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Polish High School Student's Coping Strategies as Predictors of School Burnout Syndrome

Abstract

Background: Numerous prior studies have been tested the associations between stress, coping and burnout**.** In fact, all three abovementioned constructs are inevitably connected with each other according to many psychological theories. Most of them, however, focused on job-stress related context and were conducted among university students or adults. Much less frequently the specific coping techniques and its relation to burnout symptoms among high school students were analyzed.

Objective: The main purpose of the current study was to investigate the associations between coping strategies and burnout syndrome among late adolescents. Secondly we tested if student burnout is a function of gender and age. Additionally, we also tested the cross-cultural validity of student burnout scale (SSBS) by Aypay.

Methods: 761 students (35.8% boys), aged 17–19 years participated in the study.

Results: The results indicate that student burnout is associated positively with poor coping strategies and negatively with searching for support and active coping strategies. Regression models revealed that higher avoiding behaviors and helplessness, and lower active coping are significant predictors of school burnout, explaining 13% of its variance. The final model consisting of coping strategies and sociodemographic characteristics (age and gender) explained 20% of variance in the SSBS score. According to our studies girls are more prone to develop school burnout syndrome than boys, and older students are more burned out than younger ones. The findings also confirmed that the SSBS scale may be applied in the Polish context as it has good psychometric properties.

Conclusion: The findings suggest that the avoiding behaviors as well as lack of active coping may play a pivotal role in school burnout among youth.

Keywords: coping strategies, school burnout, high school, adolescents

Słowa kluczowe: strategie radzenia sobie, wypalenie szkolne, szkoła ponadpodstawowa, adolescenci

INTRODUCTION

School burnout is one of the key factors that negatively affects education, and proper development of children and youths. The most frequently mentioned basic characteristics of this syndrome are chronic fatigue due to study, a pessimistic sense toward learning and school, and a feeling of inadequacy as a student (Salmela-Aro et al., 2008). It develops as a prolonged response to chronic emotional and interpersonal stressors related to school environment (Salmela-Aro et al., 2009; Maslach, Leiter, 2016). Burnout syndrome is also defined as a result of the inability to effectively cope with the stress (Cotton, 1990). Despite the high prevalence of this phenomenon among children and adolescents there is still disagreement between researchers regarding its structure and core symptoms.

A vast body of theories in the literature describes the structure of burnout syndrome. The most influential and cited is the three – dimensional model by Maslach and Jackson (1981). This theoretical framework refers to the personal predisposition of the individual and the loss of energy for work (Maslach et al., 1996). The primary causes of this phenomenon, and its basic components are overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment (Maslach, Leiter, 2016). Lately, this three-dimensional structure was accepted also for school burnout. According to Salmela-Aro, Tolvanen and Nurmi (2009), exhaustion in an educational context resulting from perceived too high study requirements, the cynical, uninvolved and detached attitude towards one's studies and school as an institution, and a sense of personal inefficiency and lack of competence refers to negative beliefs about possibilities of achieving educational successes (see Table 1).

Table 1. Three – dimensional model of school burnout

1. Exhaustion due to school demands:
chronic feelings of being overwhelmed, uneasiness and fatigue (even at the thought of school), having difficulty in sleeping due to worrying and ruminating
2. Cynical, and detached attitude toward one's school:
loss of interest in school activities, apathy and boredom during lessons, feelings of disappointment, social withdrawal and avoiding behaviors, negative attitudes towards teachers and colleagues, reduction of energy expenditure in studying, and finding it meaningless
3. Feelings of inadequacy as a student:
decline in the subjective feeling of personal accomplishment and efficiency in the context of school achievement, feelings of failure and being worse than other students, feeling of school inability and lack of competence

Source: own elaboration.

Some authors disagree with the abovementioned concept. For example, Santinello (2014) distinguished four key components of burnout, i.e. psycho-physical exhaustion, lack of involvement in relationships with others, lack of sense of professional self-efficacy and career disappointment. In the demand-resources model by Demerouti et al. (2001), two-dimensionally structured burnout is a result of environmental properties (work or school characteristics), such as high demands, and low personal or social resources. The first component is defined as exhaustion, "an extreme form of fatigue that is developed as a consequence of prolonged and intense physical, affective, and cognitive strain caused by prolonged exposure to specific working conditions (or stressors)" (Bakker et al., 2004, p. 84). The second one is disengagement that illustrates the process of distancing oneself from one's work; it refers to "an extensive and intensive reaction that describes emotional, cognitive, and behavioral rejection of the job and it delineates an occupational disillusionment" (Bakker et al., 2004, p. 84). The model comprises two processes, the energy-depleting process that results in burnout and health impairment and the motivational process that is connected to engagement and health improving and self-developing (Bakker, Demerouti, 2018). Recently proposed student demands-resources model (SD-R model), defined students' health and well-being conditions through the salutogenic and pathogenic effects of educational settings (Lesener et al., 2020). SD-R model is focused on overwhelming cognitive and emotional demands, that refer to mental, emotional, social, and organizational factors related to students' dysfunctional states, namely constant strain and exhaustion (Jagodics, Szabó, 2022). Schaufeli et al. (2020), in the BAT (Burnout Assessment Tool) model of burnout, highlighted the process of impairment of emotional and cognitive regulation (two basic symptoms of burnout syndrome), which indicates a loss of control in major self-regulating systems and leads to psychological distress, psychosomatic symptoms, and depression (higher-order symptoms). In the concept introduced by Aypay (2012), which focuses on the developmental perspective in burnout analysis, the structure of this phenomenon differs according to the developmental stage. Specifically, children's and young adolescents' burnout is built by four elements, while late adolescents' burnout is formed by seven factors. The school burnout structure consists of a loss of interest in school, burnout due to studying, burnout due to family, burnout due to doing homework, lethargy and boredom due to teacher attitudes, need for relaxation and entertainment, and deficiencies in the school. In summary, it is worth noticing that the authors of all described models agree that burnout is strongly associated with chronic stress, maladaptive coping strategies, social conflicts, and health problems.

Stress, coping and burnout in educational setting

Academic stress experienced by students has been recently recognized as a single most dominant factor that affects the mental well-being of students, especially at late adolescence and emerging adulthood periods (Barbayannis et al., 2022). The prevalence of experiencing educational stress among adolescents is high, for example, according to Liu et al. (2019) three in four students report feeling stressed, while one in five signal stress-related suicidal ideation. In a study conducted in Poland, it was determined that one tenth of students perceived a high level of stress (Średniawa et al., 2019).

The psychological consequences of chronic stress take an important role also in achieving optimal academic results among students (Yuda et al., 2022). Ramirez (2009) reported, that – according to the survey applied to more than 1,100 students – they experienced stress mostly due to academic and parental high expectations. Furthermore, in the study conducted on 1108 Singaporean adolescents between 12–18 years of age, students experiencing academic stress either had high academic expectations for the self or their parents and teachers had high academic expectations for them (Ang, Huan, 2006). It was found that the most frequently emphasized factor in school-related stress perceived by students in Polish schools is teacher

behavior (regarding teaching and assessment) (Piekarska, 2000).

According to da Costa and Pinto (2017) the inconsistency between the requirements of situations and individuals' resources at hand towards meeting these demands increases distress and tension. Moreover, the greater the disproportion between demands and resources, the more it blocks countermeasures. Similarly, Brenner (1984) stated that the effectiveness of coping strategies is influenced by the high stress intensity experienced by person. According to da Costa and Pinto (2017), individuals use coping mechanisms to manage demand-resource inconsistencies that cause stress, reduce its level, and eliminate negative consequences caused by stress. Particularly, adaptive and maladaptive strategies to cope with stress may be used by individuals (Sandín, Chorot, 2003; Martínez et al., 2020).

Lazarus and Folkman (1984) revealed two main types of coping strategies: direct coping (i.e., actions activated to modify the source of stress and resolve problem) and indirect coping (i.e., three techniques to cope with stress indirectly are: (1) actions activated to regulate the emotional response to stressful situation, (2) avoiding actions by engaging in distracting behaviors, (3) seeking support from others). It is determined that students use different (positive and negative) strategies to deal with stress (Yusoff, 2010), and their behaviors such as drinking, lying and physically harming themselves are presented due to the academic stress they experience (Ramirez, 2009).

Maladaptive coping strategies have been identified as directly related to job burnout syndrome and its adverse consequences by several researchers (Yin et al., 2018; Martínez et al., 2020), however, only a few studies focused on school burnout. For example, Tee et al. (2022) found that avoidant coping and "neither avoiding nor approach" coping strategies were significantly positively correlated with the presence of burnout, while approach coping was negatively related to this syndrome observed among medical university students. Similar patterns were observed by Vizoso et al. (2019): academic burnout presented by undergraduate students was directly and positively associated with maladaptive coping, and negatively with adaptive coping.

The literature summarized raises the need for further investigation of the relationship between school burnout and coping strategies. Although there are several studies about high school students coping (i.e. Borecka-Biernat, 2016; Chwaszcz et al., 2018), and school burnout experienced by them (i.e. Tomaszek, Muchacka-Cymerman, 2019), there is a need for studies that address the associations between these two psychological characteristics of youths in Poland.

CURRENT STUDY

To address the literature gap mentioned above, the overall main aim of the research was to assess high school students coping strategies and school burnout in a sample of late adolescents. Within this framework, we had two additional goals. First, to determine whether coping strategies allow for predicting school burnout among Polish adolescents. Second, in this study, the Aypay's Secondary School Burnout Inventory (SSBS) was used to determine students' school burnout levels. This scale is preferred because it is thought that it measures school burnout by considering the developmental characteristics of students. Since the Polish version of this scale has not yet been adapted, the psychometric properties of the Polish version of SSBS were the sub-problem. Third, we also tested the multidimensional structure of school burnout proposed by Aypay (2012), and the school burnout level as a function of gender and age.

Some researchers suggested the existence of cyclic relation among stress and burnout symptoms (especially emotional exhaustion) (McManus et al., 2004). What is more, poor coping strategies are widely considered to be key contributors to the development of burnout syndrome (Fares et al., 2016). According to Maslach and Jackson (1986), the burnout syndrome is usually accompanied by several symptoms such as: helplessness and hopelessness, disappointment with work, people and

life itself, and negative self-esteem. In addition, they stated that high level of burnout syndrome is connected with withdrawal coping strategies, and low level of this phenomenon is associated with social coping strategies (Maslach, Jackson, 1982). Cherniss (1981) claimed that burnt out people are unable to effectively cope with stressful situations and for that reason are unable to reduce stress tension.

The theoretical notion about the direct link between coping with stress and student burnout syndrome proposed in the JD-R model was empirically confirmed by several researchers. Specifically, student burnout was negatively associated with functional coping strategies (active coping and social support) and positively with dysfunctional coping (passive and avoidance) (Silvar, 2001; Yusoff, 2010; Marôco et al., 2020; Gündoğan, Seçer, 2022). Furthermore, certain studies recognized gender (girls) (Silvar, 2001; Salmela-Aro et al., 2008), and late adolescence (Gabola et al., 2021) as risk factors for student burnout. This leads to the following hypotheses:

H1. Dysfunctional coping (helplessness and avoidance coping), being female and older, expose students to a higher level of school burnout.

H2. Functional coping (problem-solving, searching for support), being male and younger are protective factors for student burnout.

Participants

The total sample included 761 students (489 girls – 64.2% and 273 boys – 35.8%), aged 17–19 years. All participants were from 3rd year of high schools. Sample 1 included 296 adolescents (207 girls, 89 boys) between 17 and 19 years of age ($M = 18.06$; $SD = 0.58$). Sample 2 was composed of 354 adolescents between 18 and 19 years of age ($M = 18.50$; $SD = 0.50$), 215 girls, and 140 boys. Sample 3 consisted of 111 adolescents aged between 18 and 19 years ($M = 18.04$; $SD = 0.19$), 67 girls, and 44 boys.

Procedure

SSBS scale process of adaptation

First, the English version of the SSBS scale was separately translated by two experts (doctors of psychology) into the Polish language. Secondly, both versions of translation were discussed, and the most adequate translations of items were chosen. Next, two independent experts (other doctors of psychology) assessed the Polish version of the SSBS scale in terms of the level of language intelligibility and correctness. After making several adjustments, the third competent judge (youth girl) assessed the scale in terms of the degree of clarity of the statements contained therein. She approved this version of the SSBS scale. We used this version in all the data collections reported in this article.

The participants were randomly selected on the basis of the type of high school from different regions in Poland (Gdańsk, Warsaw, Kraków). All students within short size introduction completed the *paper*-and-*pencil* self-administered questionnaires, i.e. SSBS scale and Brief COPE scale (Study 1), SSBS scale (Study 2), SSBS scale and MBI – SS (Study 3). The students volunteered for the study; they were approached in their classrooms and asked to fill in the scales (paper-pencil method). There was no remuneration for participating in the study. In each of the samples, the study time did not exceed one lesson hour (it ranged between 20–30 minutes). All three studies were conducted in year 2019.

Measures

School Student Burnout Scale (SSBS) by Aypay (2012) consists of 34 items categorized into seven sub-scales listed as: LIS – Loss of Interest in School, BDS – Burnout Due to Studying, BDF – Burnout Due to Parents, BDH – Burnout Due to Doing Homework, BTT – Being Bored and Tired of Teacher Attitudes, NRF – Need to Rest and Have Fun, ISS – Incompetence in School. Participants give answers on a 4-point Likert scale. The Cronbach's alpha values ranged from .85 to .87 (SSBS), for subscales were satisfac-

tory in LIS, BDF, BDH, NRF, and ISS (αs from .62 to .83). The results for BDS were good in study 2 and 3, and acceptable in study 1 (αs from .58 to .75), and for BTT the reliability was higher in study 2 and 3, and low in study 1 (α from .32 to .68). The higher score in SSBS, the lower school burnout.

The Brief Cope Scale (COPE) by Carver (1997) in Polish adaptation of Juczyński and Ogińska-Bulik (2009) was used to assess 14 coping responses. The COPE scale consists of 28 items, categorized into four general factors listed as: Active coping, Helplessness, Searching for Support and Avoidance behaviors. Participants were asked to give answers on a 4-point Likert scale. The Guttmann index for all scales was equal or higher than .86.

The Maslach Burnout Inventory (MBI-SS) by Schaufeli et al. (2002) in the short version was used. It consists of 16 questions, grouped into three scales: Exhaustion (five items), Cynicism (five items) and Lack of professional efficacy dimension (6 items). It is worth to note that in the Polish version prepared by Tucholska (2012), Personal accomplishment is a reversed scale, so the higher score means the higher lack of personal accomplishment. All items are scored on a 7-point Likert scale. The reliability for the total score was equal α = .89, for the subscales ranged between α = .75–.92.

Ethical Approval

The study procedure and instruments were approved by the Commission of the Ethics Committee of the Pedagogical University in Cracow (WP.113-6/2019).

Analytical Strategy

The statistical analyses were conducted using SPSS 22.0 (EFA analysis, correlation and regression analysis; Cronbach's α reliability), Statistica 13.3 (CFA analysis with SEPATH) and JASP (McDonald's omega reliability). The regression models that tested if gender, age or coping strategies were connected with school burnout were conducted with bootstrap method in order to avoid false discovery (Wilcox, 2005).

RESULTS

Preliminary analysis: psychometric properties of the Polish adaptation of SSBS

Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA), based on sample 1 data ($n = 296$) was conducted with the Principal Components Method, *Oblimin* rotation and Kaiser's normalization. The KMO's Test of Sampling Adequacy equal to .81 and significant Bartlett's Test of Sphericity ($\chi^2_{561} = 3619.35$, $p < .0001$), indicated that the SSBS items were appropriate for a factor analysis.

A seven-factor solution with eigenvalues over 1 was revealed by the EFA. The goodness adjustment test was equal to $chi^2_{(371)} = 627.002$, $p < .0001$. The results of EFA analysis confirmed the existence of seven dimensions, each corresponding to one scale in the original version of the SSBS scale. The factors explained jointly 55.54% of the total variance of the SSBS. The percentage of the explained variability for individual factors was equal to: 20.53% (factor I), 8.42% (factor II), 7.61% (factor III), 5.47% (factor IV), 4.82% (factor V), 4.46% (factor VI), and 4.23% (factor VII).

Factor I corresponded to the original Loss of Interest in School (LIS), and the common variance of the loadings ranged from .62 (item 20) to .83 (item 26). The loadings in the factor II, equal to original Burnout Due to Parents (BDF), ranged between .52 (item 6) to .81 (item 29). The factor III corresponded to Burnout Due to Doing Homework (BDH) in original version, with loadings between .32 (item 5) to .72 (item 1). The factor IV corresponded to the Need to Rest and Have Fun scale (NHF) in original version and the loadings of the items ranged between .36 (item 27) to .83 (item 13). However, item 27 loaded stronger the factor III. The factor V, similar to the Incompetence in School scale (ISS), contained the item loadings ranged from −.40 (item 25) to .85 (item 15). In this factor item 25 had higher loadings in factor IV. The loadings of the items in the factor VI, similar to Burnout Due to Studying dimension, ranged from −.14 (item 21) to −.67 (item 3).

Item 21 loaded stronger the factor VII. The last factor (VII), corresponded to the original Being Bored and Tired of Teacher Attitudes (BTT), and its items' loadings ranged from .09 (item 18) to .47 (item 23). Two items (item 18 and 9) loaded higher in other factors (factor I, and IV, respectively).

Only three items in the entire test had lower factor loading than required in the psychometric criteria – lower than .30 (items 9, 18, and 21). The rest of the items, even if their loadings were low in the originally assumed factor, loaded higher in other factors (items 8, 27, and 25; see Table 2).

Table 2. Results of EFA analysis for the Polish version of SSBS scale (n = 296)

Items	**FACTORS**						
	I LIS	**II BDF**	**III BDH**	**IV NHF**	**V ISS**	**VI BDS**	**VII BTT**
26	.83						
7	.72						
19	.67						
30	.67						.35
16	.67						
20	.62						
29		.81					
17		.78					
28		.74					
32		.70					
6		.52					
1			.72				
15			.59				
34			.56				
4			.55				
5			.32				
13				.83			
22				.72			
33				.71			
27			.56	.36			
12					.85		
11					.79		

24					.78		
25				.56	.40		
3						–.67	
14						–.64	
10						–.56	
2						–.43	
8			.46			–.35	
21						–.14	.67
23							.47
31		.45					.45
9	.57						.22
18				.31			.09
Explained Variance, Total: 55.54%	20.53%	8.42%	7.61%	5.47%	4.82%	4.46%	4.23%

Note: LIS – Loss of Interest in School; BDS – Burnout Due to Studying; BDF – Burnout Due to Parents; BDH – Burnout Due to Doing Homework; BTT – Being Bored and Tired of Teacher Attitudes; NRF – Need to Rest and Have Fun; ISS – Incompetence in School

Source: own elaboration.

Confirmatory Factor Analysis (CFA)

The CFA analysis was performed on sample 2 data (n = 354) to determine if seven-factor structure is appropriate for Polish culture. The ratio of the value against the free value was found meaningful ($\chi2$ = 1210.27, $\chi2$ / df = 2.392, p < .0001). This value is acceptable when the ratio values are smaller than 2 or 3 (Schreiber et al., 2006). The RMSEA index of .066 reached acceptable value, i.e. below .08 (Fabrigar et al., 1999). The SRMR of the scale was also acceptable (.076, when less than .08 is generally considered a good compatibility) (Hu, Bentler, 1999).

The GFI value of this sample was equal to .822, slightly below recommended .90 value; however, the GFI and AGFI indexes are known to depend on the sample size (Mulaik et al., 1989). Additionally there is not an agreement in the literature, about the acceptable value, and for some authors coefficients of over 0.85 (Anderson, Gerbing, 1984; Cole, 1987; Marsh et al., 1988) are accepted as a good fit.

Factor loadings and path diagram tested in CFA are presented in Supplementary Materials in Table A.

Criterion Validity of the SSBS – Polish version

The results of Pearson's analysis, based on sample 3 data (n = 111) revealed significant correlations between MBI and SSBS scales. Only one result was not significant; however, it reached the criterion of tendency – correlations between Personal accomplishment and Being Bored and Tired of Teacher Attitudes (r = .18, p = .059) (see Table 3).

Table 3. Pearson r coefficients for the association between two measures of burnout: SSBS[1] and MBI scales (n = 111)

Variables	LIS	BDS	BDF	BDH	BDT	NHF	ISS	SSBS
Exhaustion_MBI	–.49***	–.36***	–.19*	–.39***	–.31**	–.61***	–.56***	–.64***
Cynicism_MBI	–.49***	–.51***	–.20*	–.54***	–.32**	–.52***	–.52***	–.68***
Personal accomplishment_MBI	–.51***	–.42***	–.22*	–.31**	–.18	–.19*	–.35***	–.50***
MBI Total Score	–.59***	–.51***	–.24*	–.49***	–.32**	–.53***	–.57***	–.73***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$
LIS – Loss of Interest in School; BDS – Burnout Due to Studying; BDF – Burnout Due to Parents; BDH – Burnout Due to Doing Homework; BDT – Being Bored and Tired of Teacher Attitudes; NRF – Need to Rest and Have Fun; ISS – Incompetence in School; SSBS – Student school burnout – total score

Source: own elaboration.

[1] The higher score in SSBS the lower school burnout.

Main analysis: Gender, age and coping as predictors of school burnout

School burnout as a function of gender and age

Results of regression analysis conducted separately for gender and age revealed that both were significant predictors of school burnout (SSBS) (Statistics for the regression model for Gender: $F_{(1, 294)} = 17.91$, $p < .0001$, $\Delta R^2 = .054$; Statistics for the regression model for Age: $F_{(1, 294)} = 8.23$, $p = .004$, $\Delta R^2 = .024$). It was found that girls generally displayed a higher level of school burnout than boys, and that the older adolescents are, the higher level of burnout they experience (see Table 4).

Table 4. The effects of gender and age on school burnout total score[2] (regression analysis, total sample, N = 761)

Variable	ß	b (CI 95%)	Adj. R^2	t	p
Gender	–.14	–3.95 [–5.79; –2.13]	.056	–3.87	<. 0001
Age	.09	4.33 [1.27; 7.21]	.007	2.44	.015

Source: own elaboration.

[2] The higher score in SSBS the lower school burnout.

Correlations between coping strategies and school burnout

Higher School Burnout total score was significantly associated with lower Active Coping and Searching for Support, and with higher Helplessness and Avoidance Behavior. What is more, the significant correlation coefficients between dimensions of school burnout and coping strategies were also negative for active and social coping, and positive for helplessness and avoidance behavior (except NRF). Active coping was the

most strongly associated with Burnout Due to Studying. The strongest significant correlation for Helplessness was found with Burnout Due to Teachers Attitude, and Burnout Due to Parents. The highest correlation coefficient for Searching for Support was found with Loss of Interest, and Need for Rest and Have Fun. Finally, Avoidance Behavior correlated most strongly with Burnout Due to Teachers Attitude, Burnout Due to Studying, and Incompetence in School. These results indicated that the higher level of burnout indicators, the lower active and social coping, and the higher helplessness and withdrawal strategies (see Table 5).

Table 5. Associations between the coping strategies measured by COPE test and the school burnout dimensions[3] (sample 1, $n = 296$)

	AC	**HC**	**SC**	**ABC**
LIS	.12	–.17**	.19**	–.18**
BDS	.27***	–.21**	.17*	–.23***
BDF	.19**	–.26***	.11	–.19**
BDH	.06	–.16*	.10	–.12
BTT	.12	–.13*	.14*	–.10
NRF	–.08	–.06	–.18**	–.10
INS	.20**	–.20**	.04	–.23***
SSBS	.21**	–.27***	.14*	–.26***

Note: * $p < .05$; ** $p < .001$; *** $p < .0001$
LIS – Loss of Interest in School; BDS – Burnout Due to Studying; BDF – Burnout Due to Parents; BDH – Burnout Due to Doing Homework; BTT – Being Bored and Tired of Teacher Attitudes; NRF – Need to Rest and Have Fun; ISS – Incompetence in School; SSBS – Student school burnout – total score; AC – Active Coping Strategy; HC – Helplessness; SC – Searching for Support Coping Strategies; ABC – Avoidance Behavior Coping Strategies

Source: own elaboration.

[3] The higher score in SSBS the lower school burnout.

Coping strategies as predictors of school burnout

Regression analyses testing single effects of coping strategies revealed that all tested independent variables were significant predictors of school burnout. The highest standardized regression coefficient was between SSBS and Helplessnes, and Avoidance Behavior (see Table 6).

Table 6. Summary of the regression analyses of the single effects of coping strategies on school burnout total score[4] (sample 1, $n = 296$)

Variable	ß	b (CI 95%)	ΔR^2	*t*	*p*
AC	.21	.85 [.15; 1.57]	.038	3.16	.002
HC	–.27	–.99 [–1.47; –.50]	.070	–4.27	.0001
SC	.14	.69 [.30; 1.35]	.016	2.18	.031
ABC	–.26	–1.35 [–2.15; –.56]	.066	–4.14	.0001

Note: AC – Active Coping Strategy; HC – Helplessness; SC – Searching for Support Coping Strategies; ABC – Avoidance Behavior Coping Strategies
Source: own elaboration.

[4] The higher score in SSBS the lower school burnout.

Next, we examined the predictive power of coping strategies all together. The results indicated that only two coping strategies were significantly associated with school burnout level, i.e. Avoidance Behavior and Active Coping. These two coping strategies explained 11% of the variance in school burnout level (see Table 7).

Table 7. Stepwise regression model for SSBS total score[5] (sample 1, $n = 296$)

	Variable	ß	*t*	*p*	OR 95%	*F*	R^2/adjR^2
Step 1	HC	–.27	–4.27	< .0001	[–1,45; –.53]	18.22***	.07/.07
Step 2	HC	–.20	–2.85	.005	[–1.21; –.22]	12.87***	.10/.09
	ABC	–.18	–2.65	.009	[–1.64; –.24]		
Step 3	HC	–.13	–1.82	.07	[–1.01; .04]	10.67***	.12/.11
	ABC	–.21	–3.01	.003	[–1.77; –.37]		
	AC	–16	2.39	.017	[.12; 1.21]		

Note: * $p < .05$; ** $p < .01$; *** $p < .001$
AC – Active Coping Strategy; HC – Helplessness; ABC – Avoidance Behavior Coping Strategies
Source: own elaboration.

[5] The higher score in SSBS the lower school burnout.

In order to determine the role of age, gender, and coping strategies altogether in predicting school burnout among high school students, we tested three regression models, the first one for the total sample, and two separately for girls and boys. In each model, the variables were moderately correlated (VIF ranged from 1.02 to 2.05).

20% of SSBS score variance was explained in the total sample, 8% in the girls' sample, and 21% in the boys' sample. In the regression model for the total sample, the strongest predictors were gender (ß = –.28, $p < .0001$), with girls more prone to developing burnout syndrome, and higher Avoidance Behavior (ß = .18,

p = .008). Also Helplessness (ß = .17, p = .02) and age (ß = .13, p = .03) were significantly associated with school burnout.

In the girls' sample, only Helplessness was significantly related to SSBS score (ß = .18, p < .05). In the boys' sample, only Avoidance Behavior strategy emerged as a significant predictor of school burnout (ß = .33, p < .05; see Table 8).

Table 8. Regression models for SSBS[6] total score (sample 1, n = 296)

	Predictors	**ß**	***t***	***p***	**OR95%**	***F***	R^2/**Adj.** R^2
Total sample (*n* = 296)	Avoidance Behavior	.18	2.66	.008	[.25; 1.65]	10.31***	.22/.20
	Helplessness	.17	2.34	.020	[.10; 1.15]		
	Searching for Support	–.08	–1.19	.236	[–1.03; .26]		
	Active Coping	–.08	–1.17	.242	[–.88; .22]		
	Age	.13	2.18	.030	[.38; 7.58]		
	Gender	–.28	–4.41	<.0001	[–12.40; –4.74]		
Girls' sample (*n* = 207)	Avoidance Behavior	.15	1.78	.078	[–.09; 1.60]	4.95**	.11/.08
	Helplessness	.18	2.04	.043	[.02; 1.26]		
	Searching for Support	–.07	–.88	.381	[–1.16; .45]		
	Active Coping	–.36	–1.06	.292	[–1.02; .31]		
	Age	.11	1.47	.144	[–1.16; 7.85]		
Boys' sample (*n* = 89)	Avoidance Behavior	.33	2.08	.043	[.05; 3.09]	3.93**	.27/.21
	Helplessness	.11	.64	.524	[–.76; 1.47]		
	Searching for Support	–.11	–.80	.429	[–1.68; .72]		
	Active Coping	–.05	–.34	.737	[–1.26; .89]		
	Age	.21	1.70	.094	[–.99; 12.08]		

Note: * p < .05; ** p < .01; *** p < .001

Source: own elaboration.

[6] The higher score in SSBS the lower school burnout.

DISCUSSION

The validity of the SSBS scale – Polish version

One of the aims of this study was to test the psychometric properties of the Polish adaptation of the SSBS scale. The results indicated that SSBS scale may be applied in the Polish context, as it seems to be valid and reliable tool that may be used by educators and professionals for diagnosis and interventions to minimize school burnout.

The analyses showed difficulties mostly in one dimension of school burnout – Being Bored and Tired of Teacher Attitudes, as indicated by low items' factor loadings, substantial cross-loadings and, consequently, low reliability of this subscale. One of the possible explanation of these results are cultural differences in students' relationships and attitudes towards teachers and schooling. Even though, it is difficult to pinpoint what aspects within a country are responsible for different views of school.

We believe that several aspects may play a key role here: (1) *the way in which students perceive the meaning of the knowledge provided at school*; e.g., studies conducted by PISA 2018 revealed that only 25% of Polish 15-year old students consider that it is worth to work hard at school in regard to get a good job, and 11% think that it will help them to get to university (OECD, 2019); (2) *the methods of teaching and the homework overload*; e.g., Wysocka and Tomiczek (2014) stated that adolescents in Poland perceive everyday life at school as annoying, difficult and unsatisfactory, from which they wish to withdraw and escape; also the educational methods used to provide knowledge by teachers are claimed by students to be boring and not expressed in a creative language (Barska, 2012). School in Poland is often criticized for not teaching how to learn, and rewards those standard creations of students that undergo easy and indisputable assessment (Barska, 2012). Additionally, PISA 2015 revealed that Polish students are overwhelmed by homework, and the time spending on doing homework in all subjects in the week is on average 2 hours longer than in other countries (Grygiel, 2015). In summary, for some Polish students the school is not a "choice" environment, but a "coercive" environment. Such schooling characteristics make Polish students at high risk group of developing school burnout; (3) *the closeness of relations between school environment and pupils*, i.e. PISA 2018 revealed that Polish students' sense of belonging to school is very low, being at 15th place from the end out of 79 countries participating in this survey; additionally in 60% of classes in primary and lower secondary schools there is a problem of rejected students and low support from teachers (OECD, 2019); (4) *different level of respect to teacher – occupation or adult people within the nation* – teaching profession occupy relatively high social position in Poland (7 position), however only 18% of Polish teachers agree with this statement, and 40% think that students do not respect them (OECD, 2015).

The personal development of the teacher should be focused on the idea of the humanistic trend, because it is dominated by a personalistic direction, focused on self-realization, creativity, reflectiveness, discovering one's individuality and uniqueness, and therefore the features important in becoming a teacher. In his professional development, the teacher should strive for independence and autonomy, openness to and take responsibility for his own professional experience, realize his strengths and weaknesses of professional life, develop the ability to cooperate with students, other teachers, parents and environment. All of these skills make up reflective practice (Schön, 1987).

Coping strategies and School Burnout

The main purpose of the current study was to test the associations between coping strategies and school burnout among high school students. Our findings confirmed that school burnout among adolescents is associated with poor coping strategies and lack of active strategies, similarly as it was stated in previous studies, i.e. Fares et al. (2016), da Costa and Pinto (2017). The regression models indicated significant prediction power of higher helplessness and avoiding behaviors, as well as lower active

coping and searching for support in explaining school burnout. However, in the model for all coping strategies only three of them appeared as significant predictors of burnout. These were higher avoiding behaviors and helplessness, and lower active coping. Furthermore, an in-depth analysis conducted separately for girls and boys revealed that only higher helplessness in girls and higher avoidance strategy in boys significantly predicted students' burnout level.

It is worth noticing that COPE measures reactive styles of coping, which are weakly related to concrete stressful event (Moring et al., 2011). The authors stated that an individual's efforts to control a difficult situation may be defined as a "preferred set of coping strategies that remains relatively fixed across time and circumstances" (Carver et al., 1989, p. 270). Reactive coping is characterized as an individual effort to deal with a stressor that has already appeared, consequently coping behaviors are concentrated on compensating for a loss or alleviating harm (Kumanova, Karastoyanov, 2013).

On the contrary, Moring et al. (2011) claimed that temporal location of a stressor may play an important role in decision making of the particular strategy used to minimize mental discomfort. Prior studies confirmed that individuals are more inclined to use adaptive coping (problem-focused strategies) before a stressful event and social support seeking after such event (Lazarus, Folkman, 1984; Kumanova, Karastoyanov, 2013). Additionally, Moring et al. (2011) found that using avoiding coping strategies is related to reducing the amount of time and energy addressed to stressor. According to the authors, "this may include individuals' tendencies to be in denial of the stress, altogether, or preoccupy themselves mentally by daydreaming or escape with sleep" (Moring et al., 2011, p. 211). Moreover, individuals who more often use reactive emotion-focused coping, experience more stress (Rutherford, Endler, 1999).

In light of our studies, it is possible that the temporal changes in decision making about coping technique location may stiffen among burnout students, and this may be related to a strong tendency to avoid stressful events or feel helplessness. Davies and Clark (1998) stated that people who engage in avoidance coping alleviate distress by various distraction techniques or disregard the threat, however in the long – term perspective it has negative impact on health.

However, Schwarzer (2001) suggested proactive and preventive approach to coping, and defined such construct as the compilation of resources that facilitate the promotion toward self-regulated goals and personal-growth by enabling individuals to predict future risks, demands, and opportunities. Schwarzer (2001) claimed that individuals who use often proactive coping do not appraise the potential stress as a threat, harm, or loss, but as a challenge or chance to development. In particularly, proactive persons have tendency to perceive their life as "full of abundant resources" (Greenglass et al., 1999, p. 5). According to our results, the cognitive mechanism that underlies the coping behaviors among burned out students may be associated with the dominance of reactive coping, and lack of proactive coping that prevent a negative event. Burned out young people seem to interpret stress as unavoidable and impossible to regulate.

The abovementioned definition of proactive coping coincides with the burnout syndrome theory named Job Demands – Resources Model by Demerouti et al. (2011). Following this approach, high job demands and low job resources contribute to the development of burnout and in the long-term perspective to health impairment. Burnout process starts from an imbalance between demands (external and internal) and resources in individual's environment (Bakker et al., 2005). Cho et al. (2020) found that low job-resources via basic psychological needs also lead to higher burnout. In the light of our studies it seems that one of the reasons of deprivation of basic psychological needs is poor coping strategies that indicate personal-beliefs of lack of energy and power to solve problems (helplessness). Such perspective seems to be strongly associated with feeling of insecurity and low self-esteem.

Moring et al. (2001) stated that both types of coping (reactive and proactive) are suscepti-

ble to situational demands and may be consider as a function of acquired skills. Schwarzer and Taubert (2002) stated that stressful demands may reflect a distressing loss or an ongoing harmful encounters, which create "a threat to someone who feels incapable of matching the upcoming tasks with the coping resources at hand". Our findings are consistent with this approach as burned out students seem to consider that the stressful event is a threat and that they do not have skills to deal with its negative impact (low active coping), as well as the only way to cope is starting to avoid problems (high avoidance behaviors and helplessness). Low use of active coping comes to the fact that burned out students strive passively for changing difficulties in one's life and mainly reacting (not preventing) to an adversity.

Student burnout as a function of age and gender

The statistical analysis also included the verification of the question about the function of age and gender in explaining school burnout level. The significant results of regression models for gender and age of the respondents indicated that girls are more prone to develop burnout syndrome than boys, and older students are more burned out than younger ones. The final model consisting of coping strategies and sociodemographic characteristics explained 20% of variance in the SSBS total score.

Our findings indicated an interesting regularity, that when we consider abovementioned sociodemographic features and coping strategies, beside gender and age only helplessness and avoidance coping significantly predicts school burnout, but active coping is insignificant. As some previous studies indicated, girls are more frequently stressed at school (Pourrajab et al., 2014). Studies conducted on a group of Swedish students have shown that girls more than twice as often as boys experience momentary stress at school (National School Agency, 2009). Similar reports are presented in White (2012), which refers to the more frequent stress of girls and the fact that they more often internalize their feelings, report depression, and use social services.

Limitations and Future Directions

In the study, we tried to control all important variables and ensure similar conditions for all respondents completing the questionnaires. Nevertheless, we must bear in mind that the results may be influenced by some limitations.

First weakness is the lack of clinical group that was diagnosed by objective qualitative interview as a person with burnout syndrome. We only based on subjective paper-pencil results, so it was possible that some students overestimated or underestimated their health condition. Hence, the further validation of this instrument is recommended, including mixed methods in diagnosing burnout syndrome.

Secondly, we did not include younger youths that also are at late adolescent period i.e. 16 and 17 years old. As a result, we cannot draw conclusions about the validity and usefulness of the SSBS scale in the research with this group of youngsters. Next, the research project included students from no longer existing lower secondary schools. Therefore the findings may not be fully representative of the high school students population.

Lastly, our findings confirmed that poor coping strategies and low active coping are significant predictors of student burnout. However, the studying conditions of students, like lack of studying resources, school alienation, school stress and anxiety level, number of hours devoted to studying, unsatisfactory educational achievements, class repetition and student-teachers relationships, were not controlled in this study. All these conditions may be important in diagnosing the level of school-related burnout. Hence, they should be included in further projects.

CONCLUSIONS

Despite the fact that the concept of school burnout was studied all over the world, the research in Poland are limited. Our studies confirmed that SSBS scale validation for school context fulfills sufficient validity and reliability requirements so as to be used in the preliminary estimation

of the students' burnout syndrome in Poland. In the light of our results it is clear that high school intervention-based programs that are concentrated on minimalizing the school burnout and supporting effective coping strategies are needed. In addition, it seems important to introduce teacher training on techniques and methods that could interest young people in the classroom more. An attitude of teachers based on examining their practice and using their strong qualities would be adequate to minimize signs of boredom and fatigue by teachers' attitudes in the student's eyes. It is also important that young people in schools are aware of what remedial techniques to use and what is characteristic of school burnout syndrome.

Data Availability

The data that support the findings of this study are available from the corresponding author, [A.M.-C.], upon reasonable request.

Ethical Approval

The study procedure and instruments were approved by the Commission of the Ethics (WP.113-6/2019).

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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