A Structural Equation Modelling Analysis of the Relationships between Perceived Occupational Stress, Burnout, and Teacher Resilience

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Abstract

Challenged with the task of effectively performing a wide range of roles and obligations in their work, teachers have one of the most stress-provoking professions. Very much related to teacher stress and role complexity, teacher burnout can be considered as a professional dilemma, which may happen for every teacher during his/her career. This study aimed to investigate the inter-correlations of teaching context, perceived occupational stress, and burnout with the mediating role of teacher resilience among Iranian EFL teachers. To this end, validated versions of four questionnaires were administered to 400 Iranian EFL teachers. The collected data were analyzed via Structural Equation Modeling. The results showed that lack of supervisory support as a dimension of teaching context can affect teachers' occupational stress more than other dimensions. Moreover, significant positive relationships were found between teachers' occupational stress and their burnout level. There were also significant negative relationships between teacher resilience and their occupational stress and burnout. It can be stated that teacher resilience has a mediatory role considering the relationship between occupational stress and burnout in that it reduces occupational stress and results in reduction of burnout.

Keywords: teacher burnout, perceived teaching context, occupational stress, teacher resilience, SEM

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INTRODUCTION

Teaching is believed to be a highly complex activity requiring classroom teachers to exercise judgment in deciding on their courses of action (Pollard & Collins, 2005). Every teacher has his/her peculiar values, beliefs, and methods of effective teaching, among which is the conviction that "the ultimate outcome of instructional practice is effective student learning" (Donald, 2000, p. 2).

Effective and successful teaching is not something out there to be obtained and teachers are required to practice hard enough to achieve effective teaching. Given the fact that teaching effectively requires a high level of attention and training, it can be considered as one of the most challenging and demanding careers (Kyriacou, 2001). The roles required from instructors are highly complex and teachers regularly feel that their roles never stop developing (Bryne, 1998; Kyriacou, 2001). By way of tradition, teachers followed an authoritarian type of discipline to manage and teach students attending the class to learn the information presented (Okojie, 2011). However, the modern educational focus is on emphasizing the learners' needs and adapting teaching styles to them (Okojie, 2011). As teachers' task becomes harder considering the overall changes in systems of education, some teachers may leave their profession. Hence, teacher burnout has attracted the attention of a number of scholars working in the field of teacher education and it has become one of the most important issues in the field.

Burnout, defined as "a progression of unsuccessful attempts by an individual to cope with a variety of conditions that are perceived to be threatening" (Gold & Roth, 1993, p. 30), was originally coined by Herbert Freudenberger in the 1970s and gained much more empirical attention through Christina Maslach (Gold & Roth, 1993). Farber (1991) mentioned that stress and burnout are distinct phenomena, but it is way difficult to distinguish them without empirical data. Therefore, it can be implied that there is a relationship between occupational stress and burnout.

Moreover, there are some factors which add to teachers' occupational stress, resulting in teacher burnout. To name some of these stressors, one can refer to lack of support (administrative and/or among colleagues), workload, disruptive students, role ambiguity, role conflict, lack of resources, and environmental stressors such as noise, air quality,

and temperature (Abel & Sewell, 1999; Bivona, 2002; Hansen & Sullivan, 2003).

To overcome the negative factors teachers face, policy makers must intervene and help foster teachers' ability to "bounce back from negative life experiences and become stronger in the process of overcoming them" (Henderson & Milstein, 2003, p. 2). This ability, which is necessary for supporting teachers to persevere in the classroom (Patterson, Collins, & Abbott, 2004), has been called "resilience" by Masten (1994).

A number of studies (e.g., Bobek, 2002; Castro, Kelly, & Shih, 2010; Day, 2008; Howard & Johnson, 2004; Williams, 2003) have provided evidence in favor of the critical role of protective factors, which act as buffers against stressful situations normally leading to negative outcomes and which strengthen this innate capacity within resilient individuals, in the resilience building process. School/administrative support, mentor support, induction programs, support of peers and colleagues, working with students, quality of pre-service programs, and support from family and friends are observed to be critical during the time spent for resilience building (Darling-Hammond, 2003; Sammons, Day, Kington, Gu, Stobart, & Smees, 2007).

Hence, the aim of this study is to gain a deeper understanding of whether different dimensions of teaching context contributing to perceived occupational stress are linked to teacher burnout and if teacher resilience has any significant mediatory role. Providing a model encompassing the role of teachers' occupational stress, resilience, and burnout is the primary goal of the present study. Finally, it may also render some educational implications for policy makers, teachers, and teacher training courses in order to raise their awareness about teacher burnout and help them find ways to decrease it.

LITERATURE OVERVIEW

Teacher burnout is considered a result of prolonged stress accompanied by physiological and biochemical changes in teachers, which, in turn, leads to emotional and physical exhaustion, complaints, and chronic physical and mental conditions (Abel & Sewell, 1999). According to Maslach, Jackson, and Leiter (1997), teacher burnout encompasses three main components including emotional exhaustion, reduced personal accomplishment, and depersonalization. Emotional exhaustion is being emotionally overtired, depersonalization means manifesting negative

reactions to people, and finally reduced personal accomplishments refers to a negative evaluation of oneself. Maslach and Leiter (1999) proposed a model of teacher burnout with five main factors of organizational characteristics, personal qualities of teachers, task qualities, social support, political, policy, and economic contest, and ecology of the school. The model indicates that teacher burnout includes, and is the result of, exhaustion, depersonalization, and reduced personal accomplishment. It seems that as in the process model of burnout, emotional exhaustion occurs first and leads to the rise of depersonalization, whereas reduced personal accomplishment develops separately. This model observes the ways teacher burnout influences students' behavior and outcomes. High degrees of teacher burnout may result in less positive feedback or more criticism of students, which may in turn, result in less involvement of students in the classroom.

Regarding empirical studies on burnout, Schaufeli, Bakker, and Van Rhenen (2009) investigated the association among job demands, resources, burnout, work engagement, and sickness absenteeism. The results showed that a lack of resources and high job demand can predict burnout, and burnout is positively related to sickness absenteeism. Furthermore, it was discovered that there is a circular relationship between these variables. For instance, initial work engagement predicts resources, which again enhances work engagement and reduces burnout. The findings of another study (Aloe, Shisler, Norris, Nickerson, & Rinker, 2014) revealed that there is a positive correlation between students' misbehavior and the three dimensions of teacher burnout. Moreover, it was found that emotional exhaustion is the component most correlated with students' misbehavior, then depersonalization, and finally reduced personal accomplishment.

There are various frameworks which are used to understand stress and the role that coping plays in managing stress. These frameworks can explain how techniques for coping impact the level of stress an individual experiences when confronted with a potential stressor (Gelman, 2008). Research has demonstrated that occupational stress in teachers can be more significant than occupational stress in different occupations (Travers & Cooper, 1996). Cooper and Marshall (1976) found that instructors who positioned their occupational stress as "high" encountered a more noteworthy rate of heart attack, stroke, and mental illnesses than people in different occupations who likewise distinguished their stress level as "high". Adams (1999) found that the effects of

teacher stress can offer implications for their ability to teach, their own lives, and their cooperation with their students.

Other studies have referred to teacher stress as a major contributing element to instructor burnout, making teachers diminish satisfaction with teaching and leave their profession (Borg & Riding, 1991; Parkay, Greenwood, Olenjik, & Proller, 1988). Gu and Day (2007) found the concept of resilience in the domain of teaching as a passionate practice and characterized it as a "multidimensional, socially constructed concept that is relative, dynamic and developmental in nature" (p. 1302). Similarly, Tait (2008) characterizes teacher resilience as identified with the regulation of feelings and the consequence of viable association in social situations. She agrees with other researchers in that resilience includes a method of associating with occasions in the environment that is actuated and sustained in times of stress.

Mansfield, Beltman, Price, and McConney (2012) stated that teacher resilience is a multi-dimensional construct encompassing profession-related, emotional, motivational, and social factors. They studied graduating and early career teachers' perceptions regarding resilience and found that they perceived that resilience includes characteristics that are multi-dimensional and overlapping; furthermore, the results showed that views and attitudes of resilience may develop according to teachers' career stage. They believed that the previous models ignored the complex nature of resilience and were simple. Hence, providing this model, they showed the multi-dimensional and complex nature of teacher resilience.

Brunetti (2006) distinguished nine teachers with 12 or more years of experience in a high-poverty secondary school in Southern California through the utilization of a survey. Utilizing life-history interviews more than a few sessions, the researcher came up with three themes that disclosed the teachers' motivation to stay in the classroom: the students, expert and individual satisfaction, and support for teachers' work.

Castro et al. (2010) interviewed 15 beginning teachers employed in high-poverty urban and rural areas. The plan of the study was to comprehend what procedures teachers utilized in adverse circumstances and what resources they depended on to overcome challenges. The researchers hypothesized that these findings might present a new interpretation of teacher resilience. They distinguished help seeking, problem solving, managing difficult relationships, and looking for restoration and recharging as procedures that novice teachers use to develop resilience. The researchers found that novice teachers did not

generally depend on an assigned mentor for support. Rather, novice teachers tended to find their own tutors by contacting more experienced instructors both inside and outside of their own school. While mentoring projects may be effective when the mentor-mentee relationship is a positive one, negative relationships may impede new teachers' development.

The Hypothesized Model

Based on a review of relevant studies, a model was hypothesized, comprising four latent variables (teaching context, occupational stress, burnout, and resilience). The directional links between these variables are schematically represented in Figure 1. Four hypothesized paths are shown by single-headed arrows. One path from teaching context dimensions to occupational stress, two paths from occupational stress to burnout and resilience, and one from resilience to burnout are supported by sufficient empirical evidence (e.g., Kokkinos, 2007; Rushton, Morgan, & Richard, 2007; Schaufeli & Bakker, 2004; Sharplin, O'Neill, & Chapman, 2011; Tamir, 2010).
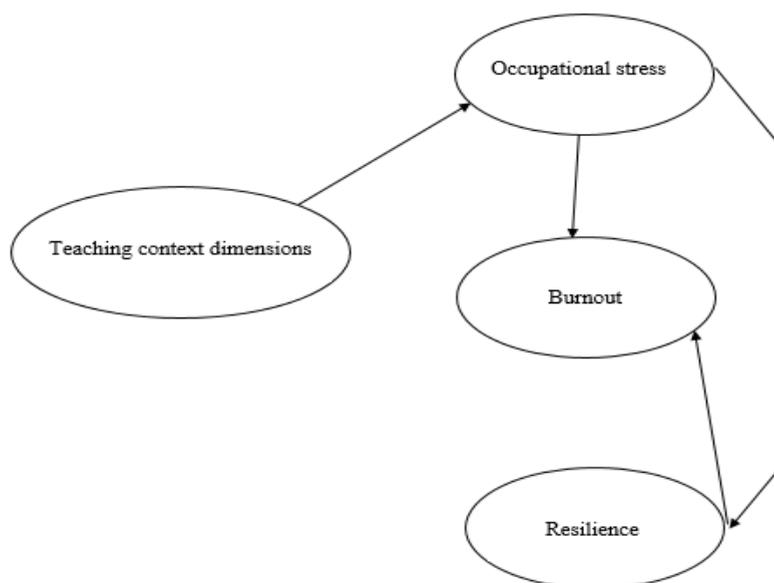
Figure 1: The hypothesized causal model of teaching context dimensions, occupational stress, burnout, and resilience

The hypothesized impact of teaching context on occupational stress (and indirectly to burnout) is based on the assumption that they may increase burnout (Skaalvik & Skaalvik, 2010, 2011) due to increases in occupational stress (Borman & Dowling, 2008; Day et al., 2007; Smithers & Robinson, 2003). Therefore, it can be predicted that teaching context may add to EFL teachers' perceived occupational stress. Additionally, the hypothesized path from occupational stress to burnout is based on the premise that persistent occupational stress can result in burnout (Abel & Sewell, 1999; Bivona, 2002; Fives, Hamman, & Olivarez, 2007; Hansen & Sullivan, 2003). Hence, a direct positive relationship between occupational stress and burnout can be hypothesized. The paths from occupational stress to resilience and from resilience to burnout are based on the assumption that in the presence of resilience, the individual experiences less occupational stress, which leads to a decrease in burnout (Bobek, 2002; Howard & Johnson, 2004). Therefore, a mediating role for resilience is hypothesized with regard to occupational stress and burnout.

Method
Participants
The participant teachers taking the survey instruments included 400 Iranian English teachers (292 females and 108 males) teaching English at private language institutes in Karaj and Tehran. The sample size was determined through Cochran's sample size formula. Their age range was from 24 to 28. Among the participants, 111 people held B.A., 239 held M.A., 20 held PhD, and the rest held other degrees. The sample included both English and Non-English majors. Considering the years of experience, 187 teachers had 1-5 years, 107 teachers had 6-10 years, and the rest had more than 11 years of teaching experience.

Instrumentation
EFL Teachers' Perceived Teaching Context Questionnaire
Perceived Teaching Context Questionnaire designed and validated by Skaalvik and Skaalvik (2011) was used to assess value consonance (e.g. *My educational values are in accordance with the values which are emphasized at this school*), supervisory support (e.g. *In educational matters, I can always seek help and advice from the school leadership*), relations with colleagues (e.g. *In educational matters, I can always get*

good help from my colleagues), relations with parents (e.g. *I feel that the parents have faith in my teaching*), time pressure (e.g. *Preparation for teaching must often be done after working hours*), discipline problems (e.g. *My teaching is often disrupted by students who lack discipline*), and the last subscale, taken from Skaalvik and Skaalvik (2010), was autonomy (e.g. *In my daily teaching I am free to choose teaching methods and strategies*). Each part was measured by a six-point Likert type scale: *(1) False, (2) Mostly false, (3) More false than true, (4) More true than false, (5) Mostly true,* and *(6) True.* The total reliability of the questionnaire was 0.71. The sub-scale reliabilities were 0.77, 0.76, 0.82, 0.76, 0.73, 0.86, and 0.71 for the categories of value consonance, supervisory support, relations with colleagues, relations with parents, time pressure, discipline problems, and autonomy, respectively.

EFL Teachers' Perceived Occupational Stress Questionnaire

In order to assess teachers' occupational stress, 35 items from Weinstein and Trickett (2016) were used. The original scale consisted of 40 items, but some items were omitted since they did not seem to be in accordance with Iranian culture. The scale measured four subscales including systematic impacts (5 items, e.g. *Preparing English Language Leaner (ELL) students for final language testing is not at all stressful*), social support/climate (7 items, e.g. *Seeing English Language Learner (ELL) students treated in negative ways by other students is not at all stressful*), formal job characteristics (10 items, e.g. *Students entering and leaving my classes throughout the semester is not at all stressful*), and informal job duties (13 items, e.g. *Students pulled from the classroom for non-academic matters such as for mental health counseling, acculturation groups, health skills, etc. is not at all stressful*). The participants completed the items on a five-point Likert type scale ranging from *1 (not at all stressful)* to *5 (extremely stressful).* The results of Cronbach reliability analysis (total r = 0.915) showed a satisfactory level of test reliability. The sub-scale reliabilities were 0.75, 0.78, 0.82, and 0.85 for systemic impacts, social support/climate, formal job characteristics, and informal job duties, respectively.

Teacher Burnout Inventory

The Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981) was used to measure the three subscales of teacher burnout: emotional exhaustion (9 items, e.g. *I feel used up at the end of the workday*),

depersonalization (5 items, e.g. *I feel I treat some students as if they were impersonal objects*), and reduced personal accomplishment (8 items, e.g. I *have accomplished many worthwhile things in this job*). Participants completed the scale on a seven-point Likert type scale ranging from *0 (never) to 6 (always).* The result of the total Cronbach reliability analysis was 0.83. The reliability of the category of emotional exhaustion was 0.82, for depersonalization was 0.78, and for personal accomplishment was 0.74.

Teacher Resilience
The Resilience Scale developed by Wagnild and Young (1993) was utilized to assess participant teachers' resilience. For instance, one of the items was: *When I make plans I follow through with them*. Participants completed the questionnaire on a five-point Likert type scale ranging from *1 (strongly disagree)* to *5 (strongly agree).* Cronbach Alpha reliability of the scale was calculated to be 0.86.

Data Collection Procedure
As access to the participants was difficult, an online scale was prepared. Most of the EFL teachers (208 teachers) were identified through the personal contacts of the researcher or through LinkedIn website and other social media. The rest of the data were gathered through direct contacts of the researcher in the language institutes in Tehran and Karaj. It took approximately 30 minutes to complete the questionnaires.

Data Analysis
First, Statistical Package for Social Sciences (SPSS 18) was used to summarize the characteristics of a data set and to measure internal consistency reliability, Cronbach alpha (α) coefficient.

Then, structural equation modeling (SEM) using LISERL.8.8 was used for confirmatory factor analysis (CFA) to measure the construct validity of two of the questionnaires (i.e., Perceived Teaching Context Questionnaire and Perceived Occupational Stress Questionnaire) to ascertain their suitability in the context of Iran. Additionally, SEM was run to measure the model adequacy.

RESULTS

The study, as stated above, aimed to explore the interrelationships of Iranian EFL teachers' teaching context, perceived occupational stress, and burnout with the mediating role of teacher resilience. As the first step, to examine the validity of the Teaching Context Questionnaire and the Occupational Stress Questionnaire, confirmatory factor analyses (CFA) through Structural Equation Modeling (SEM) was used. The results of CFA and the values related to the fit indexes for both questionnaires are presented in Appendix A to Appendix D. As it is observed, the t-value is greater than 1.96 or lesser than -1.96 in all cases and RMSEA value is less than 0.08. Furthermore, the relative chi-square value is between 1 and 3. Therefore, it can be concluded that the items on the questionnaire provide an appropriate factor structure. Therefore, it can be generally stated that the value of indexes is compatible with the criteria, and confirmatory factor analyses confirm the factorial structure of the two questionnaires.

The next step of analysis involved investigating what dimensions of teaching context contribute more to the EFL teachers' perceived occupational stress. The summary of the results extracted from the estimated model (Appendix E & F) to assess the research model are presented below (Table 1).

Table 1: Results of SEM for teaching context dimensions

Investigating the relationships	Path Coefficients	t-value	results
Value consonance → occupational stress	-0.41	-2.06	Significant
Supervisory support → occupational stress	-0.88	-9.91	Significant
Relations with colleagues → occupational stress	-0.71	-8.04	Significant
Relations with parents → occupational stress	-0.63	-6.19	Significant
Time pressure → occupational stress	0.48	4.16	Significant
Discipline problems → occupational stress	0.52	5.10	Significant
Autonomy → occupational stress	-0.45	-3.42	Significant

According to the results, it can be stated that supervisory support, relation with colleague, and relation with parents with path coefficients of -0.88, -0.71, and -0.63, respectively, have significant negative relationships with occupational stress.

The next step was to examine the relationship between teacher occupational stress and burnout. As shown in Table 2, the path coefficient between teachers' occupational stress and burnout equals 0.96, which is a positive value. It can be stated that there is a significant positive relationship between teachers' occupational stress and their burnout level.

Table 2: Results of the structural model

Investigating the relationships	Path Coefficients	t-value	results
Occupational stress → burnout	0.69	9.16	Significant
Occupational stress → resilience	-0.66	-4.10	Significant
Resilience → burnout	-0.81	-5.15	Significant
Occupational stress → resilience → burnout	(-0.66)*(-0.81) =0.53	---	Significant

Finally, in order to assess the mediatory role of teacher resilience regarding the relationship between occupational stress and burnout, it is essential to meet a few conditions. The first condition is that the significance of the relationship between the independent variable and the mediating variable be confirmed. The second condition is also confirming the significant relationship between the mediating variable and the dependent variable. According to Table 2, the path coefficient between occupational stress and resilience is significant and the existence of a negative relationship between them is confirmed. The path coefficient between teacher resilience and burnout equals -0.81, which is a significant negative value. Therefore, the first and second conditions are met and it can be stated that teacher resilience has a mediatory role considering the relationship between occupational stress and burnout such that it reduces occupational stress and results in reduction of burnout. Furthermore, based on Table 2, it can be stated that resilience, with the path coefficient of 0.53, has an average mediating role with regard to occupational stress and burnout; therefore, it reduces

occupational stress and results in reduction of burnout. Thus, the closer the result of the equation is to one, the more the mediating role of resilience will be.

DISCUSSION

Few can refute that teaching is an "emotionally taxing and potentially frustrating" career (Lambert, O'Donnell, Kusherman, & McCarthy, 2006, p. 105) and it can lead to teachers' burnout (McCarthy, Lambert, O'Donnell, & Melendres, 2009). In this study, it was found that there is a significant positive relationship between EFL teachers' occupational stress and burnout. The result is justifiable because teachers' low quality and low level of tolerance may lead to occupational stress and it can influence teachers' mental well-being. The finding is compatible with the findings of Mearns and Cain (2003), who indicated that higher stress levels on the job predicted teacher burnout and distress. Furthermore, the results are in accordance with the results of Schwarzer and Hallum (2008), who studied the role of self-efficacy in mediating job stress and burnout and revealed that low self-efficacy may result in job stress, which in turn leads to teacher burnout. Moreover, the findings support those of Russell, Altmaier, and Velzen (1987), who studied job-related stress, social support, and burnout among teachers. They examined the effects of job-related stressful events and social support on burnout among teachers. The findings revealed that stressful situations and lack of social support were predictive of teacher burnout.

Concerning the relationship between EFL teachers' resilience and their occupational stress, the results revealed a significant negative relationship. It can be interpreted that with increments of teacher resilience in the occupation, their stress level may diminish or vice-versa. Oswald, Johnson, and Howard (2003) consider teacher resilience a "capacity to effectively overcome individual vulnerabilities and natural stressors" (p. 50). Howard and Johnson (2004) also studied the relationship between teacher resilience and job stress. In their study, a negative relationship was found between these two variables. They also proposed some ways to increase teacher resilience and cope with teacher stress.

Dealing with the relationship between EFL teachers' burnout and their resilience, it was indicated that there is again a significant negative relationship between these two variables. This finding sheds more light

on the findings of Howard and Johnson (2004), who conducted a study on teacher resilience, burnout, and job stress. The findings of the current study are identical to their findings regarding the negative relationship between teacher resilience and burnout.

Additionally, Dworkin (2009) studied teacher resilience and burnout. He showed that there is a negative relationship between the two constructs and provided ways to increase teacher resilience and reduce the burnout level in the school context. Hong (2012) also stated that with the increasing concern about the high attrition rate among beginning teachers, it is necessary to better understand why teachers leave the profession. He conducted a study exploring differences between leavers and stayers in terms of their resilience. Leavers (low resilience) showed weaker self-efficacy beliefs than stayers (high resilience), who preferred to get more support and contribution from school administrators. Moreover, leavers believed that heavy burdens imposed on them created stress and emotional burnout. Unlike leavers, stayers often reported their strategies to prevent them from being burned out by establishing effective relationships with students. The findings are also identical to those of Beckett (2011), who found that while teacher resilience has a positive relationship with copying styles, it has a negative correlation with teacher burnout.

Furthermore, in the present study, the results of the analysis of the contextual factors disclosed negative correlations between supervisory support, relations with colleagues, relations with parents, and burnout. As teachers have supervisory support, good relations with their colleagues, and students' parents, their stress level may be diminished. This finding is in line with the finding of Russell et al. (1987), who found that social support has a determining role in decreasing teacher stress. Moreover, Burke, Greenglass, and Schwarzer (1996), Fimian, (1986), Greenglass, Burke, and Konarski (1997), and Ray and Miller (1991) emphasized the contribution of social support to decreasing teacher stress. All of these studies have referred to the positive role of social support, for instance supervisory support, friends, colleagues, and support of the students' parents that contribute to their job quality and decrease their occupational stress.

Moreover, it was found that discipline problems and time pressure have positive relationships with teacher stress. It is justifiable because when teachers have management problems encountering disruptive students or when they cannot manage time, they may become confused

and stressed. As indicated by Kyriacou (2001), teacher stress can originate from an assortment of sources. Kyriacou (2001) divided the top stressors in the general teaching population into elements including teaching pupils who lack motivation, time pressure, workload, and coping with change.

Finally, in this study, it was found that there are negative relationships between teacher autonomy and value consonance with regard to job stress. These negative relationships are also conceivable as autonomous individuals often experience lower levels of stress. This finding is compatible with those of Pearson and Moomaw (2005), who found that autonomous teachers find ways to tackle classroom problems and this leads to their stress reduction and quality performance.

CONCLUSION

While there has been a productive line of research into teacher burnout, a complete picture of the factors likely to influence teachers' occupational life is yet to emerge. The results of the present study indicate that teaching context can lead to occupational stress and burnout. Consequently, their feeling of tiredness may influence students' behavior and outcomes (Maslach & Leiter, 1999), which may result in less involvement of students in the classroom and decrease their achievement rate, as well. Based on the results, it can also be implied that by recruiting teachers with a high sense of resilience, institutes will probably encounter fewer cases of teacher burnout. This finding can highlight the importance of considering resilience in any model of teacher recruitment. Additionally, initiatives directed at building and enhancing the resiliency of the teacher may be in order. Hence, the findings of this study have implications for the improvement of teachers' conditions, which may, accordingly, improve their pedagogical decision making in different areas.

The present study was carried out in only two cities in Iran, Karaj and Tehran. Additional studies could investigate the issue across the country with a more diverse population. Furthermore, other personal factors could be investigated which are assumed to mediate the relationship between occupational stress and burnout among teachers.

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Appendix A: results of the cfa for teaching context questionnaire

Variables	Questions	Path Coefficients	T-Value
Value consonance	Value1	0.70	10.45
	Value2	0.69	10.67
	Value3	1.07	16.95
Supervisory support	Supervisory1	0.98	14.08
	Supervisory2	0.90	15.16
	Supervisory3	1.03	17.07
Relations with colleagues	Relationcolleague1	0.75	13.35
	Relationcolleague2	0.97	20.33
	Relationcolleague3	1.04	20.68
Relations with parents	Relationparents1	0.74	15.16
	Relationparents2	0.76	13.42
	Relationparents3	0.68	15.92
Time pressure	Timepressure1	0.79	6.62
	Timepressure2	1.07	8.90
	Timepressure3	0.69	7.38
Discipline problems	Disciplineprobl1	1.07	17.03
	Disciplineprobl2	1.30	20.63
	Disciplineprobl3	1.26	19.17
Autonomy	Autonomy1	1.16	14.96
	Autonomy2	1.01	12.54
	Autonomy3	0.77	10.90

Appendix B:

Goodness-of-fit indices for Teaching Context Questionnaire

χ2/DF	RMSEA	NFI	GFI	IFI	CFI	AGFI	SRMR
1.27	0.052	0.92	0.91	0.93	0.92	0.92	0.013

Appendix C: Results of the CFA for Occupational Stress Questionnaire

Variables	Questions	Path Coefficients	T-Value
Systemic impacts	systematicimpact1	0.58	11.67
	systematicimpact2	0.63	13.66
	systematicimpact3	0.52	8.16
	systematicimpact4	0.34	6.55
	systematicimpact5	0.63	12.86
Social support/climate	Socialsupport1	0.54	10.86
	Socialsupport2	0.59	11.72
	Socialsupport3	0.59	12.02
	Socialsupport4	0.78	13.98
	Socialsupport5	0.74	14.71
	Socialsupport6	0.49	9.39
	Socialsupport7	0.67	11.51
Formal job characteristics	Formaljobcharacter1	0.70	11.49
	Formaljobcharacter2	0.74	15.07
	Formaljobcharacter3	0.73	14.31
	Formaljobcharacter4	0.50	8.42
	Formaljobcharacter5	0.53	10.12
	Formaljobcharacter6	0.74	12.95
	Formaljobcharacter7	0.71	14.85
	Formaljobcharacter8	0.58	11.70
	Formaljobcharacter9	0.40	8.12
	Formaljobcharacter10	0.50	10.08
Informal job duties	Informaljobcharacter1	0.62	11.68
	Informaljobcharacter2	0.49	7.93
	Informaljobcharacter3	0.59	10.28
	Informaljobcharacter4	0.55	10.17
	Informaljobcharacter5	0.62	13.12
	Informaljobcharacter6	0.54	10.74
	Informaljobcharacter7	0.71	13.45

Informaljobcharacter8	0.78	17.28
Informaljobcharacter9	0.65	13.83
Informaljobcharacter10	0.62	13.40
Informaljobcharacter11	0.58	9.53
Informaljobcharacter12	0.72	15.48
Informaljobcharacter13	0.57	11.86

Appendix D: Goodness-of-fit indices for Occupational Stress Questionnaire

χ^2/DF	RMSEA	NFI	GFI	IFI	CFI	AGFI	SRMR
1.61	0.076	0.93	0.92	0.92	0.91	0.93	0.044

Appendix E: T-value of SEM to examine the adequacy of the research model

Chi-Square=2539.99, df=1302, P-value=0.00000, RMSEA=0.049
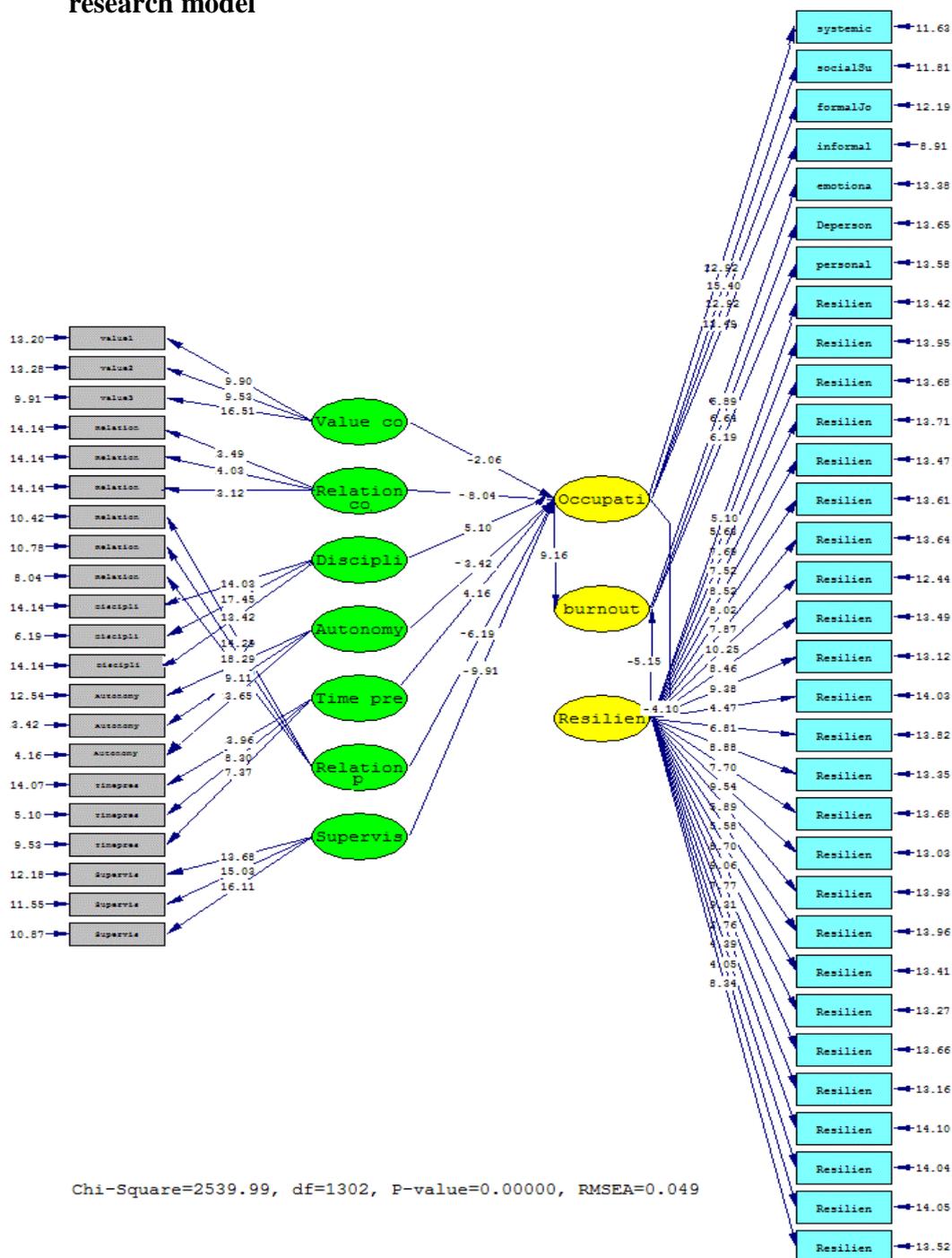
Appendix F: Path Coefficients of SEM to examine the adequacy of the research model

Chi-Square=2539.99, df=1302, P-value=0.00000, RMSEA=0.049