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MEDIATING EFFECT OF TEACHER'S SELF-EFFICACY AMONG PRIMARY SCHOOL TEACHERS: IS IT SIGNIFICANTLY RELATED?

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Abstract: *This study aimed to determine if self-efficacy mediates the relationships between emotional healing, creating value for the community, conceptual skills, empowering, helping subordinates grow and succeed, putting subordinates first and behaving ethically with job satisfaction among teachers in Kelantan Chinese Primary Schools. A quantitative method using questionnaire survey was employed to collect data based on stratified random sample. A total number of 504 questionnaire were distributed to selected teachers and 227 responses were returned and 219 were found useable for the final analysis. Data was analyzed using the Structural Equation Model-Partial Least Square (SEM-PLS). The findings revealed that emotional healing and conceptual skills had positive significant relationship with job satisfaction, while creating value for the community, empowering, helping subordinates grow and succeed, putting subordinates first and behaving ethically revealed no significant relationship with job satisfaction. In addition, the study confirmed no mediating effect of teachers' self-efficacy on the relationship between emotional healing, creating value for the community, conceptual skills, empowering, helping subordinates grow and succeed, putting subordinates first and behaving ethically. Finally, the study's theoretical and practical implications as well as the*

limitations and directions for future research were provided and discussed.

Keywords: Self-Efficacy, Job Satisfaction, Primary School, Teacher, Kelantan.

1. Introduction

The importance of teachers' self-efficacy and its effect on job satisfaction has been studied and published in the literature. Among studies that have proven teachers' self-efficacy correlated with teacher's job satisfaction are Aldridge & Fraser, (2016); Sukor & Hussin, (2019); Türkoğlu, Cansoy, & Parlar, (2017). Teachers' self-efficacy is the belief of one's capability to complete a given task successfully (Bandura, 2006a) and individual's judgement about their capabilities to carry out a particular course of action successfully within a given context (Li, Wang, Gao, & You, 2015). Previous studies revealed that employees with high self-efficacy might easily cope with difficulties in achieving valued outcomes and generating intrinsic satisfaction from their works (Peng & Mao, 2015). Nathaniel, Sandilos, Pendergast, and Mankin (2016) surveyed a sample of 1242 teachers in the South-eastern United States and claimed that teachers' self-efficacy is capable to increase job satisfaction and reduces stress associated with high risks accountability policies. In other words, strengthening teachers' self-efficacy can increase job satisfaction and might help them to cope with the stressors. A part from personality trait of self-efficacy, other external factors such as working environment, organizational factor and support group, leadership style was found to be a vital factor in increasing job satisfaction. The current study was focusing on servant leadership and how it helped employees cope with stressor and at the same time increase job satisfaction.

In today's challenging time, servant leadership behaviour is what the society needs to successfully lead their organizations (McCann, Graves, & Cox, 2014) and it is closely related to teachers' job satisfaction. Thus, to achieve high job satisfaction, an effective leadership style and teachers' self-efficacy are highly needed because effective leadership style has positive effect on both teachers' job satisfaction and self-efficacy. However, not many principals are aware about leader traits related to servant leadership and its impact on job satisfaction (Chughtai, 2016; Flynn, Smither, & Walker, 2016). Extensive studies with direct relationship between self-efficacy and job satisfaction factors were scarce although self-efficacy was found to be an essential factor to predict individual job satisfaction (Li et al., 2015). Study of the mediating effect towards servant leadership effectiveness and job satisfaction have rarely been explored (Aydogmus et al., 2018). Moreover, existing research has less focused on teachers' self-efficacy and job satisfaction (Li et al., 2015). It is also reported that quantitative studies on the relationship between servant leadership and teacher self-efficacy were few and had remained unexamined (Bellibas & Liu, 2017).

Since there were limited studies conducted on servant leadership and job satisfaction while the previous research has relied too heavily on analysing the dyadic relationship between the two variables (Zargar et al., 2019), this study therefore is expected to contribute towards the understanding of the relationship between servant leadership and job satisfaction by examining the mediating factor of teachers' self-efficacy that may impact this relationship.

2. Literature Review

In the current study, teachers' self-efficacy is based on Bandura's social cognitive theory (Bandura, 1977, 1997, 2006a) which described teachers' self-efficacy as the belief that teachers are capable of fulfilling their duties to attain goals. Bandura suggested two expectations that might impact the behaviour of the teachers. One is the expectation of self-efficacy which refers to the capability and willingness of teachers to accomplish the desired behaviour. The other is the expectancy of the outcome which focuses on teachers' self-confidence that will produce the required outcome (Bandura, 1977). Teachers' self-efficacy beliefs will therefore be linked to their persistence and resilience to setbacks, the goals they set and the effort teachers put into teaching (Tschannen-Moran & Hoy, 2001). According to Bandura (1977) social cognitive theory, teachers who expect to be successful with their students are likely to put more effort into planning for teaching, instead of giving up easily as they already know about techniques and strategies that would help their students if they apply. Teachers with low degree of self-efficacy are able to magnify threats and dwell on their weaknesses and most of them tend to find conditions that they have high expectations of mastery but avoid situations for which they have low expectations of mastery (Bandura, 1977).

Numerous researchers have investigated the relationship between teacher self-efficacy, inclusive practice, and pedagogy in educational field. According to Shaukat, Vishnumolakala, and Al Bustami (2019), teachers' self-efficacy is one of the significant indicators of the degree of teacher's dedication, engagement and job satisfaction. The effect of teachers' self-efficacy on job satisfaction is recognized in the literature (Haq, Tholkhah, & Primarni, 2020; Shaukat et al., 2019; Soto & Rojas, 2019; Türkoglu, Cansoy, & Parlar, 2017; Zakariya, 2020). Teachers with a greater sense of self-efficacy belief strive to cultivate a supportive positive learning atmosphere for students. It will also impact the degree of teacher's determination, dedication and job satisfaction. In addition, teachers with high self-efficacy appear to work longer hours with students and show less resilience (Soto & Rojas, 2019). Moreover, teachers with higher self-efficacy have been trained to encourage the behaviour of students and teachers in a positive way and have a strong effect to improve the educational system.

Self-Efficacy for Classroom Management

Self-efficacy for class management is defined as teachers' beliefs in their capabilities to organize and execute the courses of action required to maintain classroom order (Tschannen-Moran & Hoy, 2001). The ability to control students in a classroom is a critical factor in an educational setting. If teachers do not respond appropriately to students when their behaviour is disruptive, instructional time is lost for all students. It is important for teachers to deal effectively with disruptive behaviour in the classroom in order to achieve instructional goals. According to Tschannen-Moran and Hoy (2001), teachers who have low confidence in their classroom management skills are confronted by their incompetence, while at the same time acknowledging how importance that competence is if they are to achieve the educational objectives. There is a specific relationship between teachers' self-efficacy in classroom management and job satisfaction. Nathaniel et al. (2016), Malinen and Savolainen (2016), Chao, Sze, Chow, Forlin, and Ho (2017), Atkinson (2020) and Veldman, Admiraal, Mainhard, Wubbels, and Van Tartwijk (2017) found that teachers who considered themselves less competent in classroom management reported a low level of job satisfaction than their peers who have more confidence in their competence in this regard.

Self-Efficacy for Instructional Strategies

Instructional strategies are defined as teaching methods and practices utilized to conduct a learning activity. It is a process by which an instructional phase, instructional module, or an entire course is delivered (Wesonga and Aurah, 2019). It is teachers' abilities to provide alternative explanation, to use a variety of assessment strategies, to track students' comprehension, to provide feedback and appropriate challenges for students (Tschannen-Moran & Hoy, 2001). It is a situation where a teacher attempts to incorporate a specific instructional strategy to obtain learning outcomes with a group of students. In the presentation of the lesson, instructional strategies are used to help students learn by ensuring the smooth delivery of the content. It is crucial for teacher educators to understand how the instructional strategies can develop in a way that will assist them in improving teaching efficacy. Efficient teachers modify and devise instructional strategies to meet the needs of students (Franklin & Harrington, 2019). They are more willing to learn and test new approaches and methods to meet students' needs. They continually search for ways to help students solve difficulties in learning. Teachers who practice a strong sense of instructional strategies foster high and realistic expectation for student achievement (Franklin & Harrington, 2019). They help students to set realistic goals and ensure that the required skills and learning strategies are taught to students. There are numerous studies done on specific relationship between teachers' self-efficacy in instructional strategies and job satisfaction. A study done by Washburn, Richards, and Sinelnikov (2020) on Physical Education Teachers found that teachers' instructional strategies influence students' motivation. Dobey (2019) noted that teachers' efficacy in instructional strategies is influenced by school climate and has positive correlation with job satisfaction.

Self-Efficacy for Student Engagement

Teachers with high efficacy retain high level of student participation and when interacting with small groups of students, they show more participation. Lopes and Oliveira (2020) argued that teachers with a high degree of self efficacy in student engagement are strong and firm in their belief that they can teach all children, including the unmotivated. Misbehaviour will occur less when students are engaged in learning activities that are meaningful, relatable, student-centered and achievable. Motivation increases, and student's misbehaviour decreases if the student begins to see the learning activities as purposeful. Good teachers understand that student and participation are affected by a number of elements. Providing opportunities for students to make decisions about what they are learning is a powerful tool in transforming apathy for student engagement. Therefore, teachers must be adept at designing learning activities to accommodate student differences in ability and attention span. There are numerous studies done on specific relationship between teachers' self-efficacy in student engagement and job satisfaction. A study done by Buric and Moe (2020) showed that teacher's self-efficacy in students' engagement can help teachers reduce job stress and increase job satisfaction. This study was in line with a study done by Lopes and Oliveira (2020) who found that students' engagement and persistence are strongly related to teachers' daily routine and teachers' job satisfaction. Dobey (2019) conducted a study among postgraduate nursing students which noted that fostering teachers' efficacy in student engagement is influenced by safety climate and has positive correlation with job satisfaction. Skapinaki and Salamoura (2020), Reeve, Cheon, and Jang (2019), Kiran, Sungur, and Yerdelen (2019), and Pachler, Kuonath, and Frey (2019) found that teachers who

have more experience in student engagement seem to be associated with a high degree of job satisfaction than their colleagues who are less confidence in this regard.

3. Methods

The population of this study were permanent teachers of all Chinese Primary Schools in Kelantan, with a total of 504 permanent teachers (data obtained from Kelantan District Education Office) teaching in those schools as of March 2019. The total of all schools involved were 15 schools. Based on G*Power to calculate the sample size on statistical power (Faul, Erdfelder, Buchner & Lang, 2009), it is suggested that the study needs a sample size of 160 for a statistical power of 0.95 for model testing (based on 8 predictors). Since the sample size exceeded 160, the power value in this study also exceeded 0.95. Moreover, the minimum power required in social and behavioral science research is typically 0.8. Therefore, the sample size was sufficient for the purposes of this study. A stratified sampling technique was used to select 226 determined sample size in order to ensure an equal distribution of the teachers in each Chinese Primary Schools.

4. Findings

4.1 Descriptive Analysis

Variables	Mean		Standard Deviation	Variance
	Statistic	Std. Error		
Emotional healing	3.195	0.060	0.884	0.781
Creating value for the community	3.487	0.056	0.831	0.691
Conceptual skills	3.576	0.061	0.897	0.805
Empowering	3.252	0.054	0.801	0.642
Helping subordinates grow and succeed	3.502	0.053	0.784	0.614
Putting subordinates first	2.958	0.062	0.922	0.850
Behaving ethically	3.595	0.054	0.799	0.639
Teachers' self-efficacy	3.688	0.031	0.461	0.212
Job satisfaction	3.434	0.043	0.637	0.406

Table 1: Mean, Standard Deviation and Variance Values

Note:

N=219

Measurement scale: 1 – Strongly disagree to 5 – Strongly Agree

Measurement level: 1.00 – 2.49: Low; 2.5 – 3.49: Moderate; 3.50 – 5.00: High

Descriptive statistics analysis was carried out in order to describe and summarize the primary features of the data obtained. Statistics such as mean, variance and standard deviation of each variable would provide an overview of how a respondent answers the questions in the questionnaire.

Table 1 presents the mean, standard deviation, and variance of the study variables. All the responses items were made on a 5-point Likert Scale (1=Strongly disagree to 5=strongly agree for Servant Leadership Questionnaires and Teachers' Self-efficacy Questionnaires or 1= Very unsatisfied to 5=Very satisfied for Job Satisfaction Questionnaires). The following criteria based on the mean scores

were used to determine the levels of agreement to the variables. A mean score of 2.49 or less was categorised as ‘low’, between 2.50 to 3.49 as ‘moderate’, and 3.50 or higher as ‘high’. Therefore, the mean score for all variables can be considered as high and moderate. Out of 9 variables being investigated, 4 of them resulted in high mean scores. Those that scored high in their mean values, in ascending order, were teachers’ self-efficacy (M=3.688, SD=0.461), behaving ethically (M=3.595, SD=0.799), conceptual skill (M=3.576, SD=0.897), helping subordinates grow and succeed (M=3.502, SD=0.784), creating value (M=3.487, SD=0.691), job satisfaction (M=3.434, SD=0.637), empowering (M=3.252, SD=0.801), emotional healing (M=3.195, SD=0.884), and putting subordinates first (M=2.958, SD=0.922). Taking teachers’ self-efficacy for example, with the highest mean score among all other variables, the respondents perceived that teachers’ self-efficacy as being very useful to them. Therefore, the teachers would continue practicing self-learning in their career from time to time.

4.2 Direct Correlation between Variables

Multicollinearity has to do with variable correlations. If a correlation between two or more variables is 0.9 or greater, it means that multicollinearity exists (Tabachnick et al., 2007). For further analysis, the only way to fix this problem is to drop one of the variables. Since all of the measures of correlation for all the variables were below 0.9, it can be concluded that multicollinearity problem did not exist as depicted in Table 2.

Table 2: Correlations among Variables

Variables	EH	CV	CS	EPWR	HSGS	PSF	BE
Emotional healing (EH)							
Creating value for community (CV)	.828**						
Conceptual Skill (CS)	.816**	.881**					
Empowering (EPWR)	.770**	.750**	.791**				
Helping subordinates grow and Succeed (HSGS)	.804**	.835**	.871**	.838**			
Putting subordinates first (PSF)	.733**	.675**	.722**	.779**	.757**		
Behaving Ethically (BE)	.743**	.777**	.816**	.768**	.827**	.727**	

***. Correlation is significant at the 0.01 level (2-tailed)*

4.3 Mediating Analysis

The mediator in this study is teachers’ self-efficacy. Hair et al. (2013) stressed that the researcher should rather follow Preacher and Hayes (2008) and bootstrapping distribution of the indirect effect when testing mediating effects. Table 3 illustrates that all hypotheses are rejected in this study. Therefore, the result in this research is discussed as follow.

Hypothesis	Beta	t-value	P-values	LL	UL	Result
H8: Emotional healing - TSE - job satisfaction	0.004	0.097	0.923	-0.069	0.081	Not Supported
H9: Creating value for the community -TSE - job satisfaction	0.017	0.455	0.649	-0.054	0.097	Not Supported
H10: Conceptual skills -TSE - job satisfaction	0.028	0.656	0.512	-0.052	0.118	Not Supported
H11: Empowering - TSE - job satisfaction	0.016	0.374	0.708	-0.069	0.106	Not Supported
H12: Helping subordinates grow and succeed -TSE -job satisfaction	0.048	1.143	0.253	-0.025	0.144	Not Supported
H13: Putting subordinates first - TSE - job satisfaction	0.016	0.624	0.533	-0.073	0.032	Not Supported
H14: Behaving ethically - TSE - job satisfaction	0.062	1.515	0.130	-0.003	0.157	Not Supported

Table 3: Hypothesis for Mediation (Indirect Path Result)

*Significant at $p < 0.05$ ($p < 0.05$), $t\text{-value} > 1.64$ TSE= Teachers’ self-efficacy

Thus, the study can conclude that teachers’ self-efficacy did not mediate the relationship between servant leadership (emotional healing, creating value for the community, conceptual skills, empowering, helping subordinates grow and succeed, putting subordinates first and behaving ethically) and job satisfaction. Hence, H8, H9, H10, H11, H12, H13 and H14 were not supported. This result also showed the values of Boot CL: [LL, UL] straddle less than 0, which indicated that teachers’ self-efficacy is not a mediator between servant leadership (emotional healing, creating value for the community, conceptual skills, empowering, helping subordinates grow and succeed, putting subordinates first and behaving ethically) and job satisfaction.

5. Conclusion

In conclusion, only two dimensions of servant leadership (emotional healing and conceptual skills) were found to be significant towards job satisfaction. Servant leadership dimensions of creating value for the community, empowering, helping subordinates grow and succeed, putting subordinates first, and behaving ethically were found insignificant towards job satisfaction. Furthermore, teachers' self-efficacy was found not to mediate the relationship between servant leadership (emotional healing, creating value for the community, conceptual skills, empowering, helping subordinates grow and succeed, putting subordinates first and behaving ethically) and job satisfaction. The results of this study may not support servant leadership being used in Kelantan Chinese Primary Schools as a style of leadership in which job satisfied teachers are not influenced by this type of leadership. Regarding the individual dimensions of characteristics of servant leadership, there are relationships between job satisfaction and servant leadership dimensions of emotional healing and conceptual skills. This would suggest that principals might efficiently assist teachers to achieve job satisfaction state if they are focused on demonstrating emotional healing and conceptual skills. However, this does not mean that the remaining dimensions are not associated with job satisfaction. Indeed, it has also been discovered that the other five dimensions of servant leadership are found to be slightly related to teacher's job satisfaction. Therefore, servant leadership can still be emphasized in educational leadership programs to assist in training the present and the future decision-makers in schools' human resource departments. The essential components of servant leadership can be integrated into the educators' evaluation process, which will reinforce the districts to create a culture of servant leadership.

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References

- Aldridge, J. M., & Fraser, B. J. (2016). Teachers' views of their school climate and its relationship with teacher self-efficacy and job satisfaction. *Learning Environments Research, 19*(2), 291-307.
- Atkinson, M. (2020). *Self-Efficacy of Early Career Agriculture Teachers and Its Relationship to Career Commitment and Job Satisfaction*. (Dissertation). Auburn University, United States.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review, 84*(2), 191.
- Bandura, A. (2006a). Guide for constructing self-efficacy scales. *Self-efficacy beliefs of adolescents, 5*(307-337).
- Bellibas, M. S., & Liu, Y. (2017). Multilevel analysis of the relationship between principals' perceived practices of instructional leadership and teachers' self-efficacy perceptions. *Journal of Educational Administration, 55*(1), 49-69.
- Buric, & Moe. (2020). What makes teachers enthusiastic: The interplay of positive affect, self-efficacy and job satisfaction. *Teaching and Teacher Education, 89*(1), 10-30.
- Chao, C. N. G., Sze, W., Chow, E., Forlin, C., & Ho, F. C. (2017). Improving teachers' self-efficacy in applying teaching and learning strategies and classroom management to students with special education needs in Hong Kong. *Teaching and Teacher Education, 66*, 360-369.

- Chughtai, A. A. (2016). Servant leadership and follower outcomes: Mediating effects of organizational identification and psychological safety. *The Journal of psychology, 150*(7), 866-880.
- Dobey, E. (2019). *A Correlation Study on the Relationship between Teacher Self-Efficacy, School Culture, and Implementation of Instructional Strategies in a Large North Texas School District*: Lamar University-Beaumont Press.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior research methods, 41*(4), 1149-1160.
- Flynn, C. B., Smither, J. W., & Walker, A. G. (2016). Exploring the relationship between leaders' core self-evaluations and subordinates' perceptions of servant leadership: A field study. *Journal of Leadership & Organizational Studies, 23*(3), 260-271.
- Franklin, H., & Harrington, I. (2019). A Review into Effective Classroom Management and Strategies for Student Engagement: Teacher and Student Roles in Today's Classrooms. *Journal of Education and Training Studies, 7*(12), 1-12.
- Haq, N., Tholkhah, I., & Primarni, A. (2020). Pengaruh Kepemimpinan Kepala Sekolah Dan Efikasi Diri Guru Terhadap Kinerja Guru *Reslaj: Religion Education Social Laa Roiba Journal, 1*(2), 71-86.
- Kıran, D., Sungur, S., & Yerdelen, S. (2019). Predicting science engagement with motivation and teacher characteristics: A multilevel investigation. *International Journal of Science and Mathematics Education, 17*(1), 67-88.
- Li, M., Wang, Z., Gao, J., & You, X. (2015). Proactive personality and job satisfaction: the mediating effects of self-efficacy and work engagement in teachers. *Current Psychology, 1*-8.
- Lopes, J., & Oliveira, C. (2020). Teacher and school determinants of teacher job satisfaction: a multilevel analysis. *School Effectiveness and School Improvement, 2*(1), 1-19.
- Malinen, O.-P., & Savolainen, H. (2016). The effect of perceived school climate and teacher efficacy in behavior management on job satisfaction and burnout: A longitudinal study. *Teaching and Teacher Education, 60*, 144-152.
- McCann, J. T., Graves, D., & Cox, L. (2014). Servant leadership, employee satisfaction, and organizational performance in rural community hospitals. *International Journal of Business and Management, 9*(10), 28.
- Nathaniel, P., Sandilos, L. E., Pendergast, L., & Mankin, A. (2016). Teacher stress, teaching-efficacy, and job satisfaction in response to test-based educational accountability policies. *Learning and Individual Differences, 50*, 308-317.
- Pachler, D., Kuonath, A., & Frey, D. (2019). How transformational lecturers promote students' engagement, creativity, and task performance: The mediating role of trust in lecturer and self-efficacy. *Learning and Individual Differences, 69*(1), 162-172.
- Peng, Y., & Mao, C. (2015). The impact of person-job fit on job satisfaction: the mediator role of Self efficacy. *Social Indicators Research, 121*(3), 805-813.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods, 40*(3), 879-891.
- Reeve, J., Cheon, S. H., & Jang, H.-R. (2019). A teacher-focused intervention to enhance students' classroom engagement. In *Handbook of student engagement interventions* (Vol. 2, pp. 87-102): Elsevier.

- Shaukat, S., Vishnumolakala, V. R., & Al Bustami, G. (2019). The impact of teachers' characteristics on their self-efficacy and job satisfaction: a perspective from teachers engaging students with disabilities. *Journal of Research in Special Educational Needs*, 19(1), 68-76.
- Skapinaki, A., & Salamoura, M. (2020). Investigating primary school quality using teachers' self-efficacy and satisfaction. *Journal of Tourism, Heritage & Services Marketing*, 6(1), 17-24.
- Soto, M., & Rojas, O. (2019). Self-efficacy and job satisfaction as antecedents of citizenship behaviour in private schools. *International Journal of management in education*, 13(1), 82-96.
- Sukor, N. M., & Hussin, S. Z. (2019). Self-Efficacy and Its Influence on Job Satisfaction Among Substance Abuse Prevention Program Teachers. *AL-'ABQARI: Journal of Islamic Social Sciences and Humanities*, 36-45.
- Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using multivariate statistics* (Vol. 5): Pearson Boston, MA.
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783-805.
- Türkoglu, M. E., Cansoy, R., & Parlar, H. (2017). Examining Relationship between Teachers' Self-Efficacy and Job Satisfaction. *Universal Journal of Educational Research*, 5(5), 765-772.
- Veldman, I., Admiraal, W., Mainhard, T., Wubbels, T., & Van Tartwijk, J. (2017). Measuring Teachers' Interpersonal Self-efficacy: Relationship With Realized Interpersonal Aspirations, Classroom Management Efficacy And Age. *Social Psychology of Education*, 20(2), 411-426.
- Washburn, N. S., Richards, K. A. R., & Sinelnikov, O. A. (2020). Investigating the Relationships Between Perceived Matterng, Role Stress, and Psychological Need Satisfaction in Physical Education Teachers. *Journal of Teaching in Physical Education*, 39(1), 48-58.
- Wesonga, M. F., & Aurah, C. (2019). Influence Of Teachers' Instructional Strategies And Students' Learning Styles On Academic Achievement In Kenyan High School Physics. *European Journal of Education Studies*, 6(8), 140-146.
- Zakariya, Y. F. (2020). Effects of school climate and teacher self-efficacy on job satisfaction of mostly STEM teachers: a structural multigroup invariance approach. *International Journal of STEM Education*, 7(1), 1-12.
- Zargar, P., Sousan, A., & Farmanesh, P. (2019). Does trust in leader mediate the servant leadership style–job satisfaction relationship? *Management Science Letters*, 9(13), 2253-2268.