

A STUDY OF THE RELATIONSHIP BETWEEN DISTRIBUTED LEADERSHIP AND ORGANIZATIONAL INNOVATION OF KINDERGARTEN EDUCATOR'S AWARENESS

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ABSTRACT

This study aimed to discuss the awareness to distributed leadership and organizational innovation of kindergarten educators. Three purposes, to understand the current situation of the distribution leadership and organizational innovation in kindergartens, to discuss the differences of the two factors with various background valuables, and to discuss the correlations of the two factors were included in this study.

Questionnaire methodology was introduced while the subjects were the kindergarten educators. Firstly, 12 questionnaires were distributed to each school including one-third of the public schools plus one-fifth of the private ones. Sixty-five schools attended and the total amount of the effective rate was sixty-seven percent by means of 517 effective ones. Based on the effective questionnaires, the data was analyzed by the following projects such as mean, standard deviation, dependent samples one-way ANOVA, t-test, one-way ANOVA, and Pearson's product-moment correlation.

The results indicated significant differences on the distributed leadership between the educators in different regions in both, public and private schools, significant differences on the awareness of organizational innovation between the educators in public and private kindergartens, and significant correlation between the distributed leadership and organizational innovation for kindergarten educators.

Based on the result of this study, specific recommendations were raised as references for educational administrators, educators and future researchers.

Keywords: Kindergarten, Distributed Leadership, Organizational Innovation

INTRODUCTION

School leadership is at the core of successful school management. Theories of leadership have been given particular attention in various industries. A common suggestion is that modern theories of leadership developed from Leader's Traits Theories, followed by behavioristic theories and contingency theories. Many studies have been conducted regarding modern theories of leadership, discussing issues of vision, multiple elements, authorization, etc. Gibb (1951) proposed distributed leadership as a modern leadership theory.

Recent years have seen a vigorous development of the theory of distributed leadership. Most studies on distributed leadership in Taiwan have focused on professional colleges, high schools, and elementary schools, whereas no research has been done with regard to kindergartens. More research in this area has been conducted overseas (e.g. Heikka and Hujala, 2013; Lin and Lee, 2013; Heikka, 2014).

In recent years, teachers in Taiwan have developed consciousness about their professional autonomy. More teachers' organizations have been established. It has become common for teachers to participate in school affairs. The rights of school leadership have become distributed between organization members. As its first objective, this study aimed to investigate distributed leadership in kindergartens.

After Schumpeter (1932) proposed the concepts of innovations and inventions, innovation has been given increased attention among scholars. Peter Drucker declared: "Innovate or die" (cited in Yen, 2005). Innovation is not only an important personal ability but also a key to an organization's survival. An organization lacking the innovation ability will certainly be eliminated from the environment. Therefore, organizational innovation has been widely studied in recent years. It has become an international trend and a new lifestyle in the information society (Chen, 2015).

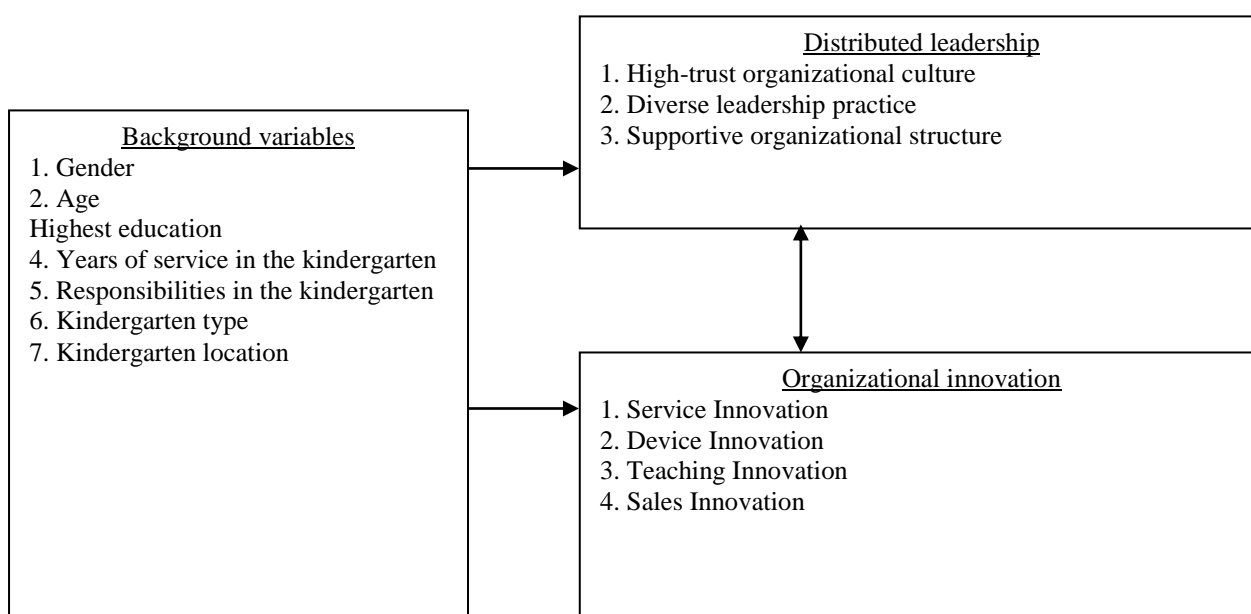
Academic papers and dissertations on organizational innovation in Taiwan mostly focus on high schools and industries and there is a lack of research on organizational innovation in kindergartens. Therefore, examination of organizational innovation in kindergartens was the second objective of this study.

Distributed leadership and organizational innovation are important revolutionary concepts in management. This study sought to further investigate the relationship between distributed leadership and organizational innovation. The review of related studies showed that most scholars examined leadership and organizational effectiveness, innovation management, organizational renewal, organizational learning, organizational commitment, and organizational health. Thus, there is a need for research on the relationship between distributed leadership and organizational innovation in the context of kindergartens, which was the third objective of this study.

RESEARCH DESIGN AND IMPLEMENTATION

Research Structure

The research structure for this study is shown in Figure 1.



Participants

The participants in this study were teaching staff of kindergartens in Kaohsiung City, Taiwan. According to statistics provided by Kaohsiung City Government Education Bureau (2015), there were 671 public and private kindergartens (including kindergartens affiliated to municipal elementary schools) operating in Kaohsiung City during the first semester of the 2015/2016 academic year. Their teaching staff amounted to 5,932 people, which was the total population in this study.

In Phase 1, public and private kindergartens in Kaohsiung City were classified according to their location. With regard to their scale, three types were distinguished, namely, large-scale, mid-scale, and small-scale kindergartens. Purposive sampling of one-third of the kindergartens was selected for a total sample of 65 kindergartens.

To increase sample representativeness, in Phase 2 of this study, kindergarten principals were asked to use purposive sampling and select 10-12 teaching staff with different backgrounds.

Formal questionnaires were distributed at 65 kindergartens on December 4, 2015. 524 out of 780 questionnaires were returned, yielding a return rate of 67%. After removing non-completed and ineffective responses, 517 effective responses were obtained.

Research Tools

The distributed leadership questionnaire used in this study was adapted from Lee (2011) questionnaire and included 16 questions in three constructs, which were “High-trust organizational culture,” “Diverse leadership practice,” and “Supportive organizational structure”

The organizational innovation questionnaire used in this study was adapted from Yung (2012) questionnaire and included 20 questions in four constructs, which were “Service innovation,” “Device innovation,” “Teaching innovation,” and “Sales innovation.”

Statistical Analysis

Statistical analysis in this study included descriptive statistics, *t*-test, one-way ANOVA, and Pearson’s product-moment correlation.

RESULTS AND DISCUSSION

Distributed Leadership: Analysis and Discussion

The current situation of distributed leadership is shown in Table 1.

Table 1. Distributed leadership summary (N=517)

<i>Dimension</i>	<i>No. of questions</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Mean score</i>
A. High-trust organizational culture	4	17.16	2.57	4.29
B. Diverse leadership practice	6	25.35	4.06	4.22
C. Supportive organizational structure	6	25.19	3.99	4.20
Overall distributed leadership	16	67.68	9.96	4.24

As shown in Table 1, the mean scores in constructs of distributed leadership were high: 4.29 in High-trust organizational culture, 4.22 in Diverse leadership practice, and 4.20 in

Supportive organizational structure. Results in this study differed from those reported by Lee and Cheng (2014). This study found that the distributed leadership score was lower than the median score of 10 in such sub-constructs as the kindergarten principal’s open thinking, teachers’ active participation, and building a high-trust culture. This indicated poor quality of distributed leadership in kindergartens. However, similar to Liu and Chang (2014), this study found that teacher leadership and the principal’s distributed leadership had been long applied in kindergartens’ curriculum and teaching practice. Therefore, there is a need for further investigation of the actual application of distributed leadership in the kindergartens of Kaohsiung City.

Organizational Innovation: Analysis and Discussion

The current situation of organizational innovation is shown in Table 2.

Table 2. Organizational innovation summary (N=517)

<i>Dimension</i>	<i>No. of questions</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Mean score</i>
A. Service Innovation	5	21.72	2.87	4.34
B. Device Innovation	5	19.71	4.04	3.94
C. Teaching Innovation	5	20.91	3.48	4.18
D. Sales Innovation	5	19.70	3.97	3.93
Overall organizational innovation	20	82.03	12.76	4.10

As shown in Table 2, mean scores in constructs of organizational innovation were high: 4.34 in Service innovation, 3.94 in Device innovation, 4.18 in Teaching innovation, and 3.93 in Sales innovation. These results corresponded to those reported by Lee (2010) who found that teachers of Nantou County elementary schools had a good perception of organizational innovation. Chuang (2010) reported a moderate degree of teachers’ perception of overall organizational innovation environment in Kaohsiung City junior high schools. Yang (2012) reported moderate and high degrees of organizational innovation in personnel of Kaohsiung cram schools. As the participants in studies by Lee (2010), Chuang (2010), and Yang (2012) were not kindergarten teachers, it is difficult to draw comparisons with this study. Thus, there is space for further research on perception of organizational innovation by kindergarten teachers.

Differences in Distributed Leadership and Organizational Innovation: Analysis and Discussion

With regard to differences in the perception of distributed leadership by kindergarten teachers with different background, this study found that teachers differing in terms of gender, age, highest education, years of service and job responsibilities in the kindergarten, and kindergarten location did not significantly differ in their perception of distributed leadership. Perception of distributed leadership by teachers of public and private kindergartens reached a significant difference ($t=5.58, p<.001$). Moreover, kindergarten teachers in urban areas had a better perception of distributed leadership in the Diverse leadership practice construct than teachers in rural areas.

With regard to differences in the perception of organizational innovation by kindergarten teachers with different background, this study found that teachers differing in terms of gender, age, highest education, years of service and job responsibilities in the kindergarten,

and kindergarten location did not significantly differ in their perception of organizational innovation. Perception of distributed leadership by teachers of public and private kindergartens reached a significant difference ($t=7.55, p<.001$).

Relationship between Distributed Leadership and Organizational Innovation: Analysis and Discussion

Correlation coefficients for the constructs of distributed leadership and organizational innovation are provided in Table 3.

Table 3. Product-moment correlation between distributed leadership and organizational innovation (N=517)

<i>Organizational innovation</i>	<i>Service Innovation</i>	<i>Device Innovation</i>	<i>Teaching Innovation</i>	<i>Sales Innovation</i>	<i>Overall construct</i>
High-trust organizational culture	.71***	.57***	.61***	.57***	.69***
Diverse leadership practice	.70***	.62***	.63***	.60***	.71***
Supportive organizational structure	.77***	.64***	.66***	.62***	.75***
Overall construct	.78***	.66***	.67***	.64***	.77***

*** $p<.001$

As shown in Table 3, there was a significant correlation between three constructs of distributed leadership and four constructs of organizational innovation ($p<.001$). The distributed leadership construct High-trust organizational culture was significantly and positively correlated with organizational innovation ($r=.69, p<.001$). The distributed leadership construct Diverse leadership practice was significantly and positively correlated with organizational innovation ($r=.71, p<.001$). The distributed leadership construct Supportive organizational structure was significantly and positively correlated with organizational innovation ($r=.75, p<.001$). Overall, distributed leadership was found to be significantly and positively correlated with organizational innovation ($r=.77, p<.001$).

The organizational innovation construct Service innovation was significantly and positively correlated with distributed leadership ($r=.78, p<.001$). The organizational innovation construct Device innovation was significantly and positively correlated with distributed leadership ($r=.66, p<.001$). The organizational innovation construct Teaching innovation was significantly and positively correlated with distributed leadership ($r=.67, p<.001$). The organizational innovation construct Sales innovation was significantly and positively correlated with distributed leadership ($r=.64, p<.001$).

During the literature review, no studies related to distributed leadership and organizational innovation in kindergartens were found. Some studies (Harris, 2006; Harris et al., 2007; McGuinness, 2009) reported a significant positive correlation between distributed leadership and organizational effectiveness, innovation management, organizational renewal, organizational learning, organizational commitment, and organizational health. This study also verified a significant level of the correlation between distributed leadership and organizational innovation.

CONCLUSION AND SUGGESTIONS

This study found a high degree of kindergarten teachers' perception of distributed leadership, particularly, in the High-trust organizational culture construct. Kindergarten teachers showed

a high degree of perception of organizational innovation, particularly, in such constructs as Service innovation and Teaching innovation. Moreover, perception of distributed leadership and organizational innovation was higher in private kindergarten teachers than in public kindergarten teachers. With regard to background variables, it was found that teachers differing in terms of gender, age, highest education, years of service and job responsibilities in the kindergarten, and kindergarten location did not significantly differ in their perception of both distributed leadership and organizational innovation. Finally, with regard to correlation, this study found that the higher perception of distributed leadership by Kaohsiung kindergarten teachers indicated their higher perception of organizational innovation.

Based on the above conclusions, this study suggests to strengthen the promotion of distributed leadership and organizational innovation concepts among kindergarten teachers, particularly, the concepts of supportive organizational structure, sales innovation, and device innovation. Furthermore, there is space for improvement of distributed leadership and organizational innovation in public and private kindergartens. More research is needed to investigate distributed leadership and organizational innovation among kindergarten teachers. Finally, for the sake of more comprehensive research, future studies should include both qualitative and quantitative research methods and conduct pre-tests to provide a more rigorous questionnaire survey with higher reliability and validity.

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