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**Development and Validation of the School Leader Empowering Behaviours (SLEB)
Scale**

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Abstract

Despite a growing interest in using empowerment as a leadership strategy to enhance teachers' work motivation to play a more central role in educational change, there is still limited research on how leaders in school organisations empower teachers. One possible reason might be due to the lack of relevant measures for assessing empowering behaviours of leaders in the educational contexts. This study developed and validated the School Leader Empowering Behaviours (SLEB) scale in the Singapore educational context. A convenience sample of 304 teachers from the Singapore schools participated in the study. The sample was randomly split into two sub-samples, Sample 1 ($N=142$) and Sample 2 ($N=162$). Exploratory factor analysis (EFA) was conducted in Sample 1 to determine the number of factors and select the items. Confirmatory factor analysis (CFA) was conducted in Sample 2 for cross-validation to confirm the factorial structure of the scale and examine the model-data fit. Results from both EFA and CFA provided support for a seven-factor SLEB scale as well as a higher-order factor structure. Each sub-scale of the SLEB showed good internal consistency reliability and predictive validity. The potential uses of the SLEB scale were also discussed.

Keywords: scale development and validation, factor analysis, psychological empowerment, school leader empowering behaviours, Singapore context

Introduction

In the past three decades, waves of educational reforms have been observed in many educational systems worldwide (e.g., Cheng, 2009; Hargreaves, 1994; Heck & Hallinger, 1999; Somech, 2002). Although the pace and progress of educational reforms vary among countries, some of the major common trends which include a move towards decentralisation, school-based management, a greater emphasis on teacher empowerment and sustained school effectiveness have been observed (e.g., Fullan, 2006; Geijsel, Slegers, Leithwood, & Jantzi, 2003; Ng, 2008; Reyes, 1989; Somech, 2005; Wan, 2005). In parallel with these evolving trends, advocates see an imperative need to redefine the roles of school leaders and teachers to meet the new needs and challenges in education (e.g., Hargreaves, 1994; Somech, 2005; Wan, 2005). Particularly, there is a general recognition that teachers' voice, ideas and commitment are key to the success of school reforms (e.g., Fullan, 2006; Short & Greer, 1997; Short & Rinehart, 1992; Somech, 2005; Yin, Lee & Jin, 2011; Yu, Leithwood & Jantzi, 2002). As a result, there is also a parallel need for a more empowering form of school leadership, in contrast with the traditional top-down, authoritative form of school leadership, to effectively empower teachers to take a more active and leading role in the school improvement process (e.g., Muijs & Harris, 2003, Short & Greer, 1997; Wan, 2005). Empowering school leaders are observed to be more effective in developing the potential of teachers by creating contextual conditions that satisfy teachers' needs for growth and autonomy and influencing teachers to be more committed in achieving organisational objectives (e.g., Blasé & Blasé, 1997; Short & Greer, 1997; Wan, 2005).

However, despite a growing interest in adopting empowerment as a leadership strategy to enhance teachers' work motivation and involvement in school change, empirical research in empowering leader behaviours is still lacking in the educational context. One reason may be due to the fact that there exist only a few measures of empowering leader

behaviours (e.g., Arnold, Arad, Rhoades, & Drasgow, 2000; Konczak, Stelly, & Trusty, 2000). Moreover, these existing measures were originally developed for use in non-educational work settings and it is uncertain whether these measures are compatible and transferable for use in the educational settings. Therefore, the purpose of the present study was to develop and validate the School Leader Empowering Behaviours (SLEB) scale to provide a psychometrically sound measure for the advancement of research in effective school leadership and teacher empowerment in the educational contexts.

Leader Empowering Behaviours

Among the few existing measures of leader empowering behaviours, it is found that the measures developed by Arnold et al. (2000) and Konczak et al. (2000) about a decade ago are still by far the two most commonly used measures in generic work contexts. Arnold et al.'s (2000) measure was originally intended for assessing the collective perception of team leadership and it consists of five sub-scales: *coaching*, *informing*, *leading by example*, *showing concern/interacting with the team*, and *participative decision-making*. Whereas, Konczak et al.'s (2000) individual-level measure consists of six sub-scales: *delegation of authority*, *accountability*, *self-directed decision-making*, *information sharing*, *skill development*, and *coaching for innovative performance*. Though there are some differences in the dimensions of leader empowering behaviours between the two measures, it can be observed that both measures share some similar or overlapping dimensions.

From an extensive review of the leadership and empowerment literature, it is found that leaders who are empowering frequently create a supportive work environment which satisfies the intrinsic work motivation or psychological empowerment of followers (e.g., Blasé & Blasé, 1997; Gagne & Deci, 2005; Konczak et al., 2000; Spreitzer, 1995). According to Spreitzer (1995), psychological empowerment is a psychological state experienced by employees when they feel a sense of *meaning*, *competence*, *autonomy* and *impact* at work.

Psychological empowerment is therefore a proactive orientation towards one's work role in the form of an intrinsic work motivation (e.g., Spreitzer, 1995). As noted by Yukl (2002), leadership is fundamentally an influencing process manifested in the leader's behaviours when he or she interacts with the followers. In this aspect, followers' feeling of being empowered (or psychological empowerment) as a result of the influence of the leader's behaviours is a critical psychological mechanism which underlies the empowerment process. That is, the success of empowerment would largely depend on followers' perceptions of the authenticity of their leaders' empowering behaviours in influencing the followers' psychological empowerment (e.g., Zhu, May & Avolio, 2004). However, not all existing measures of leader empowering behaviours (e.g., Arnold et al., 2000) had validated the relationship between leader empowering behaviours and followers' psychological empowerment during their scale development process.

Furthermore, a review of the leadership and empowerment literature had also found other leader empowering behaviours which were not included in Arnold et al.'s (2000) and Konczak et al.'s (2000) leader empowering behaviours measures but were positively associated with followers' psychological empowerment in various work settings. For example, behaviours of transformational leaders, which include providing *a clear vision, intellectual stimulation, an appropriate role-modelling, individualised consideration* for followers as well as showing *high performance expectations* and *fostering group goals* among followers (e.g., Geijsel et al., 2003; Leithwood & Jantzi, 2000; Podsakoff, MacKenzie, Moorman, & Fetter, 1990; Yu et al., 2002), were found to be positively associated with followers' psychological empowerment (e.g., Avey, Hughes, Norman, & Luthans, 2008; Avolio, Zhu, Koh, & Bhatia, 2004). In the school context, school leaders' facilitative behaviours in the forms of *demonstrating trust in teachers, developing shared governance structures, encouraging/listening to individual input, encouraging individual teacher*

autonomy, encouraging innovation, creativity and risk-taking, giving rewards, providing support and *showing care* were also found to have a positive influence on teachers' sense of empowerment (e.g., Blasé & Blasé, 1997).

As effective leaders in various work contexts use different empowering behaviours to positively influence followers' psychological empowerment, it is essential that other leader behaviours which are associated with followers' psychological empowerment are to be taken into consideration when developing a more comprehensive measure of leader empowering behaviours for future use. Therefore, in the present study, we argue that the school leader behaviours identified and selected for the development of a measure of school leader empowering behaviours must essentially be able to demonstrate the links between school leader empowering behaviours and teachers' psychological empowerment to aptly reflect the socio-psychological mechanism which underlies the teacher empowerment process.

Need for a Measure of School Leader Empowering Behaviours

As existing measures of leader empowering behaviours were originally developed for use in the western, non-educational work contexts, it is uncertain whether these measures are applicable for use in educational settings outside the western contexts. Furthermore, a closer examination of the two existing measures of leader empowering behaviours developed by Arnold et al. (2000) and Konczak et al. (2000) has revealed a number of limitations which the present study aims to address.

First, there is a need to further examine and clarify the content coverage and the factorial structure of the existing measures of leader empowering behaviours. For instance, some sub-scales or factors which have been included in Arnold et al.'s (2000) measure are not found in Konczak et al.'s (2000) measure, and vice versa. Also, some other leadership behaviours which are positively associated with followers' psychological empowerment reported in other empirical studies are not found in both Arnold et al.'s (2000) and Konczak

et al.'s (2000) measures. Furthermore, high interfactor correlations among the sub-scales of the existing measures of leader empowering behaviours, mainly Arnold et al.'s (2000) and Konczak et al.'s (2000) measures, resulting in a globalised/single construct in some studies have been reported (e.g., Boudrias, Gaudreau, Savoie, & Morin, 2009; Raub & Robert, 2010), indicating a possibility of multicollinearity among the sub-scales of the existing measures of leader empowering behaviours.

Second, not all existing measures of leader empowering behaviours (e.g., Arnold et al., 2000) had validated the links between their sub-scales and psychological empowerment of followers to reflect the underlying empowerment mechanism between leaders and followers during their scale development. The predictive validity of the existing leader empowering behaviours measures, especially their sub-scales, would need to be further established.

Third, so far there has been no empirical validation of the existing leader empowering behaviours measures to demonstrate their use as a common measure for assessing empowering behaviours of leaders at different levels of management within an organisation. It is uncertain whether the same set of leader empowering behaviours will be valid for assessing leaders at different levels of management. Hence, the validation of the school leader empowering behaviours as a common measure would especially be beneficial to organisational climate researchers and practitioners to provide an additional option for them to compare empowering behaviours of school leaders at different levels of the school hierarchy to develop a better understanding of the effective coordination of empowering behaviours across the different levels of school leaders (e.g., DeChurch, Hiller, Murase, Doty, & Salas, 2010).

Given the above-mentioned issues, this study developed and validated the School Leader Empowering Behaviours (SLEB) scale to measure teachers' indirect and direct leaders' empowering behaviours in the Singapore education context.

Method

Sample

A convenience sample of 304 fully trained teachers from different schools in Singapore voluntarily participated in this study. 74.7% of the respondents were female and 25.3% were male. 68.3% were Chinese, 19.0% were Malays, 9.7% were Indians and 3.0% were other minority races. 82.9% of the respondents had more than 3 years of teaching experience and 90.0% had at least a Bachelor degree. The median age range of respondents was 36 to 40 years old which constituted 26.4% of the total number of respondents ranging from 23 to 60 years old.

The total sample of teacher participants ($N=304$) was randomly split into two samples, Sample 1 ($N=142$) and Sample 2 ($N=162$), for performing exploratory and confirmatory factor analyses in the scale development and validation process. Demographic information for Samples 1 and 2 were as follows.

Sample 1 ($N=142$). 74.1% of the respondents were female and 25.9% were male. 66.2% were Chinese, 19.4% were Malays, 10.8% were Indians and 3.6% were other minority races. 87.1% of the respondents had more than 3 years of teaching experience and 90.0% had at least a Bachelor degree. The median age range of respondents was 36 to 40 years old which constituted 25.9% of the total number of respondents ranging from 23 to 60 years old.

Sample 2 ($N=162$). 75.2% of the respondents were female and 24.8% were male. 70.2% were Chinese, 18.6% were Malays, 8.8% were Indians and 2.4% were other minority races. 79.2% of the respondents had more than 3 years of teaching experience and 90.1% had at least a Bachelor degree. The median age range of respondents was 31 to 35 years old and it constituted 36.3% of the total number of respondents ranging from 23 to 60 years old.

Instrumentation and Measures

Item pool of School Leader Empowering Behaviours (SLEB) scale. The item pool of SLEB scale was drawn from various empirical studies and existing measures of leader empowering behaviours in generic work settings (e.g., Arnold et al., 2000; Geijsel et al., 2003; Konczak et al., 2000; Leithwood & Jantzi, 2000; Podsakoff et al., 1990; Yu et al., 2002). We included as many items and factors as possible in this item pool for further item/factor selection. A total of 72 items from 13 sub-scales of leader empowering behaviours were selected initially. Selected items were revised by the researchers to enhance clarity and fit to the school context (e.g., the change of ‘manager’ to ‘immediate reporting supervisor’ or ‘principal’ to suit the school context and the change of ‘we’ to ‘I’ to indicate individual-level perception rather than group-level perception). Three experienced school teachers were invited to provide feedback on the items to ensure that the items were valid and applicable for the Singapore education context. A 7-point Likert scale where 1 represented ‘*Strongly Disagree*’ and 7 represented ‘*Strongly Agree*’ was used for all the items. (*Definitions of the sub-scales of SLEB scale and sample items of each sub-scale are presented in Appendix A.*)

Psychological Empowerment. The 12-item four-factor measure developed by Spreitzer (1995) was used as an outcome variable of empowering school leader behaviours. Cronbach’s alpha coefficients for the Psychological Empowerment’s composite scale and its four sub-scales, *meaning*, *competence*, *autonomy* and *impact*, in the present study were .72, .85, .86, .92 and .90, respectively.

Data Collection

A cover letter was attached to each questionnaire to explain the objectives of the study and assured anonymity and confidentiality of participation. Informed consent was obtained from each participant. Participants were asked to separately rate their respective school principal and their immediate reporting supervisor by responding to the same set of SLEB

items in the questionnaire. Participants also responded to demographic items and items measuring teachers' psychological empowerment. The completed questionnaires were collected in sealed envelopes from the participants within three weeks of survey administration.

Analyses and Results

Factorial Structure of SLEB Scale

Exploratory factor analyses (EFA) and confirmatory factor analyses (CFA) were conducted to evaluate the factorial structure of SLEB scale for Sample 1 and Sample 2, respectively. The advantage of using EFA and followed by CFA is that EFA can easily identify the items that have cross loadings or misloadings in other factors while CFA can further cross-validate the factorial structure as well as test the model-data fit (e.g., Gerbing & Hamilton, 1996; Worthington & Whittaker, 2006).

EFA using Sample 1 (N=142). EFA was conducted to select the items from the item pool and assess the factorial structure of the SLEB scale for teachers' indirect leaders (principals) and direct leaders (immediate reporting supervisors) respectively. Factorability of the correlation matrices was assessed using Bartlett's (1950) test of sphericity and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Kaiser & Rice, 1974). Results from the Bartlett's test of sphericity provided support for performing EFA: Chi-square, $X^2(210) = 3456.41$, $p < 0.01$ for indirect leader's SLEB scale and Chi-square, $X^2(210) = 3365.26$, $p < 0.01$ for direct leader's SLEB scale. The KMO results for the indirect leader's SLEB scale was .921 and for the direct leader's SLEB scale was .925, further indicating support for performing EFA. As some correlations among the factors were generally expected in this study due to the fact that human behaviours are rarely partitioned into neatly packaged units that function independently of one another, an oblique (Promax) rotation was decided for performing the EFA because the use of oblique rotation rather than orthogonal rotation can

reduce the loss of valuable information if the factors are correlated (e.g., Costello & Osborne, 2009).

To select and retain items in EFA, we adopted three recommendations (e.g., Comrey, 1988; Floyd & Widaman, 1995; Worthington & Whittaker, 2006): we retained items that had (1) factor loadings more than .40, (2) no or lowest cross-loadings on other factors, and (3) conceptual consistency with other items on the factor. To determine the number of factors to retain, four recommended criteria were considered (e.g., Noar, 2003; Teo, 2010; Worthington & Whittaker, 2006): (1) Kaiser's (1960) rule of retaining eigenvalues greater than 1 (K1), (2) Cattell's (1966) scree test, (3) Horn's (1965) parallel analysis using the SPSS macro developed by O'Conner (2000), and (4) conceptual interpretability. However, results from K1 rule, scree test and parallel analysis suggested different number of factors to retain. The number of factors to retain for the indirect and direct leaders' SLEB scales as suggested by K1 rule, scree test and parallel analysis was four, seven and one, respectively. So, we performed EFA on four factors, seven factors and one factor for the indirect and direct leaders' SLEB scales. Through a series of EFA to select items and retain factors, the seven-factor structure showed the best interpretability based on prior theory and also fitted well with the scree test's suggested number of factors to retain. As such, the seven-factor SLEB structure, consisting of 21 similar items for both indirect and direct leaders' SLEB scales, was retained for further validation using CFA.

The seven factors of the indirect leader's SLEB scale accounted for 89.33% of the total variance. For the direct leader's SLEB scale, the seven factors accounted for 88.98% of the total variance. The communalities obtained for the seven-factor SLEB ranged from .806 to .946 for indirect leaders and ranged from .803 to .946 for direct leaders. Table 1 presents the EFA factor loadings of the 21 items of the seven-factor SLEB.

Insert Table 1 here.

CFA using Sample 2 (N=162). Next, CFA was conducted to confirm the factorial structure of the SLEB scale for both indirect and direct leaders in a cross-validated sample, Sample 2. All the seven factors were allowed to correlate freely and error terms were left uncorrelated. Table 1 presents the CFA factor loadings of the 21 items of the seven-factor SLEB.

Model fit was assessed by a number of indices (i.e. Chi-square, X^2 ; degrees of freedom, df ; Tucker–Lewis index, TLI; comparative fit index, CFI; root mean square error of approximation, RMSEA) as different indices reflect different aspects of model fit (e.g., Hair, Black, Babin, Anderson, & Tatham, 2006; Hu & Bentler, 1999; Kline, 2005). A seven-factor SLEB structure was tested using CFA for both indirect and direct leaders' SLEB scales and our result indicated that the model-data fit was acceptable for both indirect and direct leaders' SLEB scales (e.g., Hair et al., 2006; Hu & Bentler, 1999).

Alternatively, a first-order one-factor SLEB structure was tested using CFA but our result showed that the model-data fit was poor for both indirect and direct leaders' SLEB scales. A second-order factor analysis was then used to examine whether the first-order seven factors could be collapsed into a more general second-order factor (e.g., Nie, Lau & Liao, 2012). Our result indicated that the model-data fit was also acceptable for the second-order one-factor structure for demonstrating a SLEB composite. Table 2 presents the fit indices of the first-order one-factor, first-order seven-factor and second-order one-factor structure models using Sample 2.

Insert Table 2 here.

Means, standard deviations, internal consistency reliabilities and interfactor correlations based on the total sample (N=304). Sample 1 (N=142) and Sample 2 (N=162) were combined into a total sample (N=304) to calculate the means, standard deviations, internal consistency reliabilities and interfactor correlations. Each sub-scale of the indirect and direct leaders' SLEB was scored by calculating the mean of the items that composed each sub-scale. The composite scores for the indirect and direct leaders' SLEB were each scored by calculating the mean of the seven sub-scales of the indirect and direct leaders' SLEB respectively.

The standard deviations of the sub-scales of the indirect and direct leaders' SLEB (ranged between 1.15 and 1.44) indicated a narrow spread around the means (ranged between 4.41 and 5.27). The skewness of the 21 items (seven factors) of the indirect and direct leaders' SLEB scales ranged from -1.30 to -.55, and the values for kurtosis ranged from -.06 to 1.74, which were all within Kline's (2005) suggested cutoffs of |3.0| and |8.0| respectively, thus indicating that the data was fairly normally distributed. The internal consistency reliabilities (Cronbach's alpha coefficients) of all the seven factors ranged from .89 to .96, which were above the recommended level at .70 (Nunnally, 1978) for indirect and direct leaders' SLEB scales in the total sample. The interfactor correlations among the sub-scales of the SLEB for the total sample ranged between .50 and .71 for indirect leader's SLEB scale and between .52 and .75 for direct leader's SLEB scale.

Table 3 presents the means, standard deviations, Cronbach's alpha coefficients and the interfactor correlations within and between the seven-factor SLEB scale for indirect and direct leaders based on the total sample.

Insert Table 3 here.

Predictive Validity

All the composites and sub-scales of the indirect and direct leaders' SLEB were positively correlated with the composite and sub-scales of teachers' psychological empowerment at $p < .05$. Table 4 presents the correlations of the composites and sub-scales of the indirect and direct leaders' SLEB with the composite and sub-scales of teachers' psychological empowerment using the total sample.

Insert Table 4 here.

Discussion and Implications

This study developed and validated a seven-factor SLEB scale to measure indirect and direct leaders' empowering behaviours in the school context. This study has several important implications for research and practice.

First, results from both EFA and CFA provided support for a stable seven-factor SLEB structure and a higher-order structure. The seven factors of the SLEB scale were complementary rather than mutually exclusive in representing school leaders' empowering behaviours. As a seven-factor multidimensional scale, the SLEB scale would be beneficial for educational researchers and practitioners to examine how different aspects of school leader behaviours may affect teachers' motivation and performance so that more effective leadership development programs or interventions could be designed to focus on improving the specific behaviours of school leaders. As a higher-order structure, the SLEB composite

scale could also allow researchers the flexibility of using the composite score or the seven sub-scales of the SLEB in future empirical research.

Second, all the seven sub-scales of SLEB were positively correlated with the theoretically relevant criterion variable, psychological empowerment. Our results thus indicated that the SLEB scale is a reliable measure with good predictive validity and could therefore serve as a sound psychometric measurement for measuring empowering behaviours of school leaders.

Third, this study has empirically validated the use of the SLEB scale as a common measure for measuring the empowering behaviours of teachers' indirect leaders (principals) and direct leaders (immediate reporting supervisors). As leadership scholars have observed that similar behavioural leadership patterns across levels of management may serve as an alternative influence mechanism by which 'distant' (or indirect) leaders can influence their followers through 'close' (direct) leaders (e.g., Chun, Yammarino, Dionne, Sosik, & Moon, 2009; Waldman & Yammarino, 1999), the understanding of school leadership would thus be incomplete without the examination of leaders' behaviours at different levels of the school hierarchy (e.g., Heck & Hallinger, 1999; Heng & Marsh, 2009). Hence, the application of the SLEB scale as a common measure would be particularly useful in school effectiveness and organisational climate studies to better understand the collective influence of school leaders at different levels of management on teachers' work motivation.

Limitations and Future Research

As a convenience sample of teachers in Singapore was used in this study, the generalisability of the findings should be interpreted with caution. Larger and multiple samples of teachers should be considered for scale validation in future studies. Also, it has been observed that prototypical empowering leadership behaviours may vary in different

cultures (e.g., Hui, Au, & Fock, 2004). Future studies should examine whether the SLEB scale is applicable to other cultural settings.

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Table 1. EFA Factor Loadings for Sample 1 (N=142) and CFA Factor Loadings for Sample 2 (N=162)

Factor	Item	Sample 1 (N=142)		Sample 2 (N=162)	
		Indirect Leader (Principal)	Direct Leader (Immediate Reporting Supervisor)	Indirect Leader (Principal)	Direct Leader (Immediate Reporting Supervisor)
	My principal/My immediate reporting supervisor ...	EFA	EFA	CFA	CFA
1. Delegation of Authority (3 items)	Gives me the authority to make changes necessary to improve things.	.912	.908	.954	.975
	Gives me the authority I need to make decisions that improve work processes and procedures.	.911	.904	.975	.952
	Delegates authority to me that is equal to the level of responsibility that I am assigned.	.861	.684	.798	.829
2. Providing Intellectual Stimulation (3 items)	Asks questions that prompt me to think.	.979	.770	.923	.924
	Stimulates me to rethink the way I do things.	.941	.879	.972	.981
	Challenges me to re-examine some of the basic assumptions about my work.	.879	.974	.920	.889
3. Giving Acknowledgment & Recognition (3 items)	Always gives me positive feedback when I perform well.	.796	.867	.888	.896
	Gives me special recognition when my work is very good.	.861	.842	.891	.887
	Personally compliments me when I do outstanding work.	.860	.918	.780	.840
4. Articulating a Vision (3 items)	Paints an interesting picture of the future for our school.	.962	.980	.842	.874
	Is always seeking new opportunities for the school.	.745	.880	.852	.921
	Inspires staff with his/her plans for the future.	.509	.476	.881	.830
5. Fostering Collaborative Relationships (3 items)	Fosters collaboration among staff members.	.870	.770	.912	.938
	Encourages staff members to be "team-players".	.914	.992	.891	.971
	Gets staff members to work together for the same goal.	.853	.977	.967	.972
6. Providing Individualised Concern & Support (3 items)	Treats me as equals.	1.013	.818	.828	.800
	Takes the time to discuss my concerns patiently.	.807	.738	.912	.940
	Stays in touch with me.	.833	.928	.839	.888
7. Providing Role-modelling (3 items)	Works as hard as anyone in my school.	.904	.986	.764	.703
	Sets a good example by the way he/she behaves.	.881	.900	.947	.954
	Leads by example.	.853	.858	.957	.983

Note. Only EFA and CFA factor loadings >.40 are presented. In EFA, where the factors have been rotated obliquely (Promax rotation), the factor loadings are standardised regression coefficients (instead of correlations as in orthogonal rotation), and therefore can be greater than one.

Table 2. Fit Indices of the Three Models of the SLEB Scale for Indirect and Direct Leaders Using Sample 2 (N=162)

Fit Index*	Indirect Leader (Principal)			Direct Leader (Immediate Reporting Supervisor)		
	Model			Model		
	First-order One-factor	First-order Seven-factor	Second-order One-factor	First-order One-factor	First-order Seven-factor	Second-order One-factor
X^2	1738.145	335.824	359.264	1638.234	305.766	329.319
df	189	168	182	189	168	182
p	.000	.000	.000	.000	.000	.000
X^2/df	9.197	1.999	1.974	8.668	1.820	1.809
TLI	.445	.932	.934	.549	.952	.952
CFI	.546	.951	.948	.631	.965	.962
RMSEA	.226	.079	.078	.218	.071	.071

Note. *Recommended guidelines for model fit indices (e.g., Hair et al., 2006; Hu & Bentler, 1999; Kline, 2005): $X^2/df < 3$; TLI = >0.90; CFI = >0.90; RMSEA < 0.08.

Table 3. Means, Standard Deviations, Cronbach Alpha Coefficients and Interfactor Correlations Within Indirect and Direct Leaders' SLEB (Sub-scales and Composite Scales) and Between Indirect and Direct Leaders' SLEB (Sub-scales and Composite Scales) Using the Total Sample (N=304)

Factor/Sub-scale		M		SD		Indirect Leader (Principal)								Direct Leader (Immediate Reporting Supervisor)									
						1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
Indirect Leader (Principal)	1. Delegation of authority	4.66	1.39	(.93)																			
	2. Providing Intellectual Stimulation	4.84	1.29	.534**	(.95)																		
	3. Giving acknowledgement & recognition	4.93	1.23	.645**	.585**	(.91)																	
	4. Articulating a vision	5.26	1.20	.540**	.601**	.550**	(.89)																
	5. Providing collaborative relationships	5.41	1.15	.536**	.579**	.639**	.711**	(.95)															
	6. Providing individualised concern and support	4.41	1.44	.638**	.584**	.708**	.553**	.608**	(.92)														
	7. Providing role-modelling	5.27	1.37	.529**	.504**	.626**	.627**	.638**	.624**	(.93)													
	8. SLEB Composite	4.97	1.05	.786**	.774**	.839**	.801**	.821**	.841**	.806**	(.91)												
Direct Leader (Immediate Reporting Supervisor)	1. Delegation of authority	5.12	1.19	.625**	.430**	.468**	.412**	.468**	.451**	.379**	.573**	(.93)											
	2. Providing Intellectual Stimulation	4.82	1.27	.362**	.620**	.382**	.455**	.483**	.404**	.296**	.528**	.519**	(.94)										
	3. Giving acknowledgement & recognition	5.03	1.22	.369**	.365**	.487**	.390**	.431**	.371**	.341**	.485**	.641**	.647**	(.92)									
	4. Articulating a vision	4.93	1.18	.438**	.477**	.395**	.633**	.522**	.413**	.411**	.578**	.566**	.672**	.685**	(.90)								
	5. Providing collaborative relationships	5.26	1.16	.390**	.441**	.430**	.512**	.671**	.399**	.394**	.565**	.604**	.635**	.675**	.700**	(.96)							
	6. Providing individualised concern and support	4.92	1.29	.361**	.407**	.405**	.429**	.471**	.497**	.360**	.518**	.698**	.610**	.753**	.659**	.714**	(.92)						
	7. Providing role-modelling	5.18	1.36	.373**	.389**	.369**	.431**	.453**	.365**	.453**	.500**	.588**	.589**	.648**	.641**	.678**	.718**	(.93)					
	8. SLEB Composite	5.04	1.04	.499**	.535**	.502**	.557**	.596**	.497**	.451**	.640**	.787**	.798**	.862**	.837**	.852**	.883**	.834**	(.93)				

Note. ** Denotes correlation is significant at $p < .01$. Correlations between indirect and direct leaders' SLEB sub-scales and composite scales are in **bold**. Cronbach alpha coefficient (α) of each factor/sub-scale and composite scale of SLEB is presented diagonally in parentheses.

Table 4. Correlations of the Composite and Sub-scales of Indirect and Direct Leaders' SLEB with Teachers' Psychological Empowerment Composite and Sub-scales Using the Total Sample (N=304)

Factor of SLEB	Correlation Scores of Sub-scales and Composite of Indirect Leader's SLEB (Principal) with Teachers' Psychological Empowerment Composite and Sub-scales					Correlation Scores of Sub-scales and Composite of Direct Leader's SLEB (Immediate Reporting Supervisor) with Teachers' Psychological Empowerment Composite and Sub-scales				
	Composite score	Meaning	Competence	Autonomy	Impact	Composite score	Meaning	Competence	Autonomy	Impact
1. Delegation of authority	.625**	.369**	.244**	.609**	.562**	.554**	.279**	.227**	.581**	.489**
2. Providing intellectual stimulation	.502**	.283**	.168**	.435**	.520**	.460**	.327**	.244**	.374**	.406**
3. Giving acknowledgment & recognition	.513**	.242**	.206**	.519**	.484**	.424**	.224**	.254**	.414**	.348**
4. Articulating a vision	.527**	.370**	.301**	.466**	.427**	.504**	.368**	.316**	.407**	.414**
5. Fostering collaborative relationships	.496**	.312**	.284**	.463**	.405**	.424**	.270**	.243**	.414**	.329**
6. Providing individualised concern & support	.473**	.194**	.145*	.456**	.500**	.419**	.205**	.205**	.434**	.360**
7. Providing role-modelling	.442**	.242**	.163**	.368**	.466**	.426**	.298**	.268**	.367**	.345**
8. SLEB Composite	.631**	.354**	.264**	.584**	.598**	.548**	.337**	.300**	.509**	.460**

Note. ** Denotes correlation is significant at $p < .01$. * Denotes correlation is significant at $p < .05$.

Appendix A. *Empowering Behaviours of School Leaders (Derived from Review of Literature)*

Behaviour	Definition	Sample Items
Providing individualised concern & support (e.g., Arnold et al., 2000; Blase & Blase, 1997; Yu, et al., 2002; Podsakoff et al., 1990)	It refers to the leader showing concern for the welfare of followers, taking time to discuss their concerns and attending to their individual needs.	Three items from the construct 'Providing Individualised Support' developed by Podsakoff et al. (1990) and seven items from the construct 'Showing Concern/Interacting with the Team' developed by Arnold et al. (2000) were adapted to assess this sub-scale. An example item was "stays in touch with me."
Communicating group goals (e.g., Arnold et al., 2000; Yu, et al., 2002)	It refers to the leader's dissemination of organisation-wide information such as mission and philosophy as well as other important information like explaining organisational decisions to the followers and informing followers about new developments in organisational policies.	Six items from the construct 'Informing' developed by Arnold et al. (2000) were adapted to assess this sub-scale. An example item was "communicates the purpose of the school's policies to staff members."
Giving acknowledgement & recognition (e.g., Blase & Blase, 1997; Podsakoff et al., 1990; Yu, et al., 2002)	It refers to the leader's provision of rewards such as praise and acknowledgement of effort for achievement of specified goals with the intention of motivating and shaping the behaviour of followers.	Five items from the construct 'Contingent Reward Behavior' developed by Podsakoff et al. (1990) were adapted to assess this sub-scale. An example item was "always gives me positive feedback when I perform well."
Providing intellectual stimulation (e.g., Blase & Blase, 1997; Konczak et al., 2000; Podsakoff et al., 1990; Yu, et al., 2002)	It refers to the leader's provision of encouragement to followers to take calculated risks, initiate new ideas, and treat mistakes and setbacks as opportunities to learn.	Four items from the construct 'Intellectual Stimulation' developed by Podsakoff et al. (1990) and three items from the construct 'Coaching for Innovative Performance' developed by Konczak et al. (2000) were adapted to assess this sub-scale. An example item was "stimulates me to rethink the way I do things."
Providing role-modelling (e.g., Arnold et al., 2000; Blase & Blase, 1997; Podsakoff et al., 1990; Yu, et al., 2002)	It refers to the leader providing an appropriate model to his or her followers and setting an example for followers to follow which is consistent with the values which the leader espouses.	Five items developed by Arnold et al. (2000) were adapted to assess this sub-scale. An example item was "works as hard as anyone in my school."
Emphasising accountability & high performance expectations (e.g., Konczak et al., 2000; Podsakoff et al., 1990; Yu, et al., 2002)	It refers to the leader providing a mechanism by which responsibility for outcomes is placed with the individual follower or/and as a team to achieve performance expectations.	Two items from the construct 'Accountability' developed by Konczak et al. (2000) and three item from the construct 'High Performance Expectations' developed by Podsakoff et al. (1990) were adapted to assess this present sub-scale. The two items from Konczak et al. (2000) were "expects me to be accountable for the work I am assigned" and "expects me to be accountable for performance and results." An item from Podsakoff et al. (1990) was "shows me that he/she expects a lot from me."
Delegation of authority (e.g., Blase & Blase, 1997; Konczak et al., 2000)	It refers to the leader's provision of delegated authority to enable followers to control their own work by allowing them to assume the responsibility and authority to make decisions in their work role.	Three items developed by Konczak et al. (2000) were adapted to assess this sub-scale. An example item was "gives me the authority I need to make decisions that improve work processes and procedures."
Articulating a vision (e.g., Blase & Blase, 1997; Podsakoff et al., 1990; Yu, et al., 2002)	It refers to the leader articulating a clear vision to followers, identifying new opportunities for the organisation or department and inspiring followers with his or her vision of the future.	Five items from the construct 'Identifying and Articulating a Vision' developed by Podsakoff et al. (1990) were adapted to assess this sub-scale. An example item was "inspires staff with his/her plans for the future."

Providing professional development (e.g., Arnold et al., 2000; Konczak et al., 2000)	It refers to the leader coaching or supporting the professional growth of followers.	Two items from the construct 'Skill Development' developed by Konczak et al. (2000) and three items from the construct 'Coaching' developed by Arnold et al. (2000) were adapted to assess this sub-scale. An example item was "provides me with frequent opportunities to develop new skills."
Fostering collaborative relationships (e.g., Arnold et al., 2000; Podsakoff et al., 1990; Yu, et al., 2002)	It refers to the leader supporting and stimulating followers to collaborate and work together as a team.	Four items from the construct 'Fostering the Acceptance of Group Goals' developed by Podsakoff et al. (1990) were adapted to assess this sub-scale. An example item was "Fosters collaboration among staff members."
Participative decision-making (e.g., Arnold et al., 2000; Blase & Blase, 1997; Geijsel et al., 2003; Somech, 2002)	It refers to the leader involving followers in the planning and decision-making process.	Six items developed by Arnold et al. (2000) were adapted to assess this sub-scale. An example item was "encourages me to express ideas/suggestions."
Self-directed decision-making (e.g., Konczak et al., 2000)	It refers to leader's engagement of followers in the critical analysis of their own situations to make changes or improvements to these situations.	Three items developed by Konczak et al. (2000) were adapted to assess this construct. An example item was "relies on me to make my own decisions about issues that affect how work gets done."
Sharing of information & resources (e.g., Konczak et al., 2000)	It refers to the leader's conscious and deliberate efforts to exchange work-related information, knowledge and ideas with followers.	The original construct 'Information Sharing' developed by Konczak et al. (2000) consists of only two items. The two items were adapted and one new item was developed for the revised construct for the purpose of this study. An example item was "shares information that I need to ensure high quality results" and "provides me with the information I need to meet students' needs." A new item developed was "encourages me to share and exchange information with colleagues."
