

The Relationship among Self-Efficacy Beliefs, External Locus of Control and Work Stress in Public Setting Schoolteachers

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Abstract

Work stress is considered as the product of an imbalance between environmental demands (stressors) and individual differences (capabilities, resources or needs), associated with adverse health outcomes as well as adverse work outcomes. According to the literature in this field, teaching has ranked among the most stressful occupation. In order to investigate the role of Self-Efficacy Beliefs and Locus of Control as personal capabilities to cope with environmental demands, this study examines the interactions among these psychological features in a group of schoolteachers. Results of this survey suggest that self-efficacy belief represents one of the most important "protective" factors in response to psychological stress.

Keywords

Work Stress Models, Personality and Individual Differences, Self Efficacy, Locus of Control, Risk Assessment

1. Introduction

Stress at work can happen in any sector and in any size of organization, affecting the health of individuals and the health of organizations (European Agency for Safety and Health at Work, 2003). Teaching has been identified as one of the most stressful professions that can lead to serious deterioration of physical and psychological health [1]-[7]. Many international studies have shown that up to one third of teachers are stressed or extremely stressed [8]-[15]. Teachers' work stress reflects the experience of unpleasant emotions as a result of teaching work [11], and it is associated with several negative outcomes for teachers, including increased burnout and ab-

senteeism [16], reduced sense of teaching efficacy, lower levels of job satisfaction and commitment [17].

Self-efficacy is the key construct in Bandura's Social Cognitive Theory [18], and represents people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives [19]. Self-efficacy theory extends the conception of agent causality to people's beliefs in their collective efficacy to produce desired outcomes [20]. Therefore, perceived individual self-efficacy has been used to understand individual behavior as a function of domain-specific beliefs about personal capacities, while perceived collective self-efficacy is the extension of the self-efficacy construct to organizations and groups; it refers to beliefs about collective capacities in specific domains. Efficacy's beliefs have a powerful influence on behavior [21] [22], job involvement and job satisfaction [23] and play an important role in health outcomes [24]-[28]. In terms of feeling, a low sense of self-efficacy is associated with depression, anxiety, and helplessness [25]. Self-efficacy in teaching refers to teachers' beliefs about their own values, competencies, and accomplishment [29]. The sources of teachers' self-efficacy come from the way they master their direct experience, their level of anxiety in facing or interpreting their tasks, their imitations of other teacher models, and the social persuasion or specific feedback from significant others [30]. Self-efficacy in teaching has been linked with important outcomes for teachers, including the use of effective teaching strategies [31]-[33], better classroom management [34], and greater teacher well-being [35]-[37]. In addition, Klassen and Chiu [38] found that teachers' experience of stress was an important contributor to their sense of teaching efficacy.

Defined as a generalized expectancy for internal as opposed to external control of reinforcements [39] [40], LOC is another important component of individual wellness. This construct has a significant impact on Bandura's self-efficacy theories [21] and how individuals' expectations shape the goals, they set for themselves. Individuals with internal LOC engage more than do individuals with external LOC, because they believe that their achievement depends on their will [39]-[41]. They feel to have choice in their lives and control over their circumstances [39] [42] [43], and they tend to feel happier, free, and less stressed [27]. At the other end of the continuum, individuals with a more external LOC perceive themselves to have little or no control over their lives; they tend to feel more susceptible to stress and depression too. This one-dimensional construct (internal versus external control) has been questioned repeatedly, giving rise to more elaborate conceptualizations [40] [44] [43]: however, adults generally do not present a solely internal or external LOC searching for an optimal fit in their system of beliefs.

According to Lazarus and Folkman [45], who considered Self-Efficacy Beliefs and Locus of Control (hereafter named "LOC") as appraisal variables within stress and coping theory, this study aims to investigate the effects of perceived self-efficacy [24] [26]-[28] and LOC [39] [40] [46]-[49] in the relationship with work related stress in schoolteachers.

2. Methodology

2.1. Instruments

Work related stress was investigated through the Italian version of Occupational Stress Indicator (OSI) [48], [50], a self-report questionnaire composed of 167 items rated on a 6-point Likert scale and developed on the basis of the Cooper's model. Cronbach's α for the subscale coefficients is ranged from 0.72 to 0.86 [50]. The test is composed by six scales based on 4 factors: stressors, individual's features, coping strategies and stress symptoms. Stress can be either psychological or physical: both forms of stress are similar and the majority of people suffer from a combination of these two types of stress. OSI's "PSYT" scale denotes psychological stress and taps a range of cognitive aspects of strain. It consists of 18 items; Cronbach's α value calculated on our sample is 0.81. OSI "PHIT" scores look at the somatic symptoms of anxiety and depression: this scale consists of 12 items; Cronbach's α value calculated on our sample is 0.75. In addition, we analyzed the OSI "Locus of control" scale's results that consists of three subscale (12 items). The items of "organizational forces" measure the extent to which the respondents perceive their effect over the invisible influences within the organization; "Management processes" investigate how subjects perceive their control over performances appraisal and promotions; "Individual influence" examines a more general ability to have effects within the workplace. We calculated α value on our sample, which is respectively 0.77 (LOC-O), 0.79 (LOC-G), and 0.82 (LOC-I). The three subscale are been summated to obtain an overall perceived LOC.

Perceived self-efficacy was measured through the following Italian versions of Bandura's Tests [21]:

- 1) EPOP (Perceived Personal Self-Efficacy in Organizations), a self-report questionnaire composed by 6

items rated on a 7-point Likert scale, covering the degree of belief that one is capable of performing in a certain manner to achieve certain goals (Cronbach's $\alpha = 0.79$);

2) ECOP (Perceived Collective Self-Efficacy in Organizations), a self-report questionnaire composed by 6 items rated on a 7-point Likert scale covering group-level property (Cronbach's $\alpha = 0.88$). Collective self-efficacy is the extension of the self-efficacy construct to organizations and groups: indeed, people's shared beliefs in their collective power to produce desired results is a key ingredient of collective agency [26].

2.2. Participants

The participants were 222 teachers (M = 85; F = 130; missing gender = 7), aged 25 - 55 years, recruited from twelve public schools in Italy. **Table 1** shows gender distribution between age levels.

2.3. Procedure

A two-step analysis has been conducted before studying the possible effects of these psychological features on distress. An explorative analysis, based on parametric tests, allowed knowing if the subjects' responses varied according to gender and age (see **Table 2** and **Table 3**). At this stage, T-test has carried out. Then, in order to investigate the structure of the relationship among the instrumental variables, Pearson's correlations have applied (see **Table 4**). Finally, for modeling the relationship between the investigated features (Perceived Personal Self-Efficacy, Perceived Collective Self-Efficacy, Total LOC) and, respectively, physical illness and psychological stress (dependent variables), we have used linear regression (see **Table 5** and **Table 6**).

Table 1. Gender and age level distribution.

	Males	Females	Missing	Total
25 - 50 years	49	87	7	143
Over 50 years	35	43	0	78
Missing	1	0	0	1
Total	85	130	7	222

Table 2. Gender differences, Student's t test.

	Males N = 85		Females N = 130		p-value
	M	SD	M	SD	
Physical illness	32.47	13.90	31.18	11.92	0.47
Psychological stress	58.05	14.16	55.73	12.45	0.21
Perceived Personal Self-Efficacy	31.11	8.54	33.45	5.74	0.02
Perceived Collective Self-Efficacy	28.71	8.26	30.81	6.97	0.04
Total LOC	42.08	6.70	39.95	6.65	0.02

Table 3. Age-level differences, Student's t test.

	Under 50 years old N = 143		Over 50 years old N = 78		p-value
	M	SD	M	SD	
Physical illness	53.35	13.74	61.15	11.22	0.00
Psychological stress	29.32	13.03	34.28	12.42	0.00
Perceived Personal Self-Efficacy	33.93	5.59	30.45	8.74	0.03
Perceived Collective Self-Efficacy	30.99	7.10	20.78	8.27	0.00
Total LOC	38.99	7.53	43.23	5.75	0.00

Table 4. Pearson's correlations.

	Physical illness	Psychological stress	Perceived Personal Self-Efficacy	Perceived Collective Self-Efficacy	Total LOC
Physical illness	-	0.53**	-0.39**	-0.49**	0.42**
Psychological stress	0.53**	-	-0.53**	-0.35**	0.66**
Perceived Personal Self-Efficacy	-0.39**	-0.53**	-	0.61**	-0.44**
Perceived Collective Self-Efficacy	-0.34**	-0.49**	0.61**	-	-0.42*
Total external LOC	0.40**	0.66**	-0.44**	-0.42*	-

*p < 0.05; **p < 0.01.

Table 5. Linear regressions between physical illness, self-efficacy and LOC. Beta coefficient for each regression (*p(t) < 0.01).

Independent variables	Dependent variable physical illness
Perceived Personal Self-Efficacy	-0.21*
Perceived Collective Self-Efficacy	0.09
Total LOC	0.28*

Table 6. Linear regressions between psychological stress, self-efficacy and LOC. Beta coefficient for each regression (*p(t) < 0.05).

Independent variables	Dependent variable psychological stress
Perceived Personal Self-Efficacy	-0.22*
Perceived Collective Self-Efficacy	-0.14*
Total LOC	0.51*

The participants have been informed about the purpose of the study and they gave their informed consent. Teachers have been tested individually in a quiet room that is been arranged for the experimental procedure. The experimental procedure is been explained to the teachers, and they participated to the study filling out the questionnaires in a group setting, anonymously, voluntarily, without time restrictions. This procedure has reviewed and approved by the Ethics Commission of Kore University.

3. Results

Table 2 shows gender differences in perceived physical and psychological stress self-efficacy and external LOC. According to the literature in this field [17] [51] [52], results demonstrate that females perceive more positive outcomes of their activity (as Perceived Self-Efficacy and Collective Efficacy scores demonstrate) and, consequently, they perceive less stress than men. These results are statistically significant (**Table 2**): this output could be explained by women's ability to express emotions and manage stress interacting with social supports (friends, partner, or others) more than men do.

Indeed, result shows that males experience more stress than females and, consequently, less control. This output is significant.

Table 3 shows age-level differences in perceived stress—physical and psychological—self-efficacy and external LOC. In particular:

- 1) Teachers over 50 years old experience more stress than the other group and, consequently, less control;
- 2) Teachers under 50 years old experience more Perceived Personal and Collective Self-Efficacy than the other group. Indeed, they seem to be able to cope with stress better than the other group.

According to the literature in this field [53] [54], all these results are statistically significant and demonstrate

that age is one of the most important risk factor for stress.

The correlation coefficients shown in **Table 4** indicate statistically significant bivariate correlations between the variables. Perceived Self-Efficacy and total external LOC seem to be inversely related, like the relationship between physical illness and psychological stress and efficacy, while the relation between physical illness and psychological stress seems to be positively related to external LOC. All these results are statistically significant (**Table 4**).

Finally, we have applied linear regression. The results suggest an overall effect of Perceived Personal Self-Efficacy, Collective Self-Efficacy and external LOC on stress as follows:

- 1) Lower levels of Personal Self-Efficacy and higher levels of external LOC can be considered predictors of physical illness (**Table 5**);
- 2) Psychological stress is negatively predicted by self-efficacy and positively predicted by external LOC (**Table 6**).

According to Lazarus and Folkman [45], these results demonstrate a significant relation between Self-Efficacy and LOC on distress: *self-efficacy seems to be an important “protective” factor*, while external LOC *seems to be a “critical” risk factor*.

4. Discussion

Work stress has considered as the product of an imbalance between environmental demands (stressors) and individual differences [45] [55]–[58]: Self-Efficacy and Locus of Control, as personal capabilities to cope with environmental demands, represent some of the most important resource factors in *stress* appraisal processes [45]. According to the literature in this field, the results of this survey demonstrate that teacher’ self-efficacy is a personal resource factor that may protect from the experience of job strain [28]. In terms of feeling, people with a strong sense of self-efficacy view challenging problems and recover quickly from setbacks and disappointments. Because of these appraisals, the impact of the stressful events has reduced and has less negative impact on the health of the individual [59].

Additionally, the results demonstrate that individuals with external locus of control tend to be more stressed. As Rotter [39] [46], and Lazarus [45] demonstrated, having control in a stressful encounter is stress reducing and not having control is stress inducing. Therefore, *people* with an *internal LOC* manage stress better [60]. In particular, this study has pointed out the effect of *age* on the *distress* experienced by schoolteachers: results demonstrate that teachers over 50 years old experience more stress than the other group. They have less Perceived Personal and Collective Self-Efficacy and, consequently, they seem to be able to cope with stress worst than teachers under 50 years old. It could be explained by the general increase of existential sources of stress, for example, or of the chronic problems of infirmity, limited energy, loneliness, and a hostile or unresponsive environment [61].

5. Conclusions

Work-related stress can affect anyone in any sector and in any size of organisation, compromising the health of individuals and the health of organizations. Indeed, problems at work are more strongly associated with adverse health outcomes as well as adverse work outcomes.

Many studies have shown that teaching has ranked among the most stressful occupation [1] [4] [6] [7] [10], [11] [13]: for teachers high levels of work stress seem to reduce effectiveness and commitment to the profession, to increase absenteeism and to lead to serious deterioration of physical and psychological health.

According to the literature in this field, the main findings of this study seem to suggest that stress can be considered as a person-bound variable [62], and personality depends on the individual perception of one’s own reality. Moreover, this perception determines how an individual will respond [47]. However, social influence is not unconfined with perceived self-efficacy. Peer pressure usually appears to have higher predictive value, and its counterpart, social support has a high potential as a resource factor [63]. The degree to which peer pressure makes a difference also depends on the individual’s resistance self-efficacy; the degree to which social support operates also rests on one’s self-efficacy to build, maintain and mobilize social networks [25].

With these regards, enhancing general self-efficacy by coping skills training is an important question for research in school-teachers as other helping professionals [1] [22] [24] [26] [28] [64], because it allows appraising a situation positively and reducing both physiological and emotional reactivity [53], which enhances with age.

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