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The Role of Teacher Autonomy on Collective Teacher Efficacy

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ABSTRACT

The aim of the study is to examine the relationship between the perceptions of secondary education teachers about the autonomy levels and the collective teacher efficacy and to determine the role of the domains of teacher autonomy on collective teacher efficacy. This study designed in the relational screening model and was conducted with in-service secondary education teachers working at public schools sharing this is crucial in the province of Ankara in the 2019-2020 academic year. Data were collected using the Teacher Autonomy Scale and the Collective Teacher Efficacy Scale. The research findings showed that among the domains of teacher autonomy, professional communication autonomy had the highest average and curriculum autonomy had the lowest average. In addition, it has been determined that collective teacher efficacy was perceived at a relatively high level. As a result of the analysis conducted to determine the predictors of teacher autonomy domains on collective teacher efficacy, it was seen that the highest predictor was professional communication autonomy, followed by professional development autonomy and teaching process autonomy, respectively. It was also determined that curriculum autonomy was not a significant predictor of collective teacher efficacy.

Keywords: Autonomy, teacher autonomy, efficacy, collective teacher efficacy.

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Introduction

Schools have a multidimensional position that is responsible for the academic, social, psychological, developments of students. The ability of teachers to carry out this multidimensional structure effectively seems to be considerably related to the concepts of collective power, cooperation, integrity, and synergy that they have established among themselves. As a matter of fact, Bandura (2003, p.851) emphasizes that in social institutions, individuals can achieve many things that they cannot do alone with a collective effort, and that desired outputs can only be achieved through interdependent efforts. Therefore, complex tasks such as ensuring school improvement and increasing the quality of education entail cooperation in order to provide coordination of individual teacher strategies (Schleicher, 2015; OECD, 2009, p.101). For this reason, teachers' integration of their individual competencies towards a common goal can be considered a prerequisite for the development and success of the students at school. This situation brings up the issue of how *collective teacher efficacy (CTE)* can be developed in schools.

CTE is a concept developed by Bandura (1997) who moved the concept of self-efficacy forward and it emphasizes the group-level collective ability rather than the individual. In this sense, it represents a teacher's belief in her/his ability to act together with all the teachers in the school. Therefore, it shows how much teachers believe in group-level success rather than their belief in individual success (Berebitsky and Salloum, 2017; Klassen, 2010). According to this point of view, CTE is related to the integration of individual efforts of all teachers, the emergence of a synergistic effect, and the level of teachers' belief in this power.

Teachers' beliefs about CTE are based on the systemic integrity of the group they are in, unlike the sum of their individual competencies (Goddard and Goddard, 2001). With this aspect, the concept focuses on the synergistic effect that the teachers can create on student success as a group, not as an individual (Berebitsky and Salloum, 2017; Ramos, Silva, Pontes, Fernandez and Nina, 2014). In addition, CTE emphasizes the collective power that tries to make a difference by increasing the school success of all students regardless of their social and family status (Parker, Hannah, and Topping, 2006; Schechter and Tschannen-Moran, 2006, p.481). Therefore, the concept indicates that an effective division of labor is very important but not sufficient; therefore, it also points to the importance of cooperation and coordination at school.

As seen, CTE is a concept related to teachers' ability to act in an organized way in increasing school success in social, academic, and all other fields (Goddard, Woolfolk-Hoy, and Hoy, 2004, p.4). It is based on the belief that teacher efforts should be integrated in order to increase student success (Goddard, Hoy, and Woolfolk-Hoy, 2000). As a matter of fact, a fair number of empirical and theoretical studies emphasize that CTE plays an important role in student success and creating effective learning environments (e.g., Abayomi, 2020; Bandura, 1993; Bozkurt, Çoban, Özdemir and Özdemir, 2021; Brinson and Steiner, 2007; Donoho, 2017; Donohoo and Katz, 2017; Eells, 2011; Hoogsteen, 2020; Tschannen-Moran and Barr, 2004). Moreover, it has been discussed as an important variable in ensuring equality among students and minimizing success gaps (Goddard, Skrla, and Salloum, 2017). In the reports prepared by international organizations, the relations between CTE and student success are also considered as an important issue (Elliot and Hollingsworth, 2020; Mulford, 2003; OECD, 2009). For this reason, the high-level positive beliefs of teachers towards CTE are of great importance in terms of student success.

The conducted studies indicate that CTE plays a role in other important school variables as well as student success. For example, studies focusing on the relationship between CTE and

school effectiveness reveal that CTE plays a developing role in school effectiveness (Uğurlu, Beycioğlu, and Abdurrezzak, 2018; Yüner and Özdemir, 2020). However, there are also studies in the literature indicating positive relationships between CTE and teachers' job satisfaction, morale levels, belongingness, and commitment (Buonomo, Fiorilli, and Benevene, 2020; Celik, Gören and Kahraman, 2018; Demir, 2019b; Skaalvik and Skaalvik, 2019; Vatou and Vatou, 2019). As a matter of fact, Donohoo (2017) states that in schools where the collective efficacy is high, teachers make more effort, are more enterprising in trying new teaching methods, and are more sensitive to the needs of disadvantaged students. In this respect, Brinson and Steiner (2007) state that CTE is effective in supporting disadvantaged students, improving parent-teacher relationships, and promoting school commitment. Again, Bellibaş, Karadağ, and Gümüş (2021) have found that there is a positive and significant relationship between CTE and teacher agency. One of the studies that discussed the subject from a different aspect observed that there was a negative relationship between the perception of collective efficacy and the intention to leave the school (Demir, 2019c). These positive effects of CTE on school effectiveness, student success, and positive organizational behavior variables make the work for the development of collective teacher efficacy in schools a fundamental issue in this respect. Verily, Chen and Bliese (2002) emphasize that CTE is important in terms of school development, and therefore it is necessary to investigate which methods and strategies can be used to develop it.

In the literature, certain methods and strategies have been recommended for the development of CTE, and some roles and responsibilities have been expected from school leaders. For example, Sharratt and Planche (2016) argue that for the development of collective efficacy, different views and perspectives should be evaluated, an environment of confidence should be established, the opinions of each teacher in the school should be taken into account, "Assessment-in-Action" should be used to develop the staff, and collaborative school culture should be created. In another study, it was determined that transformational leadership characteristics that support teachers' individual abilities, use cooperation and motivation practices, and foster creative ideas have a positive effect on CTE (Demir, 2019a). In other studies, it has been concluded that cooperation between teachers, supportive leadership practices that provide professional development, in sum, positive and supportive school climate and culture improve CTE (Bozkurt, Çoban, Özdemir and Özdemir, 2021; Cansoy and Parlar, 2018; Kurt, 2012; Skaalvik and Skaalvik, 2019; Özdemir, Demirkol, Erol, and Turhan, 2018). Considering the context of the school is also effective on CTE (Goddard and Skrla; 2006), the school leaders' efforts to create a positive context have gained more importance.

It carries great importance to develop teachers' self-efficacy perceptions for the composition of CTE. Arguably, the individuals' behaviors in the group they are in are affected by their self-efficacy perceptions (Bandura, 1999; Goddard, Hoy, and Hoy, 2004). For this reason, leadership behaviors have a great importance in the development of teachers' professional and personal self-efficacy beliefs within the school. The development of teachers' self-efficacy perceptions seems to depend on their receiving professional support, being empowered and providing them with motivational resources, as well as encouraging them to use initiative. Only in this way can individuals be expected to show voluntary, participatory, and cooperative behaviors at the group level. In other words, teachers' self-efficacy perception can be considered as one of the prerequisites of CTE. Empirical study findings also indicate that self-efficacy plays a positive role in CTE (Dimopoulou, 2014; Gürçay, Yılmaz and Ekici, 2009; Yılmaz and Turanlı, 2017; Zabrina Anyagre, 2017). Additionally, in a report published by OECD (2014), it was determined that teachers who have high self-efficacy show a higher tendency to engage in professional

collaboration. For this reason, it is thought that teacher autonomy, which is closely related to the development of teachers' self-efficacy, is significant. The starting point of this research was to see whether granting teachers autonomy and allowing them to use their own competencies autonomously have a developing effect on CTE. For this reason, the role of teacher autonomy on CTE has been found worthy of investigation.

Teacher autonomy is defined as the independent acting level of teachers in making decisions about educational activities, planning, and implementing them (Öztürk, 2012). In another definition, it is expressed as teachers' perceptions about the level of controlling certain domains of their professional lives (Short, 1992). On the other hand, Huang (2007) defines teacher autonomy as the state of being independent, free, and equipped in controlling the professional processes of teachers. In this context, in general, a worker's autonomy means that s/he can make decisions in accordance with organizational goals, and that s/he has the opportunity to start-continue-empower-end an activity within the scope of his/her job (Zencirci, 2010). However, the point to be noted here is that autonomy is not an area of unlimited freedom, it is an area of freedom given on the basis of organizational goals, laws, scientific, ethical and pedagogical principles (Çolak and Altınkurt, 2017). In light of these principles, teachers can ensure the development of educational activities by using areas of autonomy.

Teacher autonomy is discussed with so many different dimensions that it cannot be explained with a single definition. For example, Short (1992) describes teacher autonomy as the freedom of control about the issues such as determining textbooks, planning instruction, and setting curricula and timing. In this regard, Üzüm and Karslı (2013) discussed teacher autonomy in three basic dimensions in their literature review and examined them under the headings of (i) planning and implementation of instruction, (ii) participation in management processes, and (iii) professional development. Within the scope of this research, the dimensions of the measurement scale developed by Çolak and Altınkurt (2017) were discussed. These dimensions are put forward as (i) Teaching Process Autonomy, (ii) Curriculum Autonomy, (iii) Professional Development Autonomy, and (iv) Professional Communication Autonomy. That said, no matter how it is sized, teacher autonomy has different aspects in-country policies.

In Turkey, certain steps have recently been taken to improve teacher autonomy, as stated in the top policy documents. However, there are still problems detected about this issue (Canbolat, 2020). The Turkish Education System determines teacher activities with a centralized approach and it is the Ministry of National Education that decides which syllabus, materials, and course contents are to be used (Yıldırım, 2003). This situation leads teachers to fulfill the generally determined standard practices. However, as it is stated in the TEDMEM (2015) report, the most important elements of teacher autonomy are closely related to determining the course content, selecting the methods and materials to be used, and participating in school decisions. Therefore, one of the reasons behind teachers' inability to take independent actions as a leader is that they are exposed to curriculum, course material and time limitations (Can, 2009). On the other hand, teacher autonomy is also affected by the leadership behaviors of school administrators (Özdemir and Turan, 2018; Uras, 2000; Yazıcı and Akyol, 2017). In this context, empowering teacher autonomy in Turkey seems to depend on both the development of autonomy policies and supportive school leadership. This is apparently the sole way schools can acquire the benefits of teacher autonomy.

In the literature, some studies exist on the benefits of teacher autonomy for the school. It is stated that teachers who have high-level autonomy can exhibit adaptive behaviors along with

their colleagues and develop knowledge, skills, and behaviors appropriate for their students and the context (Smith, 2003). Moreover, it is stated that the more a student needs flexibility, respect, and freedom, the more a teacher needs them for effective performance. In addition, it is emphasized that autonomy gives the teacher the power to take initiative in order to respond to the different needs of students (Sehrawat, 2014). For this reason, teaching as a "professional career" should have the opportunity to make and implement important decisions as part of its innate being. And teachers should be granted autonomy that can assure student-centered teaching (Güven, 2010; Kılınç, Bozkurt and İlhan, 2018; Özaslan, 2015; Webb, 2002). In this direction, one of the features that distinguish successful education systems from others is "To Recognize Teachers as Independent and Responsible Professionals" (TEDMEM, 2019).

As it is seen, teacher autonomy is of great importance in the effective management of teaching processes (Maviş-Sevi, Yazıcı, and Maviş, 2017) and it ensures gains for teachers and students in various ways. For example, Reeve, Bolt, and Cai (1999) found in their study that autonomous teachers were more effective in creating proper learning environments for students, listening to students' interests and needs, and providing them with some opportunities for independent work. Conversely, it was seen that teachers who were not granted autonomy gave their students standard directives that they had to follow. In a similar vein, Ramos (2006) emphasized in his study that teacher autonomy should be warranted firstly in order to speak of learner autonomy.

Teacher autonomy has positive effects on students as well as whose professional lives. Studies conducted in this context indicate that teacher autonomy plays a significant role in teachers' job satisfaction, professional commitment, and school commitment (Çolak, Altınkurt, and Yılmaz, 2017; Meriç and Erdem, 2020; Wang et al., 2017). Additionally, there are positive and significant relationships between the autonomy of the teaching process and emotional labor and teachers' contribution to the institution (Buyruk and Akbaş, 2021). It is also stated that there is a significantly negative relationship between teacher autonomy and burnout (Javadi, 2014). In brief, teachers, who are granted autonomy, and accordingly, whose job satisfaction, commitment, dedication, emotional labor, and contribution to the institution increase, will also contribute to the collective integrity. In other words, it is possible to say that teachers who have autonomy will be eager to integrate their efforts with other teachers' efforts and act together.

A heading can be useful at this point for the target audience Within the framework of the related problem, the aim of this research is to examine the relationships between in-service secondary school teachers' perceptions of their own, their autonomy levels and collective teacher efficacy. For this purpose, the role of teacher autonomy domains (teaching process autonomy, curriculum autonomy, professional development autonomy, and professional communication autonomy) on collective teacher efficacy was investigated. Within this framework, answers to the following questions were sought:

- 1- What is the level of teachers' perceptions towards autonomy levels and collective teacher efficacy at school?
- 2- Is there a significant relationship between teachers' autonomy levels and their perceptions towards collective teacher efficacy?
- 3- Is the level of teachers' autonomy a significant predictor of collective teacher efficacy at school?

Method

This study, which examines the relationships between teachers' perceptions of their autonomy levels and the collective teacher efficacy, was designed in the relational screening model. In this framework, the role of each autonomy domain on collective teacher efficacy was tested.

Study Group and Processes

This study was conducted with teachers serving in public secondary education institutions in the province of Ankara in the 2018-2019 academic year. While choosing the study group, convenience sampling method was used. In this study, which focused on revealing the relationships between the variables, the study group consisted of 384 teachers. Data about the study group are presented in Table 1.

Table 1. Data about the study group

Gender	Female: 251 (65.4%) Male: 133 (34.6%)
Seniority Level	1-14 years: 162 (42.2%) 15 years and up: 222 (57.8%)
Educational Status	With a BA degree: 308 (82.2%) With MA/Doctoral degrees: 76 (19.8%)
School Type	Vocational High School- Religious Vocational High School: 293 (76.3%) Anatolian High School – Science High School: 91 (23.7%)
Total	384

As it is seen in Table 1, 251 (65%) of 384 teachers in the study group were female and 133 (35%) were male. While 162 of these teachers have 1-14-year seniority levels, 222 of them have 15-year or up seniority levels. Considering the educational status of the teachers, 308 of them have a bachelor's degree and 76 of them received post-graduate education. When looking at the schools they serve, it is seen that 76% of them serve in Vocational High Schools and Religious Vocational High Schools, and 24% in Anatolian High Schools and Science High Schools.

In order to implement the scales used within the scope of the research, the necessary legal permissions were obtained from the Ankara Provincial Directorate of National Education. The data were collected face-to-face by the researchers on a voluntary basis. The teachers completed the scales in 10 minutes.

Data Collection Tools

Collective Teacher Efficacy Scale: In the study, the Collective Teacher Efficacy Scale, which was developed by Tschannen-Moran and Barr (2004) and adapted into Turkish by Erdoğan and Dönmez (2015) was used to determine the teachers' views on collective teacher efficacy at schools. The scale is a five-point Likert type. The analyses made in the adaptation stage indicated

that the scale, which consists of 12 items, has a structure with two factors (student discipline and teaching strategies). In other words, the scale was determined to be compatible with its original form. The results for the reliability analyses were calculated as .85 for the *Student Discipline* dimension, .86 for the *Instructional Strategies* dimension, and .88 for the overall scale. The analyses have indicated that the scale is a valid and reliable tool that can be used in Turkish culture (Erdoğan and Dönmez, 2015). Examples of scale items can be given as follows: "How well can teachers in your school ensure that students follow school rules?" and "How capable are the teachers in your school of making sure of deep learning of a subject (as opposed to rote learning or superficial learning)?"

The goodness of fit values obtained as a result of the confirmatory factor analysis (CFA) performed to determine the validity of the scale in this study are as follows: ($\chi 2=120.44$; df=45; $\chi 2/df=2.67$; GFI=0.95; AGFI=0.91; RMSEA=0.06; CFI=0.98; NFI=0.97). In addition, the Cronbach's Alpha coefficients obtained as a result of the reliability analysis were calculated as .78 for the Student Discipline dimension, .79 for the Instructional Strategies dimension, and .89 for the overall scale (Erdoğan and Dönmez, 2015).

Teacher Autonomy Scale: The Teacher Autonomy Scale developed by Çolak and Altınkurt (2017) was used to determine the opinions of teachers about their autonomy levels. The scale was developed in a five-point Likert type. As a result of the exploratory factor analysis, it was determined that the scale consisting of 17 items had a four-dimensional structure i.e., teaching process autonomy, curriculum autonomy, professional development autonomy, professional communication autonomy. The rate of variance explained by the four-dimensional structure was found to be 63.84%. The reliability coefficients obtained as a result of the reliability analysis were reported as .77 for the Teaching Process Autonomy, .80 for the Curriculum Autonomy, .75 for the Professional Development Autonomy, .80 for the Professional Communication Autonomy, and .87 for the overall scale (Çolak and Altınkurt, 2017). Some examples can be given about the related scale items as follows; "The school administration does not interfere with my communication with the parents." and "I can attend any scientific meeting related to my field."

Whether the scale is a valid and reliable tool for the study group in this study was found by calculating the CFA and reliability coefficients. According to CFA results, goodness of fit values are ($\chi 2$ =349.48; df=110; $\chi 2/df$ =3.17; GFI=0.90; AGFI=0.89; RMSEA=0.06; CFI=0.97; NFI=0.95). Besides, Cronbach's Alpha reliability coefficients of the scale were determined to be .83 for Teaching Process Autonomy, .82 for Curriculum Autonomy, .68 for Professional Development Autonomy, .78 for Professional Communication Autonomy, and .91 for the overall scale.

The goodness of fit values and reliability coefficients calculated with the validity and reliability analyses were evaluated for both scales. When the obtained values were analyzed in a holistic fashion according to the ideal values given in the literature (Hooper, Coughlan, and Mullen, 2008; Kline, 2011), the relevant scales proved to be valid and reliable tools that can be used in this study.

Data Analysis

Before starting the analysis, missing data and extreme value analysis were carried out. In this way, 384 data was decided to be included in the analysis. The normality assumptions of the data were tested by examining the kurtosis-skewness coefficients and scatter graphs. As a result

of this analysis, it was seen that the kurtosis-skewness coefficients were in the range of ± 1 and the graphics indicated a normal distribution. Correlation coefficients, tolerance, and Variance Inflation Factor (VIF) values were examined to test whether there was a multicollinearity problem between the dimensions of the independent variable. As a result of the analysis, the tolerance values were found to be higher than 0.1 and the VIF value was lower than 10. On the other hand, the correlation coefficients were in the range of values that would not cause the multicollinearity problem. When all these values are evaluated and compared with the ideal values underpinned in the line of literature (Çokluk, Şekercioğlu, and Büyüköztürk, 2012, p.35-36), it has been decided that there was not a multicollinearity problem between the independent variables.

Descriptive statistics such as arithmetic mean and standard deviation were used to calculate teachers' perceptions of their autonomy levels and their scores on collective teacher efficacy. Interval values were used in the interpretation of descriptive statistics. Multiple correlation levels between variables were calculated using Pearson correlation coefficients. Accordingly, interpretations have been made as follows: if the correlation coefficients are between 0.70-1.00, there is a *high-level* relationship between them; if they are between 0.70-0.30, they have a *moderate-level* relationship, and if they are between 0.30-0.00, they are considered to have a *low-level* relationship (Büyüköztürk, 2007, p.32). Hierarchical regression analysis was used to determine the predictive power of teacher autonomy on collective teacher efficacy. At each stage of the analysis, a sequence was followed from the variable with the highest correlation coefficient with the collective teacher efficacy to the variable with the lowest.

Findings

Based on the first research question of the study, descriptive statistics for teacher autonomy and collective teacher efficacy were calculated. In this context, the mean scores of the variables are presented in Table 2.

Table 2. Descriptive statistics about variables and their dimensions

Variable	Average	Standard Deviation		
Teacher Autonomy (Total)	3.80	0.50		
Teaching Process Autonomy	3.65	0.55		
Curriculum Autonomy	3.62	0.58		
Professional Development Autonomy	4.05	0.65		
Professional Communication Autonomy	4.16	0.72		
Variable	Average	Standard Deviation		
Collective Teacher Efficacy (Total)	3.93	0.67		
Student Discipline	3.93	0.70		
Instructional Strategies	3.94	0.71		

N: 384

As in Table 2, it is seen that the average scores of teacher autonomy in general and those for its dimensions vary between 3.62 and 4.16 out of 5.00. When the dimensions are examined one by one, it is understood that the curriculum autonomy dimension (\bar{X} =3.62) had the lowest average, and the professional communication autonomy dimension (\bar{X} =4.16) had the highest average. The general average score of collective teacher efficacy was also determined to be 3.93 out of 5.00.

For the second research question of the study, the relations between the variables were tested with multiple correlations. The findings obtained in this context are presented in Table 3.

Table 3. Correlation coefficients for the relations between variables

Variable		2	3	4	5	6	7	8
1. Teacher Autonomy (Total)	-							
2. Teaching Process Autonomy	.78*	-						
3. Curriculum Autonomy	.76*	.81*	-					
4. Professional Development Autonomy	.78*	.51*	.48*	-				
5. Professional Communication Autonomy	.69*	.38*	.36*	.72*	-			
6. Collective Teacher Efficacy (Total)	.67*	.45*	.44*	.69*	.70*	-		
7. Student Discipline	.60*	.41*	.40*	.62*	.63*	.95*	-	
8. Instructional Strategies	.67*	.45*	.43*	.69*	.71*	.95*	.81*	-
							*	

N=384, *p < .001

When the correlation coefficients between the variables in Table 3 are examined, it is seen that there are positively significant relationships between collective teacher efficacy and teacher autonomy. In this context, a moderately significant and positive relationship has been determined between teacher autonomy and collective teacher efficacy [$(r_{\text{TA x CTE}} = .67; p < .001)$]. Considering the dimensions of teacher autonomy, the highest relationship with collective teacher efficacy was in professional communication autonomy and there was a positively significant and high-level relationship between these two variables [$(r_{\text{PCA x CTE}} = .70; p < .001)$]. It has also been determined that this was followed by the autonomy of professional development [$(r_{\text{PDA x CTE}} = .69; p < .001)$], the autonomy of the teaching process [$(r_{\text{TPA x CTE}} = .45; p < .001)$] and the autonomy of the curriculum [$(r_{\text{CA x CTE}} = .44; p < .001)$], respectively, at the positive and moderate levels.

For the last research problem of the study, hierarchical regression analysis was used to determine whether the dimensions of teacher autonomy predict collective teacher efficacy, alongside confirming the predictive power of each dimension of teacher autonomy on collective teacher efficacy. The findings regarding the hierarchical regression analysis are presented in Table 4.

Table 4. Hierarchical regression analysis results about the prediction of collective teacher efficacy

	Collective Teacher Efficacy							
Predictor Variables	Model 1		Model 2		Model 3		Model 4	
	β	t	β	t	β	t	β	t
Model 1								
Professional Communication Autonomy	,709	19,652	,435	8,903	,431	8,941	,431	8,950
Model 2								
Professional Development Autonomy			,378	7,735	,315	6,065	,307	5,914
Model 3 Teaching Process Autonomy					,127	3,266	,050	,840
Model 4							000	
Curriculum Autonomy							,099	1,715
\mathbb{R}^2	.5	503	.570		.582		.585	
R ² Difference	.5	503	.067		.012		.003	
F	386	.191*	252.746*		176.328*		133,658	

N=384, *p < .001

Model 1 in Table 4 shows that teachers' professional communication autonomy explains 50% of the total variance in their collective efficacy. According to Model 2, professional development autonomy significantly predicts collective teacher efficacy, and it alone explains 7% of the variance $(\Delta R^2 = .067, p < 0.001)$. Model 3 indicates that teaching process autonomy explains 1.2% of the change in collective teacher efficacy $(\Delta R^2 = .012, p < 0.001)$. On the other hand, Model 4, indicates that curriculum autonomy is not a significant predictor of collective teacher efficacy. When considered generally, it is seen that professional communication autonomy has the highest predictivity, followed by professional development autonomy and teaching process autonomy. The findings indicate that all domains related to teacher autonomy explain 59% of the variance in collective teacher efficacy.

Discussion

This study determined the relationships between teacher autonomy and collective teacher efficacy and the role of *teaching process autonomy*, *curriculum autonomy*, *professional development autonomy* and *professional communication autonomy* dimensions, as to collective teacher efficacy has been identified one by one. For this purpose, the current situation of the related variables and dimensions was firstly revealed with the average scores. According to the findings

of the first research question, the general average scores of teachers' collective teacher efficacy perceptions were also found relatively high. In different studies, teachers' collective efficacy perceptions are found at similar levels (e.g., Demir, 2019a; Demir, 2019b; 2019c; Cansoy and Parlar, 2018; Celik, Gören and Kahraman, 2018; Özdemir, Demirkol, Erol and Turhan, 2018; Yüner and Özdemir, 2020). On the other hand, Yılmaz and Turanlı (2017) pinpointed that the perceptions of collective teacher efficacy in secondary education institutions are moderate. As a matter of fact, in these studies, the average scores of collective teacher efficacy perceptions vary between 3.60 and 4.00 out of 5.00 where specific problems may be experienced. Here some may arise from the leadership behaviors of school administrators, and some from the unique climate and the ethos of the school. Hence, the conducted studies supported that positive leader behaviors and effective leadership styles have a positive effect on CTE (Bozkurt, Çoban, Özdemir and Özdemir, 2021; Cansoy and Parlar, 2018). Similarly, Goddard and Skrla (2006) stated that the contextual and demographic factors of the school play a role in the collective efficacy at schools, that the socio-economic status of the school, the academic success of the students and the disciplinary problems also affect the collective teacher efficacy. Hence, there appears a strong relationship between the development of CTE and the school leaders' displaying empowering and supportive behaviors that can make their teachers effective on students.

According to the results of the present study, although the average scores of the domains of teacher autonomy differ from each other, it has been determined that the general teacher autonomy score is above the medium level (3.80). Studies with similar findings with the current study determined that the views on general teacher autonomy were moderate or slightly above the average level (Çolak, Altınkurt and Yılmaz 2017; Çolak and Altınkurt, 2017; Meriç and Erdem, 2020; Yazıcı and Akyol; Uras, 200). On the other hand, there are also studies indicating that the average of the autonomy perceptions of primary school teachers is high (Buyruk and Akbaş, 2021; Üzüm and Karslı, 2013). This situation may occur due to the fact that primary school teachers have the right to comment on students than secondary school teachers have. The reason why the autonomy perception decreases in secondary education institutions may be the teachers' limited right to speak over the students and the students' starting to individualize because of their developmental period. As a matter of fact, Çolak and Altınkurt (2017) also determined that secondary education teachers' autonomy perceptions were at a lower level compared to pre-school and primary education teachers.

Another reason that decreases the autonomy perceptions of secondary school teachers may be the pressures created by the transition system to the next level institutions. As a matter of fact, a study by Çetin and Ünsal (2018) supports this argument. In this study, the researchers found that central exams which are national and of highstakes nature are gatekeepers thusly they put pressure on teachers, causing them to follow an exam-oriented teaching and became rather monotonous at the end of the day. According to the study conducted by Üzüm and Karslı (2013), teachers think that the professional responsibilities expected from them, and the authority given are not equivalent to each other. This situation keeps teachers off taking initiative and performing autonomous behaviors. However, the cultural, social, political, and economic changes of the current period entail teachers performing various activities in their new territories (Eurydice, 2018). In such a case, the autonomous movement areas of teachers, who are stuck between the limiting effects of central education systems and the expectations of the new world order from teachers, may be negatively affected.

Another finding of this study is that the averages of teacher autonomy domains differ from each other. And the average scores in perceptions of teacher autonomy domains have been

observed to rank from the highest to the lowest as professional communication autonomy, professional development autonomy, teaching process autonomy, and curriculum autonomy. These rankings have differed in other studies. For example, Buyruk and Akbaş (2021) found this ranking from high level to low level as teaching process autonomy, curriculum autonomy, professional communication autonomy, and professional development autonomy. One of the underlying reasons for the difference in rankings is thought to be the difference in the school levels of the teachers in the sample group. This study was conducted with secondary school teachers, and the samples of the other studies reviewed were composed of teachers from all levels at different rates. The common point in other studies is that teaching process autonomy is perceived at the highest level in all studies, and professional development autonomy is perceived at the lowest level. Therefore, these differences in the studies can be explained by the fact that teaching in primary education is at the level of creative activities and that teachers are more independent in terms of the teaching process. As a matter of fact, Colak and Altınkurt (2017) found that primary education teachers' perceptions of teaching process autonomy are higher compared to those of high school teachers. Again, due to the differences between grade levels, professional development autonomy may be perceived at a lower level in primary education teachers than in secondary education teachers. The reason for this can be considered as the fact that primary education teachers spend more time with and for their students as well as the parents and cannot spare time for their professional development. Uslu (2020), in his study, found that primary education teachers maintained their communication with students and their parents outside of school and even had difficulty in establishing a work-life balance. This situation may have posed an obstacle to their professional development autonomy. In secondary education institutions, the fact that teachers are responsible for more individualized and responsible students may have allowed them to allocate time for communication between other teachers and professional development.

One of the important findings of this study is that the lowest autonomy domain for secondary school teachers is curriculum autonomy. This may be due to the centralized structure of the Turkish National Education System and the fact that the curriculum is determined by the center. More clearly, as stated in the Regulation on Secondary Education Institutions of the Ministry of National Education (MoNE), "the curriculum of secondary education institutions is implemented with course schedules approved by the Ministry. According to the types of secondary education institutions, the courses which will be concentrated are detailed in the weekly course schedule and program explanations" (Article 10). In this context, teachers cannot go beyond the center's decisions on issues such as determining learning objectives and textbooks or deciding on the situations in which students will be considered successful or unsuccessful. In other words, teachers follow the detailed plans and programs by the Ministry of National Education and are inspected based on this (Canbolat, 2020). On the other hand, it is stated that even in the centrally managed schools of European countries, teachers actively participate in determining school textbooks and preparing school curricula. It is emphasized that this has a positive effect on teachers' creativity and innovation skills and increases their motivation (Eurydice, 2018). Yahya and Altınkurt (2017), based on the international reports they examined, underlined that in all countries except Turkey and Greece, the textbooks are determined by the teachers and that teachers are not granted autonomy in determining the assessment criteria of the students in Turkey. Moreover, while teachers in Turkey and a few other countries are not granted autonomy in determining the content of the compulsory education program, there are countries that grant autonomy partially or fully to their teachers in this regard. Therefore, the central structure in Turkey can create autonomy problems for teachers in making appropriate decisions for their students at a local level. However, Ingersol (1997, p.24) argues that the people who can make the right decisions about students will

be teachers who know their students best and are personally responsible for their development, and because of this reason, the standard decisions made by the central administration may not work. This unearths the importance of teachers' autonomy respecting the mentioned areas.

The findings examining the relationships between teacher autonomy and collective teacher efficacy revealed that there was a positive and significant relationship between the variables. A hierarchical regression analysis was conducted to examine these relationships further in terms of individual autonomy domains. According to the results of the analysis, it was determined that the highest predictor was professional communication autonomy. In other words, it is observed that the autonomy domain that plays a role at the highest level in the development of the collective teacher perception is communication autonomy. This result supports the fact that communication is a must for collective teacher efficacy. Because collective teacher efficacy fundamentally includes the concepts of cooperation and group-level success (Bandura, 1997; Berebitsky and Salloum, 2017; Goddard and Goddard, 2001; Klassen, 2010). The integration of the efforts of all teachers and the emergence of a synergetic effect is only possible with an environment full of effective, comfortable, sincere, and free communication. In other words, the emergence of collective power seems to depend on the free communication of teachers among themselves and with parents. In this respect, it is quite normal that professional communication autonomy is the autonomy that predicts collective teacher efficacy at the highest level. Besides, Brinson and Steiner (2007), in their study, support this result and emphasize the need to create cooperation and improve relations between teachers and parents in the development of CTE. On the other hand, Ramos (2006) expresses the key words of the teaching profession as growing together, doing projects and new works together, and building collectively. He states that for this aim, cooperation and participation should be developed, and emphasizes the importance of communication, listening, and respect for different opinions. It seems that communication autonomy plays a major role in providing collective efficacy.

The hierarchical regression results indicated that the autonomy domain that plays the second biggest role in the collective teacher perception is the professional development autonomy. Therefore, the freedom of teachers to determine their professional development opportunities and their self-development positively reflects on the school's collective efficacy level. In this respect, Sehrawat (2014) states that professional autonomy is guided by the personal and professional development needs of teachers, and the need for this development of all teachers creates a social interaction area. Thereupon, teachers with professional development autonomy develop their sense of self-efficacy by benefiting from each other, the environment, and other education/development opportunities. On the other hand, the collective efficacy level increases in schools where there are teachers who develop their professional and personal self-efficacy. Studies in the literature also indicate that the perception of self-efficacy is an important antecedent that empowers collective efficacy and that self-efficacy plays an important role in collective teacher efficacy (Bandura, 1999; Dimopoulou, 2014; Goddard, Hoy, and Hoy, 2004; Gürçay, Yılmaz, and Ekici, 2009; Yılmaz and Turanlı, 2017; Zabrina Anyagre, 2017). Therefore, achieving collective competence gets easier in a system where there is professional development autonomy. In this regard, Brinson and Steiner (2007) state that teachers should be empowered in order to develop CTE and emphasize the importance of providing teachers development opportunities that enable their professional development and including them in decision-making mechanisms that will empower them.

The autonomy domain that was revealed to have played the least role on the collective teacher perception is the teaching process autonomy. In a way, teachers see the teaching process

autonomy as a means of providing collective efficacy. The fact that this autonomy domain is less predictive than the others may be due to the natural structure of the teaching profession. In other words, teachers may think that they should already be free in the teaching process and be autonomous in their activities in the classroom. In addition, Yahya and Altınkurt (2017) stated that teachers are partially or completely autonomous in selecting teaching methods and techniques in many countries of the world. In fact, different studies found that teachers mostly feel autonomous in terms of teaching process autonomy and classroom management (Buyruk and Akbaş; 2021; Çolak and Altınkurt, 2017; Çolak, Altınkurt and Yılmaz, 2017; LaCoe, 2006; Yazıcı and Akyol, 2017). For this reason, teaching process autonomy is actually perceived as a hygiene factor, so it may not provide as much motivation on collective teacher efficacy as other domains of autonomy. Therefore, this situation can explain why the teaching process autonomy is the variable predicting the collective teacher efficacy at the lowest level.

The autonomy domain that did not have a statistically significant predictor on collective teacher efficacy was *curriculum autonomy*. This situation can be seen as an indication that teachers accepted the structure of the Turkish National Education System. Because, as stated by Yıldırım (2003), in the Turkish National Education System, the Ministry determines the curriculum, approves the textbooks and educational materials. For this reason, teachers are seen as single implementers of the determined programs and decisions and every teacher who enters the system internalizes that creating the curriculum is the Ministry's duty. Therefore, teachers tend to comply with the standards determined by the Ministry, but they are more reluctant to organize or participate in independent school activities (Can, 2009). Besides, in studies investigating how the concept of teacher autonomy is considered among teachers, using teaching methods and techniques appropriate for individual differences is stated as an autonomy behavior, but subjects such as curriculum creation and content preparation are not mentioned at all (Kılınç, Bozkurt, İlhan, 2018; Özaslan, 2015). This situation may be a proof of the fact that the curriculum preparation by the central government is acknowledged. Therefore, it may lead to the conclusion that it does not play a role in collective teacher efficacy.

Implications and Recommendations

Teacher autonomy is one of the sources of motivation that increases teachers' tendency to act collectively. The freedom of teachers in planning and making decisions about their professional activities, implementing those decisions, and sharing them with other teachers makes them more competent and contributes to the collective integrity at school. The autonomy of inservice secondary education teachers to share their decisions with their colleagues and to communicate with them provides the highest contribution to the collective competence in the school. In addition, professional development autonomy develops the perception of self-efficacy, which is one of the prerequisites of collective teacher efficacy. Teachers who have professional development autonomy improve themselves in every sense. By this means, teachers who feel competent and equipped become willing to contribute to the collective integrity of the school. Similarly, teachers who have teaching process autonomy can achieve student success and contribute to the collective teacher efficacy in the school, as they feel more comfortable in determining the appropriate method and technique for their students. As it is seen, teacher autonomy is a key concept in conducting activities in accordance with the individual differences of the students, the context of the school and the classroom, and the content of the subject taught, as well as in a teacher's discovering the new opportunities to improve herself/himself in the domains s/he needs. As a result of all these, it provides a synergetic competence environment within the school. Accordingly, this study concluded that teacher autonomy is an important source of motivation that plays a role in collective teacher efficacy.

In light of the study results, some suggestions can be made to both practitioners and researchers. It was found in the study that the autonomy domain that plays the biggest role in collective teacher efficacy is professional communication autonomy. In this context, school leaders should make effective communication networks where professional sharing is made, create alternative sharing domains, and activate both face-to-face platforms and technological systems to develop communication. Likewise, leaders should consider the demands of teachers for professional development and education, and support teachers who demand to take part in graduate studies and to be engaged in other developmental spheres. In addition to this, they should conduct supervision processes at the school in a way that raises awareness about professional development opportunities. In this way, leaders should try to contribute to the development of teachers' perceptions about professional self-efficacy and therefore the collective efficacy in their schools. Depending upon the autonomy of the teaching process, they should support teachers' current methods, techniques, and activity plans, and enable those to be shared with other teachers.

This study was conducted with secondary education teachers. It is recommended that the same study should be carried out at other levels and that the role of autonomy domains on collective teacher efficacy should be examined at these levels as well. In addition to this, qualitative studies can also be conducted to reveal what the expectations of teachers are from each autonomy domain. Additionally, conducting qualitative studies about the determination of autonomy domains that will contribute to collective teacher efficacy will also contribute to the field.

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