A Study on the Relationship between Teacher Self Efficacy and Burnout

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The major purpose of the study was to examine the relationship between teacher self efficacy and burnout. In order to collect the related data, "Maslach Burnout Inventory" and "Teacher Sense of Efficacy Scale" were used. The sample of the study consisted of 163 randomly chosen teachers who worked in various primary and secondary state schools in 2014-2015 academic year. The results of the data analysis put forward that there was significant, medium and negative correlation between teacher self efficacy and burnout levels of the participants. Hierarchical multiple regression analysis results, which were run to assess the relationship between the two variables better, indicated that teacher self efficacy predicted burnout negatively. In the light of these findings and other related studies several suggestions were made.

Keywords: self efficacy, burnout, teacher

Introduction

Even though the teachers' professional competency contributes a lot to their effectiveness, the role of psychological well-being in terms of teacher effectiveness cannot be denied. One of the important indicators of employees' psychological wellbeing in job-settings is the degree of job burnout. The problems teacher come across in school settings can lead them to experience job burnout syndrome (Tuğrul & Celik, 2002). When the literature about job burnout is reviewed, it can be discerned that there has been a growing interest about job burnout experienced by teachers. This situation has led the researchers to conduct more studies to discern variables related with this syndrome to understand the matter more deeply (Betoret, 2006). Burnout syndrome, which is characterized by the exhaustion of employees' emotional resources, negative attitudes towards service recipients and decrease in the feeling of personal accomplishment, particularly influence those employees who must have frequent face to face contact with service recipients because of the inherent characteristics of their job sector (Maslach & Jackson, 1981). One of the leading of such sectors is education, in which there is an intense teacherstudent interaction. Even though this characteristic of education sector can have a bad impact on teachers in terms of job burnout, it is impossible to claim that all the teachers experience this syndrome. So, it is important discern those personal characteristics which protect them from negative effects of burnout (Kokkinos, 2007).

Although different models have been put forward to analyze job burnout, it is possible to say that the model developed researchers Maslach & Jackson (1981) have been the most-utilized one by r. According to this model, job burnout consists of three dimensions. The most important of these dimensions, exhaustion develops as a result of experiencing excessive work-load and it is related stress. In order to cope with this situation, the employees feel alienated to their job mentally and emotionally (Maslach, Schaufeli & Leiter, 2001). This dimension of job burnout is characterized by low energy, fa-

tigue and emotional worn out (Arı & Bal, 2008). Depersonalization dimension of the burnout is about distancing oneself psychologically from service recipients and minimizing the relations with them (Ardıç & Polatçı, 2008). Employees experiencing this dimension of the burnout don't accept service recipients as individuals who have unique characteristics and behave them as objects (Maslach, et al., 2001). The last dimension of the job burnout, the feeling of decreased personal accomplishment is feeling oneself as unsuccessful and inadequate in job setting (Tatlıcı & Kırımoğlu, 2008), having a negative self perception and evaluating one's accomplishments as inadequate (Maslach & Jackson, 1981). According to Maslach, et al., (2001) these three dimensions of the burnout have a relationship with various performance related variables such as turn-over, the intention of leaving the workplace, absenteeism and job satisfaction. Moreover, job burnout has a relation to psychological symptoms like tension, neuroticism, addiction and depression.

An important concept related with job burnout is self-efficacy. Efficacy can be defined as the necessary knowledge, skills and attitudes to carry out a role (Balci, 2005, p. 197), fulfill the roles as required qualitatively and quantitatively, to have necessary knowledge and skills to behave in an expected manner (Şişman, 2006, p.219; Demirtaş & Güneş, 2002, p. 168; Şahin, 2009, p. 291).

The concept of self-efficacy, which is related with the self perception of one's own competencies, was first thoroughly put forward by Albert Bandura. Self efficacy, which has an important place in "Social Learning Theory" is defined by Bandura (1986) as the belief of having the capacity to perform the expected tasks efficiently by organizing and carrying out the necessary activities. To put it in another way, self efficacy is one's belief that she can overcome a situation or problem and has the ability to fulfill a particular task (Tuckman, 1991).

According to Bandura (1977) self efficacy is formed through four mechanisms. The first mechanism, experience or enactive attainment designates increase in the self efficacy belief as a result of success in particular tasks because self efficacy increases as a result of success. Vicarious experiences or modeling refers to increase in the self efficacy by observing other people succeed in particular tasks. If they can do it, I can also do it feeling has a positive effect on self efficacy. The increase of self efficacy via verbal persuasion occurs through giving courage to a person that she can be successful in the fulfillment of the task undertaken. Lastly, physiological factors such as getting excessively stressed in demanding situations may have detrimental effect on self efficacy. Self efficacy has some important consequences for individuals. While the thinking of being able to overcome a task may arouse the feeling of satisfaction from the task, low efficacy can lead to negative feelings such as stress, anxiety and these feelings may decrease the efficiency of individuals negatively or positively. Moreover, whereas people with high self efficacy are resilient and more motivated in challenging situations, the ones with low self efficacy can give up more easily (Robbins & Judge, 2013; Sürgevil, 2006).

The level of self efficacy as an important factor in determining how to defy demanding situations (Yaman, Cansüngü & Altunçekiç, 2004), has also indications for teachers. Teachers' perceptions of their level of knowledge, skills and experience have an important role in overcoming difficult situations effectively during their professional life. Self perception of teachers in terms of their professional competencies is an important research area, and as a specific domain of self efficacy it is named as teacher self efficacy belief. According to Cherniss (1993), teacher self efficacy consists of fulfilling professional requirements, organizing teaching processes, performing the tasks and procedures related with school operation, being a part of the school, ability of completing social and political processes in the school setting.

Cherniss (1993) claims that understanding teacher self efficacy can have contributions to teachers in terms of understanding and coping with burnout (cited in Friedman & Kass, 2002). Bandura (1997) puts forward that teacher self efficacy can have a positive effect on teacher motivation and performance. Chwalisz, K.D., Altmaier, E.M., & Russell, D.W. (1992) approach the relationship between

self efficacy and burnout from the point of job related stress factors. The researchers put forward that when teachers with high self efficacy levels experience problems related with their profession dwell on these problems and make an effort to solve them. Conversely, teachers with low self efficacy levels avoid such problems and try to solve their emotional disturbances in their inner world. This situation contributes a lot to teacher burnout. From this point of view, we can assert that teacher burnout can be caused by the break of belief in the job related efficacy. All in all, self efficacy beliefs of teachers have an important place in overcoming burnout syndrome (Sürgevil, 2006). From the point of the theoretical framework reviewed above, the relationship between teacher self efficacy and burnout was thought as an area which deserves researching, and some suggestions were made in the direction of research findings.

Methodology

In order to the study the relationship between teacher burnout and teacher self efficacy, correlational survey research design model was undertaken. Correlational research design is utilized to see whether there is a relationship between two variables after they are measured quantitatively. The rationale behind this research design is comprised of testing if the measurement amount of a variable changes systematically in relation with the measurement amount of another variable (Lodico, Spaulding & Voegtle, 2006).

Participants

The population of the study includes teachers working in various primary and secondary state schools in the center of Gaziantep, Turkey. The sample of the study is composed of 163 randomly chosen teachers from this population in 2014-2015 academic year. The personal characteristics of the participants according to sex, age, and seniority are given in Table 1.

| Variables | | n | % | |
|-----------|--------------|-----|------|--|
| Sex | Male | 112 | 31.3 | |
| | Female | 51 | 68.7 | |
| Age | 30 and under | 42 | 25.8 | |
| | 31-40 | 88 | 54 | |
| | 41 and above | 33 | 20.2 | |
| Seniority | 7 and under | 44 | 27 | |
| | 8-15 | 76 | 46.6 | |
| | 16 and above | 43 | 26.4 | |
| Total | | 163 | 100 | |

Table 1. Frequency and percentages of participants according to demographic variables

When Table 1 is examined, we can see that the number of the male participants are higher than the females. Participants between the ages of 31-40 and seniority between 8-15 years comprise a large percentage.

Data Collection Technique

In order to collect the data two questionnaires were made use of. In order to measure teacher burnout, Maslach Burnout Inventory developed by Maslach & Jackson (1981) was used. The adaptation of the questionnaire into Turkish was done by Ergin (1992). The questionnaire includes three subscales. These

subscales are Exhaustion, Depersonalization and Personal Accomplishment. The total point after reversing the points from personal accomplishment subscale designates participants' burnout level. The Cronbach Alpha coefficient for the entire of the questionnaire was measured as 0.897. The coefficients for subscales were also measured. The coefficient for Exhaustion was 0.895; 0.754 for Depersonalization and 0.815 for Personal accomplishment.

In order to measure participants' self efficacy levels Teacher Sense of Efficacy Scale was used. The scale was developed by Tschannen-Moran & Woolfolk (2001) and adapted to Turkish by Çapa, Çakıroğlu & Sarıkaya (2005). The measure consists of Efficacy in Student Engagement, Efficacy in Instructional Strategies and Efficacy in Classroom Management subscales. In the current study the Cronbach Alpha Coefficient was calculated as 0.872. The coefficient was 0.824 for Efficacy in Student Engagement subscale; 0.782 for Efficacy in Instructional Strategies and 0.844 for Efficacy in Classroom Management. Both questionnaires were applied in 5 Likert-type and the options included (1) Never, (2) Rarely, (3) Sometimes, (4) Often and (5) Always.

Analysis of the Data

The data of the study was analyzed by SPSS programme. The data were analyzed through calculation of means, frequencies, correlation and hierarchical multiple regression analysis. Before doing the analyses, the data were checked for multicollinearity and singularity, outliers, normality, linearity and homescedasticity. In other words, assumptions of the linear regression analyses were tested. While examining the prediction of the teacher burnout by teacher self efficacy, the participants' age, sex and seniority variables were controlled and hierarchical multiple regression test was run.

In order to make interpretations, participants' mean scores from the 5 likert scale questionnaires were labeled as such: Always (\bar{x} =5-4.20), Often (\bar{x} =4.19-3.40), Sometimes (\bar{x} =3.39-2.60), Rarely (\bar{x} =2.59-1.80), Never (\bar{x} =1.79-1).

Findings

Before analyzing the relationship between teacher self efficacy and burnout, the participants' mean scores for these variables were calculated to assess their self efficacy and burnout levels.

| | $\overline{\mathbf{x}}$ | SE | SD |
|--------------------------|-------------------------|------|------|
| Classroom Management | 4.13 | 0.04 | 0.56 |
| Instructional Strategies | 4.04 | 0.04 | 0.54 |
| Student Engagement | 3.84 | 0.05 | 0.60 |
| Teacher Efficacy Total | 3.99 | 0.04 | 0.46 |
| | | | |

Tablo 2. Means, standard errors and standard deviations for teacher self efficacy scores

Examination of Table 2 puts forward that teachers perceived their efficacy levels in their profession as quite high (\bar{x} =3.99; Often). The mean score for the Classroom Management subscale is the highest among others (\bar{x} =4.13; Often). This finding makes it clear that teachers perceived them to be most efficacious in classroom management. This was followed by teachers' perception of efficacy in implementing instructional strategies (\bar{x} =4.04; Often) and engaging students in the process of learning actively (\bar{x} =3.84; Often).

| | $\overline{\mathbf{x}}$ | SE | SD | |
|-----------------------------|-------------------------|------|------|--|
| Exhaustion | 2.39 | 0.06 | 0.81 | |
| Low Personal Accomplishment | 2.23 | 0.04 | 0.53 | |
| Depersonalization | 1.66 | 0.05 | 0.66 | |
| Burnout Total | 2.20 | 0.04 | 0.54 | |
| | | | | |

Tablo 3. Means, standard errors and standard deviations for teacher burnout scores

Burnout levels of the participants were found relatively lower ($\bar{x}=2.20$; Rarely) when compared with their perceived efficacy levels in their profession. The highest mean score among the subscales was for Exhaustion ($\bar{x}=2.39$; Rarely). This finding indicates that participants perceived that they are emotionally and physically worn out. Exhaustion was followed by low Personal Accomplishment ($\bar{x}=2.23$; Rarely) and Depersonalization ($\bar{x}=1.66$; Never).

Before testing the prediction of burnout by teacher self efficacy, Pearson correlation coefficient was calculated for these variables in order to see whether there was any relationship between them. The correlation test between teacher self efficacy scores and burnout scores of the participants put forward a medium, negative and significant correlation between these variables, r = -.482. p<.01. This result indicates that the increase of participants' scores in self efficacy was accompanied with a significant decrease in burnout.

After testing whether there was a significant relationship between teacher self efficacy and burnout, hierarchical multiple regression was run to get a better picture of the relationship. The results of the hierarchical multiple regression test, which was run to see whether teacher self efficacy had a predictive power on teacher burnout, are given in Table 4.

| Model | | Dependent Variable: Burnout | | | | | |
|---------|--------------------|-----------------------------|----------|------|--------|------|----------|
| Inde | ependent Variables | В | Std.Eror | Beta | t | р | F |
| | (Constant) | 2.146 | .357 | | 6.005 | .000 | |
| 1.Step | Sex | .008 | .095 | .007 | .088 | .930 | |
| | Seniority | 010 | .016 | 137 | 657 | .512 | .334 |
| | Age | .005 | .015 | .069 | .332 | .741 | |
| 2. Step | (Sabit) | 4.296 | .435 | | 9.868 | .000 | |
| | Sex | .091 | .083 | .078 | 1.090 | .277 | |
| | Seniority | 014 | .014 | 192 | -1.056 | .293 | 12.89*** |
| | Age | .010 | .013 | .145 | .796 | .427 | |
| | Self Efficacy | 580 | .082 | 495 | -7.088 | .000 | |

Table 4. The hierarchical multiple regression test results for teacher self efficacy and burnout

 $\Delta \mathbf{R}^2 = .246^{***}$

*p<.05, **p<.01, ***p<.001

As can be seen in Table 4, sex, seniority, and age variables were controlled in the first step and teacher self efficacy points were added to the model in the second step. In the first step, control variables explained 0.6 % variance of teacher burnout. After self efficacy points were added to the model in the second step, explained variance increased to 24.6 %, F (4, 158)=12.89, p<.001. So, teacher self efficacy explained an additional 24 % of variance. When the values regarding self efficacy variable are ex-

amined, it is found that the effect of teacher self efficacy on teacher burnout is significant, β =-.495, p<.001. This result indicates that when sex, seniority and age variables are controlled, teacher self-efficacy predicts teacher burnout negatively.

Conclusions and Recommendations

In the current study, the relationship between teacher self efficacy and burnout for primary and secondary schools was examined. For this aim, the relationship between these variables was assessed by correlation analysis initially and a significant, negative and medium correlation was found. After the testing the existence of the relationship, regression analysis was done. Demographic age, sex and seniority variables were controlled while running hierarchical multiple regression test. The results of the regression analysis put forward that teachers' self efficacy levels predicted their burnout levels negatively. In other words, teachers with low self efficacy levels experienced burnout more than their colleagues with low teacher self efficacy levels.

The research carried out by Skaalvik & Skaalvik (2009) put forward that exhaustion and depersonalization dimensions of burnout have a negative relationship with teacher efficacy, which is in accordance with the current study. Similarly, Karahan & Balat (2011) found a negative relationship between teacher self efficacy and burnout for teachers in private schools. When this finding is evaluated in relation to the ones in our study, it can be claimed that low level of teacher efficacy have a negative effect for teachers regardless of they work in state or private schools. The study by Schwarzer & Hallum (2008) on German and Syrian teachers have also put forward a negative relationship between teacher self efficacy and burnout. This situation signifies that this relationship is an inter-cultural phenomenon. The study by Çelikkaleli (2011) found a negative relationship between teacher self efficacy and burnout for teachers who work in an education center for adults. This finding in accordance with our study implies that the negative effect of the low teacher self efficacy on job burnout is common for teachers working in different school levels. When the findings of our study and those reviewed here are examined, it can be said that teacher self efficacy is an important variable that should be taken into consideration seriously by teachers and all the stakeholders who have a role in educational administration.

If the relationship between burnout and performance related variables such as intent of quitting job, turnover, absenteeism, job satisfaction (Maslach et al., 2001) and the findings of the current study and other related studies which indicate the negative relationship between teacher self efficacy and burnout are taken into consideration, it can be claimed that increasing teacher self efficacy is crucial for making schools more effective. According to Hoy (2000) three main factors play an important role in building teacher self efficacy. The first of these factors is the positive teaching experiences of teachers especially at the beginning of their career. The second factor is the observation of effective teaching practices by other teachers. In this way a feeling of "if she can do it, I can also do it" attitude and self esteem can arise in less experienced teachers. Last factor includes persuading teachers about their effectiveness or potential effectiveness by giving positive feedback for effective teaching practices and criticizing inefficient practices constructively. Approaching the matter of increasing teacher self efficacy from this perspective, Bolat (2011) claims the role of positive experiences as crucial. In order to achieve this, teachers should be provided opportunities to increase their knowledge and skills, to put into practice their responsibilities, and the obstacles in this process should be tackled. They should also be given courage and rewarded for their knowledge and skills. School administrations and other stakeholders in educational administration such as educational ministries should make effort to increase self efficacy levels of teachers taking into consideration these matters. These efforts may include on the job or in service training to increase competency of teachers, arousing the feeling of support on the part of the teachers and other necessary arrangements.

Although our study put forward the negative relationship between teacher self-efficacy and burnout, the question of which methods can contribute to the increase of teacher self efficacy effective-

ly wasn't in its scope. Taking into consideration teacher self efficacy has an effect on student success, attitude and behaviors in addition to performance of teachers (Tschannen-Moren & Hoy, 2001), researching how to increase teacher self efficacy and to ensure its continuity seem a very important area. Finding out self efficacy related variables and factors that contribute to its continuity necessitate collecting qualitative data through techniques such as interview, observation together with quantitative data to collection techniques when necessary. In order to make more generalizable inferences, more studies should be carried out with samples both quantitatively higher and qualitatively different.

References

- Ardıç, K. & Polatçı, S. (2008). Tükenmişlik sendromu üzerine akademisyenler üzerine bir araştırma: (GOÜ) örneği. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 10(2), 69-96.
- Arı, G.S. & Bal, E.Ç. (2008). Tükenmislik kavramı: Birey ve örgütler açısından önemi. Yönetim ve Ekonomi, 15(1), 131-148.
- Balcı, A. (2005). Açıklamalı eğitim yönetim terimleri sözlügü. Ankara: Tek Agaç Basım Yayım, Dagıtım.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.
- Bandura, A. (1986). Social foundations of thought and action: a social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1994). Self-efficacy. In V.S. Ramachaudran (Ed.), Encyclopedia of human behaviour.
 (Vol. 4, pp. 71-81). New York: Academic Pres. (Reprinted in H. Friedman [Ed.], Encyclopedia of mental health. San Diego: Academic Press, 1998). Retrieved September 20, 2006
- Bandura, A. (1995). Self-efficacy in changing societies. New York: Cambridge University Press.
- Bandura, A. (1997). Self-efficacy. The exercise of control. New York: W.H. Freeman.
- Betoret, F.D. (2006). Stressors, self-efficacy, coping resources, and burnout among secondary school teachers in Spain. *Educational Psychology: An International Journal of Experimental Educational Psychology*, (26)4, 519-539. DOI: 10.1080/01443410500342492
- Bolat, O. İ. (2011). Öz Yeterlilik ve Tükenmişlik İlişkisi: Lider-Üye Etkileşiminin Aracılık Etkisi. *Ege Akademik Bakış*, 11(2), 255-266.
- Chwalisz, K.D., Altmaier, E.M. & Russell, D.W. (1992). Causal attributions, self-efficacy cognition, and coping with stress. *Journal of Social and Clinical Psychology*, 11, 377–400.
- Çapa, Y. Çakıroğlu, J. Sarıkaya, H. (2005). Öğretmenlik özyeterlik ölçeği türkçe uyarlamasının geçerlik ve güvenirlik çalışması. *Eğitim ve Bilim*, 30(137), 74–81.
- Çelikkaleli, Ö. (2011). Yetişkin eğitimcisi öğretmenlerin tükenmişlik ve mesleki yetkinliklerinin incelenmesi. *Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 3(4): 38-53.
- Demirtas, H. & Günes, H. (2002). Eğitim yönetimi ve denetimi sözlügü. Ankara: Anı Yayıncılık.
- Ergin, C. (1992). Doktor ve hemşirelerde tükenmislik ve Maslach Tükenmislik Ölçeginin uyarlanması. VII. Ulusal Psikoloji Kongresi Bilimsel Çalısmaları El Kitabı, 143-154.
- Friedman I. A. & Kass, E. (2002). Teacher self-efficacy: A classroom organization conceptualization. *Teaching and Teacher Education*, 18(6), 675-686.
- Hoy, A. W. (2000) Changes in teacher efficacy during the early years of teaching. *Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans.*
- Karahan, Ş. & Balat, G.U. (2011). Özel eğitim okullarında çalışan eğitimcilerin öz-yeterlik algılarının ve tükenmişlik düzeylerinin incelenmesi. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 29(1), 1-14.
- Kokkinos, C.M. (2007). Job stressors, personality and burnout in primary school teachers. *British Journal of Educational Psychology*, 77, 229–243.

- Lodico, M.G., Spaulding, D.T. & Voegtle, K.H. (2006). *Methods in Educational Research*. John Wiley&Sons, San Fransisco.
- Maslach, C., Schaufeli, W.B. & Leiter, M.P. (2001). Job burnout. Annual Review of Psychology, 52: 397-422.
- Maslach, C. & Jackson, S.E.(1981). The measurement of experienced burnout. *Journal of Occupational Behaviour*, 2:99-113.
- Robbins, S.P. & Judge, T.A. (2013) Organizational behavior. Nobel Academic Publishing, p.217.
- Sürgevil, O. (2006). Çalışma hayatında tükenmişlik sendromu. Ankara: Nobel Yayın Dağıtım.
- Skaalvik, E.M. & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education*, 26,1059-1069.
- Şahin, A. E. (2006). Meslek ve öğretmenlik. (Ed. V. Sönmez). Egitim Bilimine Giris. Ankara: Anı Yayıncılık.
- Şisman, M. (2006). Egitim bilimine giris. Ankara: Anı Yayıncılık.
- Tatlıcı, M. & Kırımoğlu, H. (2008). Atletizm antrenörlerinin mesleki tükenmişlik düzeylerinin incelenmesi. Niğde Üniversitesi Beden Eğitimi ve Spor Bilimleri Dergisi, 2(1), 34-47.
- Tschannen-Moran, M. & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education*, 17, 783-805.
- Yılmaz, M., Gürçay, D., & Ekici, G. (2007). Akademik özyeterlik ölçeginin Türkçeye uyarlanması. Hacettepe Üniversitesi Egitim Fakültesi Dergisi, 33: 253-259.
- Tuckman, B. W. (1991). *Educational psychology. From theory to application*. Florida: Harcourt Brace Jovanovich, Inc.
- Tuğrul, B. & Çelik, E. (2002). Normal çocuklarla çalışan anaokulu öğretmenlerinde tükenmişlik. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 2, (12),1-11.
- Yaman, S., Cansüngü, Ö. & Altunçekiç, A. (2004). Fen bilgisi öğretmen adaylarının öz-yeterlik inanç düzeylerinin incelenmesi üzerine bir araştırma. *Türk Eğitim Bilimleri Dergisi*, 2(3), 355-364.
- Yılmaz, M., Köseoglu, P., Gerçek, C. & Soran, H. (2004a). Yabancı dilde hazırlanan bir ögretmen özyeterlik ölçeginin türkçeye uyarlanması. *Hacettepe Üniversitesi Egitim Fakültesi Dergisi*, 27, 260-267.
- Yılmaz, M., Köseoglu, P., Gerçek, C. & Soran, H. (2004b). Ögretmen öz-yeterlik inancı. *Bilim ve Aklın Aydınlığında Egitim Dergisi*, 5(58), 50-54.