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The Influence of Teacher Innovative Behavior, Principal Transformational Leadership and School Climate on High School Mathematics Teacher Performance

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Abstrak. The problem in this study is to analyze the effect of teacher innovative behavior, principal transformational leadership, and school climate on the performance of high school mathematics teachers. This research was conducted using a quantitative approach. The population in this study were all high school mathematics teachers in Semarang City and Semarang Regency. In this study, one of the selected probability sampling techniques is simple random sampling. Data collection techniques were carried out by interview and observation, while the final stage was carried out using a questionnaire method. The data analysis technique was carried out by descriptive analysis and inferential analysis. The results of the study obtained descriptive data in the form of a profile picture of the respondents, besides that, a model developed based on theoretical studies and previous research was obtained. After conducting a confirmatory analysis of the research variables, the results showed that the indicators were able to reflect or explain the variables. Submission of SEM assumptions obtained normally distributed data, there is no outliers problem and there is no multicollinearity and singularity. The results of the full model hypothesis test indicate that this model is in accordance with the data or fits the data used in the study, and the conclusions obtained by the model are in accordance with the empirical data. The conclusion obtained from this research is that the higher the innovative behavior of the teacher and the transformational leadership of the principal, the higher the teacher's performance will be. On the other hand, school climate does not have a positive and significant effect on teacher performance.

Key words: Teacher Innovative Behavior, Principal Transformational Leadership, School Climate, Teacher Performance

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INTRODUCTION

The first gap phenomenon in this study is the expectation of the average value of the Mathematics National Examination at the high school level can reach the graduation standard as set by the government, which is a value of 55, but in reality, in the last two years of holding the UN, the average score of the UN is still far below the standard. graduation. The second gap phenomenon is where the expectations of the results of Indonesian students' mathematical literacy studies at the international level increase every three years of the PISA study, but in fact, the results of Indonesian students' mathematical literacy studies are always in the lower ranks, never in the middle ranks and even in the top ranks.

Duffy and Roehler in Hasibuan and Aziz (2019: 150) say that the activities of a teacher carried out in the learning process run smoothly, are moral and comfortable for students are part of teaching activities, as well as teacher efforts to improve the quality of education through curriculum implementation in the classroom. Effective and efficient teacher performance in schools will produce students who have quality learning achievements through a quality learning process as well (Hasibuan and Aziz, 2019:151). Teacher performance is a performance or performance carried out by teachers in carrying out their duties as educators, and the quality of teachers will greatly determine the quality of educational outcomes because teachers are the party most in direct contact with students in the learning process at school educational institutions. The performance will be an actual issue in the organization because whatever the organization, performance is a key question to the effectiveness or success of the organization. A successful and effective organization is an organization with individuals in it who have good performance. An effective or successful organization will be supported by good human resource performance (Sudarmanto in Ayunintyas and Indriani (2019:8)).

According to Jong & Hartog in Berliana and Arsanti (2018:151), innovative work behavior is individual behavior that aims to introduce new and useful ideas, processes, products, or procedures to groups or organizations. Bass (in

Yukl 2010:313), transformational leadership is a situation in which the followers of a transformational leader feel trust, admiration, loyalty, and respect for the leader, and they are motivated to do more than they initially expected. According to Sergiovanni and Starraatt (in Hapsari, 2014:16), school climate is an existing characteristic that describes the psychological characteristics of a particular school, which distinguishes a school from other schools, affects the behavior of teachers and students and is a psychological feeling. owned by teachers and students in certain schools. According to Wardono (in Afriyanti et al., 2018: 609), high school mathematics teachers are advised to always be creative in using innovative learning and assisting socialization for the introduction of PISA-based assessments, so that the achievement of future PISA assessment rankings can be better. In line with the demands of the 21st century which emphasizes 4C and HOTS-based competencies. These competencies must be mastered by high school mathematics teachers so that their performance can survive and compete to face global challenges. Therefore, the performance of high school mathematics teachers must be improved to suit the demands of the 21st century (Afriyanti et al., 2018:609).

METHODS

The research method used in this study is a quantitative approach. This type of research is descriptive correlational with the characteristic of a relationship between exogenous variables consisting of teacher innovative behavior, principal transformational leadership, and school climate, with the endogenous variable of teacher performance. This study was designed using a measurement model through a confirmatory factor analysis approach through AMOS (Ghozali, 2017:37). The population in this study were all high school mathematics teachers in Semarang City and Semarang Regency. In this study, researchers took a sample of 150 high school mathematics teachers. In this study, one of the selected probability sampling techniques is simple random sampling. The research instrument used to collect data from the field, both data on the variables of teacher innovative behavior, transformational leadership of school principals, school climate, and performance of high school mathematics teachers used a questionnaire/questionnaire.

From the results of the validity test of the research instrument, for all question items or statements of 60 items from the four variables in this study, the researchers concluded that all of the question or statement items were declared valid. Based on the results of the validity test which stated that they were valid for all question items or statements and the results of the reliability test which stated that they were reliable for all research variables, it could be concluded that this research instrument was appropriate to be used as a questionnaire to collect research data.

Descriptive statistics are statistics that include ways of collecting, compiling or organizing, processing, presenting, and analyzing numerical data to provide an orderly, concise and clear picture of certain circumstances, events, or symptoms so that certain meanings can be drawn. The data analysis technique used in this research is SEM (Structural Equation Modeling) analysis. SEM is a statistical analysis technique that can analyze the pattern of the relationship between latent constructs and their indicators, latent constructs with each other, as well as direct measurement errors. The SEM analysis tool used in processing data and testing hypotheses in this study is operated through the Analysis of Moment Structures (AMOS) program. Research modeling using SEM allows a researcher to be able to answer questions that are both regressive and dimensional (Ferdinand, 2000). SEM is a combination of factor analysis and multiple regression. The SEM modeling process requires sample size, data normality, no outliers, and no problems in multicollinearity and singularity. Based on Ghozali (2017: 57) there are seven steps in modeling using SEM, namely: (1) developing a model based on theory, (2) compiling a path diagram (path diagram), (3) compiling structural equations, (4) choosing the type of input matrix and estimation of the proposed model, (5) assessing the identification of the structural model, (6) assessing the goodness of fit criteria, and (7) interpretation and modification of the model.

RESULTS AND DISCUSSION

In the descriptive analysis of the respondents, the data obtained from the research that has been conducted on 121 respondents will be presented. Of the 150 respondents who had been given the link or the google form link, 29 respondents did not send answers to the research questionnaire. So the number of respondents was 121 who sent

answers to the research questionnaire, even though this number was still sufficient to be a requirement as a sample in the SEM data analysis technique.

Confirmatory factor analysis is the measurement stage of the indicators that make up the latent variables in the research model. The results of the confirmatory factor analysis of each variable are carried out by analyzing the value of standardized regression weight as well as the value of variance construct and reliability construct. The confirmation test between exogenous constructs presented in the table above shows that the calculated chi-square value is smaller than the table chi-square value. The resulting significance value is greater than 0.05. So it can be concluded that the model is a fit. This conclusion is supported by other criteria such as CMIN/DF, GFI, TLI, CFI, and RMSEA which meet the fit criteria, although the AGFI criteria are included in the marginal. According to Ferdinand (2006), if most of them have met the goodness of fit criteria, then the overall model can be said to be fit or good. So it can be concluded that the model between exogenous constructs is a fit or good model.

The reliability test shows the extent to which a measuring instrument can give relatively the same results when repeated measurements are made on the same object. The minimum reliability value and the dimensions/indicators forming an acceptable latent variable are at least 0.70. While the variance extracted measurement shows the amount of variance from the indicators extracted by the developed latent construct/variable. The acceptable value of variance extract is a minimum of 0.50. Based on the calculation results, it is shown that all latent variables can meet the criteria of reliability construct and variance extracted. So it can be concluded that the observed indicators can reflect the analyzed factors and together can reflect the existence of a unidimensionality.

Based on the results of the univariate and multivariate normality tests, most of the data were normally distributed. Based on the results of data processing, it can be seen that the maximum Mahalanobis distance, value is still smaller than the 2 tables, which means that there are no multivariate outliers so it can be concluded that there is no outliers problem in the research data. Based on the test results of sample moments, the determinant of the sample covariance matrix value is 28.393, so it can be concluded that there is no multicollinearity and singularity in this research data.

Table 1. Regression Weights dan Standardized Regression Weights Variabel Full Model

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
TP	<---	TIB	.625	.126	4.948	***	par_1
TP	<---	PTL	.364	.117	3.103	.002	par_2
TP	<---	SC	.046	.073	.626	.532	Par_3

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
TP	<---	TIB	.503
TP	<---	PTL	.283
TP	<---	SC	.033

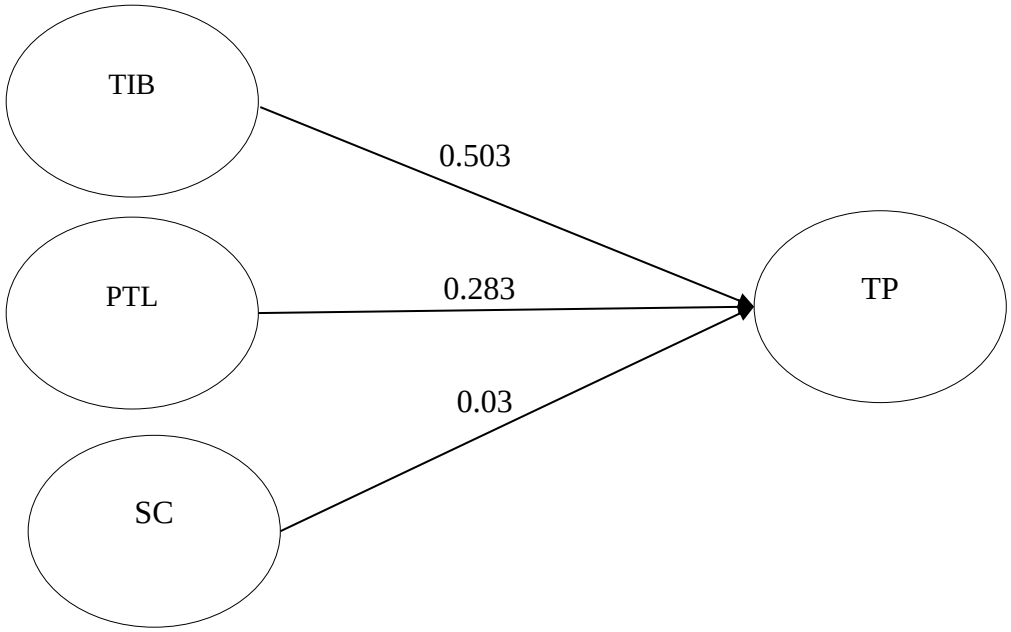

Figure 1. Final Model

From the table and figure above, the results of the influence test are as follows. The parameter estimation for testing the effect of teacher innovative behavior on teacher performance shows a CR value of 4.948 with a probability of 0.000. Because the calculated CR (4.948) > table CR (1.96) and the probability value is 0.000 <0.05, it can be concluded that the teacher's innovative behavior variable has a significant positive effect on teacher performance.

The results of this study are in line with the theory of innovative behavior according to George and Zhou in Astuti et al., (2019:57) stating that innovative behavior is a social change that emphasizes the existence of a creative attitude so that the process of changing attitudes from traditional to modern, or not yet advanced. to an advanced attitude. Meanwhile, according to Jong and Hartog in Berliana & Arsanti (2018:151), innovative behavior is individual behavior that aims to introduce new and useful ideas, processes, products, or procedures to groups or organizations.

The studies that support the results of this study are the research of Mustika et al. (2020: 150) which explains that innovative behavior is something that often arises when employees face challenges in their activities or work or get ample opportunity to carry out their duties and responsibilities. There are several steps in creating innovative behavior which include: (1) knowing and interpreting well the scope of work and potential problems faced and can be common sense, (2) having a high awareness of the quality of work and being creative in having solutions if experiencing obstacles, (3) creating a network of cooperation and mutual agreement to bring about any innovative proposals for improvement in the group work process, and (4) implementing the recommended improvements in the work. Novitasari et al. (2020) also support this by explaining in their research that to increase the role of hard skills, soft skills, and organizational learning as predictors of teacher innovation abilities, schools need to provide independence and breadth to share knowledge with teachers. Therefore, schools need to create organizational learning as a positive environment that encourages the competence and involvement of individual teachers in school educational institutions. Indeed, knowledge management will run effectively in school educational institutions if the individual performance of each teacher is in good condition. Researchers continue to study knowledge as an important school resource. It can be said that skills, both hard skills and soft skills, can significantly improve teacher innovation and performance.

The parameter estimation for testing the effect of a principal's transformational leadership on teacher performance shows a CR value of 3.103 with a probability of 0.002. Because of the calculated CR (3.103) > table CR (1.96) and the probability value (0.002) < 0.05, it can be

concluded that the principal's transformational leadership variable has a significant positive effect on teacher performance. The results of this study are in line with the transformational leadership theory pioneered by (Burns, 1978:104) which focuses on the differences between transactional leadership and transformational leadership and was later developed by (Bas, 1985:122, Bass and Avolio, 1994:116). Transformational leadership theory attempts to update leadership theory (Barling, Slater, & Keeloway, Bass 1998;144, Bass and Avolio 1994:118). Transformational leadership rests on charismatic, visionary, and inspiring leadership aspects (Bass & Avolio, 1993:117; Conger and Canungo, 1994:77; Northouse, 1978:88). Transformational leadership is here to answer the challenges of an era full of change. The era we are facing today is not an era when humans accept everything that befalls them, but an age in which humans can criticize and ask for what they deserve humanly. A school principal is said to apply transformational leadership if he is able to change the energy resources; both people, instruments, and situations to achieve the goals of school reform.

The studies that support the results of this study are the research of Sukayana, Yudana, & Divayana (2019:158) which explains that the transformational leadership of school principals is able to raise awareness, give new ideas and develop schools in a charismatic direction. To move their subordinates optimally, so that they will work productively includes the form of influence that moves teachers to achieve the expected performance. Fahmi, Yu Wanita, and Faiza (2021:26) also support this by explaining in their research that transformational leadership style is a way or process of influencing leaders towards transformational motivation and performance of their members. Transformational leadership can change a person from the basic thoughts and behaviors that underlie the person in carrying out a given task. Principal transformational leadership is an effective way to develop and achieve school goals comprehensively and comprehensively. Although there are findings that the emergence of negative performance is caused by the influence of transformational leadership as mentioned above, transformational leadership is still feasible to be used as an alternative effective leadership style, because the transformation system is deep knowledge and more permanent so that it results in constant performance and tends to increase. By continuing to improve the ability of the transformational leadership role, principals will be more effective and efficient in leading and influential in transforming their members to continuously improve the motivation and performance of their members.

The estimated parameter for testing the effect of school climate on teacher performance shows a CR value of 0.626 with a probability of 0.532. Because the calculated CR (0.626) < CR table (1.96) and the probability value is 0.532 > 0.05, it can be concluded that the school climate variable is not proven to have a significant positive effect on teacher performance.

Based on the school climate theory according to Jerome (2005:11) that school climate is a school quality that helps each individual feel valued while in school and feel a sense of togetherness. Based on the explanation of the school climate theory above, it is difficult to create a conducive school climate because of the lack of a sense of togetherness, learning places are unhealthy or prone to the spread of Covid-19, psychological feelings between teachers and students are not strong because of online learning, the Covid-19 pandemic. has changed the order of school life, especially learning activities for students. Activities that were originally carried out in classrooms in a short time have all turned into activities that take place online.

Takdir, et al. (2021:142) explained that the Covid-19 pandemic caused other intangible resources to be difficult to measure, whether there was an increase or decrease, due to online learning. These intangible resources are also a supporting factor in creating an effective school climate. This causes an uncertain perception of teachers regarding whether there is an increase or decrease in the school climate during the Covid-19 pandemic, which will also have an uncertain impact on improving teacher performance.

The studies that support the results of this study are conducted by Suwantono et al. (2019:683), who concluded that the organizational climate of the school had no significant effect on the performance of the employees of SMK Negeri 2 Bojonegoro. This is due to the good organizational climate in SMK Negeri 2 Bojonegoro, so the increase in organizational climate has no effect on performance. This is because there is openness in communication, and conflict resolution in the organization is good. Teacher career

development is determined by each teacher, not because of the organizational climate. The compensation received by teachers is in line with the expectations of the teachers, especially when the teacher's income is getting higher with the existence of teacher certification. Pristiyowati (2020:102), also stated in her research that school climate does not have a significant positive effect on teacher performance. This shows that the level of teacher performance is not related to the school climate.

CONCLUSION

Based on the results of the research and discussion above, the following conclusions are obtained. The innovative behavior of teachers has a direct influence on teacher performance in a positive and significant way, meaning that the higher the teacher's perception of the teacher's innovative behavior, the higher the teacher's performance. the transformational leadership of the principal, the higher the teacher's performance. School climate does not have a direct influence on teacher performance in a positive and significant way, meaning that the higher the teacher's perception of the school climate, the higher the teacher's performance.

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