

School Burnout: Testing a Structural Equation Model Based on Perceived Social Support, Perfectionism and Stress Variables*

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Abstract

School burnout is described as the apathetic, ironic behavior and insufficiency of feeling from a student towards school and is associated not only with emotional and behavioral disorder but also with school absenteeism and school dropout. Determining the variables affecting school burnout is essential since it is related to emotional behavioral disorders concerning depression and stress. Additionally, it has a negative relationship with students' psycho-social status and a positive relationship with students' school absences and school dropout. In studies investigating school burnout, this variable has been seen as having high correlation with a range of variables. Especially social support, perfectionism, and stress were highlighted among those variables. The purpose of this study is to test the structural equation model [SEM] as it relates to the social support, perfectionism and stress that are being perceived by the university students to explain their burnout. The participants of the study are the total of 371 students studying at Ankara University, Faculty of Educational Sciences. Mean of these students' age is 21,35 (SD=2,02). 265 of the participants (71,4%) are female and remaining 106 (28,6%) are male. Students' mean of academic achievement (GPAs) is 2,77 (SD=0,46) out of 4,00. Maslach Burnout Inventory Student Scale (MBI-SS) (MTE-ÖF; Schaufeli, Martinez, Pinto, Salanova & Bakker, 2002), Perceived Social Support Scale-Revised (ASDÖ-R; Yıldırım, 1997, 2004), Frost Multidimensional Perfectionism Scale (FÇBMÖ; Frost, Marten, Lahart & Rosenblate, 1990) and Student Life Stress Inventory-Revised (GÖYSE; Gadzella, 1991) are utilized for the collection of data. As a result of the path analysis, it is concluded that social support results in a decrease of exhaustion and increase in stress on a perfectionist person whereas rise in stress lead to exhaustion, however, exhaustion also brings cynicism.

Keywords: School burnout, perceived social support, perfectionism, stress, structural equation model

Introduction

For individuals working in people-oriented occupations (human resources, education, healthcare, etc.) burnout is often seen as an occupational hazard and a work specific type of stress (Demirtaş & Güneş, 2002; Galek, Flannelly, Grene, & Kudler, 2011; Maslach & Goldberg, 1998; Maslach & Jackson, 1985) which is commonly observed in their chosen profession (Beltran et al., 2009). Accordingly, it is postulated that burnout affects people's lives and combined with further environmental pressures threatens personal health (Greenglass, Burke & Konarski, 2007).

Following a literature search on this topic, many definitions for burnout were uncovered. The first was provided by Frudenberger (1974), defining burnout as a failure of individuals due to overload of energy, power, and resources, as a result, they become fatigued and feel exhausted. Other

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definitions of burnout are similar but each also highlights other unique aspects. Some researchers emphasize the intensity of emotional demands in occupations (Greenglass et al., 2007; Hamaideh, 2011), some focus on long-term work stress (Maslach, Schaufeli & Leiter, 2001) while others show the cause as a result of work stress (Cooper, Dewe & O'Driscoll, 2000; Hobfoll & Shirom, 2000; Schaufeli & Enzman, 1998). Even though stress is emphasized in these definitions, Maslach and Jackson (1985) define burnout as a condition resulting from stress in the work place, emotional exhaustion observed in various forms within the employee, an increase in desensitization, and a decrease in personal success. In accordance with their definitions, these researchers use a model which includes the dimensions of emotional exhaustion, desensitization, and personal success. In emotional exhaustion, an individual feels him/her self as being emotionally depressed and overloaded. Desensitization shows itself as an individual's negative and cynical attitude towards others and treating people that he/she is serving as objects. Personal success is related to an individual finding him/her self as self-sufficient.

Investigations show that there is a positive relationship between burnout and chronic job stress resulting from such things as; working intensively (Lee & Ashforth, 1996), role confusion (Schwab & Iwanicki, 1982), business environment (Levert, Lucas & Ortlepp, 2000), poor working conditions (Abel & Sewell, 1999), work-related demands (Martinussen, Richardsen & Burke, 2007) and there is also a negative relationship between burnout and social support received from managers (Zhang & Zhu, 2007) and job satisfaction (Kantas & Vassilaki, 1997). The key concept for comprehending burnout is defined as the increase in emotional exhaustion in which a person comes to a psychological level that he/she can no longer feel self-sufficient (Greenglass et al., 2007; Maslach & Jackson, 1981, 1985). Consistent with the findings of the research studies cited above Lasalvia and Tansella (2011) found that burnout can be observed in an employee as a result of power loss caused by work-related demands (time pressure, mental demands, emotional demands and changing jobs, etc.), emotional exhaustion, decrease in motivation due to lack of resources in the workplace (support of manager, feedback, inspection, variety of task and financial rewards, etc.), depersonalization and personal accomplishment (incompetence).

Burnout is considered to be a problem which can result in serious health issues for the people affected. Accordingly, the prevalence of burnout and health problems associated with it has been reported by different researchers for different business groups (Farber, 2000; Gold & Roth, 1993; Kaschka, Korczak & Broich, 2011; Ripp, Fallar, Babayatsky). Burnout is related to both physical health (Kim, Ji & Kao, 2011) and mental health (Salmela-Aro, Savolainen & Holopainen, 2008). In their study with social workers, Kim et al. (2011), found that the physical health of participants mentioning high level of burnout had deteriorated more rapidly than their peers over a one-year period. In another study it is found that physical diseases (cardiovascular disorders, skeletal disorders) were seen more often with people having symptoms of burnout (Ahola et al., 2005). Additionally, burnout is related to depression (Ahola et al., 2005; Ahola & Hakanen, 2007) and low self-esteem (Butler & Constantine, 2010). It is known that burnout meaningfully differentiates groups displaying anxiety, sleep disorders and memory disorders (Peterson, Demerouti, Bergström, Samuelsson, Asberg & Nygren, 2008). In other words, people experiencing burnout often suffer from more anxiety, sleep disorders and memory disorders.

Although the concept of burnout was initially used for the workplace and employees, recently it is seen that this concept can be adapted to schools and students (Aypay, 2011, 2012; Çapri, Gündüz & Gökçakan, 2011; Parker & Salmela-Aro, 2011; Salmela-Aro, Kiuru, Leskinen & Nurmi, 2009; Stoeber, Childs, Hayward, & Feast, 2011). Researchers state that the school environment should be considered as a workplace for students and students are under pressure regarding their academic achievement. Similarly, student burnout is expressed as a response to chronic stress (Parker & Salmela-Aro, 2011). Accordingly, the concept of school burnout is put forward as students' exhaustion against schools' demands, developing a cynical and unconcerned attitude towards schools, and a feeling of inadequacy (Salmela-Aro, Kiuru, Leskinen & Nurmi, 2009).

It is well known that school burnout is associated with multiple variables. For instance, school burnout is seen to have a negative relationship with student success (Aypay & Eryilmaz, 2011; Parker & Salmela-Aro, 2011; Tuominen-Soini, Salmela-Aro & Niemivirta, 2012) and academic achievement (Balkis, Duru, Buluş & Duru, 2011; McCarthy, Pretty & Catano, 1990) while there is evidence of a positive relationship with symptoms of depression (Dahlin & Runeson, 2007), stress (Santen et al., 2010), school absenteeism and school dropout (Meier & Schmeck, 1985).

Similar to Maslach and Jackson's (1981) burnout model; Parker and Salmela-Aro (2011), illustrate school burnout by way of a three-component structure including exhaustion, cynicism, and as the inadequacy. The school burnout model of Schaufeli et al. (2002) and the model developed by Parker and Salmela-Aro (2011) are comparable. The main contrast between the two models is the use of the concept of efficacy rather than inadequacy. As with the burnout models, Parker and Salmela-Aro (2011) state that emotional exhaustion is the primary component of school burnout and that this emotional exhaustion leads people to experience cynicism. Additionally, according to Parker and Salmela-Aro (2011) as a result of cynicism individuals further develop ineffective coping approaches and ultimately their feelings of inadequacy accumulate. Furthermore, these researchers state that the dimensions of emotional exhaustion and cynicism are strong predictors for feelings of inadequacy.

There are also several external factors that affect school burnout. For example, an increase in schools' expectations from students can accelerate students' stress and burnout. With increased expectations, perceived support from teachers can be considered a factor for decreasing students' burnout. Additionally, it is claimed that burnout can be triggered by students having different academic expectations, as well as, limited sources of social support (Salmela-Aro, Kiuru & Nurmi, 2008; Salmela-Aro & Tynkkynen, 2012). When evaluating the problem of teacher burnout Pyhältö, Pietarinen and Salmela-Aro (2011) provided a similar kind of definition. According to researchers; pressure from time constraints, work load, as well as, receiving limited support from school administrators, colleagues and families can increase the levels of burnout in teachers. In particular, it is stated that the lack of social support or limited availability of social support has a positive relationship with the emotional exhaustion and depersonalization dimensions of burnout (Pyhältö et al., 2011). Salmela-Aro, Tolvanen and Nurmi (2011) explain that features such as self-handicapping, avoidance of social environments and pessimism regarding social settings can lead to problems among individuals and ultimately a reduction in social support.

Even though there is limited data regarding burnout among students, Dyrbye et al. (2009, 2010), explained that burnout is especially common among medical students and the prevalence among college students in general who've experienced burnout is estimated to be 50%. In studies with medical students conducted in different countries the prevalence ratios of burnout varied between 5,2% and 29% (Dahlin, Joneborg & Runeson, 2007; Dahlin & Runeson, 2007; Dyrbye et al., 2009). Additionally, there are studies associating burnout, in both people working in healthcare fields and students, with social support, empathy and service quality (Dyrbye et al., 2010; Hamaideh, 2011; Santen et al., 2010).

Adie and Wakefield (2011) stated that university students' commitment to school has become a major topic of research interest. Additionally, researchers believe burnout observed among university students affects students' motivation and functionality, as well as, leads to increased rates of school dropout. The authors further explain that students' low motivation for learning, avoidance of learning and improper actions during the learning process can be indicators of "learning burnout". Furthermore, it's believed learning burnout has negative effects on students' learning outcomes as well as on their mental and physical health (Qing, 2011).

Research has been conducted on the variables affecting burnout and school burnout. Among those variables; social support, stress, and perfectionism became highly popular. Studies investigating burnout and social support show that individual's receiving adequate social support experienced lower level of burnout and higher personal success than individuals who did not receive sufficient

support (Beltran et al., 2009; Gündüz, 2005). In addition to the social support gained from managers and colleagues, the support gained from family and friends has a negative relationship with burnout (Zhang & Zhu, 2007). Social support predicts the variables of emotional exhaustion, depersonalization and personal accomplishment from subscales of the burnout model described by Maslach and Jackson (1985) and Salami (2009). In the context of school burnout, various studies have examined and provided evidence of the association between social support and burnout. For example, in a study with 657 high school students, Kutsal (2009), determined that students having low social support experienced high level of school burnout. Furthermore, students perceived social support from teachers was found to be a primary agent in preventing school burnout. In another study with 149 students from a private school, Jacobs and Dodd (2003) revealed that social support, especially from friends, negatively correlated with school burnout. Researchers considered it noteworthy that social support created a buffer zone against school burnout. While noting the impact of social context on students' burnout levels, Salmela-Aro, Tynkkynen and Vuori (2010) report that future burnout prevention programs prepared for students must include social support from family, teachers and peers. Similarly, it was concluded in Laursen et al., (2010) that antipathy between adolescent peer groups is also associated with burnout. In addition, the effects of an individual's sociometric status within the group, on his/her burnout is also emphasized.

Salmela-Aro and Tynkkynen (2012) explain that social relationships and social networks increase life satisfaction, as well as, also improve the sense of belonging to the school. The negative relationship between belonging to the school and burnout suggests that social support factors indirectly affect burnout. Kiuru, Nurmi, Aunola and Salmela-Aro (2009), claim that there were indications that each adolescent in their study showed signs of burnout among with their peers. In their study with 88.200 Finnish high school students, Salmela-Aro, Kiuru, Pietikäinen and Jokela (2008) found that support gained from school and motivation gained from teachers had a significant affect on decreasing students' level of burnout. Polman, Borkoles and Nicholls (2010) investigated 334 first-year college students regarding the relationship among burnout, social support, stress, and type D personality. People with type D personality are likely to experience negative feelings, yet less likely to share these feelings. According to the study, there is not a significant relationship between burnout and perceived social support gained from families. In contrast, there is a low but a significant relationship between burnout and perceived social support gained from peers. From these studies, (Nurmi, Aunola & Salmela-Aro, 2009; Pietikäinen & Jokela, 2008; Polman, Borkoles & Nicholls, 2010), the impact of social support and social networks on burnout can be better understood.

Stress is another variable affecting burnout. Studies conducted with nurses (Jaracz, Gorna & Konieczna, 2005), medical professionals (Visser, Smets, Oort & Haes, 2003), doctors (Elit, Trim, Mand-Bains, Sussman & Grunfeld, 2004), teachers (Konert, 1997), athletes (Raedeke & Smith, 2001) and managers (Jamal & Baba, 2000) show a positive relationship between burnout and stress.

In their model in which stress processes are explained, Carson and Kuipers (1998), claim that burnout occurs as a direct result of stress. However, Laugaa, Rasle and Bruchon-Schweitzer (2008) point out that the relationship between stress and burnout can not be considered entirely one-way or linear.

It is suggested that stress also affects school burnout. Salmela-Aro et al., (2008) stated that students' stress factors regarding school can cause students to exhibit depressive symptoms. At the same time, the researchers define school burnout as a specific stress observed in opposition to the school. Based on this, it can be said that there is a positive relationship among stress, burnout and depressive symptoms. Polman et al., (2010) found that the relationship between burnout and stress was a moderate level, positive and significant.

One of the variables having an effect on school burnout is a person's perception of perfectionism. This perfectionism perception is defined as a personal trait or an intrinsic factor triggering burnout (Kaschka et al., 2011). Similarly, when ranking the characteristics of individuals

prone to burnout Farber (2000) explains that in comparison to others these people behave more impulsive and have a perfectionist perspective regarding themselves, their work and family lives.

Richman and Nardi (1985) stated that people prone to burnout have mostly perfectionist personalities. In addition to this, Zhang, Gan and Cham (2007) explain that university students see academic achievement as the primary means for development and this situation increases the incidence of perfectionist personality characteristics among college students. According to this, due to the effects of perfectionism then it is plausible that burnout can be observed among college students. In comparison, Balevre, Cassels and Buazainau (2012), study with 648 nurses, similar results were established to explain the relationship between burnout and perfectionism. According to the results of their study; there is a moderate, positive and meaningful relationship between burnout and perfectionism.

Many studies have been conducted that test the burnout model among college students. In this context, Zhang et al., (2007) testing the model, conducted research among 482 Chinese college students from different classrooms regarding school burnout, perfectionism and engagement. Results of the study showed a moderate, negative, and significant relationship between burnout and engagement. Also, it was determined that there is a meaningful relationship between compatible-incompatible perfectionism and students' levels of burnout. Additionally, the claim of 'setting up standards that are too high for the capacities of people creates burnout for them' was supported by the study data. These findings were similar to findings stated in the burnout model developed by Freudenberger (1974). Furthermore, a sufficient goodness of fit was demonstrated according to the model's index of goodness of fit.

An important aspect of school burnout is that it is thought to reduce students' life satisfaction. In addition, school burnout also emerges as a variable associated with academic failure and school dropout. The importance of determining why students encounter school burnout, as well as, preparing effective prevention, intervention, and retention strategies for students' is more fully understood when one recognizes the psychosocial problems experienced by students' due to their being academically unsuccessful and dropping out the school. When developing this program, first and foremost, is to identify the factors causing burnout. Following a review of the pertinent studies, it was determined that the variables of perceived social support, stress and the perfectionism separately predicted burnout. Also, it is important to recognize that no investigation including a combination of all these variables has been conducted. As a result, the aim of this study was to test a structural equation model with perceived social support, perfectionism, and stress variables in order to describe burnout among college students.

Method

Research Model

The intent of this research was to better illustrate the past and present situation regarding the stated research aim. The relationship between variables was examined and based on the findings a correlation of the relationships between variables was calculated. According to Karasar (2011) this type of research is defined as a relational model.

Study Group

The study group was comprised of a convenience sample of 371 undergraduate students studying at Ankara University Faculty of Educational Sciences. Average age of the students was 21.35 (SD = 2.02) and included 265 female participants (71.4%) and 106 male participants (28.6%). Student participants came from a variety of academic programs including; Guidance & Counseling (132 students, 35.6%), Social Studies (69 students; 18.6%), Preschool Education (61 students, 16.4%), Special Education (41 students, 11.1%), Religious Culture & Moral Education (39 students, 10.5%), Computer & Instructional Technology Teacher Education (21 students, 5.7%), while eight students (2.2%) did not specify their academic program. The academic grade level of participants was as follows; 83 (22.4%) were college freshmen, 100 (27%) in their sophomore year, 99 (26.7%) in their junior year and 85

(22.9%) were college seniors. Four participants (1.1%) did not specify their academic grade level. The average GPA for study group participants was 2.77 out of 4.0 (SD=0.46).

Data Collection Tools

Maslach Burnout Inventory-Student Scale (MBI-SS): The Maslach Burnout Inventory-Student Scale (MBI-SS) developed by Schaufeli et al., (2002) and adapted into Turkish by Çapri, Gündüz and Gökçakan (2011) was used in this study for determining the level of burnout experienced by university students. The original MBI-SS consists of three sub-dimensions with the total of sixteen items. The dimensions include exhaustion with five items, cynicism with five items, and efficacy totaling six items. During the process of adapting the MBI-SS scale for Turkish, three items were removed from the scale, leaving a remaining thirteen items in total. Scoring was based on a Likert type or summative scale format; 1 - Never to 5 - Always. Items from the exhaustion and cynicism dimensions were scored normally while the items from the efficacy dimension were scored inversely. In past studies, the calculated Cronbach's alpha coefficients for internal consistency of the original scale had values ranging from 0.74 to 0.80 for exhaustion, 0.79 to 0.86 for cynicism, and 0.67 to 0.76 for the efficacy (Schaufeli et al., 2002). In the Turkish version, Çapri, Gündüz and Gökçakan (2011), there are a total of thirteen items and Cronbach's alpha coefficient for internal consistency was calculated as 0.76 for exhaustion, 0.74 for cynicism and 0.70 for efficacy.

Furthermore, for the reliability analyses of this study the Cronbach's alpha values were 0.90 for exhaustion, 0.87 for cynicism and 0.73 for efficacy. Also, the factor structure of the scale was tested through confirmatory factor analysis and fit indexes were calculated as $\chi^2/Df=3.22$, RMSEA = 0,078, NNFI= 0,92, CFI= 0,92, IFI= 0,92 and AGFI= 0,55. Findings show that MBI-SS can be utilized as a reliable and valid scale.

Perceived Social Support Scale (PSSS-R): The level of perceived social support among university students was determined using the Perceived Social Support Scale (PSSS-R) developed by Yıldırım (1997, 2004). For purposes of this study, the revised Yıldırım (2004) version was used which consists of fifty items under three subscales including; family, teachers and friends. The Cronbach's alpha coefficient for internal consistency of the entire scale was 0.93; the same value was 0.94 for family, 0.93 for teacher, and 0.91 for friends. Forty-seven items in the scale had positive statements while remaining three items had negative statements. Accordingly, the total points were obtained by reversely scoring these three items.

For this study, the internal consistency coefficients of the scale were calculated and factor structure of the scale was tested through confirmatory factor analysis. According to this, the Cronbach's alpha coefficient for internal consistency of the entire scale was 0.94; the same value was 0.89 for family, 0.89 for friends, and 0.95 for teachers. After the factor structure of the scale was tested through confirmatory factor analyses, fit indexes were calculated as $\chi^2/Df=2.49$, RMSEA=0.063, NNFI=0.96, CFI=0.96, IFI=0.96 and AGFI=0.74. Findings show that PSSS-R can be utilized as a reliable and valid scale.

Frost Multidimensional Perfectionism Scale (FMPS): The Frost Multidimensional Perfectionism Scale (FMPS) developed by Frost, Marten, Lahart and Rosenblate (1990) and adapted into Turkish by Özbay and Mısırlı-Taşdemir (2003) was used in this study for determining the tendency of students' perfectionism. The original FMPS scale consists of six subscales and thirty five items in total. The subscales include; concern over mistakes, personal standards, parental expectations, parental criticism, doubts about actions and order. Responses are offered in a Likert type or summative scale format; 1-strongly disagree to 5-completely agree. The structure of the original scale was confirmed while adapting it to Turkish. Based on this an adaptation study was performed with 489 high school students and it was determined that the scale explained 47.8% of total variance. The Cronbach's alpha internal consistency coefficient was 0.83 and Cronbach's alpha coefficients for the sub-dimensions were expressed from 0.63 to 0.87. Also, the study of 492 college students by Kağan (2011) determined the psychometric properties of the scale with results indicating that a scale with six dimensions was

confirmed. In this study, the scale's Cronbach's alpha for internal consistency coefficient was 0.91, while the value calculated for the subscales ranged from 0.64 to 0.94.

Cronbach's alpha internal consistency coefficient and confirmatory factor analyses were also performed for the FMPS in this study. The Cronbach's alpha values were; for the entire scale 0.91, 0.86 for concern over mistakes, 0.77 for personal standards, 0.83 for parental expectations, 0.77 doubts about actions, 0.76 for parental criticism, and 0.94 for order. After the confirmatory factor analyses of the scale, fit indexes were calculated as $\chi^2/Df = 3.86$, RMSEA = 0.088, NNFI= 0.93, CFI= 0.93, IFI= 0.93 and AGFI= 0.72. Findings show that the FMPS was a reliable and valid scale.

Student-life Stress Inventory-Revised (SSI-R): The original Student-life Stress Inventory was developed by Gadzella (1991) in order to measure college students' cognitive, affective and behavioral responses to sources of stress and to stress they experienced. Later, the scale was revised to the SSI-R or Student-life Stress Inventory-Revised (Gadzella, Baloğlu, Masten & Wang, 2012). The SSI-R consists of two main dimensions with nine sub-dimensions and fifty three items. The main dimensions of the scale are; sources of stress and reactions to stressors. The sub-factors of the stressors are; frustrations, conflicts, pressures, changes self-imposed, and sub-factors of the reactions to stressors are physiological, emotional, behavioral, and cognitive. Scale responses were offered in a Likert type format or summative scale, for example, 1-Never, 2-Rarely, 3-Occasionally, 4-Often and 5-Every time. In the scale the items numbered 8, 51, 52 and 53 were inversely scored. Cronbach's alpha internal consistency coefficient was calculated as 0.92 by Gadzella and Baloğlu (2001). Later, Baloğlu and Bardakçı (2010) adapted the scale for use in Turkish culture through their research of 220 Turkish college students. According to the results of this adaptation study, this scale with nine factors and fifty three items was validated for use in Turkey. Cronbach's alpha for the entire scale's internal consistency coefficient was determined to be 0.88. Internal consistency coefficients for the subscales were calculated and their values ranged between 0.37 and 0.83.

For this study, the Cronbach's alpha value for the entire scale was calculated as 0.92. Cronbach's alpha value for Stressors was calculated as 0.87. Cronbach's alpha value for the sub-dimensions of Stressors was calculated as 0.76 for frustrations, 0.78 for conflicts, 0.68 for pressures, 0.86 for changes, and 0.61 for self-imposing. Cronbach's alpha value for Reactions to Stressors was calculated as 0.89. Cronbach's alpha value for the sub-dimensions of Reactions to Stressors was calculated as 0.86 for physiological, 0.80 for emotional, 0.76 for behavioral, and 0.73 for evaluative. After confirmatory factor analysis of the scale, fit indices were obtained as $\chi^2/Df = 2.80$, RMSEA = 0.070, NNFI = 0.93, CFI = 0.93, IFI = 0.93, and AGFI=0.70, respectively. Results indicate that SSI-R was a reliable and valid scale.

Data Collection and Analysis

During the spring semester of the 2011-12 academic year, study data was collected by researchers using the MBI-SS, PSSS-R, FMPS and SSI-R on college students from Ankara University, Faculty of Educational Sciences. The data collection process was at all times supervised by at least one of the researchers. In the data collection phase, study participants were informed about the purpose and scope of the study. Data collection tools were presented to the volunteers. Data collection tools, in some cases, were applied just prior to the courses starting or after the course had ended. This protocol was followed in an attempt to minimize any disruption of the participants' education. Implementation of data collection instruments lasted approximately 25 minutes. Since, exhaustion and cynicism are considered as an indicator of burnout in the literature, the efficacy subscale of MBI-SS was used in this research (Parker & Salmela-Aro, 2011). Also, the subscale of FMPS, order, was not included in the total score as it indicates positive perfectionism. In the analysis of the study data; arithmetic mean, standard deviation, Pearson Product Moment Correlation coefficient calculation, structural equation model and path analysis were used. Path analysis can be made with latent or observed variables. In this study after testing the structural equation model with observed variables, variables were analyzed through path analysis. The data gathered during the study was analyzed through SPSS 20 and LISREL 8.7 computer software programs.

Findings

The findings for the validity and reliability of the scales used in the research are specified in detail under the "Methods" and "Data Collection Analysis" "Data collection tools" sections. Before giving the results of the study's problems, descriptive statistics related to the scales and their sub-dimensions used are given in Table 1.

Table 1.

Descriptive Statistics Relating to Score Obtained from Measurement Tools

	Variables	n	Mean	SD	Med.	Skewness	Kurtosis
MBI-SS	Exhaustion	371	15,25	4,92	14	0,36	-0,93
	Cynicism	371	10,98	4,20	10	0,37	-0,70
	Efficacy	371	12,52	3,14	12	0,17	-0,41
PSSS-R	Social Support	371	121,28	15,38	121	-0,28	-0,01
FMPS	Perfectionism	371	81,73	17,76	81	0,60	0,64
SSI-R	Stress	371	140,65	26,50	140	0,34	0,47

Examination of Table 1 illustrates that the scores of MBI-SF's three sub-dimensions had a wide range and the mean is observed to be three to four times more than the standard deviation. Also, it can be recognized that a total score was not calculated for this scale. It was found that the range was not too wide compared to the number of items in PSSS-R and the mean is seven to eight times more than the standard deviation in the total scale scores, as well as, in all the sub-dimensions. In other words, the scores obtained from the scales were found to be relatively homogeneous. When the total scale scores were obtained from FMPS, it was seen that the mean was five times more than the standard deviation. In the results obtained from the sub-dimensions according to the total score showed that structure was relatively heterogeneous. Since the mean was three to four times more than the standard deviation except from the sub-dimension of order. In the sub-dimension of FMPS, order, the layout seemed to be spreading parallel to the total score. Total score for SSI-R was not calculated; however, the mean of sub-dimensions of the scale was five times more of the standard deviation. These findings inform that there are not any abnormal conditions in the distribution of data. A normal distribution was observed in all the applied scales and sub-dimensions.

After the descriptive statistics, the correlations between variables were calculated in order to provide information about variables that will take place in the structural equation model. As all of the variables in the scale are continuous and intermittent, the Pearson Product Moment Correlation Coefficient was calculated. Results of correlation between variables included in the structural equation model are given in Table 2.

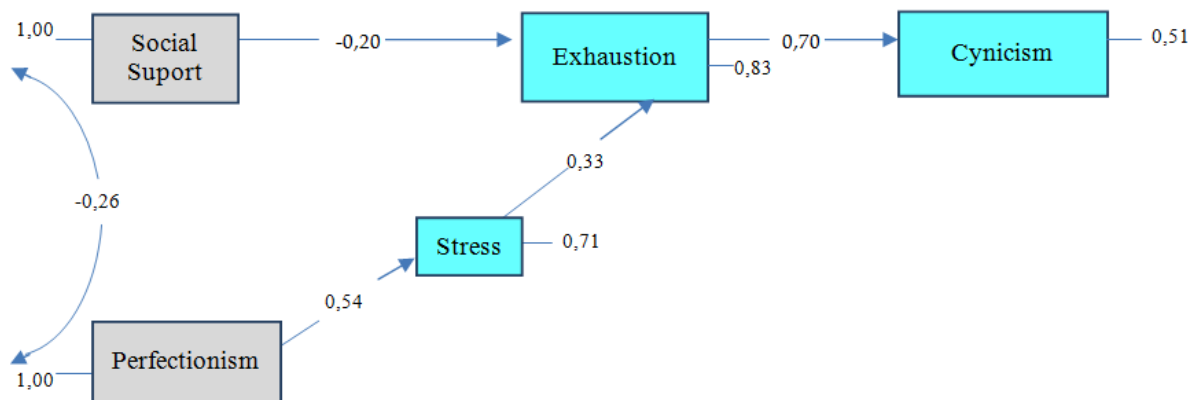
Table 2.
Pearson Product Moment Correlation Coefficients between Variables

Variables	C	E	SS	P	S
Exhaustion (E)	0.72**	-0.32**	-0.27**	0.24**	0.36**
Cynicism (C)		-0.26**	-0.28**	0.18**	0.26**
Efficacy (E)			0.29**	-0.05	-0.11*
Social Support (SS)				-0.22**	-0.16**
Perfectionism (P)					0.55**
Stress (S)					

* p<.05; **p<.01

In Table 2 it can be observed that the MBI-SS sub-dimension, efficacy, has a negative correlation with all variables excluding social support. Also, there is a statistically significant correlation between efficacy and perfectionism. Otherwise, all the remaining variables have statistically significant correlations between the level of .05 and .01. Especially, those correlation values relatively higher than others were between exhaustion and cynicism (r=0,72**), as well as, between perfectionism and stress (r=0,55**). The lowest statistically significant relationship was observed with the efficacy of stress (r= -0,11*). Relationships occurred between variables but taking into account relevant literature it demonstrates that a model can be obtained which predicts the dimensions of exhaustion and cynicism for the appropriate variables.

Before creating the Structural Equation Model (SEM) to be used in this research, the relationships between all variables were taken into consideration. Alternative models were tested with the related sub-dimensions of all included scales and the model which demonstrated the most perfect harmony is described in Figure 1. Based on this model; social support directly predicts exhaustion, while perfectionism is significantly predicted through stress. As a result, exhaustion is a significant predictor of cynicism.



Chi-Square= 9.14, df= 5, p= 0,10351, RMSEA= 0,047

Figure 1. Path Diagram for Burnout Regarding College Students

Examination of Figure 1 illustrates that based on the literature review, exhaustion (emotional exhaustion) after cynicism is explained through exhaustion of social support and perfectionism is explained through stress and burnout. Fit and unfit indexes of the model are calculated as $\chi^2/Df = 1,83$, RMSEA=0,047, NFI= 0,98, NNFI= 0,98, CFI= 0,99, GFI= 0,99 and AGFI= 0,97. In other words, it has been concluded that perceived social support decreases an individual's exhaustion, perfectionist people have higher levels of stress which leads to exhaustion, and exhaustion also brings cynicism.

Results and Discussion

In this study, a structural equation model with perceived social support, perfectionism and stress variables was tested in order to explain burnout among university students. Results confirm that there are relationships among three sub-dimensions of MBI-SS with social support, perfectionism and stress. Based on path analysis, it was concluded that exhaustion is decreased as a result of social support, perfectionist individuals have increased level of stress, a higher level of stress causes exhaustion and exhaustion brings cynicism. These findings are consistent with the literature discussed in detail below (Jenkins & Elliott, 2004; Pines & Keinan, 2005; Salami, 2009).

Studies with health care workers (Ripp, Fallar, Babyatsky, David, Reich & Korenstein, 2010; Sundin, Hochwalder, Bildt & Lisspers, 2007; Wright, Banas, Bessarabova & Bernard, 2010), teachers (Kahn, Schneider, Jenkins-Henkelman & Moyle, 2006; Song, 2008) and students (Jacobs & Dodd, 2003) show that there is a relationship between burnout and social support. In Kutsal and Bilge's (2012) study conducted with high school students it was observed that perceived social support from the students families, teachers, and friends was associated with the sub-dimensions of burnout, the loss of faith and self-efficacy. Also, in a study conducted by Yang and Farn (2005), 39% of the variance in burnout was explained by masculinity, femininity and social support. While in another study, Jacobs and Dodd (2003) demonstrated a relationship between high level of depersonalization and low level of social support in undergraduate students. Additionally, Yang (2004) revealed that social support has a negative impact on students' burnout. In other words, it is demonstrated through these studies that when social support is increased, school burnout is decreased. Similar findings were established in studies investigating burnout in teachers. For example, in a study in which the teachers receiving and not receiving social support were compared, Gündüz (2005) determined that teachers without social support had higher scores on emotional exhaustion and depersonalization. In the same study, it was highlighted that an important factor is from whom the perceived social support was derived. Accordingly, it was identified that teachers receiving social support only from their spouse had higher level of emotional exhaustion compared to teachers receiving social support from multiple sources including school counselors. Finally, Kim, Lee and Kim (2009) determined that perceived social support and negative emotions in teacher expectations explained 23% of the variances of burnout.

Carson and Kuipers (1998) proposed a model consisting of three levels containing the processes of stress. Factors causing stress due to external sources are identified in the first level. Among these factors, work-related reasons and difficulties experienced during daily life are included. In the second level, mediators which form buffer zones against the negative effects of stress are mentioned. High self-esteem, strong social relationships, healthy coping styles, self-control, emotional balance and strong psychological mechanisms are cited as mediators. The results of the stress are explained in the last level. In line with findings from this study, the authors claim that burnout occurs as a result of stress. Consistent with this model Chang, Rand and Strunk (2000) determined that perceived stress was associated with burnout in students from private schools, as well as, that optimism causes a decrease in perceived stress. Furthermore, perceived stress increases burnout and depersonalization while decreasing competence. In studies with health care workers, similar results are also noteworthy. For example, Wright et al. (2010) learned that perceived communication competence appears to reduce stress while increasing the satisfaction of social support. In the same study, it was also determined that an increase in perceived stress had a causal effect of increasing the dimensions of emotional burnout and depersonalization. In another study, it was discovered that nurses experienced an increase in irrational thoughts based on the source of their stress, for example, conflict among nurses, role conflict, quantitative workload, qualitative work load, and working with patients. These irrational thoughts caused burnout by increasing negative automatic thoughts while decreasing positive automatic thoughts. When the entirety of these research findings are considered together, stress and burnout appear to be closely linked.

Perfectionism is also considered as one of the most important factors explaining school burnout. Research that attempts to explain burnout in the context of perfectionism frequently emphasizes the maladaptive nature of perfectionism. As a result, maladaptive perfectionism has been found to increase burnout (Zhang, Gan & Cham, 2007).

The findings obtained in this study and in the related literature reveal that cynicism occurs as a result of emotional exhaustion and that emotional exhaustion or cynicism are closely associated with stress, perfectionism, and social support. School burnout is thought to contribute to decreasing academic achievement, as well as, to increasing school dropout. Therefore, it is important for school counselors to develop intervention programs for students identified as experiencing school burnout. In particular, school burnout can be reduced by providing support and counseling to individuals' needs regarding the aspects of perfectionism and social support. However, before fully developing these programs it is important to clearly define the variables associated with school burnout.

In this respect, the following questions can be investigated in future studies:

1. The variety of school subjects and the difficulty of exams determining students' future are the causes of stress for students. This stress reduces students' life satisfaction and it can be associated with various adaptation problems (e.g., anxiety, substance abuse, aggression). In future research the relationship between school burnout and compliance issues can be addressed.
2. Individual deficiencies in information processing may play a role in the relationship between stress and burnout. In future research the relationship between school burnout and information processing can be analyzed.
3. As indicated previously, social support is one of the most important predictors of burnout. Individuals are known to burnout more in the absence of social support. In this context, lack of social support resulting in peer victimization may often contribute to burnout. In future research the relationship between school burnout and peer victimization can be addressed.
4. Another variable that may be associated with school burnout is self-efficacy. Individuals attributing success to internal causes and failure to external causes have a high level of self-efficacy. Students with a higher level of self-efficacy might have a lower level of burnout. In future research how self-efficacy affects burnout can be examined.

References

- Abel, M. H., & Sewell, J. (1999). Stress and burnout in rural and urban secondary school teachers. *Journal of Educational Research, 92*, 287- 293.
- Adie, J. & Wakefield, C. (2011). Perceptions of the teaching environment, engagement and burnout among university students on a sports-related degree programme in the UK. *Journal of Hospitality, Leisure, Sport and Tourism Education, 10* (2), 74-84.
- Ahola, K., & Hakanen, J. (2007). Job strain, burnout and depressive symptoms: A prospective study among dentists. *Journal of Affective Disorders, 104*, 103–110.
- Ahola, K., Honkonen, T., Isometsä, E., Kalimo, R., Nykyri, E., Aromaa, A. & Lönnqvist, J. (2005). The relationship between job-related burnout and depressive disorders-results from the Finnish Health 2000 Study. *Journal of Affective Disorders, 88* (1), 55-62.
- Aypay, A. (2011). İlköğretim II. kademe öğrencileri için okul tükenmişliği ölçeği: Geçerlik ve güvenilirlik çalışması. [Elementary school student burnout scale for grades 6-8: A study of validity and reliability]. *Kuram ve Uygulamada Eğitim Bilimleri, 11* (2), 511-527.
- Aypay, A. (2012). Ortaöğretim öğrencileri için okul tükenmişliği ölçeği (OOTÖ). [Secondary school burnout scale (SSBS)]. *Kuram ve Uygulamada Eğitim Bilimleri, 12* (2), 773-787.
- Aypay, A. ve Eryılmaz, A. (2011). Lise öğrencilerinin öznel iyi oluşları ve okul tükenmişliği arasındaki ilişkiler. [Relationships of high school students' subjective well-being and school burnout]. *International Online Journal of Educaitional Sciences, 3* (1), 181-199.
- Balevre, P. S., Casseles, J. & Buazainu, E. (2012). Professional nursing burnout and irrational thinking. *Journal for Nurses in Staff Development, 28* (1), 2-8.
- Balkıs, M., Duru, E., Buluş, M., ve Duru, S. (2011). Tükenmişliğin öğretmen adayları arasındaki yaygınlığı, demografik değişkenler ve akademik başarı ile ilişkisi. [The prevalence of burnout among prospective teachers, its relation with demographic variables and academic achievement]. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi, 229*, 151-165.
- Baloğlu, M. ve Bardakçı, S. (2010). Güncellenmiş öğrenci yaşamı stres envanterinin Türkçeye uyarlanması, dil geçerliği ve ön psikometrik incelemesi. [The adaptation of the student-life stress inventory-revised to Turkish language validity and preliminary psychometric properties]. *Türk Psikolojik Danışma ve Rehberlik Dergisi, 4* (33), 57-70.
- Beltran, C. A., Moreno, M. P., Estrada, J. S. Lopez, T. M. & Rodriguez, A. (2009). Social support, burnout syndrome and occupational exhaustion among traffic police agents. *The Spanish Journal of Psychology, 12* (2), 585-592.
- Butler, S. K. & Constantine, M. G. (2010). Collective self-esteem and burnout in school counselors. In M. A. Hermann, T. P. Remley, Jr, & W. C. Huey (Eds.), *Ethical and legal issues in school counseling* (3rd ed.). Alexandria, VA: American School Counselor Association.
- Carson, J. & Kuipers, E. (1998). Stress management interventions. In S. Hardy, J. Carson & B. Thomas(Eds.), *Occupational stress: Personal and professional approaches*. Cheltenham: Stanley Thornes.
- Chang, E. C., Rand, K. L., & Strunk, D. P. (2000). Optimism and risk for burnout among working college students: Stress as a mediator. *Personality and Individual Differences, 29*, 255-263.
- Cooper, C. L., Dewe, P. J., & O'Driscoll, M. P. (2001). *Organizational stress*. Thousand Oaks, CA: Sage.
- Çapri, B., Gündüz, B. ve Gökçakan, Z. (2011). Maslach tükenmişlik envanteri-öğrenci formunun (MTE-ÖF) Türkçe'ye uyarlanması geçerlik ve güvenilirlik çalışması. [Turkish adaptation of Maslach burnout inventory-student scale (MBI-SS): Validity and reliability study]. *Çukurova Üniversitesi Eğitim Fakültesi Dergisi, 40* (1), 134-147.
- Dahlin, M., Joneborg, N. & Runeson, J. B. (2007). Performance-based self-esteem and burnout in a cross-sectional study of medical students. *Medical Teacher, 29*, 43-48.

- Dahlin M.E., & Runeson B. (2007) Burnout and psychiatric morbidity among medical students entering clinical training: A three year prospective questionnaire and interview-based study. *BMC Medical Education*, 7, 6–14.
- Demirtaş, H. ve Güneş, H. (2002). *Eğitim yönetimi ve denetimi sözlüğü*. [Dictionary of educational management and supervision]. Ankara: Anı yayıncılık.
- Dyrbye, L. N., Massie, F. S., Eacker, A., Harper, W., Power, D., Durning, S. J., Thomas, M. R., Moutier, C., Satele, D., Sloan, J. & Shanafelt, T. D. (2009). Relationship between burnout and professional conduct attitudes among US medical students. *Journal of American Medical Association (JAMA)*, 304 (11), 1173-1180.
- Dyrbye, L. N., Power, D. V., Massie, F. S., Eacker, A., Harper, W., Thomas, M. R., Szydlo, D. W., Sloan, J. A., & Shanafelt, T. D. (2010). Factors associated with resilience to recovery from burnout: A Prospective, multi-institutional study of US medical students. *Medical Education*, 44, 1016-1026.
- Elit, L., Trim, K., Mand-Bains, I.H., Sussman, J. & Grunfeld, E. (2004). Job satisfaction, stress, and burnout among Canadian gynecologic oncologists. *Gynecologic Oncology*, 94, 134–139.
- Farber, B. A. (2000). Treatment for different types of teacher burnout. *Journal of Clinical Psychology*, 56 (5), 675-689.
- Freudenberger, N. J. (1974). Staff burnout. *Journal of Social Issues*, 30, 159-165.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, 14, 449-468.
- Gadzella, B. M. & Baloğlu, M. (2001). Confirmatory factor analysis and internal consistency of the student-life stress inventory. *Journal of Instructional Psychology*, 28, 84-94.
- Gadzella, B., Baloglu, M., Masten, W., & Wang, Q. (2012). Evaluation of the student life-stress inventory-revised. *Journal of Instructional Psychology*, 39 (2), 82-91.
- Galek, K. Flannelly, K. J., Greene, P. B. & Kudler, T. (2011). Burnout, secondary traumatic stress and social support. *Pastoral Psychology*, 60, 633-649.
- Gold, Y. & Roth, R. A. (1993). *Teachers managing stress and burnout: The professional health solution*. London: The Falmer Press.
- Greenglass, E. R., Burke, R. J. & Konarski, R. (1997). The impact of the social support on the development of burnout in teachers: Examination of a model. *Work & Stress*, 11 (3), 267-278.
- Gündüz, B. (2005). İlköğretim öğretmenlerinde tükenmişlik. [Burnout of teachers in basic education]. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 1 (1), 152-166.
- Hamaideh, S. H. (2011). Burnout, social support, and job satisfaction among Jordanian mental health nurses. *Issues in Mental Health Nursing*, 32, 234-242.
- Hobfoll, S. E., & Shirom, A. (2000). Conservation of resources theory: Applications to stress and management in the workplace. In R. T. Golembiewski (Ed.), *Handbook of organization behavior* (2nd ed., pp. 57–81). New York: Dekker.
- Jacobs, S. R., & Dodd, D. K. (2003). Student burnout as a function of personality, social support, and workload. *Journal of College Student Development*, 44, 291-303.
- Jamal, M., & Baba, V.V. (2000). Job stress and burnout among Canadian managers and nurses: An empirical examination. *Canadian Journal of Public Health*, 91, 454–458.
- Jaracz, K., Gorna, K. & Konieczna, J., (2005). Burnout, stress and styles of coping among hospital nurses. *Roczniki Akademii Medycznej w Białymstoku*, 50(1), 216-219.
- Jenkins, R., & Elliott, P. (2004). Stressors, burnout and social support: Nurses in acute mental health settings. *Journal of Advanced Nursing*, 48 (6), 622-631.
- Kağan, M. (2011). Frost çok boyutlu mükemmeliyetçilik ölçeğinin Türkçe formunun psikometrik özellikleri. [Psychometric properties of the Turkish version of the Frost multidimensional perfectionism scale]. *Anadolu Psikiyatri Dergisi*, 12(3), 192-197.

- Kahn, J.H., Schneider, K.T., Jenkins-Henkelman, T.M. & Moyle, L.L. (2006). Emotional social support and job burnout among high-school teachers: is it all due to dispositional affectivity? *Journal of Organizational Behavior*, 27 (6), 793–807.
- Kantas, A. & Vassilaki, E. (1997). Burnout in Greek teachers: main findings and validity of the Maslach Burnout Inventory. *Work & Stress*, 11(1), 94-100.
- Karasar, N. (2011). *Bilimsel araştırma yöntemi*. [Scientific research method]. Ankara: Nobel yayın dağıtım.
- Kaschka, W. P., Korczak, D. & Broich, K. (2011). Burnout: A fashionable diagnosis. *Deutsches Ärzteblatt International*, 108 (46), 781-787.
- Kim, H., Ji, J. & Kao, D. (2011). Burnout and physical health among social workers: A three-year longitudinal study. *Social Work*, 56(3), 258-268.
- Kim, M.Y., Lee, J.Y. & Kim, J. (2009). Relationships among burnout, social support, and negative mood regulation expectancies of elementary school teachers in Korea. *Asia Pacific Education Review*, 10 (4), 475-482.
- Kiuru, N., Nurmi, J. E., Aunola, K. & Salmela-Aro, K. (2009). The role of peer groups in adolescents' educational trajectories. *European Journal of Developmental Psychology*, 6 (5), 521-547.
- Konert, E. (1997). *Relationship among middle-school teacher burnout, stress, job satisfaction and coping styles*. Wayne State University. Detroit: Unpublished Ph.D. Dissertation.
- Kutsal, D. (2009). *Lise öğrencilerinin tükenmişliklerinin incelenmesi*. [A study on the burnout of high school students]. Yayınlanmamış Yüksek Lisans Tezi. [Unpublished master thesis]. Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.
- Kutsal, D. & Bilge, F. (2012). A study on the burnout and social support levels of high school students. *Education and Science*, 37 (164), 283–297.
- Lasalvia, A. & Tansellai M. (2011). Occupational stress and job burnout in mental health. *Epidemiology and Psychiatric Sciences*, 20, 279-285.
- Laugaa, D., Rasclé, N. & Bruchon-Schweitzer, N. (2008). Stress and burnout among French elementary school teachers: A transactional approach. *European Review of Applied Psychology*, 58, 241-251.
- Laursen, B., Bukowski, W. B., Nurmi, J. E., Marion, D., Salmela-Aro, K. & Kiuru, N. (2010). Opposites detract: Middle school peer group anthropaties. *Journal of Experimental Child Psychology*, 106, 240-256.
- Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81, 123–133.
- Levert, T., Lucas, M. & Ortlepp, K. (2000). Burnout in psychiatric nurses: Contributions of the work environment and a Sense of Coherence. *South African Journal of Psychology*, 30, 36-43.
- Martinussen, M., Richardsen, A. M. & Burke, R. J. (2007). Job demands, job resources, and burnout among police officers. *Journal of Criminal Justice*. 35, 239–249.
- Maslach, C. & Goldberg, J. (1998). Prevention of burnout: New perspectives. *Applied & Preventive Psychology*. 7, 63-74.
- Maslach, C. & Jackson, S. E. (1981). The measurement experienced burnout. *Journal of Occupational Behaviour*, 2, 99-113.
- Maslach, C. & Jackson, S. E. (1985). The role of sex and family variables in burnout. *Sex Roles*, 12 (7/8), 837-851.
- Maslach, C., Schaufeli, W. B. & Leiter, M. P. (2001). Job burnout. *Annual Review Psychology*, 52, 397-422.
- Meier, S. T., & Schmeck, R. R. (1985). The burned-out college student: A descriptive profile. *Journal of College Student Personnel*, 26 (1), 63-69.
- McCarthy, M.E., Pretty, G.M.H. & Catano, V.M. (1990). Psychological sense of community and student burnout. *Journal of College Student Development*, 31, 211-216.

- Özbay, Y. ve Mısırlı-Taşdemir, Ö. (2003, Temmuz). Çok boyutlu mükemmeliyetçilik ölçeği: Geçerlik ve güvenilirlik çalışması. [Multidimensional perfectionism scale: Validity and reliability study]. VII. Ulusal Psikolojik Danışma ve Rehberlik Kongresinde bildiri olarak sunulmuştur. 9-11 Temmuz, Malatya.
- Parker, P. D. & Salmela-Aro, K. (2011). Developmental processes in school burnout: A comparison of major developmental models. *Learning and Individual Differences, 21*, 244-248.
- Peterson, U., Demerouti, E., Bergström, G., Samuelsson, M., Asberg, M. & Nygren, A. (2008). Burnout and physical and mental health among Swedish healthcare workers. *Journal of Advanced Nursing, 62* (1), 84-95.
- Pines, A. M., & Keinan, G. (2005). Stress and burnout: The significant difference. *Personality and individual differences, 39*, 625-635.
- Polman, R., Borkoles, E. & Nicholls, A. R. (2010). Type D personality, stress and symptoms of burnout: The influence of avoidance coping and social support. *British Journal of Health Psychology, 15*, 681-696.
- Pyhältö, K., Pietarinen, J. & Salmela-Aro, K. (2011). Teacher-working environment fir as a framework for burnout experienced by Finnish teachers. *Taching and Teacher Education, 27*, 1101-1110.
- Qing, S. (2011). Preparation of test measuring table on university students' learning burnout about physical education. International Conference on Future Computer Science and Education, 411-415.
- Raedeke, T.D., & Smith, A.L. (2004). Coping resources and athlete burnout: An examination of stress mediated and moderation hypothesis. *Journal of Sport & Exercise Psychology, 26*, 525-541.
- Richman, D. R. & Nardi, T. J. (1985). A rational-emotive approach to understanding and treating burnout. *Journal of Rational-Emotive & Cognitive-Behaviour Therapy, 3* (1), 55-64.
- Ripp, J., Fallar, R., Babayatsky, M., David, R., Reich, L. & Korenstein, D. (2010). Prevalence of resident burnout at the start of training. *Teaching and Learning in Medicine: An International Journal, 22* (3), 172-175.
- Salami, S. O. (2009, August). Job-related stress, personality, social support and burnout among college of education lecturers. Paper presented at the 4th Regional Conference on Higher Education Research for Sustainable Development in Africa, Uganda
- Salmela-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J. E. (2009). School burnout inventory (SBI): Reliability and validity. *European Journal of Psychological Assessment, 25*, 48-57.
- Salmela-Aro, K., Kiuru, N., E., & Nurmi, J. E. (2008). The role of educational track in adolescents' school burnout: A longitudinal study. *British Journal of Educational Psychology, 78* (4), 663-689.
- Salmela-Aro, K., Kiuru, N., Pietikäinen, M. & Jokela, J. (2008). Does school matter? The role of school context in adolescents' school-related burnout. *European Psychologist, 13* (1), 12-23.
- Salmela-Aro, K., Savolainen, H., & Holopainen, L. (2009). Depressive symptoms and school burnout during adolescence: evidence from two cross-lagged longitudinal studies. *Journal of Youth and Adolescence, 38*, 1316-1327.
- Salmela-Aro, K., Tolvanen, A. & Nurmi, J. E. (2009). Achievement strategies during university studies predict early career burnout and engagement. *Journal of Vocational Behavior, 75*, 162-172.
- Salmela-Aro, K., Tynkkynen, L. & Vuori, J. (2012). Parents' work burnout and adolescents' school burnout: Are they shared? *European Journal of Developmental Psychology, 8* (2), 215-227.
- Salmela-Aro, K. & Tynkkynen, L. (2012). Gendered pathways in school burnout among adolescents. *Journal of Adolescence, 35* (4), 929-939.
- Santen, S. A., Holt, D. B., Kemp, J. D. & Hemphill, R. R. (2010). Burnout in medical students: Examining and associated factors. *Southern Medical Journal, 103* (8), 758-763.

- Schaufeli, W. B., Martinez, I. M., Pinto, A. M., Salanova, M. & Bakker, A. B. (2002). *Burnout and engagement in university students: A cross national study. Journal of Cross-Cultural Study, 33* (5), 464-481.
- Schaufeli, W. & Enzmann, D. (1998). *The burnout companion to study and practice: A critical analysis.* London: Taylor and Francis.
- Song, Z., (2008). Current situation of job burnout of junior high school teachers in Shangqiu urban areas and its relationship with social support. *Frontiers of Education in China, 3*(2), 295-302.
- Stoeber, J., Childs, J. H., Hayward, J. A. & Feast, A. R. (2011). Passion and motivation for studying: Predicting academic engagement and burnout in university students. *Educational Psychology, 31* (4), 513-528.
- Sundin, L., Hochwalder, J., Bildt, C., & Lisspers, J. (2007). The relationship between different work-related sources of social support and burnout among registered and assistant nurses in Sweden: a questionnaire survey. *International Journal of Nursing Studies, 44*(5), 758-769.
- Schwab, R. L., & Iwanicki, E. F. (1982). Perceived role conflict, role ambiguity, and teacher burnout. *Educational Administration Quarterly, 18*, 60-74.
- Tuominen-Soini, H., Salmela-Aro, K., & Niemivirta, M. (2011). Stability and change in achievement goal orientations: A person-centered approach. *Contemporary Educational Psychology, 36*, 82-100.
- Visser, M. R. M., Smets, E. M. A., Oort, F. J. & Haes, C. J. M. (2003). Stress, satisfaction and burnout among Dutch medical specialists. *CMAJ, 168* (3), 271-275.
- Wright, K., Banas, J. A., Bessarabova, E., & Bernard, D. (2010). A communication competence approach to examining healthcare social support, stress, and job burnout. *Health Communication, 25*, 375-382.
- Yang, H.-J. (2004). Factors affecting student burnout and academic achievement in multiple enrollment programs in Taiwan's technical-vocational colleges. *International Journal of Educational Development, 24*, 283-301.
- Yang, H.-J., & Farn, C. K. (2005). An investigation the factors affecting MIS student burnout in technical-vocational college. *Computers in Human Behavior, 21*, 917-932.
- Yıldırım, İ. (1997). Algılanan sosyal destek ölçeğinin geliştirilmesi, güvenilirliği ve geçerliği. [Development, reliability and validity of perceived social support scale]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 13*, 81-87.
- Yıldırım, İ. (2004). Algılanan sosyal destek ölçeğinin revizyonu. [Revision of perceived social support scale]. *Eğitim Araştırmaları, 17*, 221-236.
- Zhang, Y., Gan, Y. & Cham, H. (2007). Perfectionism, academic burnout and engagement among Chinese college students: A structural equation modeling analysis. *Personality and Individual Differences, 43*, 1529-1540.
- Zhang, Q. & Zhu, W. (2007). Teacher stress, burnout, and social support in Chinese secondary education. *Human Communication, 10*(4), 487-496.