Identifying the Factors Effective on P.E Teachers Social Capital Formation Based on Structural Equation.

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ABSTRACT: The aim of this study was to identify factors affecting social capital of P.E instructors in Khorasan Razavi province. The study population consisted of Physical Education instructors (2481 people) in Khorasan Razavi province, 334 of whom were selected using Morgan table and based on combined stratified and random sampling to take part in this descriptive survey. Two questionnaires were used to collect demographic and social capital data: the former was designed by a researcher and the latter was Nahapiet and Ghoshal (1998) social capital questionnaire. The validity of the social capital questionnaire was approved by 10 to 13 sports management professors at the Ferdowsi University of Mashhad and Azad University. The calculated reliability of the same questionnaire according to Cronbach’s Alpha was 0.94. Structural equation modeling techniques were used to analyze the data. Our findings revealed that relational and structural dimensions were the top most important effective factors in social capital formation of the participants, while the cognitive dimension was demonstrated to be the least important factor in this regards. In general, the results showed that all the three cognitive, structural and relational dimensions were positively effective in the social capital formation of P.E instructors in Khorasan Razavi province.

Keywords: Social capital, structural equation, Physical Education instructors

INTRODUCTION

In recent years, social capital concept has called many attractions and become as a famous slogan among elite politicians and academic faces. Social capital refers to features of social organizations including networks, norms and social trust which facilitate social cooperation and coordination in order to achieve mutual benefits. It can be considered as the result of relationships in the society and may be defined as the resources lying in the nature of social organization to form a better social life. Pierre Bourdieu defines social capital as real or potential resources which are resulted from more or less durable networks, acquaintances and mutual recognition, or in other words as a group membership: a network that provides each of its members with the support of the collective capital and endows them credit and recognition (Putnam, Robert: 2001). Linder and Gaibi (1999) suggested another definition for organizational social capital: according to them social capital of an organization is a set of tangible and intangible resources available to the organization’s members, which facilitate achieving organizational goals through social relations. These resources may include: trust, positive face, information, support, advice, knowledge, and power. The absence of such sources, for example, the spread of mistrust in an organization can be considered as negative social capital. Trust is usually considered to be the principle resource in social capital (Rvkv and Easton) facilitating flexibility and access to the other resources (Gaby and Linder, 2001).

Organizational social capital is considered as an important and fundamental part of any organization: a social reality that forms the basis for the unique interactions among members of that organization. Organizational Social Capital offers recognition of the organization and growing social capital has a positive effect on the performance of the organization’s members. In fact, the development of organizational social capital facilitates a sense of identity, commitment and mental and occupational health in individuals also enhancing the organization's stability (Khomarnia and the Torah, 2010).

Educational system in each country is considered as the most important training institution which is responsible for training and educating, the next generations and teachers as the staff of this organization are considered to be its social capital. Therefore, considering the importance of social capital in a community, the principal aim of this study was to investigate the factors affecting the formation of social capital in physical education instructors of Khorasan Razavi province in order to recognize and develop organizational social capital and in turn improve the teachers’ performance and organizational effectiveness.
Social capital

In this study the concept of Nahapiet and Ghoshal (1998), who define social capital in organizational point of view, has been considered. In their perspective, social capital is defined as the sum of actual and potential inner resources which are accessible through the network of relationships of a person or a social unit. Social capital is one of the important organizational capabilities and assets that can help organizations produce and share knowledge and is able to create a sustainable advantage for an organization over the others. Nahapiet and Ghoshal (1998) divided social capital into three dimensions: cognitive, relational and structural. Cognitive social capital refers to the resources providing manifestations, interpretations and systems of common meanings among groups. The most important aspects of this dimension are common language and rules of narration (Marlowe et al., 2006). Relational element describes the type of personal relationships that people have with each other based on their previous communications. The most important aspects of this dimension are: trust, norms, obligations and expectations, and identity (Nahapiet and Ghoshal, 1998). Structural social capital is defined by Bart (1992) as the overall pattern of relationships between individuals, that is to say, to whom and how you have access. The most important aspects of this dimension are: group relationships, organization of group relationships, and appropriate organization (Quoted from: Dmoory and others, 2009). Arab (2015), has done a study on the Roles of Social Capital and psychological capital on marital adjustment in young couples (1 to 5 years of being married) who visited recreational, religious and cultural places in Mashhad. He came to the conclusion that there were significant relationships between variables of the study, and that psychological capital and social capital played an important role in marital adjustment and can perfectly predict it. Therefore, by increasing the skills in couples in above dimensions one can possibly develop their marital adjustments. Nazem, Sadeghi, Nazem (2015) in a study entitled the representation of a structural model for productivity based on social capital and intellectual capital in offices in Tehran, investigated the staff of educational institutions in Tehran who had at least a diploma degree. They concluded that there was a meaningful correlation between intellectual capital and social capital accompanying with productivity so that the human capital and customer capital aspects of intellectual capital, and collective solidarity aspect of social capital had the highest direct effect on productivity. The proposed model is fit. Khani, Ghaffari, Hashemian far, (2014) in a study entitled The role of social capital and altruism in predicting attitudes towards organ donation suggested that social capital and altruism are the most important factors in promoting physicians' tendency to organ donation and therefore are considered to be effective in cultural development of a society, playing vital roles in publicizing organ donation and in turn public health promotion. In the end these researchers concluded that developing social capital and altruism were necessary in the society. Badihi, (2013) in his dissertation, entitled "The study of the relationship between social capital and job burnout in physical education teachers in Mashhad," investigated physical education instructors in Mashhad, the most of whom had a bachelor's degree (56.1%), with average age of 37.24 years and mean work experience of 11.93 years. His results showed that there is significant negative correlation between all the components of job burnout and all the dimensions of social capital. However, between the depletion of the personal characteristics and organizational trust and also organizational contributions no significant correlations were found. In addition, it was observed that there is a noticeable difference between different aspects of social capital and also between the dimensions of burnout in the participants. However, no meaningful relationship was found between demographic characteristics of the participants including age, occupational and athletic background and aspects of social capital or job burnout.

Kim et al (2015) did a study on the effects of Social capital and altruism on the elderly's intention to revisit social networking sites for tourism. The participants included visitors with 50 years of age or older. The researchers concluded that social capital had a considerable impact on bonds and common identity and an insignificant effect on shared identity as compared to common bond. While altruism was effective on both common bond and shared identity, it exerted more effects on the former as compared to the latter. Common bond and identity both had significant effects on revisiting intention. Revisiting intention was considerably affected by common identity. Thus, the study provides new knowledge and advice to the managers of SNS (Senior National Security Service) who deal with the organization's tourism-related issues.

Nguyen and Rieger (2014) investigated the effects of community-based developmental plans and social capital in rural areas. They suggested that using a discontinuous model the community-based development is positive, with weak impact on the functions of public goods. However, this program has no effect on altruism and evidence indicates the loss of trust among people. These results showed that social capital reacts weakly to changes in dispersion and a decision-based process. Savatyyn & Sarachynv (2014) in a study about the impact of Facebook on the social capital, which includes 24 thousand housewives and 50 thousand other members of the virtual community, investigated statistically the online networks. They showed that some aspects of the economic capital in SNSS such as Facebook and Twitter have a positive effect on the relationship between people although social trust declines by online communication. The researchers also studied functions of increased hatred and demonstrated that hatred may have an important role in the elimination of trust.
METHODOLOGY

This study in target point of view is practical and the method is descriptive–survey research. The study population includes physical educational instructors in Khorasan Razavi province, who were 2481, consisting of 1071 primary school teachers and 1410 high school instructors in 93-94 academic year, according to the administration office of education in Khorasan Razavi province. According to the Morgan table, 334 people were selected from both educational levels and then the questionnaires were distributed among them.

The selection was based on hybrid sampling by employing stratified random sampling, and two questionnaires were used: A questionnaire of personal information and a questionnaire of social capital designed by Nahapiet Vgyshal (1998) in three dimensions of cognitive, communication and structure.

The validity of the social capital questionnaire was confirmed by a number of 10 to 13 sports management professors and experts in Ferdowsi University of Mashhad and Azad University. The calculated reliability of the same questionnaire according to Cronbach’s Alpha was 0.94 indicating stability and internal functionality of the questionnaire.

Structural equation modeling techniques were used to analyze the data.

For data analysis in the current research, frequency distributions, calculation of mean distribution indexes, standard deviation, normality tests and inferential statistics such as Confirmatory factor analysis and structural equation analysis by using either spss or LISREL software were employed.

Descriptive statistics

Descriptive survey of variables

In this section, the descriptive survey related to social capital questionnaire and its dimensions are described. Table. 1 represents the information regarding the descriptive indexes of these variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>dimensions</th>
<th>mean</th>
<th>sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social capital</td>
<td>cognitive</td>
<td>3/524</td>
<td>0/825</td>
</tr>
<tr>
<td></td>
<td>relationship</td>
<td>3/701</td>
<td>0/731</td>
</tr>
<tr>
<td></td>
<td>structural</td>
<td>3/866</td>
<td>0/794</td>
</tr>
</tbody>
</table>

According to the table, in the social capital variable structural dimension and cognition dimension have the highest and the lowest means, respectively (3.866 and 3.524).

Inferential statistics

In this section first the normality of the research variables is studied and then the desired data analysis method in the current research (structural equation modeling) is explained and later by using this method the research model is investigated.

Kolmogorov-Smirnov test

Normality of the research variables is examined using Kolmogorov-Smirnov test. In the case of normal data distribution maximum likelihood ratio method in structural equation is applied. The results are represented in Table 2.

<table>
<thead>
<tr>
<th>Dimensions of social capital</th>
<th>z</th>
<th>Significance level (p)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>1/834</td>
<td>0/119</td>
<td>p&lt;0/05</td>
</tr>
<tr>
<td>relationship</td>
<td>1/405</td>
<td>0/212</td>
<td>p&lt;0/05</td>
</tr>
<tr>
<td>Structural</td>
<td>1/429</td>
<td>0/351</td>
<td>p&lt;0/05</td>
</tr>
</tbody>
</table>

According to the table, since all the significance levels are greater than 0.05 the normality of the research variables is proven and maximum likelihood method can be utilized.

Confirmatory factor analysis based on structural equation modeling with LISREL software

Structural equation modeling is a very general multivariate technique from the family of multiple regressions that enables researchers to examine a set of regression equations simultaneously. Structural equation modeling is a holistic approach to test hypotheses about the relationship between observed and latent variables. It is also called analysis of covariance, causative modeling or LISREL, however structural equation modeling (SEM) is commonly used these days.
This method is mainly used in multivariate subjects that cannot be carried out by the two variable method, which considers one dependent and one independent variable. This tool has the ability to simultaneously evaluate different types of relationships among dependent and independent variables, investigation and comparison of similarities and differences between different study groups.

Confirmatory factor analysis is used to determine the adequacy of the model based on the data values and takes advantage of multiple statistical tests.

In order for the Confirmatory factor analysis to be confirmed, first the t-value must be meaningful (i.e. at the significance level of 90% it should be less than -1.96 or greater than 1.96 (1.96<t, or t<-1.96). Second, the index of the should have a proper fitness.

Although fitting indexes are constantly developing and evolving, still there is no consensus on an optimal fitness test. Indexes that have been used in this research are as the following: relative Chi-square, which is calculated by division of chi-square value over the degrees of freedom of model (χ2 / df)), with acceptable values being between 1 and 3 for this index. The acceptable values for RMSEA index are lower than 0.08 and for NFI, GFI, IFI, and CFI indexes are higher than 0.9.

Confirmatory factor analysis graphs (paths’ coefficient values and t values) are represented in Figures 1 and 2 below.

Y: social capital
y1: cognitive–, y2: relational–, y3: structural– dimension

Figure 1. Research model paths’ coefficient and factor coefficient graph

Figure 2. t-values of the study model

Considering the figures 1 and 2, a summary of the results of confirmatory factor analysis is presented in the table below. As can be seen from Table 1, t-values of all the factor loadings are greater than 1.96. Therefore, it can be concluded that the selected questions provided appropriate operational structures for measuring variables and study subjects in the research model.
Table 3. Results of Confirmatory factor analysis model

<table>
<thead>
<tr>
<th>Social dimensions</th>
<th>Capital questions</th>
<th>Factor loading</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>In your opinion, to what extent do shared values, goals and organizational attitudes exist in this school?</td>
<td>0/76</td>
<td>16/64</td>
</tr>
<tr>
<td></td>
<td>To what extent do understanding and cooperation based on shared experiences, memories or anecdotes exist in this school?</td>
<td>0/72</td>
<td>12/57</td>
</tr>
<tr>
<td></td>
<td>To what extent there exist relationships based on honesty and mutual trust?</td>
<td>0/70</td>
<td>9/97</td>
</tr>
<tr>
<td></td>
<td>In your opinion to what extent, is cooperation obligatory in this school?</td>
<td>0/60</td>
<td>11/64</td>
</tr>
<tr>
<td></td>
<td>To what extent there exists the attitude and culture of teamwork in various activities done in this school?</td>
<td>0/74</td>
<td>13/25</td>
</tr>
<tr>
<td>Relationship</td>
<td>In your opinion, how much criticism is acceptable in your school?</td>
<td>0/83</td>
<td>4/72</td>
</tr>
<tr>
<td></td>
<td>In your opinion, how committed are the staff of your school to the school’s goals?</td>
<td>0/89</td>
<td>11/77</td>
</tr>
<tr>
<td></td>
<td>In your opinion, to what extents do the school staff prefers the school benefits over other interests and profits?</td>
<td>0/66</td>
<td>12/24</td>
</tr>
<tr>
<td></td>
<td>How much do you consider yourself as a member of a family in this school?</td>
<td>0/67</td>
<td>12/39</td>
</tr>
<tr>
<td></td>
<td>In your opinion, to what extents does the warm personal relationship exist between school staff?</td>
<td>0/74</td>
<td>10/99</td>
</tr>
<tr>
<td>Structural</td>
<td>In your opinion, to what extent there exist good occupational relationships in this school?</td>
<td>0/75</td>
<td>17/28</td>
</tr>
<tr>
<td></td>
<td>In your opinion, to what extent there exists facilitating relational structure in this school?</td>
<td>0/70</td>
<td>14/6</td>
</tr>
</tbody>
</table>

The values of fitness indexes are shown in table 4. The amount of RMSE is equal to 0.062 and since this is less than 0.08 the model is acceptable. Also the relative chi-square value is 2.28, (116.55 / 51) which is between 1 and 3. In addition the index values of AGFI, GFI, IFI, CFI and NFI are also more than 0.9. In general these values indicate that confirmatory factor analysis approves the subjects under study in the research model.

Table 4. The Fitness Indexes of the Research Model

<table>
<thead>
<tr>
<th>x2/df</th>
<th>RMSEA</th>
<th>NFI</th>
<th>CFI</th>
<th>IFI</th>
<th>GFI</th>
<th>AGFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/28</td>
<td>0/062</td>
<td>0/97</td>
<td>0/98</td>
<td>0/99</td>
<td>0/94</td>
<td>0/92</td>
</tr>
</tbody>
</table>

Thus, according to the results it can be stated that the effective factors on social capital formation of physical education teachers in Khorasan Razavi include cognitive, relational and structural dimensions.

According to Table 3, the path coefficient for all the questions of the questionnaire was positive and also the t-value for all the questions was more than 1.96. This shows the meaningful and positive impact of the social capital dimensions on the social capital formation in the statistical universe of the present research.

CONCLUSION

In the diverse and dynamic situations of modern life achieving success, development and progress requires taking advantage of different kinds of capitals especially social capital. Social capital is considered as a store of trust, cooperation and collaboration in a group or society that connects the members of a community to each other, and at the same time as a social facility make the exchanges and relationships among the group/community, fast, convenient and economic efficient. (Ranan Vmvydf, 2008, Balynv, William, Jmz 2002).

According to the structural model obtained in this study, relational dimension was the top most important effective factor in social capital formation of the participants; next structural dimension and finally the cognitive dimension were demonstrated to be the important factors in the sequence.

As relational dimension was proved to be the most important factor influencing social capital of these employees it can be deduced that physical education instructors are committed to the goals of their organizations and schools. Also since they are in a sportive healthy environment, they are criticizable and highly honest, and consequently the have proper corporation and consider themselves as members of one family. The second influential factor in the formation of social capital was the structural dimension. This factor refers to the general pattern of relationships between people including group relationships, organizing group relationships and appropriate organization (Quoted from: Dmvry and others, 2009), which shows a good occupational relationship and an easy communicational structure among physical education instructors. The third influential factor in social capital formation, the cognitive dimension, refers to the resources, which provide manifestations, interpretations and systems of common meanings among groups. This illustrates that physical education teachers are aware of the values of their schools and organizations and are committed to the organizational instructions that they receive such as the unified program for teaching physical education at
schools. Therefore they have a common organizational attitude. However, as recognition and cooperation are less based on common experiences, memories and anecdotes and also no enough meetings are held by the organization in order to have more communication and exchange of experiences among physical education teachers, they have little knowledge about each other. As a result the cognitive dimension becomes the third influential factor in the formation of social capital in this population.

In general, our results showed that all three cognitive, structural and relational dimensions of social capital were positively effective in the social capital formation of physical education instructors in Khorasan Razavi province, with the relational dimension being the most effective dimension in this regards. Therefore, it is recommended that managers of educational organizations provide more opportunities for the communication among the human resources to can share with each other the important values and experiences achieved from the physical education instruction. Also this can help strengthen the cognitive dimension, which was found to be the least effective factor in social capital formation in this population. By considering these factors the effectiveness of social capital among physical education instructors and even their colleges can be further improved in the near future.

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