

# **Job Demands Appraisals, Classroom Climate, and Team Support Predict Changes in Emotional Exhaustion Among Teachers After Two Years: A Sequential Mediation Model**

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## **Abstract**

In this article, individual job appraisals and social resource are investigated as predictors of emotional exhaustion during a long-term evaluation over two years. Job demands appraisals, classroom climate, and prior exhaustion levels were assessed at baseline in N=461 teachers, whereas team support and concurrent emotional exhaustion were measured two years later at follow-up, with N=212 teachers having complete longitudinal data. A sequential mediation model was specified to examine a putative mediation mechanism, reflecting a path from job demands appraisal via classroom climate and teacher team support to predict emotional exhaustion, while controlling for emotional exhaustion levels at baseline. Indirect effects from job demands appraisals on emotional exhaustion involved classroom climate and teacher team support as mediating variables. Findings support the sequential mediation for positive classroom climate and team support as antecedents of less emotional exhaustion when job demands appraisals are favorably challenging.

**Key words:** Teacher, emotional exhaustion, job appraisals, classroom climate, team support

## **Introduction**

Teaching is a demanding job. Persons who work in human services in general seem to be particularly at a higher risk for burnout (Maslach & Jackson, 1981). They are regularly involved in situations of interactions, shaped by risk of success and potential of high emotional stress. Teaching as a demanding activity can be characterized by uncertainty of its effects. So, teachers are vulnerable to risky experiences and emotional draining (Maslach & Leiter, 1999). Individual and contextual factors have an influence on teachers' well-being, job satisfaction, and emotional exhaustion.

But the well-being of teachers is not only personally significant; it also effects their quality of teaching as well as the climate and the quality of a school. In addition, absenteeism causes high costs (Schonfeld, 2001). Research on predictors and effects of burnout, especially emotional exhaustion as the core factor of burnout, is needed to design approaches to alleviate it (Pas et al. 2012; Schaufeli & Bakker, 2004).

### ***Emotional exhaustion as a major burnout indicator***

To deal with professional requirements implies demands and resources. Accord-

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ing to the demand-resource model (Bakker & Demerouti, 2006), there are two parallel processes involved in work-related well-being. An energetically and demanding process leads to emotional exhaustion, burnout, and ill health; a motivational process leads to engagement, commitment and well-being. The relation between demands and resources are crucial for the development of well-being or burnout (Buchwald & Hobfoll, 2004). Success, the sense of competence and self-efficacy, satisfaction and positive feelings strengthen the positive energy and lead to a circle of growth of energy; ineffectivity, failing, overburden, stress and anger let energy decrease, leads to fatigue and emotional exhaustion, and possibly burnout.

Burnout can be described as a chronic state of exhaustion due to long-term interpersonal stress within human service professions. It pertains to feelings experienced by people whose jobs require repeated exposure to emotionally charged social situations. Burnout has been defined as “a syndrome of Emotional Exhaustion, Depersonalization, and Reduced Accomplishment which is a special risk for individuals who work with other people in some capacity” (Leiter & Maslach, 1998, p. 347).

First, Emotional Exhaustion is seen as the stress component. It refers to feelings of being emotionally overextended and depleted of one’s emotional resources. Fatigue, debilitation, loss of energy, and wearing out are characteristics of this component. Second, *Depersonalization* is the “other-evaluation component”. It is described as cynicism, irritability, loss of idealism, and negative or inappropriate attitudes toward recipients. It refers to a negative, callous, or excessively detached response to other people. Finally, *Reduced Personal Accomplishment* is the “self-evaluation component” and is equated with reduced professional efficacy, productivity or capability, low morale, and an inability to cope with job demands. It represents a decline in one’s feelings of competence and achievement at work. Inadequate coping responses to the stressful encounters may lead to Emotional Exhaustion. In order to avoid becoming more and more exhausted, people withdraw from their clients and start focusing on their private life rather than on their job life. Distancing oneself from one’s job can lead to reduced accomplishment on the job. There is ample evidence that teachers, in the course of their careers, experience a great deal of stress that may result in depressed mood, exhaustion, poor performance, or attitude and personality changes, which, in turn, may lead to illness and premature retirement (Bakker & Schaufeli, 2000; Vandenberghe & Huberman, 1999).

In the present study, we focus on predictors of emotional exhaustion as the central factor of burnout (Schaufeli & Salanova, 2007; Tsouloupas, Carson, Matthews, Gravitich, & Barber, 2010).

### ***Effects of emotional exhaustion and burnout***

Emotional exhaustion and burnout affects the quality of teaching (Hüber & Käser, 2015) as well as the classroom climate and students’ achievement (Maslach & Leiter,

1999). Teachers experiencing a high level of burnout influence the learning of students in a negative way (Lamude, Scudder, & Furno-Lamude, 1992; Klusmann, Kunter, Trautwein, & Baumert, 2006). In combination with low teacher efficacy, a high level of burnout indicators has negative implications for schools as well, such as financial costs and negative effects on staff wellbeing and students' performance (Leithwood, Menzies, Jantzi, & Leithwood, 1999; Schonfeld, 2001). To avoid emotional exhaustion is not only important for the individual teacher, but also for the students, the colleagues and the school climate and quality over all.

### *Antecedents of teacher exhaustion and burnout*

Burnout is identified as a multidimensional syndrome, caused by several components. Individual factors as well as the school environment are possible predictors for emotional exhaustion and burnout (Lens & Jesus, 1999; Byrne, 1999; Maslach, Schaufeli, & Leiter, 2001). If a variety of individual and contextual factors contribute to emotional exhaustion and burnout, they indicate also several starting points and approaches to diminish stress, exhaustion, and burnout (Schaufeli & Bakker, 2004, Pas et al., 2012).

Individual factors such as teachers' competencies and efficacy buffer stress and exhaustion. Brouwers and Tomic (2000) identified negative correlations between efficacy and burnout. Efficacy to master professional requirements as a sense and experience of competence correlate negatively with emotional exhaustion and depersonalization (Skaalvik & Skaalvik, 2010). Knowledge on classroom management and previous experiences buffer emotional exhaustion during the initial career stage (Klusmann, Kunter, Voss, & Baumert, 2012). But the risk of burnout is greatly increased by teachers having perceptions of unmet or unrealistic goals and a lack of development of professional accomplishment (Evers, Tomic, & Brouwers, 2004).

Related to gender, women reported higher emotional exhaustion and reduced personal accomplishment scores, whereas men showed higher scores on depersonalization across all grade levels (Lau, Yuen, & Chan, 2005). Individual characteristics, such as personality factors, also affect job appraisal (Klusmann, Kunter, Voss, & Baumert, 2012; Keller-Schneider, 2010).

Findings on changes of exhaustion during stages of teachers' biography show that periods of an increase of professional demands are followed by feelings of higher emotional exhaustion. However, whether they lead to a loss of energy depends on the amount of positive feelings followed by mastering demanding tasks (Buchwald & Hobfoll, 2004). An increase of exhaustion has been identified both on entering pre-service teacher education and on entering the profession as a fully responsible teacher, (Dicke, Parker, Holzberger, Kunina-Habenicht, Kunter, & Leutner, 2015; Klusmann, Kunter, Voss, & Baumert, 2012; Goddard, O'Brien & Goddard, 2006; Zimmermann, Kaiser, Berholt, Bauer, & Rösler, 2016). To meet new requirements as a core task of

professionalization is a demanding process, so an increase of exhaustion is expectable (Keller-Schneider, 2016). However, when beginning teachers were asked for positive and negative situations during their career start, Schmidt, Klusmann and Kunter (2016) found in their diary study more positive than negative incidents reported. By getting used to the new situation and its requirements, emotional exhaustion decreases (Goddard & Goddard, 2006; Zimmermann et al., 2016) and reaches the previous level. A decrease of exhaustion during teacher education was identified, specially within those student teachers who received high-intensity guidance (Fives, Hamman, & Olivarez, 2007). Moreover, not only career entry led to higher strain and exhaustion, changes caused by school reform led to a demanding episode as well (Hellrung, 2011; Wittek, 2013).

Feelings of being better prepared to meet job demands were associated with higher efficacy and lower emotional exhaustion, followed by a closer connection to their students (Schonfeld, 2001). Preparedness as a resource to master requirements buffers the vulnerability to exhaustion (Brissie, Hoover-Dempsey, & Bassler, 1988; Brouwers, Tomic, & Boluijt, 2011; Brouwers & Tomic, 2000; Skaalvik & Skaalvik, 2010).

The findings about the effect of years of teaching experience seem to be inconsistent. Some studies show, that the experience seems not to have an effect on exhaustion and burnout (Pas et al., 2012). Beginning teachers and experienced ones do not differ in their emotional exhaustion (Klusmann, Kunter, Voss, & Baumert, 2012) or in their feelings of being challenged by having to cope with upcoming professional requirements (Keller-Schneider, 2010, 2017). Concerning the distribution on different types of engagement and exhaustion (AVEM, Schaarschmidt & Fischer, 2003) the years of teaching experience were not significant within the type of burnout (Schaarschmidt, 2005). However, Klassen and Chui (2011) identified significant differences between the years of teaching experience. Pas, Bradshaw, Herthfeldt and Hopkins (2012) recognized an increase of exhaustion over a period of two years, but regarding the time point of the survey, they concluded that there were seasonal effects on having lower exhaustion at the beginning of the school year and higher ones at the end of it. Thus, it is possible to say that different resources (e.g., being prepared, being recovered at the beginning of the year, years of experience) and the variety of demanding requirements (e.g., demands not met before) seem to lead to inconsistent findings.

In terms of contextual factors, time pressure (Skaalvik & Skaalvik, 2009) and work overload (Borg & Riding, 1991; Schonfeld, 2001) were identified as major causes of exhaustion among teachers (Hakanen, Bakker, & Schaufeli 2006), as well as a lack of support (Demerouti & Bakker, 2011). Disruptive behavior and low motivation of the students were identified as high stressors (Evers, Tomic, & Brouwers, 2004; Tsouloupas, Carson, Matthews, Grawitch, & Barber, 2010) in addition to affecting emotional exhaustion (Dorman, 2003 a). Positive interactions with students correlate negatively with exhaustion (Blase, 1998), but disruptive student behaviors (e.g. Boyle,

Borg, Falzon, & Baglioni, 1995; Burke, Greenglass & Schwarzer, 1996; Evers, Tomic, & Brouwers, 2004) are positively correlated with exhaustion, and positive interactions with students correlate negatively with exhaustion (Blase, 1998). Bakker and Schaufeli (2000) as well as Schaufeli and Bakker (2004), van Dick (1999) and Nübling, Wirtz, Neuner, and Krause (2008) found negative correlations between colleague support and emotional exhaustion. A lack of opportunities for communication among teachers as well as a lack of support in particular enhance exhaustion (Demerouti & Bakker, 2011). On the other hand, Bakker and Schaufeli (2000) identified a prevalence of perceived burnout of colleagues was most strongly related to individual teachers' burnout. But a lack of communication, cooperation and support correlates with a team quality, perceived as low. Keller-Schneider identified these effects also over time, so, as low perceived team quality leads to low cooperation, interaction and support, as well as rare cooperation, interaction and support effects a team quality, perceived as low (Keller-Schneider et al. 2013). Hakanen et al. (2006), Leung and Lee (2006) and van Dick (1999) identified a negative correlation of supervisor support with exhaustion, but Keller-Schneider identified, that individual characteristics have an effect on the perception of the support by principals and colleagues (Keller-Schneider, 2012). Thus, social interaction, cooperation and support among teachers can be a favorable work condition, but among teachers with high risk of burnout, their symptoms may be contagious (Bakker & Schaufeli, 2000).

Classroom environment as well as factors of staff and principal predict emotional exhaustion. A positive and supporting social climate within the school environment seems to be an important resource to protect from emotional exhaustion. It seems likely that teachers working in a positive environment with good relations between the different actors (e.g., colleagues, students, parents, principals), feel more supported and report less work-related exhaustion. However cross-sectional studies do not explain causal relations, they are just descriptive.

In the present longitudinal study, we investigate the effects of classroom climate and colleague support as two supportive resources, preventing exhaustion of teachers as demonstrated in the literature. In addition, we investigate job demands appraisal as a distal predictor within a more complex mechanism.

***Translating job demands appraisals into emotional exhaustion by perceiving an unfavorable classroom climate***

Classroom management is a significant competence to cope with the demanding task of teaching. Keller-Schneider (2010) found in her study on 291 primary and secondary teachers, that classroom management and maintenance of a positive classroom climate are the most challenging and the most important demands with no significant difference between beginning and experienced teachers (see also Veenman, 1984). Dicke, Parker, Marsh, Kunter, Schmeck, and Leutner (2014) identified a posi-

tive sense of self-efficacy in classroom management, buffering the effect of students' disturbance on teachers' emotional exhaustion. However, individual resources, such as characteristic of the personality, shape this challenge of classroom management. Keller-Schneider (2010) identified negative effects of extraversion and positive ones of emotional instability on the feelings of stress by dealing with demands of classroom management. Classroom management is a demanding task, the interaction between teacher and students is a core element of research on emotional exhaustion and burn-out, demanding for teachers during their entire career (Keller-Schneider, 2015).

Grayson and Alvarez (2008) found a negative correlation between student peer relations and teacher emotional exhaustion, moderated by teacher satisfaction. Dorman (2003b) identified in a cross-sectional study effects of several aspects of classroom climate, such as difficult and demanding interaction between teachers and students as well as difficult interactions between the students, and a low task orientation in coping with them as being crucial for an increase of emotional exhaustion. Keller-Schneider (2010) found a positive correlation between emotional oriented coping and feeling of stress by dealing with demands on classroom management. Classroom environment predicts emotional exhaustion (Dorman 2003b), but coping strategies are also crucial (Dorman, 2003b; Keller-Schneider, 2010). High efficacy in classroom management buffers stress and emotional exhaustion (Klusmann, Kunter, Trautwein, Lüdtke, & Baumert, 2012).

Teachers with high exhaustion levels are less flexible and adaptive when responding to students' behavior. This pattern of appraisal and behavior of teachers may influence students' behaviors that are perceived as misbehavior from the teachers' perspective (Chang, 2009; Lamude & Scudder, 1992). Student misbehavior correlates positively with teachers' exhaustion (Evers, Tomic, & Brouwers, 2004; Tsouloupas, Carson, Matthew, Grawitch, & Barber, 2010). This causes a vicious cycle.

Efficacy and success are significant resources to deal with upcoming demands and predict resulting resources (Keller-Schneider, 2010). Coping with demanding requirements is based on a positive appraisal of available resources (Lazarus & Folkman, 1984; Hobfoll, 1989; Keller-Schneider, 2010). To perceive demands as a challenge predicts further appraisals of demands (Keller-Schneider, 2012). To perceive requirements of classroom management as a challenge is based on one's own perception of efficacy as well as on a positive classroom climate as a resource (Hobfoll, 1989) to let themselves involve in dealing with this challenge in a task oriented manner. The balance of demands and resources is significant for the loss or the gain of resources (Buchwald & Hobfoll, 2004). If the demanding effect is stronger than the beneficial one, emotional exhaustion can result. Students perceive the emotional exhaustion of their teachers, as the study by Evers, Tomic, and Brouwers (2004) shows. A vicious cycle of teacher exhaustion and misbehavior of students may appear.

***Translating job demands appraisals into emotional exhaustion by perceiving an unfavorable team support by one's colleagues at school***

According to cross-sectional studies, colleague support correlates negatively with teachers' emotional exhaustion. A teacher is a part of the school environment. As a member of the staff of a school he or she contributes to the climate of this school as well as among the teachers, but the individual teacher has the role as a member, not responsible for the staff climate in general. In addition, the perception of the staff climate, cooperation and performance differs within a school (Keller-Schneider & Al-bisser, 2013). Individuals' appraisals are significant for perceived support, as results on effects of individual characteristics on the evaluation of the principals' support and characteristics show. Teachers with higher emotional exhaustion levels evaluate principal and colleague support (Keller-Schneider, 2012) as being lower than less exhausted teachers do. Individual characteristics influence teachers' perception of colleague support, buffering emotional exhaustion.

Based on a supportive school environment (i.e., colleagues and principals) and on teachers' individual perception of support there should be a positive influence, preventing the onset or maintenance of emotional exhaustion.

***The proposed mechanism: Sequential mediation via classroom climate and team support***

Evidence from previous cross-sectional studies demonstrates that disruptive or misbehaving students can create emotional exhaustion in teachers, whereas colleague support seems to protect from such an influence. Based on the transactional model of stress and coping (Lazarus & Folkman, 1984), cognitive appraisals are significant for coping processes, such as task oriented or emotional oriented coping strategies. If a demand is perceived as a challenge, coping resources are seen as sufficient to deal with this demand, which is associated with energetic arousal, and the task is seen as manageable, and the person approaches the challenge with an optimistic stance (Lazarus & Folkman, 1984). Thus, we assume a negative correlation between the perception of job demands as a positive challenge and the experience of emotional exhaustion. Together with a positive perception of the classroom climate, emotional exhaustion may be prevented or alleviated.

Colleague support correlates negatively with emotional exhaustion, but the perception of support can be influenced by emotional exhaustion, as previous research show. Therefore, we assume, that development of emotional exhaustion is prevented by positively challenging job appraisals and a favorable classroom climate. This strengthens individual's resources and contribute to a more positive view on colleague support, further diminishing emotional exhaustion.

### ***Aims of the study***

The purpose of this study is to prove the proposed mechanism, to understand development of emotional exhaustion. To learn more about processes of emotional exhaustion in teachers, we explore the following assumptions:

- 1) Positive job demands appraisals correlate negatively with emotional exhaustion.
  - 2) A positive classroom climate should be associated with a positive evaluation of social support from colleagues.
  - 3) Team support may mediate the link between demands appraisals and classroom climate on the one hand, and changes in emotional exhaustion, on the other.
- We examine data from the project RUMBA (Keller-Schneider & Albisser, 2015), a longitudinal observation study with a focus on school development based on individual and collective resources of school staff members (teachers and principals).

### **Method**

#### ***Participants***

A total of 461 school teachers from 11 primary schools in Switzerland completed the questionnaire at Time 1 (T1) and 212 of them completed the questionnaire at Time 2 (T2), forming the longitudinal sample to be analyzed (The variation in sample size is caused by fluctuation in the team of teachers. Some teachers entered retirement, others changed the school or participated in a further education program). Their mean age was 43.8 years (SD = 11.9, range 21- 67 years). A subsample of n=310 of them were women (83.6%).

#### ***Procedure***

Teachers were recruited by asking them to join a study on school development with focus on individual and collective resources, in which they can use the result for their own school development. By advertisement, principals were approached and, if interested, they informed their team asking them for their commitment to the study. Data were collected via a questionnaire (paper/pencil) in the context of a workshop on school development (Keller-Schneider & Albisser, 2014, 2015) with a follow-up after two years. The workshop took place during a working day, so every teacher participated.

#### ***Measures***

The following measures were included in the questionnaire with elements of individual and collective characteristics: The scale on *Emotional Exhaustion* of the Maslach Burnout Inventory (Maslach & Jackson, 1986, translated by Enzman & Kleiber, 1989, shortened by Jerusalem, Dröbner, Kleine, Klein-Heßling, Mittag, & Röder,



2009) with three items: ‘I feel emotionally drained from my work’ (Cronbachs Alpha .74), responses were made on a four-point Likert scale ranging from 1 (*not at all true*) to 4 (*exactly true*). The scale on *Challenge* of the instrument Demands Appraisals by Jerusalem et al. (2009), with three items: ‘My job is interesting because of the daily challenges’ (Cronbachs Alpha .69), responses were made on a six-point Likert scale from 1 (not at all true) to 6 (*exactly true*). *Classroom Climate* was estimated with the instrument by Drössler, Röder and Jerusalem (2007) with eight items: ‘Students work well together’ (Cronbachs Alpha .84), responses were made on a six-point Likert scale from 1 (not at all true) to 6 (exactly true). The scale on *Team Support* was taken from the instrument on Factors of Team Quality of Keller-Schneider & Albisser (2014), with four items: ‘We help each other’ (Cronbachs Alpha .86), responses were made on a six-point Likert scale from 1 (*not at all true*) to 6 (*exactly true*).

### ***Data Analysis***

To examine a putative operating mechanism that might help explain changes in emotional exhaustion as the core factor of burnout, the SPSS PROCESS macro (Hayes, 2013) was applied to the complete longitudinal sample of 212 teachers, using listwise deletion of missing values. Confidence intervals (95%) were generated by bootstrapping with 5,000 re-samples. Bootstrapping is a non-parametric resampling procedure that allows generating confidence intervals for statistical inference where normality assumptions about the sample distribution are not required. Any effects due to school clusters were partialled out from estimates of the coefficients and standard errors in the model by the PROCESS macro (fixed effects approach to clustering).

The analysis was then replicated by structural equation modeling using AMOS 24 with full information maximum likelihood (FIML), based on the full sample of N=461 teachers. The latter procedure provided the standardized parameter estimates (betas). Besides the overall chi square ( $\chi^2$ ), the comparative fit index (CFI), Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA) were chosen as indicators of model fit. CFI and TLI values larger than 0.90 indicate an acceptable model fit (Hu, & Bentler, 1999).

### **Results**

After presenting the results on descriptive statistics and on correlations between the different factors, results of the mechanism as a sequential mediation chain is present.

#### ***Descriptive statistics***

The means, standard deviations, and sample sizes of men and women are shown in Table 1.

Table 1.  
*Means, Standard Deviations, and Subsample Sizes for the Study Variables*

			Mean	Std. Deviation	N	ANOVA F	p	Eta <sup>2</sup>
Challenge Time 1	appraisal	women	5.14	.63	182	1.51	.22	.231
		men	4.98	.69	28			
		Total	5.11	.64	210			
Classroom climate Time 1		women	4.41	.62	182	3.02	.08	.014
		men	4.63	.63	28			
		Total	4.44	.63	210			
Emotional Time 1	exhaustion	women	1.65	.75	182	2.57	.11	.012
		men	1.90	1.04	28			
		Total	1.68	.80	210			
Emotional Time 2	exhaustion	women	1.62	.76	182	4.10	.04	.019
		men	1.94	.81	28			
		Total	1.67	.77	210			
Colleague support Time 2		women	4.86	.76	182	1.80	.18	.009
		men	5.07	.61	28			
		Total	4.89	.74	210			

*Emotional exhaustion* Time 1 shows a mean of 1.68 with a standard deviation of .80, and at Time 2 a similar mean of 1.67 with a standard deviation of .77. On the average of the group level, measured on a 4-point Likert scale, emotional exhaustion is quite low, with a measure under the middle of the scale and quite stable over Time.

*Job appraisal as challenge* (Time 1) shows a mean of 5.11, measured on a 6-point likert scale, with a standard deviation of .64. On the average of the group, teacher perceive job demands as challenge, the ratings are quite high. It seems, that the teachers let themselves challenge by professional demands, evaluated in general. Perception of *classroom climate* (Time 1) with a mean of 4.44 and a standard deviation .63, measured on a 6-point likert scale, shows values in the affirmative part of the scale. So, most of the teachers perceive the climate of their classes as quite positive. *Colleague support* (Time 2) shows a mean of 4.89 and a standard deviation of .74, measured on a 6-point likert scale as well. The perceived team support is quite high, mostly in the affirmative part of the scale.

All in all, the extent of emotional exhaustion is quite low, followed by high job appraisals of challenge, quite high classroom climate and team support. There is no

significant change in emotional exhaustion ( $F(1,211)=.176, p=.675, \eta^2=.001$ ).

In terms of sex differences (Table 1), men and women scored equally high on all variables except in emotional exhaustion at Time 2 where men scored higher. The difference is significant ( $p=.04$ ), but related to the weak effect ( $\eta^2=.019$ ), the difference is not relevant.

### **Correlations**

Inter-correlations between all the variables included in the model are shown in Table 2.

Table 2.  
*Correlations of the Study Variables*

	1	2	3	4	5
1 Emotional Exhaustion Time 1	1	-.472***	-.247***	-.136*	.54***
2 Challenge Appraisal Time 1	-.472***	1	.152*	.173*	-.316***
3 Classroom Climate Time 1	-.247***	.152*	1	.27**	-.146*
4 Team Support Time 2	-.136*	.173**	.27**	1	-.27***
5 Emotional Exhaustion Time 2	.54***	-.316***	-.146*	-.27***	1

Pearson correlations with level of significance: \*  $p \leq .05$  / \*\*  $p \leq .01$  / \*\*\*  $p \leq .001$

As the results in Table 2 show, emotional exhaustion Time 1 is negatively correlated with challenge appraisal Time 1 ( $p=-.472***$ ). The negative correlations with classroom climate Time 1 ( $p=-.247***$ ) and team support are weak ( $p=-.136*$ ). Emotional exhaustion Time 2 shows negative correlations with challenge appraisal Time 1 ( $p=-.316***$ ), and weak ones with classroom climate ( $p=-.146*$ ) and team support ( $p=-.27***$ ).

The quite strong correlation between emotional exhaustion Time 1 and Time 2 ( $p=.54***$ ) shows the long-term development of emotional exhaustion, but the explained variance of this development covers 29.16%. There must be factors that have an influence on this development.

### **Testing the Mechanism: A Sequential Mediation Chain: Classroom climate and team support mediate between job demands appraisals and emotional exhaustion.**

Model parameter estimates are presented in Figure 1. After considering the mediators, the indirect effects accounted for the variation between job demands appraisals and emotional exhaustion which means that the direct effect was no longer significant. The model fit was  $\chi^2(2)=3.32, p=.19, CFI=.99, TLI=.99, RMSEA=.04, [.00, .11]$ . Of the exhaustion variance, 33% were accounted for by baseline exhaustion ( $\beta=.41$ ), and team support ( $\beta=-.23$ ), whereas the other direct sources of variation were not significant.

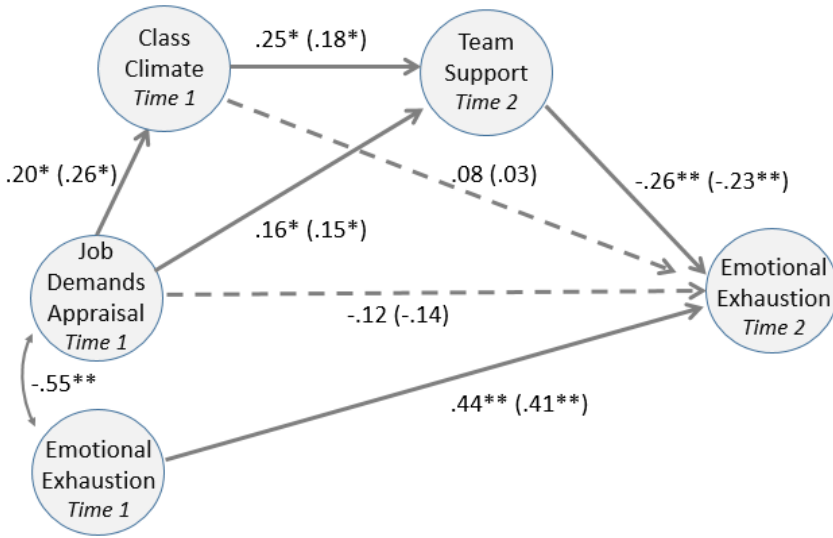


Figure 1. Figure 1. Mediation chain predicting emotional exhaustion by job demand appraisals via perceived classroom climate and perceived team support, controlling for baseline exhaustion. Unstandardized regression coefficients in sample with complete data (N=212). In parentheses: full information maximum likelihood estimates, N=461. Note: \*\* =  $p < .01$ , \* =  $p < .05$

## Discussion

The findings of this observational two-year study underscore the likelihood for an underlying mechanism that is involved in changes in teachers' emotional exhaustion. Perceiving job demands as positively challenging is associated with a more positive view on the classroom climate, and later on, seems to make social support by colleagues more likely which, in turn, prevents the development of job burnout, as indicated by the emotional exhaustion component. Job demands appraisal as being a positive challenge is crucial for the perception of a positive and supportive environment. Emotional exhaustion is not just a case of external factors (Hakanen et al., 2006), such as time pressure (Skaalvik & Skaalvik, 2009), work overload (Borg & Riding, 1991; Schonfeld, 2001), disruptive behavior and low motivation of the students (Evers et al., 2004; Tsouloupas et al., 2010) or lack of support (Demerouti et al., 2011). Individual factors as well as factor of the school environment are not only possible predictors for emotional exhaustion and burnout (Lens & Jesus, 1999; Byrne, 1999; Maslach et al., 2001), they also can prevent from it.

The assumption (1), that job demands appraisal correlates negatively with emotional exhaustion could be verified. The perception of job demands as a challenge buffers emotional exhaustion. In contrast to the demand-resources-model of Bakker and Demerouti (2006), demands are not always threatening, they can turn to positive

challenge when experiencing sufficient coping resources (Hobfoll, 1989). According to the transactional model of stress and coping (Lazarus & Folkman, 1984), challenge appraisal, instead of threat or loss appraisal, is a precondition to perceive positive and strengthening coping resources. So, not only competency and efficacy or feelings of preparedness buffer from emotional exhaustion (Brouwers & Tomic, 2000; Brouwers et al., 2011; Skaalvik & Skaalvik, 2010); according to the model of job appraisal for mastering professional demands (Keller-Schneider, 2010), competency, sense of competence and efficacy contribute to individuals' perception, to take requirements as challenge. Thus, we can assume that not only a low level of emotional exhaustion contributes to a perception of requirements as challenge, but also individuals' optimistic view of stressful encounters.

The perception of a positive classroom climate (2), boosted by job demands as challenge, buffers emotional exhaustion. Previous studies identified a boosting effect of a positive teachers-student-interaction (Blase, 1998; Grayson & Alvarez, 2008; Dorman, 2003a) or of a sense of competence (Klusmann et al., 2012) in cross-sectional studies, but in these designs a causal effect cannot be identified. The findings of this longitudinal study identify an effect of a classroom climate, perceived as a positive one, on emotional exhaustion two years later. Classroom climate seems to be an important resource to of energy and exhaustion. However, the perception of a positive classroom climate is boosted by a perception of job demands as challenge, activating a proactive coping with dynamic demands, which are characteristic for the teaching profession. Professions working with other people are at risk for emotional exhaustion and burnout (Leiter & Maslach, 1998), influenced by a not calculable dynamic of interactions and demands, affecting actors' self-concept and professional identity.

Perceived team support (3) buffers emotional exhaustion, perceived simultaneously. As a longitudinal effect, identified in this study, job appraisals as challenge and the perception of a positive classroom climate show longitudinal effects on the perception of team support. It seems that the perception of team support is based on a longitudinal development of a positive dealing with job demands and a positive classroom management. The findings of Bakker and Schaufeli (2000), Schaufeli & Bakker (2004), van Dick (1999) and Nübling et al. (2008) on the buffering effect of team support can be affirmed by these findings. In addition, there is a positive effect over time of a positive classroom climate as a predictor for the perception of team support.

Findings of this longitudinal study show, that initial emotional exhaustion predicts emotional exhaustion two years later, but social support can buffer it, if demands are perceived as challenge, not as threat or loss. To deal with demands in an active way let arise social support even higher. The findings indicate effects of social support: a positive classroom climate shows an effect over time, while team support is perceived simultaneously with emotional exhaustion.

## Conclusion

The findings of the current study yield a number of practical implications. First, emotional exhaustion is a long-term process, growing over time – activities of prevention should last for long periods as well. Second, individuals' appraisal of job-demands as challenge is a significant predictor for the development of emotional exhaustion and burnout. To activate teachers' commitment and to motivate them to cope with requirements in a proactive way buffers emotional exhaustion; it does not boost it. Not to engage in dealing with professional requirements don't prevent from emotional exhaustion. However, to regulate its own engagement and to cope with requirement can be mastered successfully (Buchwald & Hobfoll, 2004), leads to satisfaction (Bakker & Demerouti, 2006) and prevent burnout.

Third, a positive classroom climate shows effects over time on teachers' well-being. To take classroom management as a challenge and maintain a supportive and positive classroom climate is a major task for teachers during their whole career (Keller-Schneider, 2010, 2015). A supportive classroom climate is not only crucial for students and their learning (Lamude et al., 1992; Klusmann et al., 2006), but also for the teachers' well-being. To cope with requirements of teacher-student interaction and also student-student interaction in a proactive and task-oriented way (Larazus & Folkman, 1984; Keller-Schneider, 2010) is a predictor for teachers' well-being. If a teacher is not successful in this major task, counseling or supervision as well as changes of the circumstances of this teacher-class-dyad is indicated. Problems with the class should not be just the case of the specific teacher, but a major task for principals as well.

Fourth, team support is a supportive factor for teachers' well-being. But according to results of this study, teachers' readiness to perceive team support is crucial. Teachers perceive team support individually different (Keller-Schneider & Albisser, 2013). A long-term effect of a positive classroom climate and the teachers' individual perception of requirements as challenge are predictors for the level of their perception of team support. To receive support is not just the task of those, who give support but as well the task for the one, who gets support. A negative team quality is resource reducing (Bakker & Schaufeli, 2000), but a positive one is not just the opposite, positive team support has to be taken as a supportive source – to do so, energy is needed to take demanding requirements as a challenge. The possibilities of a team to support a colleague who is at risk to run out of energy is limited. Professional help is indicated.

To support a colleague who is at risk of running out of energy is not just the task of the team. To make professional support available is a major task for school policy and the principals as well. To prevent someone from loss of energy is a cyclic process, but emotional exhaustion is not just a consequence of demanding tasks, individuals' perception and attitudes towards challenging requirements, social support is also crucial.

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