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RESEARCH ON THE IMPACTS OF MULTI-FRAME SCHOOL LEADERSHIP ON TEACHERS' INTENTIONS FOR RETENTION

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Abstract

The main purpose of this study is to integrate the effect sizes of Multi-frame Principals' Leaderships and teachers' intentions for retention, and the relationships between the study characteristics of the moderators and the above variables. The techniques of Comprehensive Meta-analysis 3.0 were used to synthesize all independent studies. After shifting out the related researches published from 1991 to 2017 that had no sample size and correlation coefficient, it is total of 82 effect sizes. Besides, this study invests the variables include teacher's gender ratio, age ratio, education ratio, years of service ratio and administrative duties ratio. According to Cohen's standard, the effect sizes between whole Multi-frame Principals' Leadership Models and teachers' retention intention regarding teacher's personal factors are minor effect size with positive correlation. Multi-frame Leaderships had the positive impacts on teachers' intentions for retention while the gender ratio, education ratio, years of service ratio and administrative duties ratio were found as the significant moderators.

Introduction

High retention is relevant to an issue of the effectiveness of a leadership. An effective leadership can be measure by the outcomes that the team has achieved and the willingness of employee to follow a leader. The issues of leadership have been explored in the category of employee's organizational identification and levels of engagement. The issue of teachers' intentions for retention has rarely as much as employees in governmental organizations or in companies. Moreover, most empirical studies focus on single leadership style or double leadership styles. It is rarely seen that using the technology of meta-analysis to explore how multi-frame leadership styles impact the intentions

for retentions for those who work as teachers at school. In this study, there are four of the multi-frame leadership styles, such as the leadership styles of visionary, distributed, transformational and transactional will be discussed.

This study focuses on the following research questions:

What is the overall effect size of multi-frame leadership styles?

What is the effect size of multi-frame leadership styles according to categorical variables (gender ratio, age ratio, education ratio, years of service ratio and administrative duties ratio toward teachers' intentions for retention)?

What is the effect size of multi-frame leadership styles according to sub-categorical variables (sub-categorical variables toward gender, age, education, years of service and administrative duties)?

Theoretical Background

The Strength And Weakness Of Visionary Leadership

Nanus (1992) referred to visionary leadership as the authentic, reliable and attractive future of an organization. Bennis (1984) reported that visionary leadership, more than any other factor within an organization, can empower others and determines the success of organizations regardless of other variables like cultures or strategic planning. With a positive vision linked to strategic planning, employees can follow, grow, develop in the profession, and gain satisfaction from their job (Mason, 1991). Further, Mason (1991) pointed out productivity and effectiveness can digress dramatically and quickly with staff performing meaningless activities at all times without leadership and a positive vision.

The Strength And Weakness Of Distributed Leadership

Leithwood et al. (2009b, p.1) suggest that distributed leadership tends to be considered as a means for enhancing the effectiveness and engagement during leadership processes to have the most beneficial effect. Mayrowetz (2008, p.424) pointed out that 'there is no strong link between distributed leadership and school improvement and between distributed leadership and leadership development. Gronn (2002) referred to the dimension of distributed leadership as 'connective action' rather than the aggregation of individual contributions or numerical actions and used three alternative forms of engagement, which include spontaneous collaboration, intuitive working relationships and institutionalized practices.

The Differences Between Transformational Leadership And Transactional Leadership

Employees are often inspired to achieve unexpected or remarkable performance by the leaders of transformational leadership. One of the best use of transformational leadership style is used in an outdated organization, which greatly adjustment is needed. Transactional leadership a "telling style" tending

to self-motivated people who work well in a structured, directed environment by fitting experiences to a known pattern. Unlike transactional leadership, transformational leadership is a "selling" style which tends to solving challenges by sorting out experiences that don't work, inspire and motivate employees rather than direct them.

Research Method

Subjects

In this study, theses and academic journal articles on school leadership published between 1991 and 2017 in Taiwan were used as subjects for a meta-analysis of the effect size of the correlation between multi-frame model of school leadership and teachers' intentions for retention school leadership. The data were collected using the National Digital Library of Theses and Dissertations in Taiwan (NDLTD IN TAIWAN) and Google Scholar among other tools. The keywords researchers used for the search were "school leadership," "organizational promise," and "teachers' intentions for retention." If an original study could not be found, researchers acquired it via literature transfer from a school library.

In the literature selection, researchers also abided by the following criteria: (a) the researchers mainly discuss the correlation between school leadership and organizational promise via empirical methods; (b) the researchers report the Pearson correlation coefficient between school leadership and teachers' intentions for retention; (c) the sample size is clear; (d) participants in the study were from the general population; and (e) teachers' intentions for retention is measured at the individual level, rather than at the school level, and finally this study selected 82 effect sizes.

Analysis

This study reviewed 82 effect sizes and identified meaningful categories for coding. School location and school size were excluded because the distinction for school location and the scale for school size were unclear in all the studies. This study finalized key categories such as dependent variables, gender, age, education, years of service and types of administrative duty and number of students. These variables were coded by one expert of school leadership and one meta-analysis expert. When researchers disagreed on the analysis, the experts discussed and decided on the code together.

The effect size was measured using the standardized mean difference effect size(d) proposed by Borenstein et al. (2009). In meta-analysis, studies that include more cases are assumed to be more accurate than those with fewer cases. In this study, weight was applied according to the method proposed by Hedge and Olkin (1985). The effect size found in the meta-analysis results was interpreted according to the criteria presented in Table 1, which is the interpretation criteria proposed by Cohen (1977).

Table 1. Interpretation of effect size.

Small effect size	Medium effect size	Large effect size
<.20	.20~.80	>.80

Homogeneity Test

A homogeneity test was performed using the test formula proposed by Borenstein et al. (2009), based on the assumption that individual findings used for analysis were collected from the same population. As shown in Table 2, the effect sizes obtained from the subjects were heterogeneous (Q=198.133, p<.05, I^2=59.118). Therefore, in this study, the random-effects model was used to compare the effect sizes. The data were processed using Comprehensive Meta-Analysis 3.3.070. Meta-ANOVA was conducted to examined the effect sizes according to sub-category factors was used to look into the linear relation with variables.

Table 2. The result of homogeneity test (Q)

Q-value	df(Q)	p-value	I^2
198.133	81	0.000	59.118

Publication Bias Test

To secure the internal validity of the meta-analysis results, this study conducted a publication bias test, which can be analysed in different ways. First, when using rank correlation as proposed by Begg and Mazumdar (1994), there was no significant correlation (tau=0.42, p<.05). Second, a degree of left-right symmetry was found when this study examined the distribution of effect sizes based on the funnel plot. Based on these results, this study could not find a publication bias in the subjects of this study.

Research Results

Overall Effect Size

Table 3 shows the results of meta-analysis on the impacts between school leaderships and teacher's intentions for retention. This study included a total of 82 effect sizes. The overall effect size was 0.181, and the 95% confidence interval was between 0.139 and 0.183. According to the effect size interpretation criteria proposed by Cohen (1977), the overall mixed random effect size was small (0.181). The effect size for transformational leadership (0.287) was the largest, followed by transactional leadership (0.203), visionary leadership (0.169), and distributed leadership

(0.115). According to the effect size interpretation criteria proposed by Cohen (1977), the effect sizes were small in visionary leadership and distributed leadership, while the effect size were medium in transformational leadership and transactional leadership.

Table 3. The results on the impacts between school leaderships and teachers' intentions for retention

Leadership Style	Number of Studies	*p*-value	E.S.	95% CI	Standard Error
Distributed Leadership	28	0.000	0.115	0.085-0.146	0.016
Transactional Leadership	17	0.000	0.203	0.155-0.251	0.025
Transformational Leadership	18	0.000	0.287	0.219-0.356	0.035
Visionary Leadership	19	0.000	0.169	0.119-0.218	0.025
Overall	82	0.000	0.181	0.139-0.183	0.011

Table 4 shows the effect sizes of multi-frame school leadership models toward teachers' intentions for retention according to the background variables. The effect size for age (0.302) was the largest, followed by years of service (0.219), gender (0.117), administrative duties (0.105) and education (0.079). According to the effect size interpretation criteria proposed by Cohen (1977), the overall effect sizes were small in gender, administrative duties, and education, while the overall effect size were medium in age and years of service.

Table 4. Effect size by background variables

Background Variables	Number Studies	Q-value	*p*-value	E.S.	95% CI	Standard Error
Gender	12	1.132	0.769	0.117	0.084-0.149	0.017
Age	19	31.949	0.000	0.302	0.257-0.346	0.022
Education	9	2.208	0.000	0.079	0.036-0.123	0.022
Years of Service	22	19.962	0.000	0.219	0.187-0.251	0.016
Administrative Duties	9	2.574	0.000	0.105	0.053-0.157	0.027

Table 5 shows the effect sizes according to the sub-categories of background variables. The effect size according to gender was largest in male (0.130), while the effect size according to age was largest in age above 50 (0.535), fol-

lowed by age under 30 (0.355), age between 41-50 (0.282) and age between 31-40 (0.248). According to education was largest in teachers with Master/Doctor degrees (0.088), followed college graduates (0.078). According to years of service was largest in teachers who work over 26 years (0.415), followed by teachers who work under 15 years (0.216) and 16-25 years (0.202). According to administrative duties was largest in section chief (0.128), followed by director (0.092). According to the effect size interpretation criteria proposed by Cohen (1977), the overall effect size was small in the categories of gender, education and administrative duties, while the overall effect size was medium in the categories of age and years of service.

Table 5. Effect size by sub-categories of background variables

Category	Sub-Category	Number Studies	QB-value	p-value	E.S.	95% CI	Standard Error
Gender	Female	6	0.588	0.000	0.106	0.067-0.146	0.020
	Male	6		0.000	0.130	0.082-0.179	0.025
Age	Under 30	5	3.430	0.000	0.355	0.231-0.478	0.063
	31-40	5	9.898	0.000	0.248	0.181-0.315	0.034
	41-50	5	2.385	0.000	0.282	0.207-0.357	0.038
	Above 50	4	2.100	0.000	0.535	0.395-0.675	0.071
Education	Bachelor	6	0.265	0.002	0.078	0.029-0.128	0.025
	MA/ Dr.	3	0.000	0.047	0.088	0.001-0.175	0.044
Years of service	1-15 years	12	11.493	0.000	0.216	0.174-0.258	0.021
	16-25 years	7	1.938	0.000	0.202	0.151-0.253	0.026
	Over 26 years	3	0.000	0.000	0.415	0.259-0.571	0.080
Administrative duties	Section chief	4	2.574	0.004	0.128	0.042-0.214	0.044
	Director	5	2.152	0.006	0.092	0.027-0.157	0.033

Discussion

This study provided a systematic analysis of research related to the impact of multi-frame leaderships on teachers' intentions for retention in Taiwan, and it attempted to suggest the ways in which style of school leadership impacts the teacher's intentions for retention. This section presents a discussion of the findings.

First, the overall mixed random effect size for multi-frame leadership styles in this study was small (0.181) on the impacts of teachers' intentions of retention. Teachers perceived the styles of visionary leadership and distributed leadership had shown less intentions for retention than those who perceived the styles of transformational leadership and transactional leadership. The findings of this study show the facts that the latter two leaderships (the leaderships of transformational and transactional) provide teachers with expectations and responsibilities to the schools they served help with the stabilization of senior teachers who values order and structure.

Second, in terms of the effect size based on teachers' background variables toward their intentions for retention was greatest for age (0.302), followed by years of service (0.219), gender (0.117) administrative duties (0.105) and education (0.079). The variables of both age and service of years toward teachers' intentions for retention had a medium effect size, while those of gender, administrative duties and education had a small effect size. The results show the fact that age and years of service impact teachers' intentions for retention.

Third, with respect to the effect size based on sub-categorical variable toward gender was male (0.130) larger than female (0.106). The effect size according to age was largest in the age above 50 (0.535), followed by age under 30 (0.355), age between 41-50 (0.282) and age between 31-40 (0.248). The effect size according to years of service was largest in over 26 years of service (0.415), followed by years of service under 15 years (0.216) and years of service between 16-25 years (0.202). The effect size according to education was Master/ Doctoral degree (0.088) larger than Bachelor degree (0.078). Moreover, the effect size according to administrative duties was section chief (0.128) larger than director (0.092). The finding suggests that the prediction value toward teachers' intentions for retention embedded with the following characteristics: male teachers, whose age above 50 with Master/Doctoral degrees, work as section chief and work as a teacher over 26 years.

Conclusions

In this study, the standardized mean difference effect size was used to conduct a synthesized research and assumed that the variables are mutually independent. The results confirmed the impacts of multi-frame leadership style on teachers' intention for retention by means of meta-analysis. In particular, the style of transformational leadership was found to have the largest effect of all the other three styles. Based on these findings,

principals in educational community ought to pay more attention to the alternatives of leadership styles and make good use of the approaches of the leadership they select. The majority of researches on leadership style have conducted initial studies toward the effects of leadership styles on organizational identification, mostly focusing on single style or double styles. But, the studies in this field have been rare on exploring the impacts of leadership styles on teachers' turnover intention, let alone using meta-analysis.

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