

Transformational School Leadership: Predictor of Collective Teacher Efficacy

Ramazan CANSOY*

Abstract. The purpose of this study was to examine the relationship between school principals' transformational leadership and collective teacher efficacy based on teachers' views. The sample were 293 teachers in elementary and middle schools located in the Uskudar district of Istanbul. The data were gathered through the Transformational Leadership Scale and the Collective Teacher Efficacy Scale. Correlation and Regression analyses were employed in the analysis of data. The results showed that the school principals' transformational leadership behaviors had a positive, moderate and significant relationship with collective teacher efficacy. Also, school principals' transformational leadership behaviors were positive and significant predictor of collective teacher efficacy. These findings show that transformational leadership behaviors of school principals are an important antecedent of teachers' common beliefs that they can enable student learning.

Keywords: Transformational leadership, collective teacher efficacy, the relationship between leadership and collective efficacy.

* Orcid ID: <https://orcid.org/0000-0003-2768-9939>, Assoc. Prof. Dr., Karabük University, Educational Sciences – Educational Administration Department, cansoyramazan@gmail.com

1. INTRODUCTION

Teachers can constitute common beliefs in schools by sharing their feelings, thoughts, and beliefs with their colleagues about how successful students can be. Depending on the common beliefs, teachers can make more or less effort collectively. In this context, Bandura (1995) stated that teachers' collective beliefs about student learning are an important variable in the academic success of schools.

Collective teacher efficacy is an important antecedent for student achievement at school (Goddard, 2001; Goddard, Hoy, & Hoy, 2004; Hoy, Sweetland, & Smith, 2002). Collective teacher efficacy refers to teachers' common beliefs that they can enable student learning. Collective efficacy beliefs can emerge in different forms. Common problems requires common solutions and adhering to common goals. Individuals within a group have mutual interaction, and strengthen each other to overcome different problems encountered. In this process of support and strengthening, a group belief that certain goals can be achieved appears (Bandura, 1986, 1997). Common effort strengthens the perception of achieving something together and the belief of group efficacy, and thus reveals collective efficacy beliefs. Positive or negative interactions related to student learning among teachers can facilitate the formation of common beliefs (Bandura, 1993, 1997). Accordingly, it can be argued that collective teacher efficacy develops with common group consciousness as a result of mutual and positive interactions.

With the determination of the positive effects of collective teacher efficacy on student achievements, the researchers focused on factors that could increase the collective teacher belief. (eg., Fancera & Bliss, 2011; Hallinger, Hosseingholizadeh, Hashemi, & Kouhsari, 2018; Lee, Zhang, & Yin, 2011). Transformational leadership is one of the variables whose effects have positive effects on collective teacher efficacy. The studies have been published on this subject in the international literature. (eg., Barnett, McCormick, & Conners, 2001; Ninković & Knežević Florić, 2018; Ross & Gray, 2006). Although there are certain studies in the international literature that elaborated on the factors enhancing collective teacher efficacy, the lack of sufficient research (eg., Demir, 2008; Kurt, Duyar, & Çalik, 2011) on this issue in the Turkish context is one of the justifications behind the present study. In this regard, this study focused on the relationship between collective teacher efficacy that has the potential of being a significant variable in ensuring student learning, and school principals' transformational leadership behaviors. On the other hand, Cansoy, Polatcan, and Parlar (2018) showed that concept of collective teacher efficacy in Turkey have not been investigated adequately. Also, they showed that the studies generally focused on teacher self-efficacy. In this regard, it is understood that the studies on collective teacher efficacy are quite limited. By means of this study, it was aimed to expand the recent literature on the factors that support collective teacher efficacy Furthermore, it would demonstrate the effective school leadership behaviors that can form collective belief among teachers in Turkish Education System.

Relationship between School Principals' Transformational Leadership and Collective Teacher Efficacy

The factors that enhance teacher self-efficacy also contribute to collective teacher efficacy. These include modelling professional experiences, modelling others' experiences, verbal persuasion and physical-emotional states (Bandura, 1977a, 1986). Organisational learning, modelling good practices by following successful school models, and strengthening teachers' beliefs about students in different ways can affect the development of collective efficacy. According to the social cognitive theory, teachers' collective efficacy beliefs and their behaviors are mutually related and in interaction. Teachers share certain beliefs in school, and create a mutual influence. These effects promote teacher efficacy beliefs. Moreover, resources and opportunities improve individuals' levels of effectiveness. On the other hand, certain negative encounters or dialogues impair teachers' efficacy beliefs (Bandura, 1986, 1993, 1995, 1997). Joint achievements in school strengthens the shared belief that student learning can be ensured (Goddard, 2001). Teacher beliefs develop with strong collaboration among colleagues and quality interactions in school. Teachers receive positive or negative feedback from their colleagues or students. In this way, their efficacy perceptions can be reinforced (Cybulski, Hoy, & Sweetland, 2005). Consequently, it can be argued that teachers' mutual interactions, their sharing certain positive feelings and positive attitudes towards students are of importance in the formation of collective efficacy.

As transformational leaders are strong in terms of humanistic values, they also turn their followers into leaders by arousing their motivation and interest to achieve a joint goal (Burns, 1978). They also attract their followers' attention to the shared vision and mission, enable focusing on the group goals, and carry out a mental transformation process (Bass, 1997, 1998). In the literature, the characteristics of transformational leaders are mainly explained in dimensions such as idealised effect (i.e. charisma), inspirational motivation, intellectual stimulation and individual interest. Idealised effect is about being a role model, and sharing a common vision and mission; inspirational motivation refers to motivating followers towards a goal, and instilling enthusiasm and optimism in their minds; intellectual stimulation relates to demonstrating different points of view on an issue, and exhibiting innovative approaches; and individual interest is about considering followers' individual differences, making an effort to increase their capacity, and valuing individuals (Avolio, Bass, & Jung, 1999; Jantzi & Leithwood, 1996). In the context of these characteristics, transformational leadership behaviors as an effective behavioural pattern can be useful in solving different problems in school and keeping it in a dynamic form. These leadership behaviors facilitate organising the complex and ambitious structure in schools, enabling the adaptation to changing conditions and innovations, adhering to the joint goals, and enhancing the school capacity (Jantzi & Leithwood, 1996). Therefore, school principals as transformational leaders gather teachers around common goals to achieve the school objectives, strengthen teachers and bring about a mental transformation in them to believe that they can ensure student learning.

Transformational leaders are said to affect their followers by adhering their concepts of self to the group's mission. In this regard, transformational leaders can enhance group effectiveness with emotional and ideological explanations by associating followers' individual identities with the organisation's common identity (Kark & Shamir, 2002, p. 7, cited in Walumbwa, Wang, Lawler, & Shi, 2004, p. 517). Moreover, in the theory of self-conception, transformational leadership behaviors form and strengthen the group beliefs. Others' positive or negative views about individuals leads to the formation of self-conception (Yıldız, 2006). Transformational leaders can boost the group effectiveness by highlighting the similarities among the group members, organising the working environment in a supportive way, and connecting the followers' values and ideologies to the group mission (Walumbwa et al., 2004). On the other hand, Kark, Shamir, and Chen (2003) showed that self-conception had a mediating role in improving collective efficacy through transformational leadership. Above all, the theory of social identity can be said to provide an explanatory framework. According to this theory, individuals try to form a positive individual and social identity as they want to make sense and evaluate themselves in the group in a positive way. At the same time, the group objectives start to be perceived as more important than individual preferences (Tajfel, 1974). It can then be argued that transformational leadership behaviors create a collective belief in success by positively affecting the perspectives of individuals within a group about themselves, raising certain expectations in individuals and the group, and enhancing the sense of 'us'. Considering the arguments provided above, the research questions are:

- Are school principals' transformational leadership behaviors correlated to collective teacher efficacy?
- Do school principals' transformational leadership behaviors predict collective teacher efficacy?

2. METHOD

Relational studies reveal the relationships between different variables, co-change and levels of that change. (Karasar, 2012). Correlational survey model was employed in the study to investigate the relationship between school principals' transformational leadership behaviors and collective teacher efficacy. The dependent variable of the research is collective teacher efficacy, and the independent variable is the school principals' transformational leadership behaviors. The reason for choosing this model in the research is the thought that leadership behaviors can change teachers' common beliefs.

Population and Sample

The population of the study consisted of teachers in the Uskudar district of Istanbul. The sample included elementary and middle school teachers working in this district. The teachers who participated in the study were selected through convenient sampling method. The schools in the district were firstly selected at random. The research

instruments were then administered to the teachers in these schools. In total, 293 teachers participated in the study. Of the participants, 70% were female and 30% were male. Besides, 29% worked in an elementary school and 71% in a middle school, while 29% had a professional experience of one to five years, 26% six to ten years, and 45% 11 years or longer.

Data Gathering Tools

Transformational leadership and collective teacher efficacy scales were employed in the study. The transformational leadership scale was developed by Akan, Yıldırım, and Yalçın (2014). The collective teacher efficacy scale was developed by Tschannen-Moran and Barr (2004), and adapted to Turkish by (Erdoğan & Dönmez, 2015)

Transformational Leadership Scale

This scale was a sub-dimension of the School Principals' Leadership Styles Scale developed by Akan et al. (2014). In this study, the transformational leadership style, among the styles of transformational, transactional and laissez-faire leadership, was used. The transformational leadership scale consisted of 20 items and a single dimension. It was rated on a 5-point Likert-type rating scale ranging from (1) Strongly disagree to (5) Strongly agree. Sample items are as follows: "Our principal guides us with his/her behaviors", "Our principal has an energetic style", "Our principal finds effective solutions for problems." The scale explained 37.4% of the variance. The Cronbach's Alpha coefficient for the scale was found to be .96.

The construct validity of the transformational leadership scale was examined in the present study. It was aimed to demonstrate the validity and factor structure of the scale for the research sample. In this respect, exploratory factor analysis (EFA) was performed. The Kaiser-Meyer-Olkin (KMO) value was found to be .97 and the result of the Barlett test of Sphericity was significant ($\chi^2= 5776,26$, $p:0.00$). As a result of the EFA, the scale demonstrated a single-factor structure in the research sample. The total variance explained by the scale was 67.08%. The factor loadings of the items ranged between .72 and .88. The Cronbach's Alpha coefficient of the scale was calculated as .97. The adjusted item-total correlation coefficients of the scale were between .69 and .86.

Collective Teacher Efficacy Scale

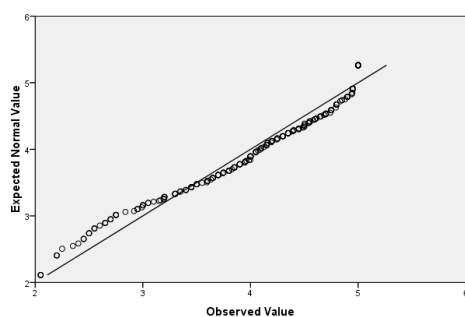
This scale was adapted to Turkish by Erdoğan and Dönmez (2015) It contained 12 items and two sub-dimensions. The sub-dimensions of the scale were collective efficacy towards (1) student discipline and (2) instructional strategies. It was rated on a 5-point Likert-type rating scale ranging from (1) Strongly disagree to (5) Strongly agree. The sample items are as follows: "How clear can the teachers of your school express the appropriate behaviors they expect from students?", "To what extent can the teachers of your school make students believe that they can be successful in their school work (in-class and extra-curricular activities)?" The scale explained 58.5% of the variance. The Cronbach's Alpha

coefficients were found to be between .85 and .88. The reliability coefficient for the whole scale was .88 (Erdoğan & Dönmez, 2015)

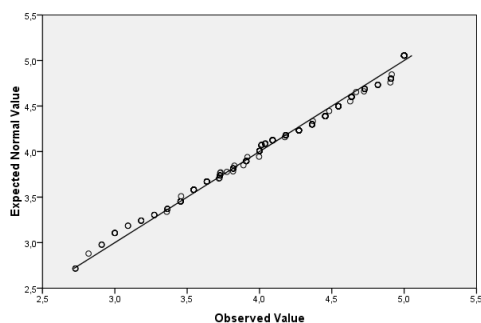
The construct validity of the collective teacher efficacy scale was examined in the present study, and exploratory factor analysis (EFA) was performed. The Kaiser-Meyer-Olkin (KMO) value was found to be .93 and the result of the Barlett test of Sphericity was significant ($\chi^2= 1946,18 p:0.00$). As a result of the EFA, the scale demonstrated a single-factor structure in the research sample. The total variance explained by the scale was 54.95%. The factor loadings of the items ranged between .65 and .80. The Cronbach's Alpha coefficient of the scale was calculated as .92. The adjusted item-total correlation coefficients of the scale were between .59 and .73.

Data Analysis

The data were analysed using SPSS, and the missing, incorrect or outlier values were firstly examined. It was then checked whether there was multicollinearity within the data. Missing values were assigned an average value. There are 35 outlier that checked by Mahalanosis Distance. Outliers are calculated by standard z scores. Accordingly, when the number of cases is greater than 50, those standard z value is not between -3 and +3 are removed from the data set. (Şencan, 2005). Therefore, 35 of these cases are not included in the data analysis. Whether the data met the normality assumption, as well as the skewness and kurtosis coefficients were analysed. The skewness and kurtosis values ranged for transformational leadership between -.65 and -.41, for collective teacher efficacy between -.25 and -.56. It can be stated that skewness and kurtosis values between +1 and -1 (Tabachnick & Fidell, 2013). Moreover, the Q-Q plot graph was examined for the normality assumption (Figure 1).



Transformational Leadership



Collective Teacher Efficacy

Figure 1. Q-Q plot graphs of transformational leadership and collective teacher efficacy

3. FINDINGS

In this section, mean and standard deviation values for school principals' transformational leadership behaviors and collective teacher efficacy, and the results of the correlation and regression analyses are presented.

Means, Standard Deviations and Correlations between Variables

In this study, as examined above, collective teacher efficacy and school principals' transformational leadership behaviors were found one dimension as a result of the analysis.

Means, standard deviations are given in Table 1.

Table 1.

Means and standard deviations		
Variables	\bar{X}	SD
School principals' transformational leadership behaviors	4.03	.78
Collective teacher efficacy	4.13	.55

Based on the teachers' views, the mean of school principals' transformational leadership behaviors was $\bar{X}= 4.03$, and that of collective teacher efficacy was $\bar{X}= 4.13$. In other words, the school principals' transformational leadership behaviors and the teachers' collective efficacy beliefs were perceived at the level of agree in the scale.

It is understood from these findings that there is a high level of collective efficacy that expresses that teachers' common beliefs that they can enable student learning. In addition, it can be stated that teachers perceive their school principals' transformational leadership behaviors positively and perceive school principals as effective transformational leaders.

Correlations between Transformational Leadership Collective Teacher Efficacy are given in Table 2.

Table 2.

Correlations between transformational leadership and collective teacher efficacy

Variables	School principals' transformational leadership	Collective teacher efficacy
School principals' transformational leadership behaviors	1.00	.47
Collective teacher efficacy		1.00

$p < .01$

The correlation between the variables were also presented in Table 2. A positive and significant relationship was revealed between school principals' transformational leadership behaviors and collective teacher efficacy ($r = .47, p < .05$). This finding shows that there is a medium level relationship between both variables (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2017). Based on this finding, it can be stated that as the school principals' transformational leadership behaviors increase, collective teacher efficacy will increase. On the other hand, it can be stated that as the school principals' transformational leadership behavior decreases, collective teacher efficacy will decrease. Or, on the contrary, it can be said that the school principals' transformational leadership behaviors will decrease as the collective teacher efficacy decreases, and the school principals' transformational leadership behaviors will increase as the collective teacher efficacy increases.

Predicting Collective Teacher Efficacy

Assumptions for regression analysis were examined. The data is normally distributed that is shown in the data analysis section. In this section, it is examined whether VIF, CI and Tolerance values provide regression assumptions. The VIF values were then checked, and found to be lower than 10. There was no tolerance value close to 0. Additionally, the CI (Condition Index) values were lower than 30. Based on these results, it was concluded that the data was suitable for regression analysis. For the significance of the data, the level of $p < .05$ was taken as reference.

The results of the linear regression analysis regarding the predictive power of school principals' transformational leadership behaviors over collective teacher efficacy are presented in Table 3.

Table 3.

The Regression analysis regarding the prediction of Collective Teacher Efficacy

Variables	B	Std. Error	β	t	p
Constant	2.78	.151		18.435	.000
School principals' transformational leadership behaviors	.334	.037	.469	9.059	.000

$R=.46. R^2=.22. F=82.06 p < .05$

As is seen in Table 3, there was a significant relationship between school principals' transformational leadership behaviors and teachers' collective efficacy beliefs ($p < .05$). Furthermore, school principals' transformational leadership behaviors significantly and positively predicted collective teacher efficacy beliefs ($\beta = .46, p < .05$). School principals'

transformational leadership behaviors explained 22% of the variance in collective teacher efficacy. These findings show that school principals' transformational leadership behaviors increase, the teachers' common beliefs that they can enable student learning increase. Also, school principals' transformational leadership behaviors can predict collective teacher efficacy.

4. RESULTS, DISCUSSIONS AND SUGGESTIONS

There are some limitations in the study. First of all, the study is limited to primary and secondary school teachers. High schools are excluded. The researcher preferred this group because it used the convenient sampling method to reach the participants easily. This should be taken into account when interpreting the findings. In addition, although the collective teacher efficacy scale was determined in two dimensions by those who adapted the scale, this study was determined as one dimensional. Therefore, the sub-dimensions were not taken into consideration and findings of collective teacher efficacy were evaluated on a single dimension.

In the present study, a positive and significant relationship was revealed between school principals' transformational leadership behaviors and collective teacher efficacy. It was also found that school principals' transformational leadership behaviors increased collective teacher efficacy. Therefore, it can be stated that as school principals' transformational leadership behaviors increase, teachers' perceived collective efficacy also increase. These findings were consistent with those reported in the literature (Demir, 2008; Kurt et al., 2011; Ninković & Knežević Florić, 2018; Ross & Gray, 2006; Sosik, Avolio, & Kahai, 1997; Walumbwa et al., 2004). In this regard, the findings of this study seem to be supported by other research studies, and transformational leadership has the potential of affecting teachers' positive beliefs about students in their schools. It is possible to interpret the findings obtained in the study in different aspects. Transformational leaders arouse the feeling of trust in their followers and exhibit supportive behaviors (Avolio et al., 1999), try to strengthen them and form a unity within the group (Jung & Sosik, 2002), help them improve their capacity (Bass, 1998) and create a strong feeling of cohesion among the staff (Jung & Sosik, 2002).

Moreover, school principals feed optimism with their energetic personality, trust-based understanding, emphasis on the feeling of 'us' and positive psychology. They adopt innovative approaches and try to meet their followers needs (Avolio et al., 1999; Bass, 1997; Jantzi & Leithwood, 1996). By means of such behavioural patterns, certain positive individual and group-related beliefs can be expected to develop in teachers. This can be explained by the social identity theory according to which individuals want their personal and social characteristics to be perceived positively in the society, and put the group objectives before their individual choices (Tajfel, 1974) Transformational leaders are said to contribute to the development of self in individuals. They put more emphasis on similarities than differences in a group. At the same time, they connect their followers'

values and perspectives to the group's priority objectives. In this way, there is an increase in the joint activities of the group (Walumbwa et al., 2004) As can be inferred from these arguments, transformational leaders create a sense of 'us' among teachers, and struggle to strengthen a school atmosphere that emphasises achieving the common goals. In other words, individual motivation and then group motivation are expected to increase with transformational leadership behaviors. By this way, there would be an increase in teachers' efforts to make plans, and execute them, with regard to the joint activities to improve student learning.

School principals' behaviors of authorising teachers in certain tasks can also promote collective efficacy. Teachers' belief that they have control over certain issues that directly concern them in school can strengthen their efficacy beliefs (Bandura, 1977b) It can be in the form of having a voice in curriculum-related activities, providing teachers flexibility in instructional practices, and involving them in the decision-making process in activities towards ensuring discipline (Ross & Gray, 2006) Besides, facilitating participation in the decisions can enhance the efficacy belief among teachers (Goddard, 2001) Rewarding teachers' achievements in an encouraging way (Marzano, Waters, & McNulty, 2005), interviews with teachers on improving student achievement and examining the examples of good schools can increase collective teacher efficacy (Goddard, 2001; Goddard et al., 2004).

In the present study, school principals' transformational leadership behaviors were found to increase collective teacher efficacy. In this sense, school principals can be suggested to put an emphasis on the common objectives of the school, encourage cooperation and take care of the teachers individually. In addition, they should create a positive school climate and a supportive school culture. Today, the test-centred understanding of education and the existence of differences between schools in terms of academic achievement may weaken teachers' belief that students can achieve learning outcomes. Transformational leadership behaviors can be the key to re-gaining this belief.

The studies on the antecedents of collective teacher efficacy should be conducted in different contexts. This is because the existing studies are quite limited in terms of explaining the concept in national literature. On the other hand, the factors that affect teachers' collective efficacy can be examined in detail by means of qualitative studies. Besides, the relationships between different leadership approaches and collective teacher efficacy can be investigated. Collective teacher efficacy can also be regarded as a mediator and its effects on different variables at the school level can be examined. On the other side, further studies can also search for collective teacher efficacy dimensions that are affected by transformational leadership with different regression models.

References

- Akan, D., Yıldırım, İ., & Yalçın, S. (2014). Okul müdürleri liderlik stilleri ölçeğinin geliştirilmesi. *Electronic Journal of Social Sciences*, 13(51), 392-415.
- Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership. *Journal of Occupational Organizational Psychology*, 72(4), 441-462.
- Bandura, A. (1977a). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.
- Bandura, A. (1977b). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117-148.
- Bandura, A. (1995). Exercise of personal and collective efficacy in changing societies. In *Self-efficacy in changing societies*. (pp. 1-45). New York, NY, US: Cambridge University Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Barnett, K., McCormick, J., & Conners, R. (2001). Transformational leadership in schools – Panacea, placebo or problem? *Journal of Educational Administration*, 39(1), 24-46. doi:doi:10.1108/09578230110366892
- Bass, B. M. (1997). Does the transactional–transformational leadership paradigm transcend organizational and national boundaries? *American Psychologist*(52), 2. doi: <http://dx.doi.org/10.1037/0003-066X.52.2.130>
- Bass, B. M. (1998). *Transformational leadership: Industry, military, and education impact*. Newjersey: Lawrence Erlbaum Associates.
- Burns, J. M. (1978). *Leadership*. NY: Harper and Row Publishers.
- Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2017). *Bilimsel araştırma yöntemleri*. Ankara: Pegem Akademi Yayınları.
- Cansoy, R., Polatcan, M., & Parlar, H. (2018). Research on Teacher Self-efficacy in Turkey: 2000-2017. *World Journal of Education*, 8(4), 133-145.
- Cybulski, T. G., Hoy, W. K., & Sweetland, S. R. (2005). The roles of collective efficacy of teachers and fiscal efficiency in student achievement. *Journal of Educational Administration*, 43(5), 439-461. doi:doi:10.1108/09578230510615224
- Demir, K. (2008). Transformational leadership and collective efficacy: The moderating roles of collaborative culture and teachers' self-efficacy. *Eurasian Journal of Educational Research*(33), 93-112.
- Erdoğan, U., & Dönmez, B. (2015). Kolektif öğretmen yeterliği ölçeğinin Türkçeye uyarlanması: geçerlik ve güvenilirlik çalışması. *Kuram ve Uygulamada Eğitim Yönetimi Dergisi*, 21(3), 345-366.
- Fancera, S. F., & Bliss, J. R. (2011). Instructional leadership influence on collective teacher efficacy to improve school achievement. *Leadership Policy in Schools*, 10(3), 349-370.
- Goddard, R. D. (2001). Collective efficacy: A neglected construct in the study of schools and student achievement. *Journal of Educational Psychology*, 93(3), 467-476.

- Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2004). Collective efficacy beliefs: Theoretical developments, empirical evidence, and future directions. *Educational researcher, 33*(3), 3-13. doi:10.3102/0013189x033003003
- Hallinger, P., Hosseingholizadeh, R., Hashemi, N., & Kouhsari, M. (2018). Do beliefs make a difference? Exploring how principal self-efficacy and instructional leadership impact teacher efficacy and commitment in Iran. *Educational Management Administration & Leadership, 46*(5), 800-819.
- Hoy, W. K., Sweetland, S. R., & Smith, P. A. (2002). Toward an organizational model of achievement in high schools: The significance of collective efficacy. *Educational Administration Quarterly, 38*(1), 77-93. doi:10.1177/0013161x02381004
- Jantzi, D., & Leithwood, K. (1996). Toward an explanation of variation in teachers' perceptions of transformational school leadership. *Educational Administration Quarterly, 32*(4), 512-538.
- Jung, D. I., & Sosik, J. J. (2002). Transformational leadership in work groups: The role of empowerment, cohesiveness, and collective-efficacy on perceived group performance. *Small Group Research, 33*(3), 313-336. doi:10.1177/10496402033003002
- Karasar, N. (2012). *Bilimsel araştırma yöntemi* (24 ed.). Ankara: Nobel Yayın Dağıtım.
- Kark, R., Shamir, B., & Chen, G. (2003). The two faces of transformational leadership: Empowerment and dependency. *Journal of applied psychology, 88*(2), 246-255.
- Kurt, T., Duyar, I., & Çalik, T. (2011). Are we legitimate yet?: A closer look at the casual relationship mechanisms among principal leadership, teacher self-efficacy and collective efficacy. *Journal of Management and Development, 31*(1), 71-86. doi:doi:10.1108/02621711211191014
- Lee, J. C.-k., Zhang, Z., & Yin, H. (2011). A multilevel analysis of the impact of a professional learning community, faculty trust in colleagues and collective efficacy on teacher commitment to students. *Teaching and Teacher Education, 27*(5), 820-830.
- Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works: From research to results*. VA: ASCD.
- Ninković, S. R., & Knežević Florić, O. Č. (2018). Transformational school leadership and teacher self-efficacy as predictors of perceived collective teacher efficacy. *Educational Management Administration & Leadership, 46*(1), 49-64. doi:10.1177/1741143216665842
- Ross, J. A., & Gray, P. (2006). Transformational leadership and teacher commitment to organizational values: The mediating effects of collective teacher efficacy. *School Effectiveness and School Improvement, 17*(2), 179-199. doi:10.1080/09243450600565795
- Sosik, J. J., Avolio, B. J., & Kahai, S. S. (1997). Effects of leadership style and anonymity on group potency and effectiveness in a group decision support system environment. *Journal of Applied Psychology, 82*(1), 89-103.
- Şencan, H. (2005). *Sosyal ve davranışsal ölçümlerde güvenilirlik ve geçerlilik*. Ankara: Seçkin yayınları.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6 ed.). New York: Allyn & Bacon.
- Tajfel, H. (1974). Social identity and intergroup behaviour. *Social Science Information, 13*(2), 65-93. doi:10.1177/053901847401300204
- Tschannen-Moran, M., & Barr, M. (2004). Fostering student learning: The relationship of collective teacher efficacy and student achievement. *Leadership Policy in Schools, 3*(3), 189-209.

- Walumbwa, F. O., Wang, P., Lawler, J. J., & Shi, K. (2004). The role of collective efficacy in the relations between transformational leadership and work outcomes. *Journal of Occupational and Organizational Psychology*, 77(4), 515-530. doi:10.1348/0963179042596441
- Yıldız, M. (2006). Benlik-kavramı ve benliğin gelişiminde dinin rolü. *Dokuz Eylül Üniversitesi İlahiyat Fakültesi Dergisi*, XXIII, 87-127.

In the writing process of the study titled “Transformational School Leadership: Predictor of Collective Teacher Efficacy”, the rules of scientific, ethical and citation were followed; it was undertaken by the authors of this study that no falsification was made on the collected data. “Sakarya University Journal of Education Journal and Editor” had no responsibility for all ethical violations to be encountered, and all responsibility belongs to the authors and that the study was not submitted for evaluation to any other academic publishing environment.