

Sense of Professional Self-efficacy Beliefs and Learner Autonomy Support Behaviour of Middle School Teachers

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ABSTRACT This study investigated whether middle school teachers' professional self-efficacy beliefs predicted their learner autonomy support behaviors. The study was conducted with the participation of 306 subject matter teachers employed in middle schools in Alanya District of Antalya Province. Data were collected via "Learner Autonomy Support Scale" and "Teachers' Sense of Efficacy Scale". Results show that teachers' self-efficacy beliefs predict learner autonomy support behaviors.

INTRODUCTION

According to self-determination theory, basic psychological needs of human beings are classified into three main groups: autonomy or self-determination, competence and relatedness. Needs related to these three groups should be satisfied in order for individuals to be mentally healthy, happy and to understand themselves (Deci et al. 1991). In the school context, competence means the ability to comprehend what is taught, relatedness means belonging to the group and forming positive relationships with teachers and other students and autonomy means having an opinion and being free in making decisions about learning activities and rearranging them (Stefenau et al. 2004). Meeting the needs related to student autonomy is more special since autonomy has a crucial role in structuring positive motivational characteristics (Benware and Deci 1984; Assor et al. 2002). Therefore, learner autonomy support provided by teachers is important to meet students' autonomy needs. There are various factors that affect the provision of autonomy support to students in classrooms and teacher beliefs is one of them (Reeve et al. 2014). Studies undertaken in the field have shown that teachers' self-efficacy beliefs affect their autonomy support in addition to various other educational behaviors presented by teachers (Leroy et al. 2007; Roth et al. 2007; Guvenc 2011). This study aimed to confirm the effects of teachers' self-efficacy beliefs on their learner autonomy support behaviors. Self-efficacy and autonomy support were separately investigated in line with this purpose and later the relationship between these two concepts was presented.

Teachers' Self-Efficacy Beliefs

Self-efficacy is the belief in the skills and abilities of the self to successfully undertake and achieve a specific task (Bandura 1994). Self-efficacy, regarded as a personal characteristic, affects job performance as well. Individuals with high self-efficacy beliefs are more motivated, more ardent, more patient, more perseverance and more committed at work (Bandura 1997). Teacher self-efficacy is an important concept in the context of teaching. Teacher self-efficacy can be defined as teacher beliefs in their own skills and abilities to realize the learning results targeted for their students (Tschannen-Moran and Woolfolk Hoy 2001). Teacher self-efficacy is the most powerful predictor that directly or indirectly affects the teacher in-class decisions and behaviors (Pajares 1992 cited in Aydin et al. 2013). Teachers with high self-efficacy levels behave more ardently and tenaciously in their classrooms (Bandura 1997). Their engagement and job satisfaction levels (Skaalvik and Skalvik 2014) are high while their emotional exhaustion (Skaalvik and Skalvik 2014) levels are low. Their classroom management, teacher-student relationships and cognitive activations are positive (Holzberger et al. 2014). They use new instructional materials and student-centered teaching methods (Gorozidis and Papaioannou 2011; Koc 2013). Obviously, high levels of teacher self-efficacy positively affect in-class teaching behaviors' of teachers (Holzberger et al. 2013, 2014). Research results also show positive relationships between teacher self-efficacy and teacher acquisitions.

Teachers' Autonomy Support

Teachers' motivations styles affect students' autonomous motivations. Teachers have either controlling or supporting characteristics to motivate students and encourage their engagement in tasks. In contexts, that support autonomy is helpful to meet autonomy needs. Supporting autonomy in a classroom environment is ensured by accepting different viewpoints of students, providing choices in academic activities, making logical explanations about the requirements, paying attention to students' feelings by minimizing pressure and demands and providing feedback regarding competences (Niemic and Ryan 2009; Deci et al. 1994 cited Reeve et al. 2014). Controlling teachers expect students to follow teacher centered teaching activities. They define what students need to do, provide external rewards and use a dominant language to ensure adaptation to the existing curriculum. Controlling teachers generally evaluate weak performance, react negatively to displays of negative emotions by students and are impatient to wait for the accurate answer or desired behaviors (Reeve 2006, 2009).

Moreover, studies show positive effects of teachers' autonomy supporting behaviors on learning outputs such as teacher-student relationships and classroom management (Holzberger et al. 2014), motivation (Jungert and Koestner 2013), performance (Diseth and Samdal 2014; Jungert and Koestner 2013), strategy use (Vanteenkiste et al. 2012), attitude (Ucgun 2013), self-competence (Jungert and Koestner 2013; Mih ve Mih 2013), time management, concentration, attendance (Vanteenkiste et al. 2012), life satisfaction (Diseth and Samdal 2014), academic identity (Mih and Mih 2013), well-being and engagement (Chean et al. 2012 cited Reeve et al. 2014). Low levels of autonomy support result in negative outputs such as anxiety, low achievement and lower concentration (Vanteenkiste et al. 2010; Vanteenkiste et al. 2012), refusal of academic help-seeking and self-handicapping (Shih 2012). Controlling motivation inhibits student autonomy and increases negative emotions such as anger and anxiety (Reeve and Thang 2011 cited in Reeve et al. 2014).

Self-Efficacy and Autonomy Support

Teacher self-efficacy and autonomy and teacher self-efficacy and learner autonomy sup-

port provided by teachers are closely related. Studies indicate that teachers who perceive themselves as autonomous have positive self-efficacy (Skalvik and Skalvik 2014; Lu et al. 2014). Perceived high autonomy support affects student self-efficacy levels positively. Similarly, students' self-efficacy increases by taking the responsibility of the learning process with the help of opportunities provided for them in terms of choice and decisions making (Jungert and Koestner 2013; Mih and Mih 2013). Roth et al. (2007) indicated that teachers' personal competences and self-efficacy, positively affect autonomy motivation for students. Teachers' self-efficacy beliefs affect the learning autonomy support they provide. This is because teachers with low self-efficacy are more authoritarian, set stricter rules and give external rewards and punishments whereas teachers with high self-efficacy behave in a manner that supports learner autonomy (Bandura 1997; Tschannen-Moran 1998; Leroy et al. 2007). In their study on the identification of the factors that affect autonomy supporting environment in the classroom by teachers, Leroy et al. (2007) identified that teacher self-efficacy positively affects autonomy support and student achievement. Teacher self-efficacy was also found to have a mediating role on the effect of perceived pressure on autonomy support. Teachers who associate learning and achievement with effort and studying rather than with environmental factors think that success can be achieved through efforts that is, that they can be competent and useful for students and students can achieve success through personal work and efforts. This implies that autonomy and efficacy perceptions should be supported. On the other hand, teachers with low self-efficacy levels who attribute extreme importance to negative environmental factors and who think they cannot be successful even if they do not put any efforts to support student autonomy and self-efficacy since they think those students cannot achieve success by defeating negative conditions however hard they try. As seen, self-efficacy, autonomy and autonomy support are motivational tools that are mutually affected by one another.

There are extensive studies in the Turkish sample, that aim to identify teachers' autonomy support (Sunbul et al. 2003; Ustunoglu 2009; Acat et al. 2010; Oguz 2013a), however the studies that investigate the sources that affect teachers' autonomy support are limited (Guvenc 2011). In

this context, it is expected that investigation on the effects of middle school subject matter teachers' professional self-efficacy beliefs on their autonomy support behaviors will contribute to the literature and in-service as well as pre-service program planning.

Answers to questions below were sought with this aim in mind:

1. Do middle school subject matter teachers' professional self-efficacy beliefs predict their learner autonomy support behaviors?

MATERIAL AND METHODS

Universe and Sample

The universe of this study was composed of 944 (state: 844, private: 100) subject matter teachers employed in 71 (state: 67, private: 4) middle schools in Alanya District of Antalya Province in 2013-2014 academic year. A sample of the study consisted of teachers employed in 37 states and 3 private middle schools randomly selected from among all middle schools in Alanya. After necessary permits were obtained, the researcher visited the teachers in their schools, handed the scales to the teachers available that day and collected the completed scales in the following days by visiting the schools again. 400 teachers were given scales, but only 330 returned their own. Incomplete scales were not taken into consideration during data analysis and 306 scales were analyzed. This number was found sufficient for 95% confidence interval. 163 of the participants were females (53.2%) and 143 were males (46.7%). 248 of the participants were employed in state schools, whereas 58 worked in private schools. 73 of the teachers (23.9%) had 1-5 years seniority, 103 (33.7%) had 6-10 years seniority, 43 (14.1%) had 11-15 years seniority, 49 (16%) had 16-20 years seniority and 38 (12.4%) had 21 years or more seniority.

Data Collection Tools

Data was collected with "Learner Autonomy Support Behaviour Scale" and "Teachers' Sense of Efficacy Scale" applied to middle school subject teachers. Data collection means were implemented by voluntary teachers after necessary permissions were obtained.

Learner Autonomy Support Scale

Data regarding teachers' learner autonomy support behaviors were collected with the help of "Learner Autonomy Support Scale" developed by Oguz (2013b). The scale has two sections that allow the expression of teacher views on the necessity of teachers view learner autonomy support behaviors (necessity) and how much they perform these behaviors (perforation). After teachers state their ideas on how necessary they find the behaviors presented in these sections, they also stated how much they present these behaviors. The scale is a 5-point Likert type scale composed of five options: (5) Always, (4) Mostly, (3) Sometimes, (2) Seldom, (1) Never. The scale has 16 items and three factors titled "Support for Feelings and Thoughts", "Support for Learning Process" and "Support for Assessment". Sample items for the scale are as follows: "Allowing opportunities for students to express their learning problems" (Support for Feelings and Thoughts), "Supporting students to work independently in the classroom (exercises, repetitions, reading, summarizing etc.)" (Support for Learning Process) and "providing opportunities for students for self-evaluation" (Support for Assessment). Only the "perforation" dimension of the scale was used in this study. Cronbach Alpha for perforation in the general scale is $\alpha=0.92$. In the perforation dimension, $\alpha=0.88$ for Support for Feelings and Thoughts, $\alpha=0.80$ for Support for Learning Process and $\alpha=0.86$ for Support for Assessment. AGFI= .86, GFI= .90, CFI= .97, RMSEA=.077 and SRMR= .052 values were obtained as a result of fit obtained via confirmatory factor analysis. The scale is a reliable and valid scale that was implemented on primary and middle school teachers (Oguz 2013a, b).

Teachers' Sense of Efficacy Scale

"Teachers' Sense of Efficacy Scale" developed by Tschannen-Moran and Woolfolk Hoy (2001) and adapted to Turkish by Capa et al. (2005) was used to collect data on self-efficacy of teachers. Reliability and validity of the scale were completed by Capa et al. (2005) as well. Teacher Self Efficacy Scale is a 9-point Likert type scale with 24 items and three sub scales. The scale assessed self-efficacy along a 9-point continuum with anchors at 1 - Nothing, 3 - Very Little, 5 - Some Influence, 7 - Quite A Bit, and 9 - A Great Deal.

Some examples for the items in the sub dimensions are as follows: “How much can you do to motivate students who show low interest in school work? (Student Engagement), “How much can you gauge student comprehension of what you have taught?” (Instructional Practices), “How much can you do to control disruptive behavior in the classroom?” The reliability coefficient for the full scale adapted to Turkish is .93. Internal consistency reliability coefficients for sub scales are as follows: self-efficacy for student engagement .92, self-efficacy for instructional strategies.86, self-efficacy for classroom management .84.

Data Analysis

Data were analyzed with Pearson correlations and regression analyses.

FINDINGS

Mean scores of the two scales including standard deviations, inter-scale correlations, and intra-scale internal consistency are presented in Table 1.

Table 1 presents, the lowest arithmetic mean for teachers’ professional self-efficacy perception was found in engagement ($M=6.98$) whereas the highest arithmetic mean was found in teaching dimension ($M=7.51$). Means for teachers’ autonomy support behaviors shows the lowest mean for assessment support ($M=3.71$) and the highest means for emotion and thinking support ($M= 4.21$). Based on these results, teachers have high levels of self-efficacy and autonomy support. Similarly, the results of correlation anal-

ysis show a moderately significant relationship between teachers’ professional self-efficacy beliefs and their autonomy support behaviors.

A regression analysis was undertaken to determine the power of teachers’ sense of professional self-efficacy in predicting learner autonomy support behaviours and the findings presented in Table 2.

Table 2 indicates that teachers’ sense of professional self-efficacy predicts learner autonomy support behaviours and thinking support [$F(3, 305) = 49.75, p<.01$], learning process support [$F(3, 305) = 39.11, p<.01$], assessment support [$F(3,305) = 26.15, p<.01$] and general autonomy support [$F(3,305) =53,21, p<.01$]. Together with independent variables, teachers’ sense of professional self-efficacy explains 33% of the variance related to emotion and thinking autonomy support behaviours, 27% of the variance related to learning process support, 21% of the variance related to sense of class assesment support and 34% of the variance related to the total teachers’ autonomy support. Examination of t-test results related to the significance of regression coefficients shows that teachers’ sense of student engagement self-efficacy is an important predictor of emotion and thinking support [$(\beta=.48, p<.01), t(3, 305) = 5.50, p<.01$], learning process support [$(\beta=.50, p<.01), t(3, 305) = 5.58, p<.01$], assessment support [$(\beta=.50, p<.01), t(3, 305) = 5.40, p<.01$] and general autonomy support display behaviors [$(\beta=.57, p<.01), t(3, 305) = 6.69, p<.01$]. Teachers’ sense of self efficacy to use instructional strategies is an important predictor of learner autonomy support behaviors such as emotional and thinking autonomy support [$(\beta=.19, p<.05), t(3, 305) = 2.23, p<.05$] but doesn’t predict learner autonomy sup-

Table 1: Mean, sum scores, standard deviations, correlations, and internal consistencies of the two scales (n=306)

Variable	1	2	3	4	5	6
<i>Teacher Self -efficacy</i>						
1. Student engagement	1					
2. Instructional strategies	.79*	1				
3. Classroom management	.80*	.80*	1			
<i>Autonomy Support</i>						
4. Emotion and thinking	.57*	.51*	.45*	1		
5. Learning process	.53*	.42*	.44*	.67*	1	
6. Assessment	.45*	.36*	.33*	.57*	.65*	1
M	6.98	7.51	7.38	4.21	3.92	3.71
SD	1.03	.99	1.08	.50	.63	.71

Note: Cronbach’s α s on diagonal in italics. * $p < .01$.

Table 2: Results of multi linear regression analysis for predicting teachers' behaviour of learner autonomy support

<i>Dimensions</i>	<i>Variables</i>	<i>B</i>	<i>SS</i>	<i>β</i>	<i>t</i>	<i>P</i>
<i>Support for Emotion and Thinking</i>	Fixed	2.12	.18		11.45	.00*
	Student engagement	.23	.04	.48	5.50	.00*
	Instructional strategy	.10	.04	.19	2.23	.02*
	Class management	-.03	.04	-.08	-.88	.38
	R= .58		R ² =.33			
<i>Learning Process Support</i>	Fixed	1.62	.24		6.70	.00*
	Student engagement	.31	.06	.50	5.58	.00*
	Instructional strategy	-.01	.06	-.01	-.12	.91
	Class management	1 .03	.05	.04	.48	.63
	R= .53		R ² =.27			
<i>Assessment Support</i>	Fixed	1.55	.29		5.39	.00*
	Student engagement	.36	.07	.50	5.40	.00*
	Instructional strategy	.04	.07	.05	.53	.59
	Class management	-.08	.06	-.12	1.24	.22
	R= .46		R ² =.21			
<i>General</i>	Fixed	1.76	.20		9.02	.00*
	Student engagement	.29	.05	.57	6.69	.00*
	Instructional strategy	.04	.05	.08	.92	.36
	Class management	-.03	.04	-.06	-.68	.50
	R= .59		R ² =.34			

port behaviors such as support for learning process and support for assessment. Moreover, teachers' sense of self efficacy for class management has no significant contribution to the model.

DISCUSSION

Findings obtained in this study demonstrate that teachers' student engagement self-efficacy beliefs are important predictors to explain teachers' autonomy support behaviors. Teachers who feel competent in terms of student engagement support autonomy more and this in turn results in more student engagement in instructional activities. Guvenc (2011) identified that teachers' professional self-efficacy perceptions were higher in student engagement and autonomy support compared to instructional strategies and classroom management dimensions and so stated that autonomy support is a mediating variable between self-efficacy perceptions and student engagement. Teachers' self-efficacy beliefs in using instructional strategies were found to be very important in explaining support behaviors for emotion and thinking, but unimportant in explaining learning process support and assessment support behaviors. Actually, positive impact was expected in terms of learning process support as well. This finding may have re-

sulted from the kind of pressures teachers experience when preparing students for high school entrance exams given at the end of middle school and from the perceptions both in Eastern and Western cultures that teachers who use more controlling behaviors are more effective (Reeve 2009). Teachers provide support behaviors for emotion and thinking, but also think that they need to be more controlling during the learning process. Teachers' self-efficacy beliefs regarding classroom management was not found to predict their autonomy support behaviors. Previous studies show that teachers' self-efficacy and autonomy positively affected classroom management separately and when both are combined (Holzberger et al. 2014). Studies have shown that teachers' autonomy support behaviors (Reeve et al. 2004) and self-efficacy (Holzberger et al. 2014; Skalvik and Skalvik 2014) were positively related to student engagement. However, Holzberger et al. (2014) identified that teacher-student relationships are at higher levels and classroom management is more positive when teachers have high self-efficacy levels and are autonomous and teacher-student relationships are at lower levels, but classroom management is more negative when teachers have high self-efficacy levels but low levels of autonomy. Skalvik and Skalvik (2014) stated that on their own, teacher self-efficacy and autonomy relate to engage-

ment. However, when autonomy and self-efficacy were examined together, the relationship with engagement was found to be weak. Being autonomous in instructional practices is both an opportunity and a challenge for teachers to use their own resources. Teachers take the responsibility of their practices and the outcomes. While they try different instructional practices to meet the needs of their students, they should also increase professional and personal competencies as well (Skalvik and Skalvik 2014). Based on this, teachers' autonomy perceptions may be regarded as a mediating variable regarding the effects of self-efficacy beliefs on autonomy support behaviors. This study did not investigate teachers' autonomy perceptions. The reason why self-efficacy beliefs on classroom management and instructional strategies did not predict learner autonomy support behaviors may be related traced to lack of feelings of autonomy in teachers.

CONCLUSION

Obtained results show that in general, teachers' autonomy support behaviors are affected by their professional self-efficacy beliefs. The literature on this aspect states that teachers' autonomy support and self-efficacy is related, and that teachers with low levels of self-efficacy are more authoritarian towards students, and implement student control based on external rewards and punishment and that teachers with high levels of self-efficacy beliefs use more humanistic approaches in classroom management and provide students with more autonomy. The results obtained by this study are parallel to the findings of study in the literature in general. The obtained results showed that teachers' sense of professional self-efficacy have effects on the learner autonomy support behaviour. As mentioned before, self-efficacy is effective on performance. Therefore, teachers' self-efficacy has a decisive role in selecting activities to be implemented in the classroom, in paying efforts and maintaining it, in short what type of a learning environment would be created.

RECOMMENDATIONS

In order for teachers to be able to present learner autonomy support behaviors, they need to be given constructive and positive feedback

during pre-service and in-service training so as to increase their feelings of self-efficacy. Pre-service and in-service training programs should be organized in content areas and in fields such as provision of student engagement and instructional strategies to develop professional self-efficacy levels. Teachers' self-efficacies should be developed by encouraging them to participate effectively in decisions which will make them feel autonomous. In this study, teacher views were obtained regarding their learner autonomy support behaviors. Assessment of student perceptions and investigation of instructional practices through in-class observations will also be useful. Teachers' autonomy behaviors may be studied along with self-efficacy in order to investigate their effect on autonomy support behaviors in the context of in-class instructional activities.

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