’ servant leadership does not necessarily evoke students’ career search behavior. Under the current educational system, students are usually passive learners. Therefore, it will take a long time for professors servant leadership unless students get ready to act independently.

Fourth, the innovative behavior plays a mediating role between servant leadership and career search behavior. The fourth hypothesis is accepted. The result indicates that professors’ servant leadership indirectly affects students’ career search behavior. That is, professors’ servant leadership help students activate career search behavior in a long term basis.

In general, students’ innovative behavior should be established beforehand for the improvement of students’ career search behavior. In addition, professors should strive to internalize servant leadership and the plenty of supporting programs should be provided by school.
References


[8] Lee Y, Seok B, Joo H. A relationship among professors’ servant leadership, self-leadership, creativity and innovative behavior


