Abstract

A large number of studies have demonstrated the role that teacher self-efficacy plays in teaching and learning, as well as in the teacher’s mental health. In this context, the article aims to analyse the relationship between teacher self-efficacy, job satisfaction, and the state of well-being in terms of flourishing. To this aim, 180 teachers working in the pre-university public education system (Mage=42.58; 127 females and 53 males) recruited probabilistically, filled in three questionnaires. The first one is Teacher self-efficacy scale (TSES - Tschannen-Moran & Woolfolk Hoy), meant to assess the teachers’ self-confidence regarding their ability to plan, to organize, and to carry out the activities needed to achieve educational purposes. The second one is Flourishing scale (FS - Diener et al.) and the third one is Teacher job satisfaction (TJS - Skaalvik & Skaalvik), meant to measure well-being and job satisfaction, respectively. Structural equation modeling based on the partial least square approach (PLS-SEM) was used in order to assess the relationship between variables. After ensuring the data have acceptable validity and reliability, the structural model was performed. The results show a significant correlation between job satisfaction, flourishing, and teachers’ self-efficacy regarding the students’ engagement, instructional strategies, and classroom management. The model highlights teachers’ self-efficacy as a mediator between job satisfaction and well-being. Therefore, job satisfaction influences teacher self-efficacy, which, in its turn, contributes to teacher flourishing. The results are analyzed and compared to those in other pieces of research.
1. Introduction

Teaching is a job that requires strong self-efficacy, a feeling that is considered to be a protective barrier against the professional stress and the burnout teachers have to face (Demir, 2020; Göldağ, 2020; Skaalvik & Skaalvik, 2010). Studies have shown that self-efficacy is one of the variables that well-being depends on (Burgueño et al., 2019; Klassen & Chiu, 2010; Manasia et al., 2020; Zee & Koomen, 2016). But any variable that affects the teachers’ well-being influences their educational activity, from the organization of their teaching activity to their professional training and pupil counselling; in short, it affects every relational contact with the latter.

Teacher self-efficacy (TSE) is a multi-faceted construct and it is defined as the teachers’ confidence regarding their capacity to influence the students’ learning (Klassen et al., 2011), even the learning of those who are more difficult and unmotivated (Aloe et al., 2014). The term originates in the socio-cognitive theory developed by Bandura (1977), who defines self-efficacy as the individual’s conviction that s/he is able to carry out an activity successfully. According to Bandura (1977, 1997), individuals who believe they are efficient have the tendency to set greater personal challenges and have more successful outcomes.

Empirical research demonstrated how important TSE is for teachers’ job and their mental health. For example, in a meta-analysis of 165 studies, Zee and Koomen (2016) analyzed the relationship between TSE and well-being in terms of personal achievements, and involvement, and they concluded that the teachers who have a sense of high self-efficacy have greater job satisfaction, while teachers with lower self-efficacy have lower levels of involvement, which makes them quit their job and leave the educational domain. Positive feelings of well-being, such as achievements and satisfaction, are the mechanism through which TSE influences the teachers’ intention to stay or to leave. It is considered that TSE has effects on well-being either directly or indirectly (Zee & Koomen, 2016), improves well-being in terms of the involvement at the workplace, but also in terms of lower levels of stress and burnout (Aloe et al., 2014). In a study conducted on a sample of pre-service teachers, it was demonstrated that the three factors of TSE (self-efficacy in students engagement, in instructional strategies and in classroom management) as a global factor for teacher efficacy predict life satisfaction and intrinsic motivation and it accounts for 39% of the life satisfaction variance (Burgueño et al., 2019). In a similar vein, a study performed on teachers of special education highlights the relationship between the three mentioned above dimensions of self-efficacy and well-being measured by means of life satisfaction (Lu et al., 2021).

Another aspect which is frequently studied in association with TSE is teacher job satisfaction (Demir, 2020; Göldağ, 2020; Klassen & Chiu, 2010; Yildirim, 2015). Longitudinal studies highlighted the causality between TSE and job satisfaction (Avanzi et al., 2013). Several studies carried out on elementary school teachers (Skaalvik & Skaalvik, 2010, 2011) and on high school and secondary school teachers (Canrinus et al., 2012) demonstrated that self-efficient teachers proved to be happier about their work and relationships than their counterparts who have low self-efficacy. In the case of a sample of 358 high school teachers, it was empirically demonstrated that TSE, life satisfaction, and self-esteem predict job satisfaction (Çevik, 2017). Similar studies proved that the difference between good trainee teachers and less good trainee teachers is accounted for by the feeling of self-efficacy. The higher the teachers’
confidence regarding their own abilities, the higher the degree of involvement in the teaching process and the higher the likelihood of reaching their objectives. Mention must be made of the reverse relation, namely, the greater the job satisfaction, the greater the feeling of self-efficacy (Ciftci et al., 2011).

2. Problem Statement

- Taking all the above into account, we propose to analyse the relationship between TSE, job satisfaction, and flourishing – the superior state of well-being that comprises psychosocial components of well-being and which has never been studied in association with teachers’ self-efficacy.

3. Research Questions

1. Is there a positive relationship between teacher self-efficacy, flourishing, and teacher job satisfaction?
2. Is teacher self-efficacy a mediator of the relation between flourishing and teacher job satisfaction.

4. Purpose of the Study

The purpose of the study was to determine the role of TSE as a mediator in the effect of job satisfaction on flourishing in the case of a group of teachers who teach in primary and secondary schools.

5. Research Methods

5.1. Participants and recruitment procedure

The instruments used in the study were applied on a sample of 180 teachers who teach in primary and secondary school (127 female subjects; 53 male subjects) with an average age M = 42.58 (SD = 7.82). All the teachers carry out their activity in the urban environment. The participants were recruited probabilistically by means of the snowball method. The scales were filled online between October and December 2020 and March and May 2021 through a Google form link. A part of the teachers who participated in the study (36%) are master students enrolled in two of the humanities master programs in the Polytechnic University of Bucharest. The latter shared the link of the questionnaire set with other colleagues from other educational institutions; therefore, teachers from three high schools and five secondary schools in Bucharest had the opportunity to participate in the study. The teachers were informed with regard to the confidentiality of the results. In terms of the bias method control procedure, the instruments were filled anonymously (Podsakoff et al., 2003).

5.2. Instruments and data analysis

*Teachers’ Self-efficacy Scale - short form –TSES (Tschannen-Moran & Woolfolk Hoy, 2001)* is a 12-item instrument (its short form) which has the purpose of assessing to what extent teachers are
successful. The long version of TSES is recommended by authors especially for pre-service teachers. In this instrument, teaching is conceptualized as a complex activity and it represents the perception of teacher self-efficacy. The scale consists in three distinctive factors regarding the perception of self-efficacy associated with three areas of the teaching process: self-efficacy in the students’ engagement – ESE (4 items; e.g.: I can mobilize my sources in order to help students to value learning); self-efficacy in instructional strategies – EIS (4 items; e.g: I can mobilize my resources in order to build good questions for students); Self-efficacy in classroom management – ECM (4 items; e.g.: I can mobilize my sources to manage the students’ difficult behaviour in the classroom). Items are assessed on a scale of 1- not at all to 9- very much. The scale was validated factorially in various cultures (Tsigilis et al., 2010). For the present research we obtained a consistency coefficient of 0.89 for the total TSE score and over 0.70 for subscales (ESE =0.73, EIS =0.75, ECM=0.83). The coefficient Jöreskog’s rho for the total score is ρc =0.91.

Teacher job satisfaction - TJS (Skaalvik & Skaalvik, 2010) measures teacher job satisfaction. The scale consists in three items assessed by respondents on a 5-point scale (Example of item: Given all the aspects of the teaching job, how much do you like working as a teacher?). The α Cronbach coefficient was 0.71 in the case of a group of teachers (N=2249) in elementary and secondary schools. In this study we obtained a consistency coefficient of 0.76 and a Jöreskog’s coefficient of rho ρc =0.86.

Flourishing scale – FS (Diener et al., 2010) is meant to measure psychosocial prosperity. It includes eight items related to purpose and meaning, supportive social relations, interest in daily activities, social contributions, feelings of efficacy, good life, optimism, and respect. The items assessed on the scale from 1 – totally disagree to 7- totally agree. The total score may vary between 8 (the lower) and 56 (the highest). A highly significant score shows the existence of very developed psychological resources and skills. It is considered that at high scores the respondents perceive themselves in a positive light in the various contexts in which they have to function. The authors report a high Cronbach’s α coefficient, 0.87. Other studies find α = 0.85 in the case of teenagers (Duan & Guan, 2020). For the present paper, we obtained high consistency coefficients, namely α = 0.86 and Jöreskog’s coefficient rho ρc =0.89.

The social demographic data gathered from the sample included the following: age, gender, position, studies, the urban/rural environment where the activity is carried out, seniority; subjects (hard sciences, arts, social sciences, literature, foreign languages, engineering sciences).

Data analysis consisted in descriptive and correlational analyses (carried out with SPSSv22 software) and mediation analyses (performed with the program Adanco 2.21) by means of the partial least square approach (PLS-SEM). We resorted to this method because PLS-SEM works very well on samples that are not very large in order for the results not to be affected by distribution/normality problems (Hair et al., 2019).

6. Findings

6.1. The Characteristics of the Sample

The sample consisted in a bigger percentage of female subjects (74.3%) compared with 25.7% of male subjects. The average age is 42.58 (SD=7.82), the younger respondent is 25 years old, and the older
is 62 years old. Most teachers carry out their activity in high schools (52.74%). 59% of these teachers are university graduates, and 41% have graduated from postgraduate programs (master and doctorate). The teaching activity is carried out in the urban environment. The average of seniority is 16.20 years. The subjects they teach are various, from hard sciences, arts, social sciences, literature, foreign languages, and engineering sciences.

6.2. Descriptive analysis

First, we carried out the descriptive analyses of data resulted from the applied set of tests (table 1). The averages obtained in the case of teacher self-efficacy and its three dimensions (teacher self-efficacy total score - 7.84; students’ engagement – 7.68; instructional strategies – 8.16; classroom management – 7.68) are similar to those obtained by Tschannen-Moran and Woolfolk Hoy (2001) in the case of samples of American teachers and pre-service teachers, namely 7.10, 7.30, 7.30, and 6.70, respectively. The comparison with a sample of teachers who manage classes of students with special needs (Frumos, 2018) show high scores of the present lot in comparison with the teachers involved in the education of children with special needs 6.04, 5.89, 6.35, and 5.91, respectively).

| Table 1. Descriptive statistics (averages, standard deviations, coefficients α and ρc) |
|----------------|----------------|----------------|----------------|----------------|----------------|
|              | Variables                  | Min. | Max. | Means | SD  | α   | ρc  |
| TSES         | Teachers’ self-efficacy total score | 4.50 | 9.00 | 7.84 | 0.86 | 0.90 | 0.90 |
|              | -students engagement       | 4.25 | 9.00 | 7.68 | 1.02 | 0.73 | 0.83 |
|              | -instructional strategies  | 3.00 | 9.00 | 8.15 | 0.93 | 0.75 | 0.84 |
|              | -classroom management      | 4.75 | 9.00 | 7.68 | 0.96 | 0.83 | 0.89 |
| TJS          | Teacher job satisfaction   | 4.00 | 15.00 | 12.87 | 2.35 | 0.76 | 0.86 |
| FS           | Flourishing                | 30.00 | 56.00 | 49.55 | 4.84 | 0.86 | 0.89 |

Job satisfaction is one of the most important factors which influences the teachers’ relationship with students (Klassen & Chiu, 2010) and the teachers’ enthusiasm (Chen, 2007) and it is related to teacher self-efficacy (Yildirim, 2015). In the present context, job satisfaction is conceptualized as an affective reaction to the teaching activity.

The analysis of the result obtained with TJS shows that teacher job satisfaction is high (M=12.87; SD=2.35). As for flourishing, we compared the obtained score to the standard proposed by Diener et al. (2010). Thus, given that the average value is 49.00 (in the 85th percentile), we consider that the state of flourishing is high for the analysed teachers. The analysis of the items shows that the statements that highlight future and competence obtain the highest average scores. The α Cronbach coefficient and Jöreskog’s coefficient rho (ρc) are above 0.70 in the case of all the scales, which shows good internal consistency. We considered the possibility of the existence of the respondents’ social desirability, the fact that the latter are tempted to portray themselves in a good light. That is why we carried out the single factor test (Harman), the most frequently used test for the examination of the common method variance (CMV). The generation of the output resulted in five distinct factors that make 65% of the total variance, the first unrotated factor captures 36.60% of the variance. The result suggests that CMV is not an issue in this study and we can continue the association of the results obtained from the scales included in the
study. A more reliable method consists in calculating the VIF indicator (Variance inflation factor) – as a diagnosis of the measurement of multicollinearity. None of the three items is higher than 3.3 so the model can be considered “free of common method bias” (Kock, 2015, p. 7).

6.3. Correlational analysis

We resorted to the correlational analysis because we expected results to be able to express the congruence of the variables. The analyses show strong significant correlations between the perception of teacher efficacy and the subscales existing in the composition of the concept (r between 0.87 and 0.91), as well as moderate and weak correlations between the latter and flourishing (r between 0.45 and 0.59) and job satisfaction (r between 0.20 and 0.26, all at p=0.01) (table 2). Therefore, the higher the teacher’s self-confidence regarding their efficacy in the student’s involvement in the learning process, in the usage of educational practices and in classroom management, the higher the job satisfaction and well-being. This is a concomitant variation of the values studied, not a deterministic relation.

Table 2. The intercorrelation of variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers’ self-efficacy total score</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>students engagement</td>
<td>0.91**</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>instructional strategies</td>
<td>0.88**</td>
<td>0.73**</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>classroom management</td>
<td>0.87**</td>
<td>0.70**</td>
<td>0.63**</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher job satisfaction</td>
<td>0.26**</td>
<td>0.24**</td>
<td>0.24**</td>
<td>0.20**</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Flourishing</td>
<td>0.59**</td>
<td>0.58**</td>
<td>0.58**</td>
<td>0.45**</td>
<td>0.37**</td>
<td>–</td>
</tr>
</tbody>
</table>

Note: **Significant at the 0.01 level

The result corroborates other studies. For example, Skaalvik and Skaalvik (2010) identify a positive relationship between teacher self-efficacy and enthusiasm, job satisfaction and achievements. Another study performed on 1092 representative Romanian teachers selected from the whole country shows that self-efficacy influences subjective well-being assessed in terms of happiness; moreover, the perception of self-efficacy mediates between happiness and the effect the job requirements has on the teacher’s emotions, such as the pleasure to teach (Manasia et al., 2020). A similar study was carried out on 168 Romanian pre-university teachers, and it argues that teachers with a high level of subjective well-being have the sense of (general and professional) self-efficacy (Stănulescu, 2010). All these data show that one way of improving flourishing is to increase teacher self-efficacy.

The result obtained in the present study regarding the relationship between self-efficacy and job satisfaction is confirmed by the research of a group of teachers from Cyprus (Göldağ, 2020) which highlights the moderate relation (r=0.37; p=0.01) between teacher self-efficacy and job satisfaction, as well as between self-efficacy with regard to classroom management and the levels of internal satisfaction (r= 0.30; p=0.01). In fact, teachers consider that job satisfaction is generated by the nature of the daily activities in the classroom; it is influenced by the work with the children, the observation of the latter’s progress, the work with their fellow-colleagues and the general climate of the school (Klassen & Chiu, 2010). Several other studies corroborate the relationship between self-efficacy and teacher job satisfaction (Demir, 2020; Klassen & Chiu, 2010; Skaalvik & Skaalvik, 2010).
6.4. The Mediation Analysis

For the mediation analysis we resorted to the structural equation modeling by means of partial least squares. First, we ensured that the model is valid and reliable. Therefore, we examined construct reliability, convergent validity, and discriminant validity. Since the sample in the present study is smaller than 200 participants we used the reliable technique of bootstrapping (Preacher et al., 2007), with 5000 samples according to Henseler et al. (2016).

6.5. Measurement Model

As for the construct reliability of the model, Adanco 2.2.1 provides three types of reliability coefficients: Dijkstra-Henseler’s rho ($\rho_A$) that needs to be higher than 0.70, Jöreskog’s rho ($\rho_c$) (CR) that needs to be higher than 0.80 (Henseler, 2020) and Cronbach’s $\alpha$. When it is 0.70, it is considered acceptable and when it is over 0.80, it is considered good (Nunnally, 1978). When compared to the coefficients shown in table 4, one can notice that the level of reliability is excellent. According to Nitzl et al. (2016), one condition for the observation of the mediation effects is the high reliability of the mediator. In this particular case, the mediating variable teacher self-efficacy has a reliability of 0.90 ($\alpha$ and $\rho_A$) and 0.91 ($\rho_c$).

In addition, SRMR (standardised root mean squares residual) is 0.0809 ($d_{\text{ULS}} = 1.654$ and $dG = 0.594$), both for the estimated model and for the saturated model (table 3). According to Henseler et al. (2015), a limit value of 0.08 of SRMR is good for SEM based on variance. From table 3 it is observed that only $dG$ does not exceed the 99% percentile in the distribution while $d_{\text{ULS}}$ has a relatively high value. According to Henseler et al. (2016), even if a result of the matrix discrepancy indicates that one of the results is not significant, the research may retain the model.

Table 3. Global goodness of fit

<table>
<thead>
<tr>
<th></th>
<th>Goodness of model fit</th>
<th>Saturated and estimated model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>HI95</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.0809</td>
<td></td>
</tr>
<tr>
<td>$d_{\text{ULS}}$</td>
<td>1.654</td>
<td>1.150</td>
</tr>
<tr>
<td>$dG$</td>
<td>0.524</td>
<td>0.532</td>
</tr>
</tbody>
</table>

Convergent validity shows the degree to which the related constructs are highly correlated to one another, while discriminant validity shows the degree to which constructs are not related. We used Average Variance Extracted (AVE) for convergent validity and Heterotrait-monotrait (HTMT) for discriminant validity. The minimum cutoff level for AVE is 0.50, and HTMT has a good value when it is under 0.90 and under 0.85 (Henseler, 2020). In this case, AVE is over 0.50 for every variable, while HTMT is smaller than 0.85; the highest value is 0.67 (table 4). The items have a factor loading between 0.58 and 0.60 (2 items), between 0.61 - 0.70 (6 items) and between 0.71 -0.88 (14 items).
Table 4. Construct reliability and convergent validity

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Dijkstra-Henseler ($\rho_{A}$)</th>
<th>Jöreskog’s rho ($\rho_{C}$)</th>
<th>Cronbach’s alpha ($\alpha$)</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers’ self-efficacy</td>
<td>0.90</td>
<td>0.91</td>
<td>0.90</td>
<td>0.52</td>
</tr>
<tr>
<td>Flourishing</td>
<td>0.89</td>
<td>0.89</td>
<td>0.86</td>
<td>0.67</td>
</tr>
<tr>
<td>Teachers’ job satisfaction</td>
<td>0.83</td>
<td>0.86</td>
<td>0.76</td>
<td>0.53</td>
</tr>
</tbody>
</table>

6.5.1. Structural Equation Model

Table 5 shows the effects of the mediation relation. The partial mediation is demonstrated by the fact that the direct effect – the effect of job satisfaction on well-being, with the control of the effect of the mediator ($\beta = 0.25; p=0.000$), is smaller than the total effect ($\beta=0.42$) and it is significant. The total effect (the effect of the job satisfaction on well-being, independent of the mediator) is 0.42 and it is significant ($p=0.008$). The indirect effect (the effect on teacher job satisfaction via the mediator) is 0.17 and it is significant ($p=0.005$). According to the equation established by Baron and Kenny (1986), the total effect $c=c'a*b$. Consequently, the total standardized effect, $0.42=0.25+0.54*0.31$. We can state that the effect of job satisfaction on well-being is partially mediated by teacher self-efficacy. Figure 1 shows the structural equation model obtained and the variance explained for the two constructs.

Table 5. The analysis of effects in the mediation relation

<table>
<thead>
<tr>
<th></th>
<th>$\beta$</th>
<th>Standard error</th>
<th>t-values</th>
<th>p-value (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job satisfaction -&gt; flourishing</td>
<td>0.25</td>
<td>0.07</td>
<td>3.25</td>
<td>0.000</td>
</tr>
<tr>
<td>Indirect effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job satisfaction -&gt; teachers’ self-efficacy -&gt; flourishing</td>
<td>0.17</td>
<td>0.05</td>
<td>2.87</td>
<td>0.005</td>
</tr>
<tr>
<td>Total Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job satisfaction -&gt; flourishing</td>
<td>0.42</td>
<td>0.08</td>
<td>4.76</td>
<td>0.008</td>
</tr>
<tr>
<td>Teachers’ self-efficacy -&gt; flourishing</td>
<td>0.54</td>
<td>0.09</td>
<td>8.77</td>
<td>0.000</td>
</tr>
<tr>
<td>Job satisfaction -&gt; teachers’ self-efficacy</td>
<td>0.31</td>
<td>0.09</td>
<td>3.39</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The result shows that job satisfaction is a predictor of teacher self-efficacy and that the latter influences flourishing. The relations between TSE and subjective well-being were demonstrated in various cultural environments (Burgueño et al., 2019; Manasia et al., 2020; Stănculescu, 2010, 2014). In the present study we focused on well-being in terms of flourishing operationalized as positive mental health (Keyes & Grzywacz, 2005), which includes both levels of subjective well-being and levels of psychosocial well-being (Hone et al., 2014). Therefore, we can conclude that TSE has the role of influencing the teachers’ mental health. After all, this aspect was highlighted by Bandura (1977) when he stated that teacher self-efficacy can result in the improvement of mental health and job satisfaction as well as of the pupils’ academic performance.
Finally, here are the limitations of the study. These include, in addition to the limited sample, which in the case of a mediation analysis may create possible contradictions (Nitzl et al., 2016), the fact that the sample consists mainly in subjects from a single urban region, which does not allow us to generalize the results.

7. Conclusion

The present study showed that the analysed teachers are characterized by high self-efficacy, job satisfaction, and flourishing. The interaction of all the variables in the study show that the more efficient teachers perceive themselves, the higher the job satisfaction and well-being. The relation between job satisfaction and well-being was proven in many studies (Bowling et al., 2010). But teacher self-efficacy, with everything that it entails (self-efficacy in classroom management, in the students’ involvement in activities and in the implementation of educational strategies), enhances this relation. Therefore, the teachers who are satisfied with their teaching job tend to appreciate their efficacy, which predicts flourishing. The partial mediation produced by TSE shows that the latter is responsible only for a small part of the variance accounted for in the relation between job satisfaction and flourishing and one should to identify other aspects which can contribute to this relation. Consequently, future studies are necessary in order to analyse other aspects related to the teacher’s personality, as well as psychosocial.
References


