Predictors of Teacher Support: Turkey and Shanghai in the Programme for International Student Assessment, 2012[1]

Gulendam AKGUL[*]
Gokce COKAMAY[**]
Ergul DEMIR[***]

Abstract

Problem Statement: Although teacher support is important for many student outcomes, including academic achievement, attendance, well-being, and dropout, related factors remain unexamined.

The Purpose of the Study: The aim of this study was to investigate predictors of perceived teacher support of 15-year-old students who participated in the 2012 Programme for İnternational Student Assessment in either Turkey or Shanghai.

Method: In this basic research, secondary analyses were performed with PISA 2012 data, and multiple linear regression analyses were used to predict the variables that affect teacher support as perceived by students.

Findings: Results show that a sense of belonging at school, instrumental motivation for mathematics, mathematics self-efficacy, and attitudes toward school in terms of learning outcomes and learning activities are predictors of teacher support in Turkey. İn Shanghai, teacher support was predicted by a different set of variables, including mathematics teacher's classroom management, teacher behavior in terms of student orientation, interest in mathematics, attitude toward school in terms of learning outcomes, mathematics self-efficacy, and educational resources at home.

İn Turkey, the five affective variables explained only 13% of the variance, whereas in Shanghai, the six affective variables explained 24% of the variance.

Conclusion and Recommendations: In models of teacher support, Turkey and Shanghai differ, particularly in terms of total prediction levels, as the model constructed for Shanghai was more predictive than that for Turkey. The most predictive variable in Shanghai was teacher classroom management and, in Turkey, sense of belonging at school. Similarities did emerge, however; mathematics self-efficacy and attitudes toward school in terms of learning outcomes were predictors of teacher support in both countries. Since teacher support is important to students' personal development, academic achievement, and well-being, the results can support the execution of educational activities in schools and the investigation of ways to increase such support.

Keywords: Predictors, multiple linear regression, teacher characteristics, affective characteristics

İntroduction

Teacher support refers to the degree to which teachers assign and check homework to students, encourage them to work hard, assist their learning, provide them with help when needed, and give them the opportunity to express their opinions. At the same time, other forms of support that teachers provide are interpersonal communication, feedback related to homework, and communication in the school environment (Hilgendorf, 2012). İn effect, teacher support is important for students in several areas, including academic achievement (Song, Bong, Lee, & Kim, 2014) and examination anxiety (Yildirim, 2000), and it is not only a significant source of social support for students, but also a critical predictor of their academic achievement. As research has shown, for example, the academic achievement of disadvantaged students increases as teacher support increases (Malecki & Demaray, 2006). For students, perceptions of support from teachers increases their engagement at school and their commitment to academic processes, as well as reduces their problem behaviors at school (Garcia–Reid, Peterson, & Reid, 2015). İn short, teacher support is strongly related to student outcomes such as academic achievement, school engagement, and problem behaviors.

Teacher support affects not only students' academic achievement, but also their interest in school activities. For one, it was found to relate to academic emotions such as academic hopelessness and enjoyment, as well as academic self-efficacy, sense of belonging at school, and academic effort (Sakiz, Pape, & Hoy, 2012). Klem and Connell (2004) also found that teacher support increases students' engagement behaviors such as attendance and test scores, both of which result in better academic performance. As such, teacher support has poses indirect benefits to academic achievement by increasing students' engagement.

Interestingly, teachers' styles of giving support change according to grade level and students' developmental stages. For example, low teacher support exerted more negative effects on elementary-school students than their middle-school counterparts. By contrast, middle-school students benefited more from the supportive behaviors of teachers (Klem & Connell, 2004), because elementary-school students typically have only one primary teacher at each grade level. In terms of developmental stage, adolescents need more academic support than emotional support (Song et al., 2014), although emotional support predicted academic achievement in at least one study (Tennant et al., 2014). For that reason, type of perceived support from teachers, whether academic or emotional, might relate to different student outcomes.

In studies of different sources of social support for adolescents, however, these students have tended perceive their peers to be the primary source and considered their teachers to offer less social support (Iglesias, Stover, & Liporace, 2014). Nevertheless, during the developmental stage of adolescence, teacher support was also found to have positive effects on students' happiness, life satisfaction, and ability of resolve peer conflicts (Wang et al., 2014). Accordingly, social support from different sources seems to exert different effects on students.

Sources of social support also influence student outcomes. In investigating perceptions of social support from different sources (e.g., parents, friends, and teachers) in relation to school outcomes such as school behavior, school affect, and academic performance, Rosenfeld, Richman, and Bowen (2000) found that perceptions of low support related to poor academic outcomes in general. By contrast, perceptions of high support from all three sources related to positive outcomes, including better attendance, more hours spent studying, fewer problem behaviors, better grades, and higher school satisfaction, engagement, and self-efficacy.

Teacher support has also been related to several other variables. For example, Kiran–Esen and Gundogdu (2010) reported that internet addiction among adolescents significantly decreased as support from family and teachers increased. Social support from teachers and friends was moreover important in decreasing students' risk of dropout (Ozer, Genctanirim, & Ergene, 2011), while support from teachers related to psychological variables as well. For example, students with greater social support from teachers had greater self-esteem and fewer depressive symptoms (Reddy, Rhodes, & Mulhall, 2003). On the whole, results from research on the topic have shown that the supportive behaviors of teachers have important effects on many areas of students' development.

Studies have also shown that social support from teachers affects the well-being of students. Tennant et al. (2014) reported that teacher support influences students' social–emotional well-being, whereas Mihalas, Witherspoon, Harper, and Sovra (2012) have demonstrated its mediating role in the relationship between student victimization and depression. Taken together, support from teachers is critical in its relation both to students' school-related behaviors and to their personal well-being.

The Programme for International Student Assessment (PISA) ranks among the most important international educational research on teacher support. A large-scale assessment of 15-year-old students conducted by the Organisation for Economic Co-operation and Development (OECD) every 3 years since 2000, PISA measures the the competencies that students have acquired in formal education in their daily lives. It also asks students about their opinions of education and about their families' demographics. Among other findings, PISA results have indicated that the relationship between teachers and students is associated with greater student engagement at school. More specifically, "PISA 2012 Results in Focus" emphasized the importance of supporting the development of students' perseverance and motivation and added that teachers' practices can advance students' drive and willingness to learn. Along with its other benefits, teacher support is thus an important variable that also affects students' learning performance and sense of belonging at school.

Among other countries, Turkey has regularly participated in PISA since 2003 (MEB, 2015; OECD, 2014). İn 2012, another PISA participant—Shanghai, China—ranked among the top performers in mathematics, reading, and science (OECD, 2014). İn fact, students in Shanghai scored nearly 3 years of schooling above any other OECD country that year. By extension, comparing a Turkish sample of results with those from Shanghai could help to determine factors contributing to the low performance of Turkish students. Such a comparison could also prompt the identification of differences between the countries and strengthen Turkish students' performance.

Thus far, much research on teacher support has focused on its positive effects on student outcomes. However, factors that facilitate teacher support have scarcely been investigated. In response, the aim of this study was to use 2012 PISA data regarding Turkey and Shanghai to investigate predictors of teacher support as an important variable in areas of students' development.

Method

Research Model

This basic research involved secondary analyses of data from PISA 2012. According to Karasar (2012), as the simplest way of conceiving research, basic research involves theoretical studies aimed at contributing new information to existing knowledge.

Sample

For data from PISA 2012 for Turkey, the population consisted of roughly 1 million 15-year-old students enrolled in formal education during the 2011–2012 academic year. For data for Shanghai, the population consisted of 90,796 students.

Ultimately, whereas the Turkish sample consisted of 4,892 students attending 170 schools, the Shanghai sample consisted of 10,025 students attending 155 schools.

Research Instrument and Procedure

Secondary analyses were performed on data from 2012 PISA student questionnaire taken by students in Turkey and Shanghai. The questionnaire has three different forms—Form A, Form B, and Form C—one of which each student was administered randomly. Questions addressing teacher support as an affective characteristic were included on only two of the three forms. Analyses were performed on Form B, because the maximum number of affective characteristics appeared on that form. The total number of students who completed Form B from Turkey was 1,598 and, from Shanghai, 3,328.

Data Analysis

Multiple linear regression analyses were used to predict variables that affect teacher support as perceived by students. Of available models, the stepwise model was preferred for identifying the relative contribution of each independent variable. Prior to conducting the primary analyses, index variables (i.e., variables with standardized values) were examined in terms of basic assumptions. After analyzing data for normality, linearity, and multicollinearity, variables meeting those assumptions were identified and later examined in primary analyses to determine their contributions to the model.

Findings

Predictors of Teacher Support for Turkish Students

Prior to primary regression analysis, a preliminary analysis was performed to identify whether variables met the assumptions. Normality and multivariate normality was assessed with descriptive and graphical methods, and linearity was gauged by using correlation coefficients and scatter plots. After correlations between variables and teacher support were examined, variables were evaluated in terms of multicollinearity by considering tolerance, variation inflation factors, and condition indexes. Autocorrelation between error terms was checked by using Durbin–Watson statistics. As a result of preliminary analyses, five of the 37 variables were included in regression analyses to determine their relation to teacher support. Table 1 shows descriptive statistics of the variables, and Table 2 presents the results of stepwise regression analysis.

Table 1.
Descriptive Statistics

Variables	*n*	Min.	Max.	*M*	*SE*	*SD*
Attitude toward school: Learning outcomes	1,586	-2.99	2.35	0.12	0.03	1.04
Attitude toward school: Learning activities	1,584	-3.38	1.21	0.23	0.02	0.99
Sense of belonging at school	1,578	-3.69	2.63	0.11	0.02	1.05
Instrumental motivation for mathematics	1,577	-2.30	1.59	-0.04	0.03	1.01
Mathematics self-efficacy	1,576	-3.75	2.27	0.00	0.02	0.96
Teacher support	1,582	-2.92	1.68	0.14	0.02	0.94

Table 2.
Results of Stepwise Regression Analysis of Variables Predicting Teacher Support

Model	Variables	*B*	*SE*	*β*	*t*	*R*	*R²*	*F*
1	Constant	0.12	0.02	-	5.10*	0.28	0.08	134.97*
	Sense of belonging at school	0.25	0.02	0.28	11.61*			
2	Constant	0.13	0.02	-	5.69*	0.34	0.12	103.01*
	Sense of belonging at school	0.22	0.02	0.25	10.20*			
	Instrumental motivation for mathematics	0.18	0.02	0.20	8.09*			
3	Constant	0.13	0.02	-	5.71*	0.36	0.13	74.10*
	Sense of belonging at school	0.21	0.02	0.24	9.71*			
	Instrumental motivation for mathematics	0.15	0.02	0.16	6.18*			
	Mathematics self-efficacy	0.10	0.03	0.10	3.81*			
4	Constant	0.12	0.02	-	5.47*	0.36	0.13	58.00*
	Sense of belonging at school	0.18	0.02	0.20	7.22*			
	Instrumental motivation for mathematics	0.14	0.02	0.15	5.57*			
	Mathematics self-efficacy	0.10	0.03	0.11	4.09*			
	Attitude toward school: Learning outcomes	0.07	0.02	0.08	2.93*			
5	Constant	0.11	0.02	-	4.92*	0.37	0.13	47.26*
	Sense of belonging at school	0.17	0.02	0.19	6.84*			
	Instrumental motivation for mathematics	0.13	0.02	0.14	5.09*			
	Mathematics self-efficacy	0.10	0.03	0.11	4.04*			
	Attitude toward school: Learning outcomes	0.06	0.03	0.06	2.16**			
	Attitude toward school: Learning activities	0.05	0.03	0.05	1.96**			

*$p < .01$, **$p < .05$

As Table 2 shows, the model and each predictor were statistically significant [F (5.1542) = 47.26, p < .05]. The multiple correlation coefficient of .37 indicated that approximately 13% of the variance of teacher support could be attributed to those five variables. By importance, sense of belonging at school made the greatest contribution (β = 0.19), followed by instrumental motivation for mathematics (β = 0.14), mathematics self-efficacy (β = 0.11), attitude toward school in terms of learning outcomes (β = 0.06), and attitude toward school in terms of learning activities (β = 0.05). All variables in the regression model had moderate positive correlations with teacher support.

Predictors of Teacher Support for Shanghai (China) Sample

Data regarding students in Shanghai were also analyzed in terms of basic assumptions. At the end of the rigorous, careful preliminary analyses, six of the 56 variables were included in further analyses. The results appear in Tables 3 and 4.

Table 3.

Descriptive Statistics

Variables	N	Minimum	Maximum	M	SE	SD
Attitude toward school: Learning outcomes	3,313	-2.99	2.35	-0.03	0.02	1.00
Mathematics teacher's classroom management	3,307	-3.25	2.20	0.22	0.02	0.96
Educational resources at home	3,316	-3.93	1.12	-0.33	0.02	1.07
Interest in mathematics	3,307	-1.78	2.29	0.39	0.02	1.02
Mathematics self-efficacy	3,301	-3.75	2.27	0.47	0.02	1.14
Teacher behavior: Student orientation	3,309	-1.60	3.31	0.06	0.02	1.09
Teacher support	3,309	-2.92	1.68	0.27	0.02	0.91

Table 4.

Results of Stepwise Regression Analysis of Variables Predicting Teacher Support

Model	Variables	B	SE	β	t	R	R²	F
1	Constant	0.19	0.02		12.63*			
	Mathematics teacher's classroom management	0.35	0.02	0.37	23.12*	0.38	0.14	534.53*
2	Constant	0.19	0.01		12.76*			
	Mathematics teacher's classroom management	0.33	0.01	0.35	21.98*	0.44	0.19	391.46*
	Teacher behavior: Student orientation	0.19	0.01	0.23	14.61*			
3	Constant	0.14	0.02		9.37*			
	Mathematics teacher's classroom management	0.29	0.02	0.31	18.90*	0.46	0.21	297.13*
	Teacher behavior: Student orientation	0.17	0.01	0.20	12.76*			
	Mathematics interest	0.14	0.01	0.15	9.36*			
4	Constant	0.16	0.02		10.40*			
	Mathematics teacher's classroom management	0.27	0.02	0.28	17.19*			
	Teacher behavior: Student orientation	0.16	0.01	0.19	12.14*	0.48	0.23	240.19*
	Interest in mathematics	0.12	0.01	0.14	8.18*			
	Attitude toward school: Learning outcomes	0.11	0.01	0.12	7.40*			
5	Constant	0.13	0.02		8.43*			
	Mathematics teacher's classroom management	0.25	0.02	0.26	15.87*			
	Teacher behavior: Student orientation	0.17	0.01	0.21	13.08*	0.49	0.24	204.48*
	Interest in mathematics	0.09	0.02	0.10	5.57*			
	Attitude toward school: Learning outcomes	0.12	0.01	0.13	8.08*			
	Mathematics self-efficacy	0.09	0.01	0.12	6.92*			
6	Constant	0.16	0.02		9.59*			
	Mathematics teacher's classroom management	0.24	0.02	0.26	15.54*			
	Teacher behavior: Student orientation	0.17	0.01	0.21	13.09*			
	Interest in mathematics	0.09	0.02	0.10	5.78*	0.49	0.24	175.08*
	Attitude toward school: Learning outcomes	0.12	0.01	0.13	8.12*			
	Mathematics self-efficacy	0.07	0.01	0.09	5.11*			
	Educational resources at home	0.07	0.01	0.08	4.65*			

*$p < .01$

As Table 4 shows, in the sixth and final step, the model and each predictor were statistically significant [$F_{(6.3262)}$ = 175.08, $p < .01$]. These six variables accounted for 24% of variance in teacher support. When the contribution of these variables to the model was examined, the greatest contributions belonged to mathematics teacher's classroom management (β = 0.26) and teacher behavior in terms of student orientation (β = 0.21), followed by interest in mathematics (β = 0.10), attitude toward school in terms of learning outcomes (β = 0.13), mathematics self-efficacy (β = 0.09) and educational resources at home (β = 0.08). All variables in the regression model had moderate positive correlations with teacher support.

Discussion and Conclusion

The results of analyses yielded two different models for two PISA participants. Among Turkish students, teacher support was significantly related five variables: sense of belonging at school, instrumental motivation for mathematics, mathematics self-efficacy, attitudes toward school in terms of learning outcomes, and attitudes toward school in terms of learning activities. By contrast, for students in Shanghai, it related to a different set of six variables: mathematics teacher's classroom management, teacher behavior in terms of student orientation, interest in mathematics, attitude toward school in terms of learning outcomes, mathematics self-efficacy, and educational resources at home.

The results indicate that teacher support in Turkey was predicted more by student-related variables such as attitude toward school, sense of belonging at school, motivation, and self-efficacy. In Turkey, students' perception of social support from their teachers was unrelated to teachers' behaviors, meaning that, in Turkey, how students perceived teacher support was not affected by teachers' classroom management or student-oriented behaviors. Possibly due to the difference between cultural and educational systems in Turkey and Shanghai, this result deserves further investigation. In earlier research, Wiseman and Hunt (2008) reported that teachers' classroom management is important in increasing students' success and time spent learning, the latter of which relates directly to student motivation, which often requires teacher support. Although teacher support and the classroom management of mathematics teachers are indirectly related, in the Turkish sample, no significant relationship between them emerged. At the same time, variables other than those identified in PISA can likely predict teacher support as perceived by Turkish students. However, the lack of relationship between teacher behavior in terms of student orientation and teacher support may nevertheless reflect a difference in students' perceptions of teacher support in Turkey and Shanghai.

Another finding that differs in two samples concerns educational resources at home, which did not predict teacher support in the Turkish sample. Some studies have reported deficiencies in parental participation in schools in Turkey (Cokamay, 2013), which could be the result of the lack of coordination between schools and families in the country.

In Shanghai, by contrast, teacher support was predicted by teacher-related variables such as teacher's classroom management, student-oriented teacher behavior, and educational resources at home, a difference possibly due to differences in educational policy. Tan (2012) explored the culture of education policymaking in Shanghai and highlighted changes in learning style since 2001 as a crucial reform in Shanghai's educational system toward more student-centered pedagogies. Tan also discussed changes in assessment styles in Shanghai and explained teachers' roles in assessing the learning process and developmental progress. Unlike Turkey, where teachers concentrate more on end results (e.g., examination scores and grades), teachers in Shanghai are responsible for developing students' morality, sense of civic duty, learning ability, social interaction and cooperation, and participation in

activities unrelated to school. Therefore, Shanghai students might perceive teacher-related variables as an important source of support.

In Turkey and Shanghai, mathematics self-efficacy and attitudes toward school in terms of learning outcomes were common predictors. The former relates to students' beliefs about their ability to solve specific mathematics tasks, whereas the latter is an index that reflects students' beliefs about the school's contribution to their preparation for adult life and careers. Thus, these variables relate to students' perceptions of teacher support in Turkey and Shanghai, though their relative importance differs.

Results between the two samples also differed in terms of variance in teacher support. In Turkey, five affective variables explained only 13% of the variance, whereas in Shanghai, 24% of the variance in teacher support was explained with the model—that is, nearly twice as much variance as explained in the Turkish sample. The differences might be due to the fact that most student characteristics in the Turkish sample could not be included analysis, for they did not corroborate and basic assumption of regression analysis: normal distribution.

Another finding in the Turkish sample was that perceived support from teachers was associated with a sense of belonging at school. On a similar note, Kozan, Fabio, Blustein, and Denny (2013) found that perceived social support from teachers, satisfaction with career decision-making, and career playfulness predicted the academic engagement of high-school students. Ma (2003) investigated factors that affect secondary-school students' sense of belonging, which he argued related to school climate that, in turn, related directly to teachers' and administrators' behavior. According to Hughes (2011), students' engagement and academic success are affected by the quality of the teacher–student relationship, which for both teachers and students predicted students' achievements in reading and mathematics. Yet, students and teachers disagreed in their perceptions of support; a teacher might have considered him or herself to be supportive, though students did not.

The investigation of variables that influence teacher support is important in terms of not only school outcomes, but also students' career development. In investigating the effects of parental and teacher support and career preparation on academic performance as mediated by school engagement, Perry, Liu, and Pabian (2010) found that teacher support affected school engagement and, in turn, the grades of high-school students. More importantly, teacher support significantly contributed to students' career preparation, whereas parental support did not. To explain their finding, the authors cited their sample characteristics and emphasized the important role of teachers and mentors, not parents, for youth, especially those living in urban areas. Similarly, another study found that perceived support from teachers related to school-related interests and the pursuit of social responsibility (Wentzel, 1998). Thus, powerful support from teachers improved both academic achievement and made students more engaged in their school, which contributed to their career preparation.

Student motivation and teacher support promote each other. As Skinner and Belmont (1993) suggested, student motivation exerts mutual effects on teacher behavior, particularly instrumental motivation, an externally driven motivation related to reinforcement that tends to be more applicable in educational environments (Noels, 2001). İn addition to being mentioned in studies of language education (Ely, 2011; Gardner & Maclntyre, 1991; Lukmani, 1972), instrumental motivation was studied in terms of mathematics in PISA 2012. One finding from the present study suggests that perceived support from teachers is associated with instrumental motivation for students learning mathematics, which suggests that teachers' supportive behaviors might reinforce and increase students' motivation.

In both Turkey and Shanghai, mathematics self-efficacy predicted teacher support. According to other research, a significant relationship exists between attitudes toward mathematics and academic self-efficacy, and attitudes toward mathematics change depending on the perceived behavior of the mathematics teacher. Furthermore, more successful students have more positive attitudes toward mathematics, as well as greater academic self-efficacy. Student's mathematics success depended upon mathematics teachers' behaviors (Sezgin, 2013), thereby indicating that teacher support affects students' academic self-efficacy.

Since attitudes toward school outcomes predicted teacher support in both samples, the results of PISA 2009 were very thus similar to those of the present study. As the OECD (2013, p. 2) has stated, attitudes toward school and teacher behaviors relate to one another:

> In all participating countries and economies, students' positive attitudes towards schooling are related to positive attitudes towards their teachers. Students who reported that they get along well with their teachers, that most of their teachers are interested in their well-being, that most of their teachers listen to what they have to say, that, if they need extra help, they will receive it from their teachers, and that most of their teachers treat them fairly also tended to report that what they learn in school is useful.

In the sample of students in Shanghai, classroom management was the most important predictor of teacher support. As an important factor in both academic and social–emotional–behavioral development, classroom management has been widely investigated (e.g., Coetzee, Niekerk, & Wydeman, 2008; Marzano, Gaddy, Foseid, Foseid, & Marzano, 2005), and many classroom management programs have been developed and investigated for their effectiveness (Poduska & Kurki, 2014; Reinke et al., 2014). Classroom management is also important as a supportive strategy, a relationship perhaps best understood by the fact that classroom management and teachers' supportive behaviors are two complementary concepts (Kylie & Rogien, 2015). The present study revealed that the classroom management of mathematics teachers was the best predictor of teacher support in 2012 PISA data from Shanghai, a finding entirely consistent with current literature.

Another important predictor of teacher support for students in Shanghai was teacher behavior in terms of student orientation—for example, paying attention to differences in students' learning levels and taking their views into account during classroom activities and in assigning homework. As a result, students in Shanghai were more likely to feel that their teachers were aware of their individual differences and supported them accordingly. Together with classroom management, those behaviors strongly affected students' perception of support.

Students' interest in mathematics, mathematics self-efficacy, and educational resources at home also predicted teacher support in Shanghai. Teacher support has a positive effect on students' interests, self-efficacy, and grades (Yeung & McInerney, 1999). In order to generate students' interest, factors that increase students' motivation should be identified, and classrooms should be organized by teachers accordingly (Anderhag, Hamza, & Wickman, 2014). Many studies have investigated students' academic self-efficacy (Merriman, 2012), their online environment, self-efficacy with internet use (Gecer, 2014), and self-efficacy with writing (Ekholm, Zumbrunn, & Conklin, 2014). İn general, the finding that the variable of educational resources at home predicts teacher support is highly important, and many studies have reported that it also relates to outcomes such as cognitive development (Biedinger, 2011) and academic achievement (Marks, Cresswell, & Ainley, 2007). According to Sellar and Lingard (2013), schools in Shanghai are more successful in overcoming disadvantages of socioeconomic differences, for students from different socioeconomic backgrounds did not differ in their school performance. However, in the present study, educational resources at home, as an indicator of different socioeconomic status, explained important variance in students' perceptions of teacher support.

The literature suggests that social support from teachers relates to many positive outcomes for students. As such, teacher education programs should bear in mind that students' perceived support is critical for those outcomes. To increase that kind of support, factors related to the variable should be identified, as done in the present study. The development of programs that can help to create more supportive educational environments would also strengthen teacher–student relationships, studies of which have shown that teacher characteristics influence students' motivation and learning (Frymier & Houser, 2000), including referential skills (e.g., clear and unambiguous delivery of information), ego support (e.g., the ability to make students feel better about themselves), and immediacy (e.g., calling students by their names, soliciting their opinions, making eye contact, smiling at them, and using vocal variety). Indeed, all of those characteristics are important for students' motivation and learning as perceived by students. Other studies have shown that teacher behaviors also relate to behavioral and emotional difficulties among students (Poulou, 2015). Teacher behaviors such as being uncertain, dissatisfied, reprimanding, and strict have positive correlations with emotional and behavioral difficulties among primary-school students, whereas leadership, being helpful and friendly, and understanding are negatively correlated with those difficulties.

Results of data from PISA are critical in demonstrating the relationship between affective characteristics and academic achievement around the world. Studies with PISA data, especially in cross-cultural areas, are therefore highly valuable. İn this study, teacher support was examined in data regarding 15-year old students in Turkey and Shanghai. İn contrast to existing research, this study treated teacher support as a predictor variable. İn the future, a new model can be conceptualized to explore the teacher characteristics as the predictor, including student's academic achievement or absenteeism. At the same time, cross-cultural studies that use other affective characteristics for modelling teacher support can be conducted and yield important results on the subject. The results of this study can be helpful in both conducting educational activities in schools and investigating the ways of increasing teacher support, which are important in terms of students' personal development, academic achievement, and well-being.

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Öğretmen Desteğinin Yordayıcıları: PISA 2012 Türkiye ve Sanghay Verilerinin Karşılaştırılması

Özet

Problem: Öğrenciler için hem önemli bir sosyal destek kaynağı olan öğretmen desteği akademik başarı, sınav kaygısı, devamsızlık, internet bağımlılığı ve okul terki gibi çok sayıda değişkenle ilişkili olduğu bulunmuştur. Öğretmen desteğinin ve başka

değişkenlerin ilişkileri çok sayıda araştırmada incelenmiştir. Bazı çalışmalar ergenlerin duygusal destekten çok akademik desteğe ihtiyaç duyduklarını ortaya koyarken, diğerleri öğretmenden algılanan duygusal desteğin öğrencilerin akademik başarısını yordadığını bildirmiştir. Öğretmen desteği, akademik başarının yanı sıra mutluluk düzeyi, hayattan tatmin olma, akranlar arası çatışmaların çözümü gibi ergenlerin sosyal duygusal iyilik halleri ile de ilişkili bulunmuştur. Öğretmen desteğinin, öğrencilerin okula karşı bağlılıklarını arttırdığı, böylece okula devamı sağlayarak başarıyı yükselttiği ifade edilmektedir. Ayrıca özellikle ortaokul öğrencileri öğretmen desteğinden en fazla yararlanmaktadır.

Öğretmen desteğinin pek çok değişkenle ilişkisi çok sayıda çalışmada araştırılmış olsa da, desteği ortaya çıkaran etmenler nadiren incelenmiştir. Şanghay PISA 2012 sonuçlarına göre matematik, okuma ve fen bilimleri alanlarında üst düzey başarı gösteren ülkelerden birisidir. Bu çalışmada öğretmen desteğini yordayan değişkenler PISA 2012 Türkiye ve Şanghay verileri üzerinden değerlendirilecektir.

Araştırmanın Amacı: Bu araştırmanın amacı Türkiye ve Şanghay'da 2012 yılında Uluslararası Öğrenci Değerlendirme Programı'na (PISA) katılan 15 yaş öğrencilerinin algıladıkları öğretmen desteğinin yordayıcılarının karşılaştırılmasıdır.

Araştırmanın Yöntemi: Bu araştırma PISA 2012 verileri üzerinde ikincil analizin yapıldığı bir temel araştırmadır. Öğrencilerin algıladıkları öğretmen desteğinin yordayıcılarının belirlenmesi için çoklu doğrusal regresyon analizi kullanılmıştır. Her bir bağımsız değişkenin modele katkısının adım adım tanımlanabilmesi için adımsal (stepwise) model tercih edilmiştir.

Araştırmanın Bulguları: Elde edilen bulgulara göre, Türkiye'de (1) okula bağlılık duygusu, (2) matematiğe yönelik araçsal motivasyon, (3) matematik öz yeterliği, (4) okula yönelik tutum: öğrenme çıktıları ve (5) okula yönelik tutum: öğrenme etkinlikleri öğretmen desteğinin yordayıcıları iken Şanghay'da (1) matematik öğretmeninin sınıf yönetimi, (2) öğretmen davranışı: öğrenci uyumu, (3) matematik ilgisi, (4) okula yönelik tutum: öğrenme çıktıları, (5) matematik özyeterliği, (6) evdeki eğitimsel kaynaklar öğretmen desteğini yordamaktadır. Türkiye'de sözü edilen 5 duyuşsal değişken varyansın % 13'ünü açıklamaktadır. Öte yandan Şanghay'da bu oran %24 olarak bulunmuştur.

Araştırmanın Sonuç ve Önerileri: Adımsal (stepwise) regresyon analizi sonuçları iki ülke için iki farklı model üretmiştir. Sonuçlar Türkiye'de öğretmen desteğinin okula karşı tutum, okula aidiyet, motivasyon ve öz yeterlik gibi daha çok öğrenci ile alakalı değişkenler tarafından yordandığını yansıtmaktadır. Türk öğrencilerin öğretmenden algıladıkları sosyal destek ile öğretmen davranışları ile ilgili bulunmaması çok ilginçtir ve daha fazla araştırılmayı gerektirmektedir. Öte yandan Şanghay'da öğretmen desteği sınıf yönetimi, öğrenciye yönelik öğretmen davranışı ve ev olanakları gibi öğretmenle ilişkili değişkenler tarafından yordanmaktadır. Bu sonucun ortaya çıkmasına neden olabilecek eğitim sistemindeki farklılıklar açıklanmıştır. Ancak matematik öz yeterliği ve okula yönelik tutum: öğrenme çıktıları, modellere katkı düzeyleri farklı olsa da her iki ülke içinde öğretmen desteğinin ortak yordayıcıları olarak bulunmuştur. Matematik öz yeterlik öğrencilerin matematik problemlerini çözmede kendi becerileri hakkındaki inançları iken; okula karşı tutum: öğrenme çıktıları, öğrencilerin yetişkin ve iş hayatına

hazırlanma açısından okulun kendi geleceklerine katkısına yönelik öğrencilerin inançlarını yansıtmaktadır.

Öğretmen desteği modelinde Türkiye ve Şanghay arasında farklılık bulunmaktadır. Bu modeller farklı açıklayıcılık oranlarına sahiptir. Şanghay için yapılandırılmış model Türkiye modelinden daha açıklayıcı olarak bulunmuştur. Bu farklılığın Türkiye örnekleminde öğrenci özelliklerinin regresyon analizinin temel varsayımlarından birisi olan normal dağılım koşulunu gerçekleştirememiş olması sonucu analize dâhil edilememiş olmasından kaynaklanabileceği ifade edilmiştir. En yüksek düzeyde yordayıcı değişken Şanghay'da öğretmenin sınıf yönetimi iken Türkiye'de okula bağlılık duygusudur. Özellikle Türkiye örnekleminde yordayıcı değişkenlerin beta düzeyleri düşük olsa da, PISA öğretmen desteğini etkileyen değişkenler hakkında bili alınabilecek dünya çapında büyük ölçekli en önemli uluslararası çalışmalardan biri olduğu için, bu çalışmanın sonuçlarının rapor edilmesi gerekmektedir. Çalışmanın bulguları öğretmen desteği ile ilgili mevcut alanyazın doğrultusunda tartışılmıştır.

Çalışmada okula aidiyet hissinin Türkiye örnekleminde öğretmen desteği ile ilişkili olduğu bulunmuştur. Başka çalışmalarda da benzer şekilde okula aidiyet hissinin öğretmen ve idarecilerin davranışları ile şekillenen okul iklimi ile ilişkili olduğu bulunmuştur. Sınıf yönetimi Şanghay örnekleminde öğretmen desteğinin en önemli yordayıcısı olan değişken, öğrencilerin akademik, sosyal-duygusal ve davranışsal pek çok alanda gelişimleri ile ilişkili olduğu için daha önce yapılan pek çok çalışmada araştırılmıştır. Bunun için pek çok sınıf yönetimi program geliştirilmiş ve öğretmenlerin uygulamasına sunulmuştur. Sınıf yönetimi ve öğretmen desteği karşılıklı olarak birbirini tamamlayan iki kavramdır. Ev olanaklarının Şanghay örnekleminde öğretmen desteğinin yordayıcılarından birisi olması önemlidir. Çünkü ev olanakları öğrencilerin bilişsel gelişimi ve akademik başarıları ile de ilişkili değişkenlerdir.

Öğretmen eğitim programları öğrencilerin öğretmenden algıladıkları desteğin öğrencilerle ilgili pek çok değişkeni etkilediğini akılda tutmalıdır. Bu yüzden öğretmen desteğinin arttırılmasında yapılması gerekenlerin başında bu çalışmada amaçlandığı gibi öğretmen desteği ile ilişkili faktörlerin belirlenmesi ve destekleyici eğitim ortamı ve öğretmen öğrenci ilişkilerini güçlendirici programların geliştirilmesi gelmektedir. Çalışmanın sonuçları hem okullardaki eğitimsel etkinliklerin yürütülmesi hem de öğrencilerin kişisel gelişimlerinde, akademik başarılarında ve iyi oluşlarında önemli olan öğretmen desteğini artırma yollarının incelenmesi için yardımcı olabilir.

Anahtar Kelimeler: Yordayıcılar, çoklu regresyon analizi, öğretmen özellikleri, duyuşsal özellikler.