

# The Effect of Transformational Leadership on Decision-Making Participation: Moderating Roles of Cognitive Styles

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Received: 1 April 2020

Accepted: 20 November 2020

Published: 30 December 2020

## ABSTRACT

*This study aims to examine the effect of transformational leadership style on decision-making participation and assess the moderating role of analytical and intuitive cognitive styles. Positivistic research philosophy and quantitative methodology utilising self-report questionnaires was used in collecting data from 196 teachers of six selected educational organisations in Selangor, Malaysia. A descriptive survey design was selected, where information was collected through self-report questionnaires which were administered to the subjects by the researcher. Hierarchical regression was employed to measure the relationship between transformational leadership style and decision making participation, and subsequently evaluate the role of analytical and intuitive cognitive styles as moderators within this relationship. Findings from the study indicate that there was no significant relationship between transformational leadership style and decision making participation. Findings from the study indicate that analytical cognitive style moderates the relationship between transformational leadership style and decision making participation. Transformational leadership style with intuitive cognitive style also demonstrated a positive effect on decision-making participation, according to the value of the coefficient. Practically, this research is valuable to teachers, as it would enable them to better understand how selected*



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*cognitive styles could influence their leadership role towards decision-making participation. Theoretically this study contributes to more understanding on decision-making participation abilities, by stressing the use of selected cognitive and leadership styles.*

**Keywords:** *Analytical cognitive styles, Decision-making participation, Educational organisation, Intuitive cognitive styles, Transformational leadership style*

## **INTRODUCTION**

A leader is a person who has the authority and ability to influence people, and leadership is what leaders do to influence a group to accomplish some specified targets (Mughal & Kamal, 2019; Rana Rashid & Ajmal, 2012). In the context of decision-making, Mughal and Kamal (2019) stated that effective leadership is when the leader has a significant role in the decision-making process. An effective leader tends to use a leadership style that encourages and allows employees to share vision and information, as easily as taking part in the decision-making process, that will ultimately influence all levels of the organization.

Transformational leadership can be defined as a leader who goes beyond exchanging rewards for desired performance by developing and inspiring their groups to exceed their own self-interest for the higher collective purpose (Broome & Marshall, 2021; Abdullah, Zainal Ariffin, & Abdurhman, 2014). Bass (1985, 1990) noted that the characteristics of this leadership style include; being able to boost self-confidence, motivate followers, be a good exemplar, as well as capable of making the followers admire their leader. Cognitive style can be defined as a mode of processing information in order to make a decision, or solve a problem (Ambrien, Hasnain & Venkateson, 2012). Several dimensions of cognitive styles have been identified by researchers.

Cognitive styles of the individual leader will associate with preference leadership style practice. In applying intuitive cognitive style in the decision-making process, an intuitive person will make quick decisions based on their gut feelings, which may come from many years of experience and hence will not use rational processes such as facts and data, since the

decision made by them are spontaneous (Ambrien et al., 2012). In line with that, it is a relationship between cognitive styles and decision-making participation. Leaders with strong vision and mission will encourage and allow followers to share their vision and thought in the decision-making process with their ultimate goals still in hand. Some leaders even try to open higher level of employees involvement in decision making, at all levels of the organization. Perhaps not many of them are ready with that new approach, especially with those who still adopt the authoritarian leadership style.

## **LEADERSHIP STYLES AND DECISION-MAKING PARTICIPATION**

Leadership is the process occurs when interaction takes place between the leaders that influenced their followers to achieve commons goals (Mughal & Kamal, 2019; Yukl, 2008). To achieve a common goal, decision-making is an operation that is really significant to consider as this process is a crucial element of managerial function that is increasingly complex due to technological and politico-socio-economic factors (Killick & Taylor, 2020; Ambrien, et al., 2012). Within the context of effective decision-making, cognitive style plays an important role in assisting leaders to determine whether to utilize left-brain thinking (analytic) or right-brain thinking (intuitive). Allinson and Hayes Analytical and Intuitive Dimension (1996) is considered appropriate in this study because these two dimensions are regarded as necessary ingredients that could improve the quality of decision-making, by relating the cognitive aspect within the decision-making process, so as to understand whether the individual utilizes right-brain thinking or left-brain thinking (Isaksen, Babij, & Lauer, 2003; Allinson & Hayes, 1996).

The wide range of previous literature on leadership generally indicates a direct relationship between leadership style and decision-making process. However, these researchers did not emphasize the use of cognitive style in the process of decision-making (Abood & Thabet, 2017; Thiel, Bagdasarov, Harkrider, Johnson, & Mumford, 2012; Vroom, 2000). However, prior studies on the relationships between leadership styles and decision-making, and research on the effect of selected leadership styles on decision-making participation are limited, especially in the presence of

selected cognitive styles within these relationships. This line of argument is consistent with the remarks made by Wang and Ruhe (2007) who indicated that there is still a lack of research in relation to cognitive processes and decision-making participation.

Abdullah et al. (2014) lead a survey research in the Jordanian Civil Defence with 847 responses, of which 345 were from leaders about their decision making styles and 502 were from employees about their leaders' leadership styles and the characteristics of a crisis. However, just 302 pairs of responses were matched and utilized in this survey to study the characteristics of crisis and decision-making styles as the mediating variable of leadership style. Findings from this survey established that both transformational and transactional leadership styles play a mediating role in the relationship between characteristics of crisis and decision-making styles among Jordanian Civil Defence Officers. Furthermore, Nik Muhammad (2015) conducted a study with 211 usable respondents using hierarchical regression analysis and found how the quality of decision is significant and positively related to leadership behavior. From this, it implies that decision-making styles of leaders is more toward openness, diversity of opinion and participative as they move upward to a higher rank, while older leaders are more direct and command-oriented in their approach. All these related literature contributed towards the development of the following hypothesis in the present study, that there is no significant relationship between transformational leadership style and decision-making participation.

## **COGNITIVE STYLES, TRANSFORMATIONAL LEADERSHIP AND DECISION MAKING PARTICIPATION**

Cognitive style can be defined as a process of information processing in order to make decisions or solve a problem (Ambrien et al., 2012). It is also defined as a style that describes how people scan their environment for information, how people organise and interpret information as well as how people integrate their interpretations into mental models in order to make decisions or solve problems. Analytical cognitive style refers to the style used by a person in decision making by breaking down the problem, situation, issue or topic into constituent parts (Allinson & Hayes, 1996). In this study, teachers with analytical cognitive style favour a structured approach when making a decision, depending on the systematic

investigation with systematic methods, recall verbal material most readily and comfortable with estimates that require step by step analysis. On the other hand, intuitive cognitive style refers to making immediate decisions based on the individual's feeling and the adoption of worldwide perspectives. In this context, teachers rely on the random methods of exploration when making decisions. Ambrien et al. (2012) found that cognitive styles garner a lot of attention in decision making literature. They found that an individual's cognitive style may influence his preferences for information processing and decision-making process. This discussion leads to the hypothesis testing identified in this study which is analytical and intuitive cognitive styles do not moderate the relationship between transformational leadership style and decision-making participation.

Within the Malaysian context, studies on leadership that relates to decision-making participation in the presence of selected cognitive styles as the moderating variable, have been less emphasised, especially among teachers. This shortfall exists mainly because prior research on leadership and decision-making participation focused on leaders or department heads in an organization (Thiel et al., 2012; Vroom, 2000). Decision-making is one of the most important activities in which school administrators engage in daily (Mughal & Kamal, 2019; Lunenburg, 2010). Moreover, the success of a school is often critically linked to decision-making effectiveness (March, 2010). However, it would be a mistake to assume that only administrators in schools make decisions, because non-administrative personnel, such as teachers, are also equally involved in decision-making (Lunenburg, 2010). Thus, it is evident that the creation of an effective and efficient school entails the involvement and unification of the staff as a whole in the decision-making process, thereby underlining its importance in schools. Moreover, studies by various researchers indicate that there is still a paucity of research that focus on selected cognitive styles as a moderating variable in the relationship between selected leadership style and decision-making participation. In short, the moderating role played by cognitive styles within this context has not been explored by previous studies. Based on the relevance gap in the literature review, this study attempted to study the theoretical framework (see Figure1).

In an effort to better understand this relationship, the following research purposes were formulated:

- a. To examine the relationship between transformational leadership style and decision- making participation.
- b. To examine the relationship between transformational leadership style and decision-making participation and the roles of selected cognitive styles as a moderator.

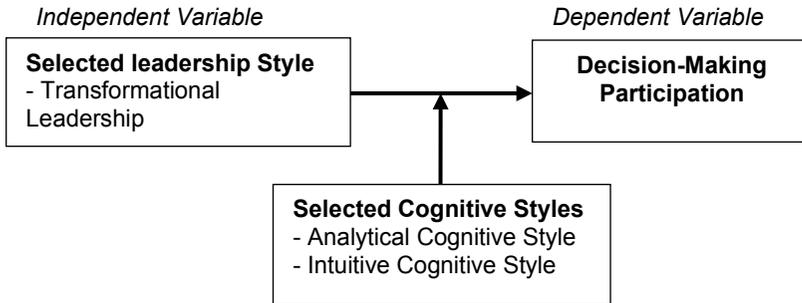


Figure 1: Theoretical Framework

### Hypothesis

- H01:** There is no significant relationship between transformational leadership style and decision-making participation.
- H02:** Analytical cognitive style does not moderate the strength of the relationship between transformational leadership style and decision-making participation.
- H03:** Intuitive cognitive style does not moderate the strength of the relationship between transformational leadership style and decision-making participation.

## METHODOLOGY

The present study was conducted based on the positivist research philosophy using a quantitative methodology. A descriptive survey design was selected, where information was collected through self-structured questionnaires which were administered to the subjects by the researchers or volunteers chosen by the researchers. The study population comprised teachers from six secondary schools situated in the Petaling Perdana area, in the state of Selangor, Malaysia. These schools were chosen because they represent the nature of teachers suited to the study context and after getting the approval

from the related educational authorities. A simple random sampling technique was employed, because it allows equal chance for any element in the population to be selected as a sample for study, since the population was not subdivided or partitioned (Ahmad, Usop, Ismail, Bujang & Abu Mansor, 2014). Hence, a random sample was drawn from the list of teachers obtained from the schools, which consisted of a total population of nearly 270 employees. Since the population is known, a sample size of 159 was deemed appropriate based on the Krejcie and Morgan's (1970) table. Nonetheless, in order to reduce the possibility of poor response rate, the proposed sample size was increased to 210. Subsequently, 35 sets of questionnaires were distributed to each of the six schools. We sought the help of the support staff at each school in selecting teachers whose names were listed as odd numbers in each list. Of the 210 sets of questionnaires distributed, a total of 200 questionnaires were returned, yielding a response rate of 95.24%. However, four sets of questionnaires were excluded from further analysis due to incomplete or missing data. In all, the final sample comprised 196 (93.33%) completed data sets, which were subjected to further statistical analyses.

The survey instrument contained 56 items in four sections that encompassed Leadership Styles, Cognitive Styles, Decision-Making Participation and Demographic Characteristics. The questionnaire was divided into four sections which were Section A (Leadership Styles - 16 items), Section B, (Cognitive Styles - 31 items), Section C (Decision Making Participation - 9 items) and Section D (Demographic Characteristics). All items for Section A were adapted from Avolio and Bass (2002) work. Section B's items were adapted from Allinson and Hayes's (1996), while for Section C, all the items were adapted from Olorunsola and Olayemi (2011). The response options were based on either 3-point or 5-point Likert rating scale. Prior to the survey, respondents were informed about the purpose of the research and assured about the confidentiality of their responses, therefore ensuring anonymity.

Scale development is a process to ensure the validity and reliability of the instrument (Clark & Watson, 1995). Validity can be determined as the ability of a test to quantify what it was designed to measure (Morris & Maisto, 2003). For the purpose of this study, both content validity and construct validity assessments were conducted. Content validity refers to a test having an equal sample of questions measuring accomplishments or

knowledge it is supposed to measure (Morris & Maisto, 2003). Estimation of the content validity of the questionnaire was undertaken by seeking the opinion from a panel of experts. Each item on the questionnaire was reviewed to ensure that the contents were consistent and relevant to the study purpose. To determine construct validity, an exploratory factor analysis (EFA) was conducted. EFA could be used to examine the associations between variables, based on the correlation between them, to see if there are underlying factors (Hinton, Brownlow, McMurray & Cozens, 2004). However, before proceeding with factor analysis, it was essential to ensure that appropriate sampling adequacy and sphericity were obtained for the current study. The two important criteria were, Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity (BTS), both of which give some information about the factorability of data. According to Hinton et al., (2004), KMO value can be calculated by using correlations as well as partial correlations to test whether the variables are adequately correlated.

A general rule of thumb that is followed for KMO is that, the value should be greater than 0.5 for satisfactory factor analysis to proceed. BTS is a sensitive test which indicates whether there is a relationship between the variables, and if the BTS value is large with a significant p value ( $p < 0.05$ ), then the data is probably factorable (Hinton et al., 2004). On the other hand, reliability is the ability of a test to get consistent and stable scores (Morris & Maisto, 2003). Once the validity procedures were completed, the questionnaire was examined to assess its reliability. As a general rule of thumb, a scale should have a minimum Cronbach's alpha value of 0.7, to establish internal consistency reliability. The Statistical Program Social Sciences (SPSS Version 21.0) was used to compute Cronbach's alpha coefficients and to analyse data in this study. The scale development process, therefore, involved a sequential progression which included, evaluation of content validity, KMO test, BTS, reliability assessment as well as EFA. Items which fulfilled all the criteria in EFA were again examined for reliability by measuring the item-total correlation and Cronbach's alpha value, before proceeding with subsequent analysis. Table 1 summarizes the results of scale development in this study.

The Statistical Package for the Social Sciences (SPSS) version 21.0 was used to analyse the psychometric properties of the questionnaire data and afterwards test the research hypotheses. Inferential statistics utilized in

this study were Pearson Correlation Analysis as well as Hierarchical Regression Analysis. Before conducting this analysis, the questionnaire was screened to identify missing value and outlier data that might affect the validity of the data (Coakes & Steed, 2003). In general, Skewness and Kurtosis were used to find out the normality, linearity as well as homoscedasticity of the data. The univariate normality of the items in the questionnaire is based along the standard as suggested by Kendal and Stuart (1958). Prior to conducting a hierarchical multiple regression, the relevant assumptions of this statistical analysis were tested. Firstly, a sample size of 196 was deemed adequate given three independent variables to be included in the analysis (Tabachnick & Fidell, 2001). An examination of correlations (see Table 2) revealed that no independent variables were highly correlated, with the exception of Conflict and Satisfaction. However, as the collinearity statistics (i.e., Tolerance and VIF) were all within accepted limits, the assumption of multicollinearity was deemed to have been met (Coakes, 2005; Hair, Anderson, Tatham & Black, 1998).

**Table 1: Scale Development Results**

Measure	No. of Item	Factors Loading	KMO's value	BTS	Eigen-value	Variance Explained	Alpha Value
Transformational Leadership	16	0.472 - 0.779	0.695	3265.355 P=0.000	4.129	15.879	0.837
Analytical Style	18	0.662 - 0.967	0.811	4401.424 P=0.000	4.025	30.964	0.889
Intuitive Style	13	-	-	-	-	-	0.884
Participation	9	-	-	-	-	-	0.922

Keys: KMO = Kaiser-Meyer-Olkin, BTS = Bartlett's Test of Sphericity

## FINDINGS AND DISCUSSIONS

This study predicted that there is no significant relationship between transformational leadership style and decision-making participation. Analysis of the data indicated that transformational leadership style and decision making participation were negatively correlated, Pearson's  $r = -0.003$  and  $p > .05$ . Therefore,  $H_0$  is fail to reject. This result revealed the extent to which transformational leadership style did not have a significant relationship towards decision-making participation even though there was a relationship between these variables.

Theoretically, this finding was not consistent with the Theory of Transformational Leadership suggested by Burns (1978) and Bass (1985). Moreover, the results were also supported by the research conducted by Abdullah et al., (2014), as well as Nik Muhammad (2015) which proved that leadership style does have a relationship with decision-making participation, even though the target population in both the studies were totally different. Notwithstanding the differing theoretical and empirical results, it could be argued that, although there is no significant direct relationship between transformational leadership style and decision-making participation, an indirect relationship could be inferred.

The second research objective was aimed at assessing whether analytical cognitive style as a moderating variable, would determine the relationship between transformational leadership style and decision-making participation. Hence, the specific research Hypothesis 2 which predicted that, analytical cognitive style does not moderate the strength of the relationship between transformational leadership style and decision-making participation, was tested. Table 2 and Table 3 present the results of the testing.

**Table 2: Model Summary of Hierarchical Regression Analysis**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	0.003 (b)	0.000	-0.005	1.00257021	0.001	0.969 (b)
2	0.103 (c)	0.011	0.000	.99978060	1.043	0.354 (c)
3	0.150 (d)	0.022	0.007	.99638478	1.473	0.223 (d)

a) Dependent Variable: Decision Making Participation

b) Predictors: Transformational Leadership Style

c) Predictors: Transformational Leadership Style, Analytical Cognitive Style

d) Predictors: Transformational Leadership Style, Analytical Cognitive Style, Decision Making Participation

A three stage hierarchical multiple regression was conducted with Decision Making Participation as the dependent variable. Transformational Leadership was entered at stage one of the regression to control for socially desirable responding. The Analytical Style was entered at stage two. Transformational and analytical were entered at stage three. The regression statistics are in Table 2.

The hierarchical multiple regression revealed that at Stage one, Transformational Leadership did not contribute significantly to the regression model,  $F = .001, p > .05$ ) and accounted for 0% of the variation in Decision Making. Adding analytical cognitive style to the regression model explained an additional 1.1% of the variation in Decision Making and this change in  $R^2$  was significant,  $F=1.043, p > .05$ . Finally, the addition of Transformational leadership and analytical cognitive style to the regression model explained an additional 2.2% of the variation in Satisfaction and this change in  $R^2$  square was also significant,  $F = 1.473, p > .05$ . When all 2 independent variables were included in stage three of the regression model, neither Transformational leadership nor analytical cognitive style were significant predictors of Decision making. The most important predictor of transformational leadership and analytical cognitive style was that which explained 2.2% of the variation in Decision Making.

**Table 3: Hierarchical Regression Analysis Coefficients**

Model		Unstandardized Coefficients		Stand-ardized Coeff.	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.634E-016	0.072		0.000	1.000
	Transformational	-0.003	0.072	-0.003	-0.038	0.969
2	(Constant)	4.637E-016	0.071		0.000	1.000
	Transformational	-0.009	0.072	-0.009	-0.123	0.902
	Analytical	0.104	0.072	0.104	1.444	0.150
3	(Constant)	0.006	0.071		0.090	0.928
	Transformational	-0.023	0.072	-0.023	-0.321	0.749
	Analytical	0.086	0.072	0.086	1.185	0.237
	Transformational and Analytical	-0.110	0.073	-0.111	-1.522	0.130

Dependent Variable: Decision Making Participation

This finding was theoretically consistent with the Theory of Transformational Leadership proposed by Burns (1978) and Bass (1985). A leader with this style of leadership tends to apply a comprehensive style in decision-making (Mueller, 2009). Comprehensive decision-making implies that, the leader would choose to break down a problem into several parts and collect information as much as possible, from a variety of sources such as books, reports and videos, and then consider all possibilities from different aspects, before making a decision. Within the context of cognitive

style theory, this finding was also consistent with Allinson and Hayes' Analytical and Intuitive Dimension (1996). Since the leader would be inclined towards comprehensive decision-making, he/she can be acknowledged as an analytical person. Generally, individuals with analytical cognitive style have been linked to left brain thinking. Moreover, individuals with this mode of cognition tend to apply a step-by-step approach to ensure that their decision-making participation would be comprehensive (Allinson & Hayes, 1996; Sadler-Smith, 1999).

A leader with transformational leadership style has the propensity to be very systematic and comprehensive in decision-making. Hence, within the context of KAI (Kirton's Adaption - Innovation) Theory, these leaders could be considered as adaptors. By relying on this style, the leader would accept a given problem by debating on how the decision could be made, besides looking for solutions in comprehensive ways (Isaksen & Kaufman, 1988). Eventhough the findings of this hypothesis relates to several theoretical aspects, its consistency within the context of leadership theory is debatable. This is because, several researchers have claimed that leaders with transformational leadership style exhibit comprehensiveness in decision-making, as well as apply logic during decision-making. However, in relation to cognitive style, comprehensive decision making and logical decision making could be associated with either intuitive cognitive style or analytical cognitive style, which are purported to be qualitatively different from each other. Despite this, findings from the present study indicate that analytical cognitive style moderates the relationship between transformational leadership style and decision making participation.

The third research objective was aimed to assess whether intuitive cognitive style as a moderating variable, would determine the relationship between transformational leadership style and decision-making participation. Hence, the specific research Hypothesis 3 which predicted that intuitive cognitive style does not moderate the strength of the relationship between transformational leadership style and decision-making participation, was tested.

A three stage hierarchical multiple regression was conducted with Decision Making Participation as the dependent variable. Transformational Leadership was entered at stage one of the regression to control for socially desirable responding. The Analytical Style were entered at stage two,

Transformational and analytical a stage three. The regression statistics are in Table 5. The hierarchical multiple regression revealed that at Stage one, Transformational Leadership not contributed significantly to the regression model,  $F = .001$ ,  $p > .05$ ) and accounted for 0% of the variation in Decision Making. Adding intuitive cognitive style to the regression model explained an additional 0% of the variation in Decision Making and this change in  $R^2$  was significant,  $F = .0012$ ,  $p > .05$ . Finally, the addition of Transformational leadership and analytical style to the regression model explained an additional 1.3% of the variation in Decision Making and this change in  $R^2$  square was also significant,  $F = .845$ ,  $p > .05$ . When all 2 independent variables were included in stage three of the regression model, neither Transformational leadership nor intuitive cognitive style were not significant predictors of Decision making. The most important predictor of transformational leadership and intuitive cognitive style which explained 1.3% of the variation in Decision Making.

**Table 4: Model Summary of Hierarchical Regression Analysis**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	p
1	0.003 (b)	0.000	-0.005	1.00257021	0.001	0.969 (b)
2	0.011 (c)	0.000	-0.010	1.00510675	0.012	0.988 (c)
3	0.114 (d)	0.013	-0.002	1.00119703	0.845	0.471 (d)

a) Dependent Variable: Decision Making Participation

b) Predictors: Transformational Leadership Style

c) Predictors: Transformational Leadership Style, Intuitive Cognitive Style

d) Predictors: Transformational Leadership Style, Intuitive Cognitive Style, Decision Making Participation

Analysis results in Table 4 and Table 5 show that the value of  $r^2$  is 0.013, which implies that 1.3% of the total variation in decision making participation can be explained by the independent variables [ $\Delta F(1, 196) = 0.845$ ,  $p > 0.001$ ]. Transformational leadership style demonstrated a negative effect with decision-making participation, according to the value of the coefficient ( $\beta = -0.003$ ). Intuitive cognitive style also showed a negative effect on decision-making participation, according to the value of the coefficient ( $\beta = -0.011$ ). Transformational leadership style with intuitive cognitive style demonstrated a positive effect on decision-making participation, according to the value of the coefficient ( $\beta = 0.117$ ). Therefore, it can be inferred that, intuitive cognitive style moderates the relationship

between transformational leadership style and decision-making participation, even though the relationship was not statistically significant.

This finding is consistent with the Theory of Transformational Leadership suggested by Burns (1978) and Bass (1985), as well as consistent with the Allinson and Hayes’ Analytical and Intuitive Dimensions (1996). Leaders who rely on transformational leadership style tend to make decisions in logical ways. Moreover, based on past experiences and sometimes on intuition, a logical leader will also rationally consider whether to accept or reject decisions. Hence, as the leader with transformational leadership style would be logical in decision-making and intuitive in cognitive style, he/she could be considered as innovators in terms of KAI Theory. Several researchers (Isaksen, Babij & Lauer, 2003) have suggested that individuals with innovative style “do things differently”, albeit in a logical way, as they choose to elucidate problems by manipulating and querying the existing assumptions, when making a decision.

**Table 5: Hierarchical Regression Analysis Coefficients**

Model		Unstandardized Coefficients		Standardized Coeff. Beta	t	p
		B	Std. Error			
1	(Constant)	6.634E-016	0.072		0.000	1.000
	Transformational	-0.003	0.072	-0.003	-0.038	0.969
2	(Constant)	6.329E-016	0.072		0.000	1.000
	Transformational	-0.002	0.072	-0.002	-0.028	0.978
	Intuitive	-0.011	0.072	-0.011	-0.149	0.882
3	(Constant)	-0.007	0.072		-0.097	0.923
	Transformational	0.014	0.073	0.014	0.192	0.848
	Intuitive	0.012	0.073	0.012	0.160	0.873
	Transformational and Intuitive	0.103	0.065	0.117	1.584	0.115

Dependent Variable: Decision Making Participation

Although the findings of this hypothesis relates to several theoretical aspects, inconsistencies exist within the context of leadership perspective. This is because, a transformational leader also tends to be rational during the decision-making process. As noted in the aforementioned cognitive literature and hypothesis findings, rational decision-making is

linked to analytical cognitive style. Despite this, findings from the present study indicate that intuitive cognitive style moderates the relationship between transformational leadership style and decision making participation.

The main findings from this study have contributed to the existing body of knowledge, with regard to the relationship between transformational leadership style and decision-making participation in the presence of selected cognitive styles. Moreover, the methodologies implemented for conducting this study have demonstrated that the quantitative research method was able to examine the hypotheses, and thus meet the research objectives, although most of the outcomes were not statistically significant. Furthermore, all the data gathered for the review of literature on leadership style, cognitive style, decision-making participation as well as survey questionnaires, have exceeded a minimum measure of robustness and reliability analysis. Therefore, the data used in this study have led to the production of specific and reliable findings. Correspondingly, utilisation of the above-mentioned methods could facilitate a deeper insight for researchers whilst conducting similar research.

## **IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS**

Data gathered from this study could have beneficial implications for teachers and administrators in the education sector, providing them with an added perception into these relationships. Foremost of all, this work has contributed to the body of knowledge. The earliest literature on leadership study concerns mostly with direct relationships between leadership and decision-making participation. This study has applied indirect relationship between variables. Therefore, this study has contributed to how selected leadership styles will influence decision-making participation with the present of selected cognitive styles. Moreover for the methodologies, this study gathered data by reviewing various sources from the literature: leadership, cognitive style, decision-making participation as well as the survey questionnaires which are deemed to have exceeded a minimum measure of robustness and reliability analysis. In doing so, the study provides more precise and reliable findings contributing to insights to the issues under study. Practically, this research would be valuable to teachers, as it would enable them to better understand how selected cognitive styles

could influence their leadership style towards decision-making participation. Therefore, the outcomes of this study could be advantageous for teachers in Malaysia, or elsewhere, and serve as a guideline for enhancing their decision-making participation abilities, by stressing the use of selected cognitive styles and selected leadership styles.

There are several recommendations for future researchers. Since this study focused on only one leadership style, future researchers should investigate other leadership styles such as transactional, visionary, charismatic, autocratic, democratic, spiritual as well free-rein leadership style. The inclusion of these styles of leadership in the future might yield crucial and thorough understanding about the effects in the presence of selected cognitive styles as moderating variables. Another possible cognitive style (e.g. creating style, planning style and experiencing style) can also be studied in order to make this study more comprehensive and produce more valuable results. In addition, a qualitative approach can be conducted to explore how the leadership styles contribute to all the direct and indirect relationships.

Although the present study has provided some important contributions, it is not without limitations. Firstly, the study only focused on transformational leadership style and two cognitive styles (i.e. analytical cognitive style and intuitive cognitive style) but neglected other leadership styles in the research model. Exclusion of these variables could have limited the understanding of how different leadership styles affect decision-making participation. Hence, future research may want to extend the scope of the study to incorporate other leadership styles as independent variables which might improve understanding about the effects of leadership styles on decision-making participation, in the presence of selected cognitive styles as moderating variables. Secondly, since this study applied quantitative approach, the results generated in this study could not provide in-depth explanations, even though this approach was utilised for its ease in the interpretation of results. Despite its strengths, the quantitative approach is not without limitations. Hence, future research could also apply a qualitative methodology, so that the results could be extracted in more detail, and accuracy of the findings would be higher. The sample of this study was limited to teachers from selected schools. Therefore, results from this study might not reflect the overall population of teachers. In future, researchers

may want to expand the sample to include more schools located in different states in Malaysia in order to increase the generalizability of the findings.

## CONCLUSION

This research has provided evidence from a limited sample of teachers in the Malaysian Public Service, that transformational leadership styles did not affect decision-making participation. The study findings also revealed analytical and intuitive cognitive styles did moderate the relationship between transformational leadership style and decision making participation. This can be explained that other factors might also moderate the relationship between transformational leadership style and decision-making participation. Future study should identify other moderators that has a tendency to moderate the relationship between transformational leadership style and decision making participation. Therefore, the findings suggested that more extensive research can be conducted to explore the moderating roles of analytical and intuitive cognitive styles and other leadership styles. It would be more significant if bigger and more varied samples and different types of workers can be studied.

## ACKNOWLEDGMENT

Thank you very much to Faculty of Cognitive Science and Human Development, UNIMAS for supporting this research project.

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