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Secondary School Burnout Scale (SSBS)

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Abstract

The purpose of this study is to develop "Secondary School Burnout Scale." Study group included 728 students out of 14 schools in four cities in Turkey. Both Exploratory Factor Analysis and Confirmatory Factor Analysis were conducted on the data. A seven-factor solution emerged. The seven factors explained 61 % of the total variance. The model indices of the Confirmatory Factor Analysis indicated a good-fit. Cronbach Alpha reliability coefficients for the sub-dimensions of the instrument ranged from .67 to .86. Split-half correlation coefficient for the sub-dimensions of the instrument ranged between .63 and .86. To establish criterion validity of the scale, "Academic Locus of Control Belief Scale" was used. There were low and medium correlations among the scales.

Key Words

Burnout, School Burnout, Scale.

The majority of research that focused on the relationship between "school-student" concerned with the effects of psychological and social of school characteristics on students (Kuperminc, Leadbeater, & Blatt, 2001; Normandeau & Guay, 1998; Rigby, 1999; Schunk, 1991). One of the strands that is concerned with the relationship between school and student in the literature is school burnout, a phenomenon that stem from school life.

Since it has come up in the literature, the concept of burnout was considered only a syndrome that experienced in business life (Yang & Farn, 2005). The main reason for that, a high level of burnout was perceived as a threat to both organizational psychology and individual effectiveness in organizations (Kahill, 1988; Löwenstein, 1991). Thus, studies usually designed around individual business practices and issues related to burnout which emerge in business contexts (Burke, Greenglass, & Schwarzer, 1996; Jacobs & Dodd, 2003).

Since school requires an intensive and continious interaction (Farber & Miller, 1981; Van Horn, Schaufeli, & Enzmann, 1999) and it is a source of stress by itself (Chang, Rand, & Strunk, 2000); there have been studies conducted on the burnout of teachers, school psychologists and other school staff (Akçamete, Kaner, & Sucuoğlu 2001; Bakker & Schaufeli, 2000; Cemaloğlu & Kayabaşı, 2007; Farber & Miller; Friedman, 1999; Greenglass, Fiksenbaum, & Burke, 1994; Huebner, 1992; Ross, Altmaier, & Russell, 1989; Russell, Altmaier, & Van Velzen, 1987; Sandoval, 1993; Sucuoğlu & Kuloğlu, 1996; Tatar & Horenczyk, 2003). However, it is ignored until recently that the relationship among "student-school-burnout" handled as if schools are business contexts (McCarthy, Pretty & Catano, 1990; Salmela-Aro, Savolainen, & Holopainen, 2009) and students carried out tasks regarding school related duties like work environment (Balogun, Helgemoe, Pellegrini, & Hoeberlein, 1996; Chambel & Curral, 2005; Fimian, Fastenau, Tashner, & Cross, 1989). The syndrome cited in the literature as school burnout defined burnout observed on students. This

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syndrome could be defined as the exhaustion as a result of the stress and pressure that stem from assignments and responsibilities of students concerning school and school related activities (McCarthy, Pretty, & Catano, 1990; Yang & Farn, 2005).

The concept of burnout is defined as a three-dimensional syndrome: emotional exhaustion, depersonalization and reduced "sense of" personal accomplishment (Maslach & Jackson, 1981). The basic indicators of emotional exhaustion are chronic fatique and tension. The main indicator of depersonalization is callousness (Vasalampi, Salmela-Aro, & Nurmi, 2009). Individual finds the work meaningless and loses out his/her motivation (Green, Walkey & Taylor, 1991). The main indicator of reduced sense of personal achievement is a perception of low level of self-efficacy (Jacobs & Dodd, 2003; Maslach, Schaufeli, & Leiter, 2001; Salmela-Aro, Savolainen et al., 2009).

In order to measure student burnout, Maslach Burnout Inventory-Student Survey (MBI-SS) (Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002) was adapted from the Maslach Burnout Inventory-General Survey (MBI-GS)

Also from the Bergen Burnout Indicator 15 (BBI-15), "School Burnout Inventory" (SBI) was adapted (Salmela-Aro & Näätänen, 2005). Later, Salmela-Aro, Kiuru, Leskinen, and Nurmi (2009) revised SBI validity and reliability analyzes and came up with a nine-item instrument. In all these instruments, factor structures were found same as the ones developed in the business contexts: exhaustion, cynicism and efficacy (or sense of inadequacy). Then the following question could be raised: since school burnout inventories and business burnout inventories had same factor structures, does this mean that students and workers burnout patterns are the same? Or could this identical factor structures be a result of simply changing contextual words, such as replacing "work" with "doing homework" and replacing "workplace" with "school", in the school burnout inventories and instruments that measure burnout in the workplace.

Burnout as a syndrome could be defined with some typical characteristics. However, it is expected that for individuals in different developmental stages, in the different contexts, and in the different life experiences this syndrome might be experienced with some peculiarities. In practice, research findings on burnout indicated that it is a result of the interaction between organizational structures and individual characteristics (Jacobs & Dodd, 2003; Vasalampi et al., 2009). According to Brofenbrenner (1996), theoretically there were differences in the developmental process when human beings is developing, perceiving the environment in which the individual is situated, and coping with the environment. These explanations point out that there might be differences between the superior-worker relationship and teacher-student relationship. Moreover, other forces that might influence school and student relationships such as family, examinations, and tutoring while the interaction among them could also change the burnout that students experience from the burnout that workers experience. In addition to all these factors, theories of human development argues that various developmental stages require different developmental characteristics (Erikson, 1984; Gander & Gardiner, 2004; Inhelder & Piaget, 1958; Miller, 2008). Even there are sub-developmental stages included within some developmental stages (Arnett, 2000; Özyurt 2007). For example, scholars make a distinction among early-adolescence, mid-adolescence and late-adolescence. Thus, studies should take these differences into account (Çok, 2007). Studies on human development indicate that there might be different experiences in terms of burnout syndrome, since it is experienced in different life stages and various contexts.

Theoretical arguments as well as practical reasons that were summarized previously point out that we need to develop different burnout scales to measure student burnout syndrome for different levels of teaching for various school contexts. Recently, an instrument to measure Elementary School Student Burnout Scale (grades 6-8) was developed (Aypay, 2011). This instrument includes 26-items and it has a four-factor structure that reflect peculiar patterns of school burnout. Similar studies might reveal more peculiar patterns of burnout for various teaching levels and different developmental stages. This might help us to introduce more specific characteristics and better measuring the school burnout syndrome. All these reasons led this study to aim at developing a valid and reliable instrument for secondary school students in Turkey.

Study Group

The study group included 728 students from 14 high schools in three different types of schools in Bursa, Eskişehir, İzmir and Siirt. 409 students out of 705 students indicated his/her gender were female (56 %) while 296 of them were male (41%). 205 of them (28 %) were in 9th grade, 277 of them were in the 10th grade, 154 (21 %) of them were in the 11th grade, and 92 of them were (13 %) in the 12th grade.

Data Collection Instrument

In order to establish criterion related validity of SSBS, "Academic Locus of Control Belief Scale (ALCBS)" was used (Akın, 2007). Studies that focus on the academic locus of control indicate that it predicted students study time, academic achievements, participation levels in courses, and completion of homework (Ogden & Trice, 1986; Trice, Ogden, Stevens, & Booth, 1987). Students with high internal control usually have better attitudes when compared to other students on these academic abilities (Bursik & Martin, 2006). Research on students who developed burnout syndrome indicated that they had negative attitudes on these academic abilities (McCarthy et al., 1990; Yang & Farn, 2005). Trice (1985) indicated that academic locus of control is correlated with motivation. Burnout is also associated with low motivation levels and lower levels of participation to the activities (Maslach & Leiter, 1997).

Process

In order to develop an instrument to measure SSBS, information is gathered from secondary school students. A total of 150 students from two high school (one in Ankara and one is in Eskişehir) students were asked to provide in writing all negative feelings, ideas, and experiences related to school. Student statements were turned into items that reflect their feelings, ideas, and experiences by the researcher. Then, these items were submitted to a total of eight experts (in educational psychology, guidance and counselling, measurement and evaluation) to provide face validity. Once the expert suggestions were collected and changes have been made, a draft form with 44 items emerged. The instrument had a four-point likert type scaling.

The draft form was piloted with 15 high school students to check whether the items clear and understandable. These students reported that they understood easily. Data for the validity and reliability of SSBS draft form collected from 750 students in 14 different high schools in four different cities in Turkey in the 2010-2011 academic year. Analyses were conducted on a total of 728 usable data.

Data Analysis

In the analyses, descriptive statistics, correlations, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and reliability analyses were used. The data was divided into two equal groups. While dividing into two equal groups, the researcher paid attention to have equal number of students and gender distribution in each grade. To determining the factor structure, EFA was used in the first group. Since EFA assumes the factors are related, how many factors are needed to explain reciprocal relationship as well as what kind of factor structure exists in the data need to be answered (Çokluk, Şekercioğlu, & Büyüköztürk, 2010, p. 189; Pett, Lackey, & Sullivan, 2003, p. 3; Şencan, 2005, p. 778-779). In the second half of the study group, CFA was used to determine whether the factor structure was confirmed or not with CFA (Şencan, p. 778). ALCBS was used to check the criterion validity of the SSBS. The reliability of the instrument was determined with Cronbach Alpha scores (both the total and sub-dimensions) and split-half correlations were used.

Results

SSBS's Validity

An Exploratory Factor Analysis (EFA) was conducted half of the study group with Varimax rotation while a CFA was conducted on the other half of the study group. KMO value was 0.88 and Bartlett's test was significant (χ^2 =5517,651, p<.01). A total of 10 items were removed since some of them had factor loadings less than .30 and loading on two factors on similar rates. Once they removed, AFA was repeated and a seven-factor structure with eigenvalues over 1 emerged. Seven factors explained 61 % of the total variance. Factors were named as Loss of Interest to School (LIS), Burnout from Family (BFF), Burnout from Studying (BFS), Burnout from Family (BFF), Burnout from Homework (BFH), Burnout from Teacher Attitudes (BFTA), Need to Rest and Time for Fun (NRTF), and Feeling of Insufficiency at School (FIS). Correlations among the sub-dimensions of SSBS were all positive, medium and low. Based on the evidence from the factor analysis and eigenvalues, rather than having a total score from the SBSS, the use of factors could be more useful

In order to provide additional evidence for the validity of SBSS, CFA with least squares method was conducted on the data collected from the half of the study group. The Chi-square value on the model-fit was significant (χ^2 =1141.11, p<.01). The value of χ^2/df ratio between 2 to 5 indicate a good fit, while values lower than 2 indicate an excellent fit (Jöreskog & Sörbom, 2001; Kline, 2005). In this study the χ^2/df ratio indicate a good fit (χ^2/sd=2.25). Other goodness of fit indices were presented in Table-1.

Table 1.
CFA Model Goodness of Fit Indices for SBSS.

Indices	Coefficient
GFI	0.93
AGFI	0.91
PGFI	0.90
RMSEA	0.05
CFI	0.94
df	506
χ^2	1141.11
χ^2/df	2.25

Standard goodness of fit values as follows: The coefficients of GFI and AGFI ranges between 0 and 1. Although there is not an agreement in the literature, a coefficient of over 0.85 (Anderson & Gerbing, 1984; Cole, 1987; Marsh, Balla, & McDonald, 1988) or 0.90 (Kline, 1994; Schumacker & Lomax, 1996) are accepted as a good fit. RMSEAvalues also range between 0 and 1. In contrast to GFI and AGFI, RMSEA value closer to 0 indicate a fit while RMSEA values equal or less than 0.05 are acceptable (Jöreskog & Sörbom, 2001). Given these indices and standardized values, one may conclude that the model confirms the factor structure.

To check the criterion validity of the SSBS, ALCBS was used. ALCBS sub-dimensions are correlated with SSBS sub-dimensions. There is a positive low correlation (.15) exist between the ALCBS-Academic External Locus of Control (AELC) and Loss of Interest to School (LIS), Burnout from Homework (BFH) (.24). ALCBS-AELC had medium positive correlations (.31) with Burnout from Teacher Attitudes (BFTA), Burnout from Studying (BFS) (.32), and Burnout from Family (BFF) (.33), respectively. ALCBS-Academic Internal Locus of Control (AILC) had low negative correlations with BFH (-.14) and BFS (-.25), respectively. Literature points out that correlations between an instrument and the instruments used for the criterion validity were usually low. Although it is desirable to find correlations between .30 to .50, some scholars lowered the value as low as .20 since it is difficult to get medium level correlations (Şencan, 2005). Based on the findings in the literature, it might be claimed that criterion related evidence supported the validity of SSBS.

Reliability of SSBS

Reliability of SSBS was established by using both Cronbach Alpha and split half methods. Cronbach Alpha values for the sub-dimensions of SSBS were as follows, respectively: .86, .82, .83, .67, .75, .72 and .72. Split-half reliability coefficients were as follows, respectively: .88, .78, .85, .64, .74, .65 and .63.

Discussion

Both EFA and CFA was conducted to establish validity of SSBS. KMO values 0.88; Bartlett's Test ($\chi^2(946)=5517{,}651$, $p<.001$), was found to be significant. Following Varimax rotation, a seven factor solution with eigenvalues over 1 and they explained 61 % of the total variance. Factor loadings of the items ranged from.47 to .86. These seven factors were named as Loss of Interest to School (LIS), Burnout from Family (BFF), Burnout from Studying (BFS), Burnout from Family (BFF), Burnout from Homework (BFH), Burnout from Teacher Attitudes (BFTA), Need to Rest and Time for Fun (NRTF), and Feeling of Insufficiency at School (FIS).

In order to provide additional evidence, DFA was conducted to check how well the data fit to the model. For the model-data fit, chi-square value was significant [$\chi^2=1141.11$, $df=506$, $p<.01$]. Chi-square to df value was found to be low ($\chi^2/sd=2.25$) indicating an acceptable level. The fit indices for the model show that the model-data fit is good [*GFI*=0.93, *AGFI*=0.91, *PGFI*=0.90, *RMSEA*=0.05, *CFI*=0.94]. Thus, EFA and CFA values support evidence for the validity of SSBS.

SBSS sub-dimensions had medium levels of correlations with the total score while they had medium or low positive correlations among the dimensions. For the criterion related validity of SSBS, ALCBS was used. While there are positive correlations between SSBS sub-dimension scores and AELC, negative correlations are found between SSBS sub-dimensions and AILC. Positive relationships were found between burnout and AELC (Lunenburg & Cadavid, 1992; McIntyre, 1984; Sari, 2005; Sunbul, 2003), while negative relationships between SSBS sub-dimensions and AILC (Schmitz, Neumann, & Oppermann, 2000) in the literature. AELC was often accepted as one of the indicators of burnout (Akomolafe & Popoola, 2011). Both Cronbach Alpha and Split-Half methods provided evidence for the reliability of SSBS. These findings might point out that SSBS is a reliable measure secondary school student burnout.

Burnout instruments adapted from the business life to measure school burnout in the literature (Salmela-Aro & Näätänen, 2005; Salmela-Aro, Savolainen et al., 2009; Schaufeli et al., 2002), they found a three-dimensional factor structure which was similar to burnout instruments in business life [exhaustion, cynicism and efficacy (or sense of inadequacy)]. The results of SSBS which was developed in this study, factor structures indicated that in addition to exhaustion, cynicism, and feeling of inadequacy as in

the burnout scales in the literature and family, teacher attitudes, need for rest and have fun were also emerged. Moreover, these dimensions were not totally different from one another and it is more likely to reflect better the inner worlds of students.

In conclusion, the findings of this study demonstrate that SSBS developed in school settings rather than adapting instruments from the business environment. Thus, it may reflect better students' inner world, and may measure student burnout more realistically. Therefore, it might be claimed that SSBS is a valid and reliable instrument to measure school burnout. For future work, a new school burnout scale for the university students could be developed. Moreover, qualitative and quantitative studies may be conducted on students with high levels of burnout and students with low levels of burnout to provide a better framework to understand the factors that lead to school burnout.

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