

Research Article:

## **Profile of Teacher Leaders in an Indonesian School Context: How the Teachers Perceive Themselves**

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### **ABSTRACT**

Teacher leaders play an important role in advancing learning in schools. However, this theme is under-researched, particularly in the Indonesian school context. This study investigated how Indonesian teachers rate themselves as being teacher leaders using the Teacher Leadership Self-Assessment (TLSA) instrument with a quantitative approach. The data was collected from 3,564 teachers from Lampung Province, Indonesia, with a cross-sectional method using an online platform. The collected data was analysed using the Rasch Analysis approach and showed good reliability and validity for the TLSA instrument as well as the Indonesian data. The findings showed that Indonesian teachers perceived themselves as having high levels of teacher leadership, but at the same time, the behaviours under the construct of communication were rarely engaged in and was thus identified as an area for improvement. Meanwhile, in terms of perceiving themselves as teacher leaders, the senior teachers, and those with more working experience were more significantly different in many constructs compared to the other demographic variables. The implications of this study suggest that there is still room to enhance teacher leadership by identifying the constructs and considering the teachers' demographic variables.

**Keywords:** Teacher leadership, Teacher Leadership Self-Assessment (TLSA), Indonesia, schools, Rasch model

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## INTRODUCTION

Teachers play a pivotal role in shaping the educational landscape, not only as change agents and societal contributors, but also as crucial leaders (Hariri & Sumintono, 2020). They provide students with crucial support in their learning journeys, significantly influencing their academic achievements (Li & Liu, 2022; Shen et al., 2020). Teacher leadership, as described by Yaacob and Don (2018), is fundamental in enhancing both teacher and student performance. Over time, the focus of school leadership studies has shifted from exclusively emphasising the principals' roles to incorporating the contributions of teachers (Hallinger & Kovačević, 2019). This expansion has illuminated teacher leadership as a cornerstone in successful education reform and school effectiveness (Nguyen et al., 2020; Sawalhi & Chaaban, 2022; Tsai, 2017; Wenner & Campbell, 2017).

Teacher leadership has evolved considerably (Angelle & DeHart, 2016). This evolution has yielded a positive effect on schools, fostering a favourable environment for policy recognition, educational technology practices, and knowledge sharing through digital media (Berry, 2019; Nguyen et al., 2020; Wenner & Campbell, 2017). Amidst the beneficial outcomes of teacher participation, acknowledgement, and accomplishment rewards, in actual fact, teacher leadership benefits students the most (York-Barr & Duke, 2004). Emerging from the educational effectiveness movement of the 1980s, the construct of teacher leadership began to gain momentum (Katzenmeyer & Moller, 2009). As leaders within and outside the classroom, these teachers contribute to a community of teacher learners, influencing others towards more effective educational practices (Katzenmeyer & Moller, 2009).

While the concept of teacher leadership has received significant attention in the context of developed countries, its understanding within the sphere of developing nations, such as Indonesia, remains in its nascent stages (Nguyen et al., 2020). This stark contrast between the depth of understanding in developed versus developing countries urgently calls for additional research and exploration.

There exists an evident gap in the current body of literature, highlighting the need for this study, which is aimed at exploring teacher leadership in Indonesian schools. This research is positioned to provide crucial insights into the nature of teacher leadership within the Indonesian context, such as the practices they adopt, the challenges they face, and how these practices might be optimised in light of these challenges (Printy, 2008). Such findings will serve to augment school effectiveness, enhance student learning outcomes, and contribute to shaping teacher leadership strategies that are sensitive to the unique cultural, social and educational climate of the country (Leithwood & Riehl, 2003).

Another important reason is that, based on the authors' literature search, little information on teacher leadership in the Indonesian context was found; hence, the present research sought to close these research gaps. This led the authors to formulate the following research questions:

1. What are Indonesian teachers' perceptions regarding the Teacher Leadership Self-Assessment (TLSA) dimensions' difficulty level (in terms of logit value of item, LVI)?

2. What are the differences in the seven dimensions of the TLSA based on respondent demographics?

## LITERATURE REVIEW

### Definitions of Teacher Leadership

Teacher Leadership has been broadly defined by various sources, but there is clear common ground (Angelle & DeHart, 2016). Based on the literature review, Nguyen et al. (2020) outlined the characteristics of teacher leadership as: *influence* rather than a role or formal authority; *focused on actions* that go beyond the formally assigned roles of a classroom teacher; being influential at *several levels*; and being associated with *influence, impact* and *outcomes* to improve instructional practices, promote school effectiveness, and improve student learning. Similarly, Harris and Jones (2019) also asserted that teacher leadership has the same aforementioned three main indicators.

For Katzenmeyer and Moller (2009), teacher leadership is a concept where teachers become leaders within and beyond the classroom, contributing to the learning community of teachers and leaders, and influencing others to improve educational practices. A teacher does not only impart knowledge to students, but also serves as an agent of change and renewal in their educational community. York-Barr and Duke (2004) define teacher leadership as a process conducted by teachers, either individually or in groups, to influence all members of the school community to improve the quality of teaching and learning for better student learning outcomes.

In the Indonesian context, based on the literature review conducted by Aziz et al. (2020), teacher leaders are defined as those who are capable of influencing, encouraging, assisting, guiding, and moving followers, including students, to attain objectives. However, in this context, the government often imposes on the leadership practices in schools (Jawas, 2017), and the definition of teacher leadership is inconclusive (Cosenza, 2015, p. 79), with very few authors defining it clearly (Schott et al., 2020). Thus, teacher leadership needs to be investigated, particularly in Indonesian schools.

### Development of Teacher Leadership and Its Instruments

Teacher leadership has developed worldwide, whereby the leadership role, and decision-making power of teachers have begun to be echoed throughout the world. Its significance explains why various teacher leadership models have emerged, and why many scholars have conducted research with various instruments to measure it (e.g., Angelle & DeHart, 2016; Beauchamp et al., 2010; Katzenmeyer & Moller, 2009; Mansor et al., 2020; Smith, 2023; Tsai, 2017; York-Barr & Duke, 2004). York-Barr and Duke (2004) developed a model called the Theory of Action. In this model, teachers as leaders have various behaviours in interacting with students and colleagues, teams, and other stakeholders in the school system to promote effective teaching and learning. Their conceptual framework provides the understanding that teacher leadership influences student learning. This model consists

of seven elements that seem inseparable: teacher leaders, leadership work, conditions, means of leadership influence, targets of leadership influence, intermediary outcome of leadership, and student learning. In short, this model focuses on how teachers play a role in these areas to promote student learning. On the other hand, Beauchamp et al. (2010) developed the Transformational Teaching Questionnaire (TTQ), consisting of four domains adopted from Bass and Riggio (2006): idealised influence, inspirational motivation, intellectual stimulation and individualised consideration.

Fairman and Mackenzie (2012) developed the Spheres of Teacher Leadership Action for Learning, building on York-Barr and Duke's (2004) theoretical framework. This model comprises nine spheres intended to promote student learning. Meanwhile, Tsai's (2017) Teacher Leadership Style Scale (TLSS) was developed to extend the leadership framework of Bedell-Avers et al. (2008), consisting of charismatic, ideological and pragmatic indicators. Angelle and DeHart (2016) developed the Four-Factor Model of Teacher Leadership with four domains: sharing expertise, sharing leadership, supra practitioner and principal selection. In addition, Mansor et al. (2020) developed the Teacher Leadership Inventory (TLI) comprising three constructs: knowledge, skill and value. On the other hand, Smith (2023) designed the Teacher Leader Self-Assessment to measure six aspects of teacher leadership: personal attributes, personal experiences, dispositions, knowledge, school culture and leadership skills.

Katzenmeyer and Moller (2009) created the TLISA instrument that measures teacher leaders on seven constructs: self-awareness, leading change, communication, diversity, instructional proficiency, continuous improvement and self-organisation. The TLISA is used to measure the extent to which the teachers fulfil the standards of teacher leadership and identify new skills and behaviours.

In this study, the TLISA was used because, in the Indonesian context, no prior research using such instrument was found, and it seemed culturally appropriate. Based on a review of the literature in the last seven years, nine studies using the TLISA instrument were identified. Most of the studies were conducted in Malaysia (five studies) (Kullan & Mansor, 2020; Kullan et al., 2021; Manito, 2021; Romly & Ishak, 2021; Yaacob & Don, 2018; Yusof et al., 2020), followed by the US (two studies) (Mowdy, 2015; Wills, 2015), and the Philippines (one study) (Manito, 2021).

In Malaysia, Kullan and Mansor (2020) investigated the teacher leadership levels in Indigenous Primary Schools in the Kuala Langat District, Selangor using TLISA with the six dimensions. They revealed that all the six dimensions of teacher leadership (diversity, self-assessment and leading change, teaching skills, communication, self-organisation and continuous improvement) were at high levels. Overall, teacher leadership was at a high level with a mean score of more than 4.00. These findings are similar to those of the research conducted both by Kullan et al. (2021) in Sekolah Kebangsaan Asli, Negeri Sembilan, and by Romly and Ishak (2021). However, the findings of the same research conducted in the six schools in the district of Raub, Pahang show that the dimensions of the TLISA were at a moderate level, except for the dimension of self-organisation, which was high (Yusof et al., 2020).

On the other hand, in the US, Wills (2015) investigated how often center Trail teachers engaged in behaviours associated with the aspects of TLSA. The findings indicate frequent engagement in behaviours that support self-awareness, instructional proficiency, and self-organisation. The most frequently engaged in by the teachers were those associated with working with colleagues for student success, and the least were those associated with diversity, leading change, and communication. Nevertheless, there remains a lack of information on how these TLSA dimensions work in the Indonesian school context.

In Indonesia, based on a current review, no studies related to teacher leadership have been published and indexed in Scopus and Web of Science. Besides that, on the Indonesian government's Garuda portal (local scientific database mostly written in the Indonesian language), the research is dominated by the topic of leadership in general, while those on teacher leadership are still unclear, or only focused on the leadership of school principals (Sumintono et al., 2023). Lastly, on Google Scholar, there were more than 30 studies examining teacher leadership in Indonesia, but they were weak in terms of research methods, results, and discussion. As an example, the research conducted by Rahayu and Susanto (2018) had no discussion on how teacher leadership influences student learning behaviour, and the one conducted by Sari and Hendro (2017) found no influence of teacher leadership on student achievement, where the contribution was only 5.3%. Furthermore, the research conducted by Mulyana (2017) only used a descriptive approach with simple correlation in assessing the leadership of teachers in increasing learning motivation. Based on these facts, this study offers a new approach in studying teacher leadership by using a cross-sectional quantitative approach, which applies precise and accurate latent measurement (teacher leadership), uses inferential statistics tools, and involves a large research sample to overcome the weaknesses of previous studies.

## **METHODS**

### **Research Design**

This study employed a quantitative methodology with non-experimental design. A cross-sectional method was employed using an online platform called Google Forms to distribute surveys and collect the data from the target respondents in Lampung Province, Indonesia. They were invited to participate in the study through email and social media message. The first page of the online questionnaire stated that their participation would be strictly anonymous and voluntary to address any ethical concerns. Thus, by completing the questionnaire, the respondents gave their consent.

### **Population and Sampling**

The population for this study was 97,365 teachers in Lampung from primary to junior high schools (Dikdasmen, 2023). The teachers were considered homogeneous because they are under the same management of Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi (Ministry of Education, Culture, Research, and Technology). They had the same requirements to be recruited as teachers, and to develop their career path.

The questionnaire was randomly distributed to the teachers through the principals' network at the province level.

The questionnaire was administered to 3,908 teachers in January 2023. The first stage of analysis was data cleaning and validation using WINSTEPS version 4.4.7, a Rasch measurement model software, to detect outliers (105 responses with extreme maximum and minimum values), and misfit responses (239 with an Outfit MNSQ index larger than 2.0), which were subsequently excluded (Andrich & Marais, 2019; Bond et al., 2020; Widhiarso & Sumintono, 2016). Finally, 3,564 responses were analysed, showing data stability far beyond the minimum requirement for any sampling size method.

Table 1 shows the respondents' demographic profile. The sample was dominated by female teachers (74%). The biggest portion of participants were in the range age of 30–39 years old (1,222 teachers, or 34%), followed by more than 49 years old (29%), 40–49 years old (20%), and below 30 years old (17%). A large majority of the teachers had completed undergraduate degrees (96%). Teachers who had a working experience of more than 14 years also dominated (48%). Sixty-nine percent (69%) of respondents were teachers serving in primary schools (years 1–6), and 31% in secondary schools (years 7–12). Based on school location, 74% (2,641 teachers) were working in schools in rural areas, 21% in urban areas, and the rest (5%) in suburban schools.

**Table 1.** Demographic data of respondents (  $N = 3,564$  )

Demographic		Frequency	Percentage (%)
Gender	Male	921	26
	Female	2,643	74
Age	Under 30 years old	607	17
	30–39 years old	1,222	34
	40–49 years old	733	20
	More than 49 years	1,002	29
Highest qualification	Bachelor's degree	3,440	96
	Postgraduate	124	4
Working experience	Less than 5 years	583	16
	5–9 years	582	16
	10–14 years	730	20
	More than 14 years	1,669	48
School level	Primary school	2,468	69
	Secondary school	1,096	31
School location	Rural	2,641	74
	Suburban	181	5
	Urban	742	21

### Instrument

Data was collected using a self-developed demographic questionnaire, and one standard

questionnaire, the TLSA from Katzenmeyer and Moller (2009), the use of which the researchers had obtained permission from the copyright owner for this study. The scale contains seven constructs or dimensions: *self-awareness, leading change, communication, diversity, instructional proficiency and leadership, continuous improvement, and self-organisation*. Each construct has six items, which make a total of 42 items.

The questionnaire was adapted for the Indonesian context. The instrument was translated by two independent experts in education. It was first translated from English to Indonesian by one expert. The translated questionnaire was then sent to the second translator for back-translation to English. The translated English version was then compared to the original English version. The questionnaire in the Indonesian version was then pilot tested to check its readability in an Indonesian context prior to conducting the main study. The pilot study confirmed its readability for the main study.

The questionnaire to obtain the relevant data was developed with closed-ended questions to get quick responses, be scored quickly, and expedite the later evaluation. In this study, ordinal-type data were gathered from the questionnaire. Responses to the items were based on a 5-point Likert rating (1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always). Relevant demographic profile information from respondents, such as gender, age, educational background, working experience, the school they serve in, and its location were utilised in this study.

### **Measurement Model and Data Analysis**

The appropriate analysis for this type of data was the Rasch rating scale model (RSM). The raw ordinal data was counted as frequencies, and then the odd probability for each person and item was determined. The probability was then converted into equal-interval-type data using a non-linear function, which was logarithm (Boone & Staver, 2020; Sumintono & Widhiarso, 2014). This logarithm function is used to produce measurements with the same equal-interval scale. Then, the measurement model was calibrated by the process of conjoint-measurement to determine the relationship between the item difficulty level, and person ability using the same unit-scale called a logit (logarithm odd unit). The data was imputed using the WINSTEPS version 4.4.7 software.

The RSM is particularly suitable for measuring latent/hidden traits in assessing human opinions, perceptions, and attitudes (Bond & Fox, 2015). With the Rasch analysis, the results can explain item difficulty levels accurately and precisely (item calibration), determine item fit compared to the ideal model, and measure the respondents' perception on teacher leadership levels. Furthermore, a respondent analysis using this measurement model provides better and more accurate results that will be more helpful in obtaining the consistency of responses to the questionnaire (person-fit statistics), which is later used for inferential statistics using analysis of variance (ANOVA) to know the differences based on the respondents' demographics.



**Table 2.** Summary of person and item statistics

	Person	Item
<i>N</i>	3,564	42
Measures		
Mean	2.36	0.00
Standard deviation, SD	1.50	0.83
Standard error, SE	0.03	0.13
Outfit mean-square		
Mean	0.98	0.98
SE	0.01	0.04
Separation	4.08	26.04
Reliability	0.94	1.00
Cronbach's alpha		0.96
Raw variance		46.4%

The two-facet item and person rating scale model were processed for the 42-item teacher leadership questionnaire, and 3,564 respondents using the RSM approach. The item logit was centred at zero, allowing the person logit to “float”, indicating their teacher leadership level. As shown in Table 2, the mean measure (logit) of the items is 0.00 logit, and the standard deviation is considered good (0.83), suggesting that the dispersion of measures was wide across the logit scale in terms of item difficulty level. The person mean logit was 2.36 logit, showing that all respondents tended to perceive themselves as having a higher level of teacher leadership, with a standard deviation of 1.50, indicating a very wide dispersion among the respondents. The average outfit mean-square statistics is near the expected value of 1, for both item and person, and the raw variance is higher than 40%, showing a uniform fit to the model (Boone et al., 2016; Engelhard, 2013). The separation index (more than 3), and reliability (more than 0.9) of the item and person statistics suggest very good reliability (Kök & Fisher, 2007).

The rating criteria used in this study consisted of five ratings (from *never* to *always*). However, the separation statistics of the Likert-type ratings 1, 2, 3, 4 and 5, showed that the threshold did not have an ideal distance between ratings 2 (rarely) and 3 (sometimes). The researchers then collapsed the ratings into four, which then became 1, 2, 2, 3 and 4, which resulted in an ideal distance value between the rating scale of 1.40 to 5.0 logit (Van Zile-Tamsen, 2017).



## RESULTS AND DISCUSSION

### Item Difficulty Level

Table 3 classifies the items according to their item difficulty level, or logit value of item (LVI), where the original Wight Map of the item distribution is presented in the Appendix. Using simple descriptive statistics, the values of mean (0.00) and standard deviation (0.83) (values from Table 2) were used to classify the item logit scores by grouping them based on their positions above or below these two values. This subsequently divided the distribution of the items into four difficulty levels and was useful in identifying which ones belonged to each level. In terms of the frequency of the behaviours of respondents, there were 5 items (12%) in the category of "rarely" ( $LVI > 0.83$  logit); next was the category "sometimes" ( $+0.83 \geq LVI \geq 0.00$ ), for which there were 13 items (31%); in the next category, which is "often" ( $0.00 > LVI > -0.83$ ), there were 18 items (43%); and lastly, six items (14%) fell under the category "always" ( $LVI < -0.83$  logit).

**Table 3.** Teacher leadership item calibration ( $N = 3,564$ )

Construct/Dimension	Difficulty level			
	Rarely	Sometimes	Often	Always
Self-awareness	-	A1, A2, A5	A4, A3, A6	-
Leading change	B2	B3	B6, B1, B4	B5
Communication	C5, C3	C2, C4, C6		C1
Diversity	D6, D5	D4	D1	D3, D2
Instructional proficiency and leadership	-	E4	E2, E6, E1	E5, E3
Continuous improvement	-	F4, F5, F6	F3, F2, F1	-
Self-organisation	-	G2	G5, G1, G4, G3, G6	-

As shown in Table 3, when divided into two groups of difficulty levels ("rarely" and "sometimes" on the one hand; and "often" and "always" on the other), there were three patterns that emerged. The first is the behaviour that Indonesian teachers seldom did, which was *communication* (five items compared to only one item that they did consistently, item C1). The second is when the construct had difficulty levels that were the same for both *rarely* and *often* conducted, which were *self-awareness*, *diversity* and *continuous improvement*. The third pattern, involving three constructs, were the items that they tend to do *often* and *always* consistently, which were *leading change*, *instructional proficiency and leadership* and *self-organisation*.

These findings offer valuable insights into teacher leadership practices in Indonesia, shedding light on intriguing patterns, and apparent contradictions. By classifying items based on item difficulty levels or logit value, four categories were identified: rarely (12%), sometimes (31%), often (43%), and always (14%). Interestingly, the findings exhibit

significant variation in how frequently teachers perform certain actions, or display specific traits, contrasting with previous studies like Kullan and Mansor (2020), and Manito (2021).

Notably, despite Indonesian teachers scoring high on teacher leadership perception (person mean logit of 2.36), their frequency of communication with colleagues was relatively low. This contradicts the commonly accepted association between effective leadership, and good communication (Northouse, 2018), warranting further investigation to comprehend this discrepancy, and devise appropriate solutions.

The “rarely” and “sometimes” categories primarily encompassed constructs such as *self-awareness*, *diversity* and *continuous improvement*, inviting further exploration. Despite their importance in effective teaching, these behaviours seem challenging for Indonesian teachers. For instance, self-awareness aids in better emotion management, consequently improving the classroom environment, and student outcomes (Sutton & Wheatley, 2003), but it might be difficult due to its introspective nature, and high demands on a teacher’s time and resources. Similarly, promoting diversity and continuous improvement is essential, but teachers might encounter obstacles like lack of training or resources (Gay, 2018).

On the other hand, *leading change*, *instructional proficiency*, and *self-organisation* were behaviours that were “often” or “always” demonstrated by teachers, reflecting their integral role in teaching. Teachers are expected to adapt to new curriculums, teaching methods, and policy changes (Fullan, 2015), explain concepts effectively, use varied teaching and assessment strategies (Danielson, 2006), and manage their responsibilities effectively (Cejovic, 2011).

Yet, the low emphasis on communication might be attributed to cultural factors, or characteristics of the Indonesian education system, suggesting the need for further research (Hofstede, 2001). Effective communication is vital in leading change, improving teaching skills, and self-management (van Zwanenberg, 2009; Efremkina et al., 2022), and can influence school-parent relationships positively, fostering a more inclusive understanding of teacher leadership (Danielson, 2006; Pham et al., 2005; Arden & Okoko, 2021).

In conclusion, this study revealed certain unique characteristics of teacher leadership in Indonesia, highlighting a need for further research, and professional development programmes to enhance communication skills, nurture leadership abilities, and promote a collaborative culture. These efforts will contribute to more effective teacher leaders, who are better positioned to drive change and improvement in their schools.

### Comparing Mean Differences

Table 4 shows the descriptive statistics, and ANOVA for multiple comparisons of the means of the six demographic groups of research participants along the seven constructs.

The item logit is calculated based on the respondents’ overall responses to each item; when respondents choose “always” (indicated by a score of 5), the logit value item will be negative. This indicates that the behaviour is considered easy to do/often conducted by the teachers. Vice versa, if the respondent’s answer is “never” to one item, the logit value will be highly

positive, informing that the behaviour is seldom conducted/difficult to do. The values of items from the same construct were then calculated to find their mean logit value.

The mean logit results for each teacher leadership dimension show that *instructional proficiency and leadership* was something that Indonesian teachers perceived themselves as having consistently, followed by *self-organisation*, *continuous improvement*, *self-awareness*, *leading change*, *communication* and *diversity*. All the mean logit values for each dimension were higher than 0.0 logit, showing that all dimensions were done often. Regarding the standard deviation, it is clear that, for the *self-awareness* and *diversity* dimensions, the range of perceptions was not as wide as the other five.

This finding of teachers' high perception of their instructional proficiency and leadership consistency aligns with past research. For instance, a study by Muijs and Harris (2003) found that teachers frequently perceived themselves as proficient instructors, and consistent leaders. However, this study goes further, providing a more comprehensive view by investigating various dimensions of teacher leadership. The high perception in instructional proficiency implies that teachers are confident in their teaching strategies and subject knowledge, which are critical elements in effective teaching and leadership (Muijs & Harris, 2003).

Interestingly, this study also shows that the range of perceptions for self-awareness and diversity dimensions was not as wide as the other dimensions. This might suggest that there is more consensus among teachers regarding their skills in these areas, or perhaps these dimensions are not as emphasised or recognised within the school environment. When comparing these findings with prior studies, it becomes evident that Indonesian teachers place significant emphasis on their instructional proficiency and leadership consistency, somewhat more than the global trends. This underscores the unique context of Indonesian schools, where teachers might be more focused on the technical aspects of teaching and leadership. One novel finding from the current study is the relatively lower self-perception of teachers in communication and diversity. This could indicate an area for potential improvement as both communicating effectively, and embracing diversity are crucial for teacher leadership, particularly in today's multicultural classrooms (Angelle & DeHart, 2016; York-Barr & Duke, 2004).

Furthermore, the ANOVA results indicate that there were significant differences across the six demographic groups for five out of the seven dimensions, namely, *self-awareness*, *leading change*, *instructional proficiency and leadership*, *continuous improvement*, and *self-organisation*. The result for *self-awareness* shows a significant difference in working experience (teachers with longer teaching experience have a higher perception), and school level (teachers who work in primary schools tend to have higher perceptions than those in secondary schools). In terms of *leading change*, there were three demographic variables that were significantly different; male teachers had higher perceptions than female teachers, and more senior teachers (aged over 50 years old), and those who had more experience (at least 14 years in service) had higher perceptions of leading change compared to the other groups.

Similarly, for the construct *instructional proficiency and leadership*, and *self-organisation*, the

significant difference came from the same demographic variables, which were age, and working experience. The trend was similar, that is, the teachers who were more senior (aged above 40 years old) and had been longer in service (more than 14 years) were significantly different from the other groups. Meanwhile, for *continuous improvement*, the findings were similar to *instructional proficiency and leadership*, and *self-organisation*. Another demographic variable that resulted in a significant difference was school location; teachers who worked in urban areas had higher perceptions of continuous improvement compared to those who worked in rural and suburban areas.

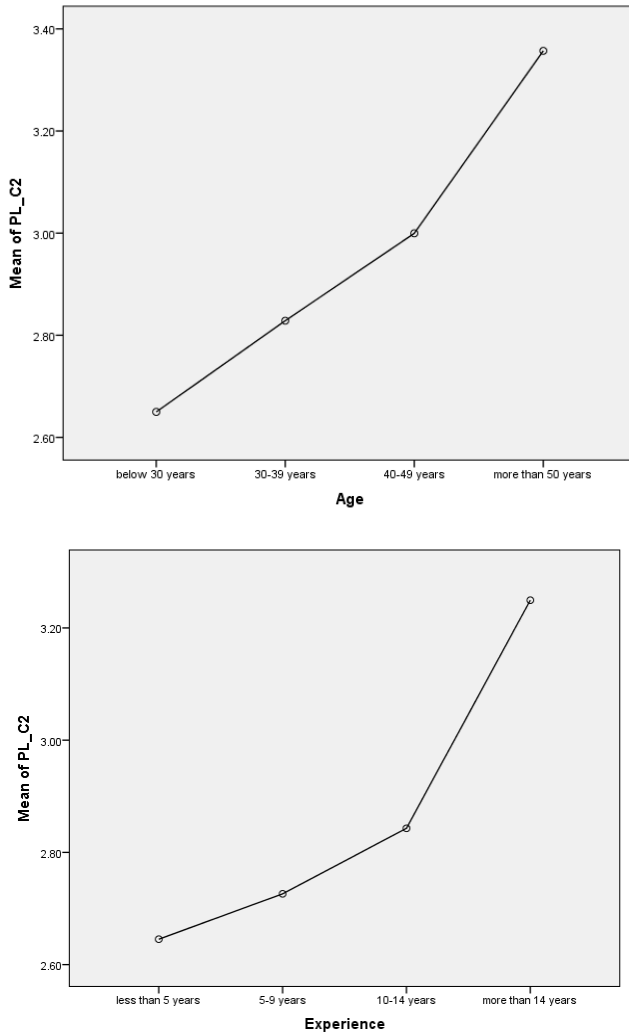
It is interesting to note that in two constructs, *communication* and *diversity*, all demographic variables involved were not significantly different. This means that all the respondents' perceptions in these two dimensions were relatively the same.

**Table 4.** Descriptive statistics and one-way ANOVA of teacher leadership ( $N = 3,564$ )

Demographic	Self-awareness	Leading change	Communication	Diversity	Instructional proficiency and leadership	Continuous improvement	Self-organisation
Mean (logit)	3.38	2.98	2.27	2.14	4.27	3.71	3.95
SD	1.50	2.17	2.14	1.93	2.19	2.47	2.59
Gender	0.260	7.462*	1.186	1.864	0.963	0.231	1.025
Age	10.436	17.491*	0.738	3.535	13.289*	11.122*	6.823*
Highest qualification	0.19	1.805	0.019	2.244	0.441	0.243	0.816
Working experience	13.327*	17.544*	0.864	1.442	14.752*	12.601*	11.505*
School level	13.880*	1.451	0.042	1.990	1.349	3.421	0.744
School location	3.067	0.285	2.370	2.016	1.826	5.220*	2.084

*Note:* \*Significant at 0.01 level.

Table 4 shows that *age* and *working experience* were the demographic variables that had more significant difference than the others. This is interesting since the two are closely related, whereby the more senior the teacher, the more experienced he/she is. The trend of the mean logit values shows it clearly, as in Figure 1. In other words, seniority in the Indonesian sample tends to lead to higher teacher leadership perceptions.



**Figure 1.** Mean plots of Age (above) and Experience (below) for Leading Change construct.

The research conducted by Angelle and DeHart (2011) found that there was a positive relationship between the length of teaching experience, and effective teacher leadership. This was also confirmed by the data in this Indonesian study. Teacher leadership reflects work that is supported through activities of building relationships, removing barriers, and managing resources throughout the organisation to enhance student learning experiences and outcomes (York-Barr & Duke, 2004).

This study also found that there were significant differences between five dimensions of teacher leadership when viewed from a demographic perspective. In the dimension of *self-*

*awareness*, the teacher is able to understand self-image related to strengths, values, and philosophy (Katzenmeyer & Moller, 2009). Self-awareness in teachers is influenced by their work experience, and the level of the school. Teachers with more work experience have significantly better self-awareness. This is probably because such teachers have the ability to assess and identify personal characteristics, beliefs, and attitudes that make them understand who they are, which in turn influences the way they think especially with regard to teaching and learning (Baum & King, 2006). Self-awareness can also help teachers to be aware of their responsibilities, and to lead inside and outside the classroom to improve the quality of school education.

Regarding the school level, the teachers working in primary schools have more self-awareness than those working at a higher school level. This is possibly because basic education is the main foundation for shaping the character of students, so teachers are more conscious in utilising appropriate teaching techniques. As educators, they provide education not only in the cognitive or academic aspects, but also in all aspects of the children as healthy and whole human beings by providing teaching that is based on the children's development, their individual needs and characteristics, and the cultural and social context in which they live (Baum & King, 2006).

For the *leading change* dimension, which refers to the teacher's ability to use effective strategies to facilitate positive change (Katzenmeyer & Moller, 2009), there were differences in gender, age and work experience. In terms of gender, men had a higher desire for leading change than women. Besides that, the senior teachers with more experience tended to have a higher interest in leading change than the younger ones. This could be because senior teachers, who have more experience, are more aware of the importance of making positive changes. From these positive feelings, many teacher leaders in the Indonesian sample felt that leading allows them to improve their practical skills, and make efforts to learn more about content and pedagogy so that they may develop themselves professionally (Singh et al., 2012).

For the *instructional proficiency and leadership* dimension, which relates to teachers using their professional knowledge and skills in providing the most effective learning opportunities for students (Katzenmeyer & Moller, 2009), there was a difference in terms of age, and work experience. Teachers who were senior, and had more experience showed higher instructional proficiency and leadership.

In this study, the *self-organisation* dimension, relating to the teacher's ability to determine an action, and implement a plan to achieve results (Katzenmeyer & Moller, 2009), also showed significant differences in age, and work experience, where senior teachers, and those who had longer work experience had higher self-organisation.

As *continuous improvement* relates to the teacher's ability to demonstrate commitment to achieving higher standards, and readiness to take action for improvement (Katzenmeyer & Moller, 2009), senior teachers, and those with longer work experience had higher continuous improvement, with this particular significant difference in age, and work experience. In addition, teachers in urban areas showed a greater desire for continuous skills improvement

than those in suburban and rural areas. Nevertheless, these skills vary depending on the length of the teacher's career (York-Barr & Duke, 2004).

Teachers who live in urban areas have more access to resources to improve skills in order to achieve better teaching quality standards than those living in suburban and rural areas. A conducive school environment, including formal structures, can support teachers' continuous self-improvement so that teacher leadership is created (York-Barr & Duke, 2004). However, no differences were found for the dimensions of *communication* and *diversity* based on demographics. This can be interpreted as the demographics of the respondents not possessing any relationship with communication and diversity.

## **CONCLUSION**

The results of this study provide intriguing insights into teacher leadership perceptions in the Lampung province of Indonesia.

The findings show that Indonesian teachers perceive themselves as consistently demonstrating attributes of instructional proficiency and leadership, self-organisation and continuous improvement. However, despite a generally high self-perception of leadership, there was a noted low frequency of communication with colleagues. These findings suggest that while teachers in this region recognise and appreciate their capabilities in some leadership dimensions, there may be opportunities for improvement in others, specifically communication.

This study also revealed significant differences in teacher leadership perceptions based on age, experience, and school location. Senior and more experienced teachers generally had higher perceptions of their leadership skills than their younger and less experienced counterparts. Additionally, teachers in urban locations exhibited a higher perception of their continuous improvement skills than those in rural and suburban locations.

However, in the dimensions of communication and diversity, no significant differences were found based on demographic variables. This indicates a similar level of perception across all demographic groups in these aspects, suggesting that these areas could be focal points for universal teacher development programmes.

This study contributes to the growing body of literature on teacher leadership, and offers valuable insights for educators, school administrators, and policymakers in the development of teacher leadership programmes. Given the unique cultural and educational context of Indonesia, these findings provide a valuable understanding of teacher leadership within this specific context, thereby informing more effective and contextually relevant teacher leadership development initiatives. However, given the study's limitations, further research is needed to corroborate these findings, and further explore teacher leadership across a broader range of contexts and populations.



## **IMPLICATIONS OF THE STUDY**

The findings of this study have significant implications for teacher development, and education policy in Indonesia. Primarily, the fact that senior and more experienced teachers perceived themselves as having a higher degree of teacher leadership suggests that experience and age are essential factors in the development of teacher leadership. Therefore, it is crucial that school administrations and policymakers consider these factors in the development of programmes aimed at fostering leadership skills in teachers.

In addition, this study revealed that teachers perceive themselves as performing consistently in terms of instructional proficiency and leadership, self-organisation and continuous improvement. This highlights the importance of these areas in the understanding of teacher leadership in the Indonesian context. Policymakers should, therefore, consider these dimensions in the creation of teacher leadership development programmes, and the assessment of teacher leadership skills.

Furthermore, the study found that communication and diversity were areas where there was no significant difference in perception across the demographic groups. This suggests that these areas may not be perceived as being critical to teacher leadership in the Indonesian context. It could also mean that these are areas where more training and development are needed for teachers, regardless of demographic characteristics.

The significant difference in perception of continuous improvement between teachers in urban areas, and those in rural and suburban areas also suggest that location-specific factors may influence teachers' perceptions of their leadership skills. Policymakers should consider these geographical disparities in the design of teacher leadership development programmes more specifically, and in education policies more broadly.

## **LIMITATIONS OF THE STUDY**

The findings are based on self-perceptions, which may not align with the actual capabilities or behaviours of the teachers. Additionally, this study relies on the voluntary participation of teachers, which could introduce self-selection bias. Those who chose to participate may already have a high degree of self-perceived teacher leadership, skewing the results.

Furthermore, this study is limited to teachers in the Lampung province of Indonesia, which may not be representative of teachers in other regions of Indonesia, or in other countries. The study's conclusions may not apply universally due to variations in cultural, socioeconomic and educational contexts.

Lastly, this study used a Rasch measurement model which, while providing beneficial insights, relies on specific assumptions.

## FUTURE RESEARCH

These limitations subsequently offer directions for future research. Future studies need to include a wider geographical representation, and consider external assessments of teacher leadership, not just self-perceptions. Moreover, mixed-method research could provide richer insights into teacher leadership in different contexts. Finally, it could also examine other factors that could influence the development and perception of teacher leadership, such as school culture, support from administration, or professional development opportunities.

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## APPENDIX

### Wight Map item distribution of Teacher Leadership Item Calibration

