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**THE ROLE OF STRESSORS AT WORK AND  
IRRATIONAL BELIEFS IN THE PREDICTION  
OF TEACHERS' STRESS**

The aim of this study was to investigate the relationship between sources of stress in the workplace – the specific irrational beliefs and levels of psychological distress among teachers. The theory underlying the Rational Emotive Behaviour Therapy was used as a conceptual framework for explaining teachers' stress. The theory has already been successfully applied in the educational setting. For example, it influenced development of intervention strategies for decreasing teachers' stress (Bora, Bernard, Trip, Decsei-Radu, & Chereji, 2009).

A convenience sample of 186 teachers of both sexes, with an average age of 40 years from the cities of Zrenjanin and Sombor participated in the study. They completed the Teacher Irrational Belief Scale (TIBS), the Sources of Work Stress Scale (IRS) and the Depression, Anxiety and Stress Scale (DASS-21). Structural equation modelling was used for data analysis. A second-order general stress latent factor was significantly predicted by the sources of stress. Irrational beliefs partially mediated this relationship. The results were discussed in the context of REBT theory and the organisational stress research paradigm.

**Keywords:** teacher stress, sources of stress, irrational beliefs

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## Teacher stress – definition and review of the literature

Stress at work is an adaptive response employees may experience when faced with job demands or conditions at work that surpass their professional knowledge and abilities and which challenge their ability to cope (Leka, Griffiths, & Cox, 2003). These demands and conditions are usually called stressors. There are a number of potential stressors, and they can generally be grouped in several broad categories, for example factors intrinsic to the job itself (work environment, work-scheduling factors, etc.), roles in the organisation, relationships at work (lack of supervisor support, harassment, etc.), career development issues, organisational factors, the home-work interface, etc. (see Cartwright & Cooper, 1997; Cousins et al., 2004). Research into work-related stress is often carried out within the so-called 'helping' professions (e.g. medical professions, teaching and social work) because they are considered highly stressful. Stress at work, among other things, causes low work efficiency, which is of great importance in these professions, and therefore research is being carried out with the aim of devising adequate interventions or strategies for overcoming stress (Friedman, 2003).

Research into stress among school teachers has become popular in the last 20 years. In that time, a great deal of international research has been carried out, the results of which all indicate the negative effects of teacher stress (Krnjajić, 2003; Prakke, van Peet, & van der Wolf, 2007). Kyriacou and Sutcliffe (1978) defined teacher stress as a negative affective response (such as anger or depression) usually accompanied by potentially harmful physiological changes (such as increased heart rate). These responses are provoked by some aspects of the teacher's job and mediated by the perception that the demands represent a threat to the teacher's self-esteem or well-being. There are two groups of mediators between the stress and stress response: coping strategies and the perception of job demands as threatening (Forman, 1994). The majority of international surveys on teacher stress indicate that teachers find their jobs extremely stressful, even when compared to other jobs (Travers & Cooper, 1993). This is also supported by British researchers and health insurance companies, who assert that a high percentage of teachers perceive their jobs as stressful compared to medical technicians, some management positions and regular company employees (Smith, Brice, Collins, Matthews, & McNamara, 2000, as cited in Jepson & Forrest, 2006). The research findings suggest that teachers who are under stress have more health problems, are less satisfied with their jobs, are more often absent from work, etc. (Živčić-Bećirević & Smjover-Ažić, 2005). However, these stress consequences are typical of almost every job. What is characteristic for the teaching profession, when it comes to stress, are the specific sources of stress. In one early meta-analysis study into teacher stress based on the results of 49 research papers, Turk, Meeks, and Turk (1982) identified seven domains of stressors: an inadequate school environment, student misbehaviour, poor working conditions, personal problems, time pressure, relationships with students' parents and inadequate teacher training. Similar to that, in one recent meta-analysis, Kyriacou (2001) also found that the

main sources of teacher stress were unmotivated students, maintaining discipline in the classroom, time pressures and workload demands, the great number of changes within the school system, exposure to evaluation by others, conflicts with administration and school management, lack of school equipment and poor working conditions. The main sources of stress experienced by a particular teacher will be unique to him or her because it will depend on the complex interaction between personal traits, values, skills, and circumstances (Montgomery & Rupp, 2005). Furthermore, research also shows that teachers find their job highly demanding yet poorly paid and not respected enough by society (Jarvis, 2002; Jepson & Forrest, 2006). Other stressors in teachers' work include balancing private and work roles (Suzić & Graonić, 2009), lack of support from colleagues, strained interpersonal relationships, supervisor evaluation, discomfort in dealing with students' parents, student misbehaviour, and unsatisfactory management style (Boyle, Borg, Falzon, & Baglioni, 1995; Jarvis, 2002; Prakke, van Peet, & van der Wolf, 2007; Živčić-Bećirević & Smojver-Ažić, 2005). A prolonged high level of stress at work leads to burnout syndrome, i.e., a feeling of physical, emotional and mental exhaustion, depersonalisation and diminished working achievement (Friedman, 2000). A great deal of research has been carried out aimed at the problem of teacher burnout (see Brouwers & Tomic, 2000; Burke, Greenglass, & Schwarzer, 1996; Byrne, 1999; Farber, 2000; Hastings & Bham, 2003; Montgomery & Rupp, 2005; Skaalvik & Skaalvik, 2007; Suzić & Graonić, 2009). As we can see, there are many studies about presence and sources of teacher stress, but it is difficult to find those about successful coping strategies or the effects of specific interventions conducted in the order of reduction of teacher stress. Also, there is no information about the positive aspects of teacher stress.

## **Teacher stress and REBT**

One of the leading contemporary stress models, the transactional model of stress, emphasises that the stress response is not a direct response to the stressor but the result of the individual perception of the stressor and the subject's own resources for overcoming it (Lazarus & Folkman, 1984). Similarly, Pretzer and Beck (2007) pointed out the fact that, in the stress process, people react to internal representations of the events and not to the objective situations themselves.

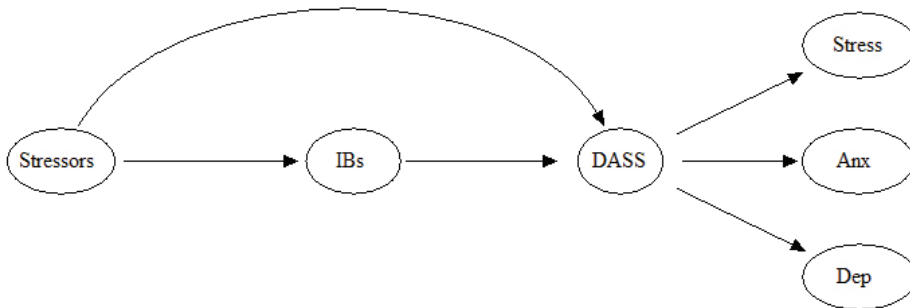
Rational Emotive Behavioural Therapy (REBT: Ellis 1994) belongs to the group of cognitive-behavioural therapy approaches (CBT). However, it is not merely a clinical theory, but rather a cognitive theory of emotions and human behaviour in general (David et al., 2005b). Similarly to Lazarus's approach, REBT is also based on the notion that emotional response is not a direct consequence of activating events, but is regulated by the beliefs people have about these events (Ellis, 1994). REBT distinguishes between rational and irrational beliefs. Consequences of holding certain beliefs are negative emotions which can be healthy or unhealthy. Irrational beliefs are the core of psychological problems, because they are rigid, extreme, inconsistent with reality, illogical and detrimental to the

individual in pursuing his basic life goals and purposes. Unhealthy negative emotions tend to discourage people from changing what can be changed and adjusting constructively when they cannot change the situation which they faced by (Dryden, 2002). For example, in the presence of negative activating events, people with high levels of irrational beliefs (IBs) will develop an unhealthy negative emotional response. In this way, irrational beliefs exacerbate the stressors present in the school environment (Forman, 1994). This is why identifying and challenging those beliefs are key steps in this therapeutic process (Ellis & Dryden, 1997). On the other hand, healthy negative emotions are consequences of rational beliefs, and people experience them when their preferences are not met (Dryden, 2002), and then we can talk about the adaptive function of stress because people are able to resolve the problem in a constructive manner. In more recent works, IBs are grouped into four categories (Dryden, 2002): demands, awfulising, low frustration tolerance, and self/other-depreciation beliefs (Ellis & Blau, 1998). According to these general categories of irrational beliefs Bernard and Joyce (1984) give a list of 16 irrational beliefs specific to teachers. An example of one of these beliefs is: "I must have complete control of the class at all times" (absolutistic demand). REBT also distinguishes between two major forms of emotional disturbances: ego and discomfort disturbances. Ego disturbance appears when people hold irrational beliefs about self, personal performance and approval by others. Discomfort disturbance results when people hold irrational beliefs about their comfort. They also believe that they absolutely must get what they want and tend to exaggerate consequences if these demands are not achieved (Szentagotai & Jones, 2009).

Several applications of REBT in the stress-management domain have been developed so far. For example, consultative work with teachers based on identifying and challenging specific irrational beliefs (Terjesen & Kurasaki, 2009); individual and group stress-management training sessions (Gardner, Rose, Mason, Tyler, & Cushway, 2005; Van der Klink, Blonk, Schene, & Van Dijk, 2001). However, few studies have examined the assumptions of REBT in the context of teacher stress. Most of the existing research in this field has considered psychometric operationalisation of the irrational beliefs of teachers, as well as the relationship between those beliefs and stress indicators (Bora, Bernard, Trip, Descei-Radu, & Chereji, 2009). The irrational beliefs of teachers correlate significantly and positively with distress variables (role-related stress, burnout, psychopathological symptoms and depression) and with absenteeism from work (Bermejo-Toro & Prieto-Ursua, 2006). Furthermore, teachers who have more irrational beliefs are considered to be less efficient than teachers who have fewer irrational beliefs (Endes, 1996 as cited in Terjesen & Kurasaki, 2009).

What is missing in the existing research is the relationship between these irrational beliefs and the sources of stress at work, and at the same time, the examination of the impact these two groups of variables have on teacher stress. Ellis's (1994) original writings imply that the ABC framework is best understood as a diathesis-stress model which means that stress occurs as a consequence of inter-

action between stressful working conditions and irrational beliefs – i.e., irrational beliefs serve as moderators in the relationship between stressors and stress indicators. However, in other theoretical sources, irrational beliefs are explained as important causal mechanisms involved in psychopathology, specifically as mediators in relation between particular event and its emotional consequences (David, Freeman, & DiGiuseppe, 2009). In the existing studies, irrational beliefs have been examined as mediators (see Hutchinson, Patock-Peckham, Cheong, & Nagoshi, 1998; Marić, 2003; Moldovan 2009), but more often as moderators (Hart, Turner, Hittner, Cardozo, & Paras, 1991; Popov & Novovic, 2007; Popov & Popov, 2013). In other words, irrational beliefs are more often examined as variables that alerts the strength of association between stressors and distress, and that relation seems to be well empirically established. This study is a contribution to the examination of potentially causal, mediating role of irrational beliefs, which is important because of theoretical as well as practical reasons. It is possible for irrational beliefs to serve as an intermediate link in the causal chain leading from sources of stress to distress. We are also interested in type of irrational belief which is the most significant in that relation. The main aim of this study is to examine the mediating role of irrational beliefs in the relationship between the sources of stress in schools and some of the stress indicators observed among teachers. The main assumption of the research is that irrational beliefs partially mediate in the relationship between stressors and stress symptoms in teachers. Stressors have a direct effect on stress symptoms even when the effect of the irrational beliefs is partialled out (Figure 1).



*Figure 1.* Hypothetical model of the role irrational beliefs have as mediators in the relationship between stressors at work and stress indicators among teachers (M2).

## Method

### Sample and procedure

A convenience sample of 186 teachers from Zrenjanin and Sombor (in the Autonomous Province of Vojvodina, Serbia) participated in the study, regardless of length of service in education. Participants were aged 23 to 63 ( $M = 40.2$ ,  $SD = 10.1$ ) and the majority in the sample (75%) were women (139). It is important to note that women represent the vast majority of teachers in elementary and secondary schools in this area.

The sample was collected in several secondary and primary schools during May 2011, at the end of the school year. Participants were recruited by the school counsellor in their workplace. The teachers voluntarily participated in the research, the main purpose of which was fully and accurately stated to them beforehand. The respondents were motivated to participate in the research by the possibility of helping in the creation of a programme aimed at preventing and reducing teacher stress, based on the study results. All measures were completed as a battery of paper-and-pencil questionnaires. Uncompleted questionnaires were excluded from the final analysis (9 out of 195).

### Instruments

**Sources of stress at work (IRS: Popov & Popov, 2013).** IRS is a newly constructed multidimensional scale, with the purpose of estimating the frequency of stressors at work. In its original form the scale consists of 42 items and measures 7 groups of stressors, but for the purpose of this study 6 domains were used, due to their relevance to the teaching job: 1. Job demands refers to issues such as overload, task patterns and the work environment (sample item "You are faced with unattainable deadlines.";  $\alpha = .58$ ); 2. Leadership support measures the quality of the relationship with the direct supervisor, such as encouragement, sponsorship and resources (sample item "Your supervisor is willing to listen to your work-related problems.";  $\alpha = .78$ ); 3. Colleague support measures issues like the encouragement, support or praise an employee gets from his/her colleagues (sample item "You receive help and support from your colleagues.";  $\alpha = .80$ ); 4. Interpersonal relationships refers to the quality of interpersonal relationships with regard to communication and cooperation (sample item "Interpersonal relationships at work are good.";  $\alpha = .78$ ); 5. Role stressors measures the degree of role clarity, conflicting duties and tasks, as well as role ambiguity (sample item "You know exactly what is expected of you at work.";  $\alpha = .65$ ); 6. Change management refers to how changes at work occur and how they are managed and communicated (sample item "You have plenty of opportunities to communicate with management about changes at work.";  $\alpha = .70$ ).

The scale was created after the Health and Safety Executive (HSE) Management Standards (MS) Indicator Tool (Cousins et al., 2004), by keeping the factorial

structure of the scale, while adjusting some items to better suit Serbian respondents. All items have the same response format, from 1 = *almost never* to 5 = *almost always*. More descriptive data is shown in Table 2. It can be seen that Cronbach's alpha coefficient is lower for the demands and role subscales, but for the other subscales is satisfactory. All  $\alpha$  coefficients in this study were lower than in earlier piloting of the instrument on a British sample of employees (Edwards, Webster, Van Laar, & Easton, 2008).

**The Teacher Irrational Beliefs Scale (TIBS: Bernard, 1990).** TIBS has been used to examine irrational beliefs specific to teachers. By agreement with the author of the instrument, the scale was translated into Serbian for the first time by using the so-called 'back-translation' procedure. The instrument consists of 22 statements which represent the following irrational aspects: absolutistic demands, low frustration tolerance, awfulising and global rating. These aspects are divided into 4 subscales which refer to specific areas of teaching in schools such as: helping students with overcoming emotional and other problems at school, maintaining classroom discipline, being overloaded with work tasks and the relationship with school management and central school administration. The response format across the whole scale is a 5-point Likert scale (from 1 = *I strongly disagree* to 5 = *I strongly agree*). The subscales are as follows: 1. Self-downing (sample item "I think I'm a failure when I haven't 'got through' to a student or class.;"  $\alpha = .77$ ): High scores on this subscale represent unrealistically high standards of oneself, the absolutist need to be approved of by others, as well as a belief that one's mistakes diminish one's value as a human; 2. Low frustration tolerance ("I shouldn't have to work so hard.;"  $\alpha = .73$ ): A high score on this subscale represents the belief that teaching should be easy and require less effort from the teacher; 3. Attitudes towards the school management ("Without good teacher-administrator communication and support, schools are the very worst and terrible places to work.;"  $\alpha = .70$ ): a high score on this subscale shows unrealistic demands on the part of the teacher from the central school administration. The factor which represents this subscale is called the Demand for Justice in the original version (Bora et al., 2009); 4. Authoritarianism in the classroom ("As a teacher I should have the power to be able to make my students do what I want.;"  $\alpha = .81$ ): a high score on this subscale represents the teacher's demand for control over their students and their blame of students for their misbehaviour.

**Depression, Anxiety, Stress Scale (DASS-21: Lovibond & Lovibond, 1995).** DASS-21 is an instrument which consists of three subscales which refer to the following dimensions of the negative affective states: 1. Depression: this subscale measures the degree of dysphoria, hopelessness, anhedonia, inertia and low self-esteem (sample item "I felt that life was meaningless.;"  $\alpha = .81$ ); 2. Anxiety: this subscale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and the subjective experience of anxiety ("I was aware of a dryness in my mouth.;"  $\alpha = .86$ ); 3. Stress: this subscale refers to levels of chronic, non-specific arousal. It assesses difficulty relaxing, nervous arousal, and a tendency to be easily upset, agitated, irritable, over-reactive and impatient ("I found it difficult to



relax.”;  $\alpha = .88$ ). A shorter version with 21 statements and a 4-point Likert answer format was used in this research (1 = *not at all*, 4 = *almost always*). The Serbian translation is suggested by the author of the scale on the official web site of the instrument (<http://www2.psy.unsw.edu.au/dass/Serbian/DASS-SER.pdf>). Internal consistency of the total scale in our sample is good ( $\alpha = .83$ ).

## Data analyses

Basic data analyses were performed using the software package SPSS for Windows version 16.0, while structural equation modelling was performed using EQS 6.1 (Bentler, 2006). Given the fact that the distribution of some variables deviate significantly from normal (skewness for anxiety and depression  $> 1$ ; kurtosis for interpersonal relationships, anxiety and depression  $> 1$ ; see Table 1) and the value of Mardia’s normalised estimate showed nontrivial positive kurtosis ( $> 31$ ), a robust estimation method was used (Bentler, 2006), except for the two measurement models – stressors and irrational beliefs (see below; Table 2). The goodness of fit of the models was evaluated using the following absolute goodness of fit indices: (1) the Sattora-Bentler  $\chi^2$  goodness of fit statistic, (2) the root mean square error of approximation (RMSEA), and (3) the standardised root mean-square residual (SRMR). Three relative goodness of fit measures were calculated as well: (1) the normed fit index (NFI), (2) the non-normed fit index (NNFI), and (3) the comparative fit index (CFI). Values smaller than .05 for RMSEA may indicate a good fit, values smaller than .08 are indicative of an acceptable fit, and values greater than .10 may indicate a serious problem (Cudeck & Browne, 1993; Kline, 2010). For the three relative fit indices, values greater than .90 may indicate a good fit (Hoyle, 1995). However, Hu and Bentler (1999) have recommended a slightly higher threshold, such as .95 for the CFI. For the SRMR, Hu and Bentler (1999) have set a threshold of  $\leq .08$  for acceptable fit.

Prior to all these analyses, multiple imputation using the EM algorithm was conducted to replace missing values. In addition, a total of 6 participants were excluded from the analysis after determining the existence of multivariate outliers, based on the critical values of Machalanobis distances (Tabachnik & Fidell, 2001).

## Results

### Descriptive indicators

The basic descriptive indicators of all variables in the study and their inter-correlation are shown in Table 1. It is important to note that the internal consistency of most scales reaches the standard criterion of .70, a value that is used as a rule-of-thumb for sufficient reliability. However, two scales from the IRS (namely, Work Demands and Role Stressors) showed slightly lower  $\alpha$  values than expected, but were still usable. Also, the distributions of the anxiety and



Table 1  
Descriptive statistics and intercorrelations of the variables in the study

	M	SD	Sk	K	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Dem	18.20	3.35	0.08	-0.21	.58	.33**	.38**	.34**	.44**	.51**	.32**	.25**	.29**	-.01	.38**	.11	.07
2. Lead	26.52	4.99	-0.34	-0.09	.78	.49**	.58**	.54**	.63**	.63**	.27**	.21**	.20**	-.10	.15*	.20**	-.05
3. Colleagues	23.24	3.03	-0.33	-0.31	.80	.70**	.43**	.49**	.31**	.19**	.22**	.10	.25**	.10	.25**	.09	.00
4. Rel	12.27	3.63	0.91	1.48	.78	.48**	.55**	.33**	.26**	.27**	.37**	.31**	.27**	-.02	.16*	.15*	-.10
5. Role	9.66	2.83	0.43	0.18	.65	.58**	.30**	.37**	.31**	.31**	.37**	.31**	.31**	-.11	.21**	.06	-.01
6. Change	11.79	3.48	0.27	-0.38	.70	.39**	.28**	.32**	.32**	.28**	.32**	.28**	.32**	-.04	.22**	.18*	-.03
7. Dep	10.12	3.24	1.39	2.20	.81	.66**	.71**	.19**	.19**	.19**	.42**	.28**	.28**	.19**	.42**	.28**	.17*
8. Anx	9.73	3.45	1.83	3.84	.86	.71**	.26**	.37**	.37**	.37**	.37**	.37**	.37**	.26**	.37**	.28**	.08
9. Stress	13.63	4.17	0.81	0.97	.88	.20**	.40**	.31**	.31**	.31**	.31**	.31**	.31**	.20**	.40**	.31**	.15*
10. Self-down	15.97	4.64	0.04	-0.34	.77	.39**	.31**	.34**	.34**	.34**	.34**	.34**	.34**	.39**	.31**	.34**	.34**
11. LFT	11.11	4.03	0.47	-0.35	.73	.36**	.25**	.25**	.25**	.25**	.25**	.25**	.25**	.36**	.25**	.25**	.25**
12. Admin	17.99	4.05	-0.48	-0.02	.70	.30**	.30**	.30**	.30**	.30**	.30**	.30**	.30**	.30**	.30**	.30**	.30**
13. Auth	15.25	4.43	0.02	-0.35	.81	.30**	.30**	.30**	.30**	.30**	.30**	.30**	.30**	.30**	.30**	.30**	.30**

Note. Sk = Skewness; K = Kurtosis. Cronbach's  $\alpha$  coefficients diagonally.  
\*\*  $p < .01$ . \*  $p < .05$ .

depression scales, and to a lesser extent interpersonal relationships also deviate from normal. Finally, approximately 24.2% of respondents reached high and significant levels of anxiety (Lovibond & Lovibond, 1995), compared to 19.4% for stress and 15.1% for depression.

## Test of measurement models

Before testing the structural model depicted in Figure 1, we tested the measurement models for latent dimensions used in this research. The source of stress factor is specified through six subscale scores of dimensions of the IRS questionnaire (job demands, leadership support, colleagues' support, interpersonal relationships, role stressors, and change management). The irrational beliefs factor is specified through four subscale scores of dimensions of the TIBS questionnaire (self-downing, low frustration tolerance, attitudes towards the school management, authoritarianism in the classroom). The factors of depressiveness, anxiety and stress are specified through the items in the DASS-21 questionnaire and are in accordance with the theoretical assumptions of the model.

Indices of adequacy of the measurement models are shown in Table 2. Considering the fact that the values of Mardia's normalised estimate for two of the measurement models was below threshold (stressors and irrational beliefs, 1.67 and 0.56, respectively; Bentler, 2006), the maximum likelihood method for parameter estimation was implemented. In Table 2 we can see that all three models have satisfactory fit indices and are therefore used in the structure analyses.

Table 2

*Test of measurement models of latent dimensions in the study*

Model	$\chi^2(df)$	CFI	NFI	NNFI	RMSEA (90% CI)	SRMR
Stressors	14.51(8)	.99	.97	.97	.07 (.00, .12)	.03
Irrational beliefs	2.47(2)	.99	.97	.98	.04 (.00, .16)	.02
DASS	214.09(185) <sup>o</sup>	.97	.80	.96	.03 (.00, .05)	.06

*Note.* The allowed error covariance for the pair of items 4 and 19 in the DASS model. The allowed measurement error covariance for Cowork and Rel in the Stressors model. <sup>o</sup>S-B  $\chi^2$  calculated due to high Mardia's normalised coefficient. All  $\chi^2$ s are significant at  $p < .001$ .

## Test of mediational models: Stressors, irrational beliefs, and symptoms of stress

The main aim of our research was to determine if irrational beliefs play a significant role in the stress process. To be more specific, we wanted to examine if

global irrational beliefs are a partial mediator in that relationship. In order to investigate this, we tested two hypothetical models. Firstly, we tested a model (M1) without irrational beliefs, which assumes that sources of teacher stress predict stress indicators. It also predicts that three first-order DASS latent factors (stress, anxiety and depression) form the second-order factor – called general stress. Secondly, we introduced irrational beliefs as potential mediators between sources of stress and stress indicators. The results of the fit indices for these two models are given in Table 3. As it can be seen in Table 3, both models have acceptable fit to the data. Standardised parameters for both models are shown in Figure 2.

There were neither statistical nor theoretical suggestions on how to further improve the fit of the presented models (the Lagrange Multiplier test for adding parameters made no such suggestions).

Table 3  
*Goodness of fit indices (robust method reported)*

Model	S-B $\chi^2(df)$	CFI	NFI	NNFI	RMSEA (90% CI)	SRMR
Independence model	2059.17(465)					
M1	394.45(318)	.92	.77	.94	.04 (.02, .05)	.06
M2	536.70(426)	.93	.74	.92	.04 (.03, .05)	.07

*Note.* The allowed error covariance for the pair of items 4 and 19 in the DASS model. The allowed measurement error covariance for Cowork and Rel in the Stressors model. All  $\chi^2$ s are significant at  $p < .001$ . M1- model without irrational beliefs, M2- mediational model

Figure 2 shows that the relationship between stressors and general stress factor in the model M1 is in the expected direction and significant (.48). Introduction of irrational beliefs as mediators in the model M2 resulted in diminishing direct effect of stressors to general stress (.36) – yet, this relationship remained significant, as expected. Other paths in mediational model are significant and in the expected direction as well. Stressors positively predict irrational beliefs (.23), whereas beliefs also positively predict general stress (.50). Apart from that, it can be seen that the low frustration tolerance (LFT) has the highest loading on the factor of irrational beliefs. Factor of depressiveness has the biggest projection on a general stress factor, and it is followed by stress and anxiety.

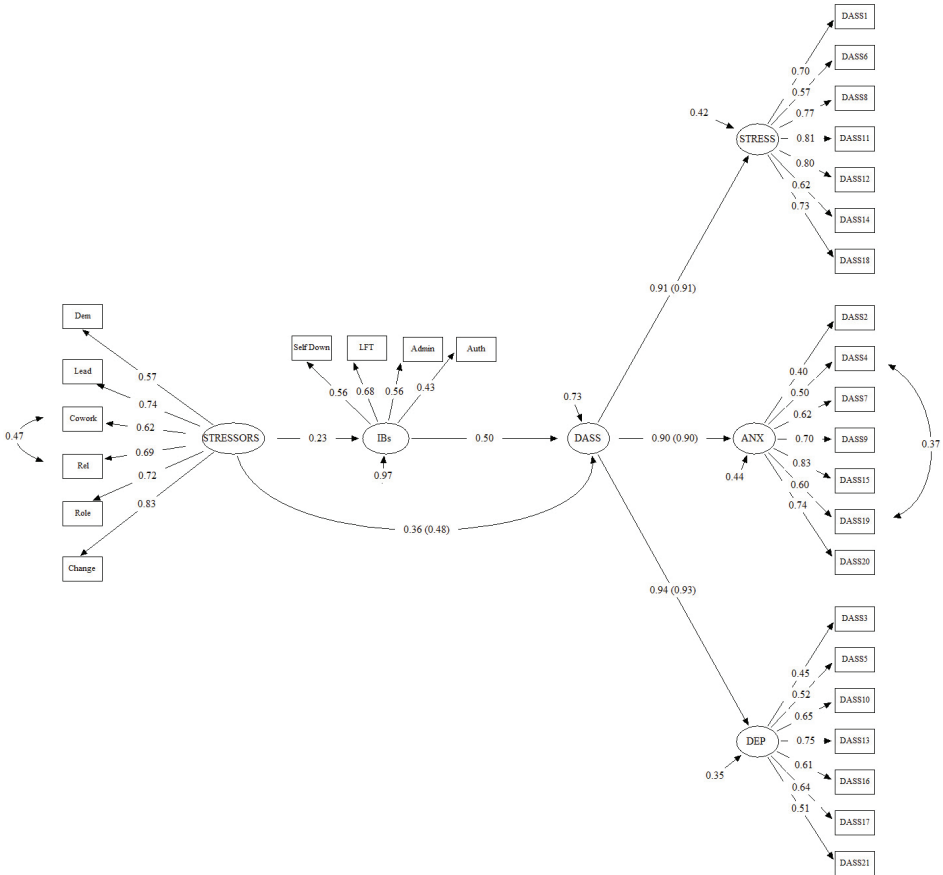


Figure 2. Maximum likelihood estimates for the mediational model (M2;  $N = 186$ ). In parentheses are given estimates for the model without irrational beliefs (M1). All factor loadings and path coefficients are significant at  $p < .05$ . Robust method reported. Fit indices presented in Table 3.

### Discussion

The main aim of this study was to test the mediating role of irrational beliefs in the relationship between stressors at work and emotional distress. From our findings we can conclude that the both stressors and irrational beliefs have a direct effect on general stress among teachers. Moreover, irrational beliefs partially mediated the relationship between stressors and stress symptoms (hypothesis supported). In previous research, no consistent results concerning whether irrational beliefs are full or partial mediators were reported. For example, Camatta & Nagoshi (1995) found a partial mediating role of irrational beliefs in the relation-

ship between daily hassles and alcohol abuse, whereas Hutchinson, Patoek-Peckham, Cheong, and Nagoshi (1998) reported a study in which a complete mediating effect of irrational beliefs was obtained. However, the final result depends on the way that the variables analysed are measured and operationalised. In studies where full mediation of irrational beliefs is obtained, predictors are usually more general cognitive variables, e.g. dysfunctional attitudes (Marić, 2003; Moldovan, 2009). If we use negative events (stressors) as predictors and psychological distress as a criterion variable, partial mediation of irrational beliefs (cognitive factors) is quite expected. In the most psychological research, complete mediation is really rare, because many different factors affect the investigated relations (Baron & Kenny, 1986; Shrout & Bolger, 2002).

The finding that stressors have a direct impact on stress indicators is also an expected one – namely, according to REBT theory, some adverse events (e.g. traumatic experiences), have the power to produce high levels of stress, regardless of what type of belief the person holds about them (cf. Popov & Popov, 2013). Similarly, according to REBT, there is a clear distinction between the “healthy” and “unhealthy” negative emotional reactions to a stressor (Dryden, 2002). Negative emotion is a natural and expected reaction to a stressor, but the crucial question is whether it is a more “healthy” or “unhealthy” one (cf. David, Montgomery, Macavei, & Bovbjerg, 2005). “Unhealthy” negative emotions resulting from holding irrational beliefs about stressful events are usually targeted in therapy, while “healthy” negative emotions represent the desired goal of the treatment. The instrument we used for assessing the levels of stress in this study does not entirely reflect that distinction. The existence of both types of emotional reaction is expected – so is the direct effect of stressors on the levels of stress, as well as the partial mediating effect of irrational beliefs.

An interesting finding is that low frustration tolerance (LFT) has the highest loading on the factor of irrational beliefs. Previous studies also highlighted the fundamental role of LFT in teacher stress, while other beliefs made a smaller contribution. Bermejo-Toro and Prieto-Ursua (2006) found that teachers who hold this kind of attitude are more likely to suffer higher levels of teacher distress. The scores for somatisation, anxiety and depression were significantly higher among the teachers with the lowest frustration tolerance (Bermejo-Toro & Prieto-Ursua, 2006). Our finding can be understood in the following way: REBT divides emotional problems into two categories, “ego disturbance” and “discomfort disturbance”. The second group of emotional problems occurs when people hold irrational beliefs about their emotional or physical comfort. This notion describes people who overreact to unpleasant experiences and their unpleasant feelings. The primary component of this so-called “discomfort disturbance” is low frustration tolerance (Dryden & Mytton, 2005). When regarding school as a workplace, LFT refers to awfulising about work obligations (in terms of working hours, workload, compatibility with private life, etc.) or perceiving them as unbearable (Bernard, 1990). Finally, we can conclude that teacher stress in our study is mainly “discomfort”, but not “ego” in nature, although the two types of disturbance are closely related.

Our descriptive findings are consistent with results of earlier foreign studies which considered teaching as a risky profession. For example, Bermejo-Toro and Prieto-Ursua (2006) reported the results of several studies that indicate that approximately 60–70% of teachers show some stress symptoms, and about 30 % of them have burnout symptoms. We also found that teachers perceive their profession as a stressful. In addition to situational factors such as job responsibility, low salaries, conflicting demands from school managers, students and their parents, deteriorating social image of teachers, etc., there are irrational beliefs which aggravate the problem. In theoretical and conceptual terms, the results of this study provide another evidence of importance of cognitive variables in explaining distress and indicate their mediating role. These findings also have important practical implications because they indicate the need for stress-management intervention in teacher stress. In the context of psychotherapy and counselling, this primarily means intervention in the area of teachers' irrational beliefs, which are here emphasised as partial mediators in the occurrence of emotional distress. Emphasis should be given to low frustration tolerance as a type of irrational beliefs in interventions with teachers, and this is not the first study with such conclusion. Recommendations for further research include improvement to the psychometric characteristics of the instruments for measuring stressors and teachers' irrational beliefs. This specially refers to the TIBS, which should be expanded to encompass some other important aspects of teaching (e.g., in the existing instrument there are no absolutistic demands related to other teacher colleagues). It would also be very useful to examine the role of rational beliefs as potential factors of resilience in stressful situations. There has not been much support for this hypothesis in previous research (e.g., Popov & Popov, 2013), but these studies were not carried out on the teacher population. Also, research of this kind needs to include more schools, with students of varying social and academic breakdown, as these could be significant moderators of teacher stress, as could the length of the teacher's term of employment at the school. In addition, the type of school could represent a potential stressor, especially if the teacher has to deal with higher-risk groups of students in any sense (socially vulnerable, with behavioural problems, chronic health problems, developmental difficulties, etc.). Beside distress, it is very important to examine the level of teacher burnout. It is interesting that there have only been a few such studies in our region (e.g., Suzić & Graonić, 2011).

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## ULOGA STRESORA NA RADU I IRACIONALNIH UVERENJA U PREDIKCIJI NASTAVNIČKOG STRESA

Prema teoriji Racionalno emotivno bihevioralne terapije (REBT), iracionalna uverenja predstavljaju uzročne mehanizme uključene u nastanak psiholoških poremećaja i problema (David, Freeman, & DiGiuseppe, 2009). U praksi postoji razvijen sistem konsultativnog rada sa nastavnicima, zasnovan na identifikaciji i osporavanju specifičnih iracionalnih uverenja (Bora, Bernard, Trip, Decsei-Radu, & Chereji, 2009; Terjesen & Kurasaki, 2009). Dosadašnja istraživanja u ovoj oblasti su se ticala psihometrijske operacionalizacije iracionalnih uverenja nastavnika, kao i vezom između tih uverenja i nastavničkog stresa (Bora et al., 2009). Mi pretpostavljamo da osim uverenja postoje i specifični organizacijski izvori stresa u školama koji utiču na nivo nastavničkog stresa.

Cilj ovog istraživanja bio je ispitivanje veze između izvora stresa na radu (u školama), specifičnih iracionalnih uverenja i nivoa psihološkog distresa kod nastavnog osoblja. Uzorak u istraživanju činilo je 186 nastavnika i učitelja oba pola, iz osnovnih i srednjih škola sa teritorije Zrenjanina i Sombora (Vojvodina). Prosečna starost ispitanika je 40 godina. Instrumenti korišćeni za prikupljanje podataka su: Skala nastavničkih iracionalnih uverenja (The Teacher Irrational Belief Scale – TIBS), Izvori radnog stresa (IRS) i Skala depresivnosti, anksioznosti i stresa (Depression, Anxiety and Stress Scale – DASS-21).

Za obradu podataka korišćeno je strukturalno modelovanje. Rezultati ukazuju da i stresori na radu i iracionalna uverenja imaju direktan uticaj na distres. Uverenja, dakle, predstavljaju parcijalne medijatore u ovoj vezi. To je očekivan rezultat koji je objašnjen razlikovanjem „zdravog” i „nezdravog” emocionalnog odgovora u REBT teoriji i praksi.

**Ključne reči:** nastavnički stres, izvori stresa, iracionalna uverenja