

Article

A Three-Wave Study on the Reciprocal Relationships between Emotional Dissonance, Need for Recovery, and Exhaustion

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Abstract: Academic literature has recognized teaching as a particularly stressful occupation, specifically, the research confirmed the central role of emotional dissonance in the experience of emotional exhaustion. Albeit previous studies confirm the existence of circular dynamics involving job demands and individual's well-being, studies focusing on the long-term relationships between job demands, need for recovery, and emotional exhaustion are still lacking. Therefore, the aim of the present study was to explore how emotional dissonance, need for recovery, and emotional exhaustion are related over time. By using the general framework of the health impairment process of the Job Demands-Resources model, these paths were investigated by means of a three-wave longitudinal design ($n = 107$ schoolteachers). Results of structural equation modeling analyses generally supported our hypotheses. Specifically, it was found that the model with reciprocal relationships between emotional dissonance and exhaustion on the one hand, and between need for recovery and exhaustion on the other, exhibited the best fit with the data.

Keywords: burnout; emotional dissonance; Job-Demands Resources model; longitudinal study; schoolteachers

1. Introduction

Changes in the nature of work have increased exposure to poor characteristics of the psycho-social work environment that can be considered potential psychosocial risk factors. These factors can be seen as unsustainable working conditions that could threaten workers' well-being. The psychology of sustainability and sustainable development underlines the importance to develop a new awareness of the need to achieve sustainable well-being from a primary prevention point of view [1]. The present study contributes to this approach by focusing on the role of a particular job demand, namely emotional dissonance, as an unsustainable working condition that can threaten workers' well-being.

With a specific focus on teachers, academic literature has widely recognized teaching as an occupational category which is particularly vulnerable to the development of burnout symptoms [2], with a prevalence rate estimated between 5% and 30% according to the different conceptualizations and measures employed [3]. The persistent interest in the identification and appraisal of those factors constituting a fertile ground for the occurrence of burnout may be explained through the severity of the outcomes that this phenomenon could trigger. Specifically, teachers' burnout has been shown to impair students' motivation [4], to negatively affect students' personal development and academic success [5]. A large body of research on the antecedents of teacher burnout contributed to shedding light on the characteristics of this professional field that can precipitate burnout symptoms. To be

specific, teacher burnout is triggered by the prevalence of stressors specific to this professional role, such as the amount of socio-emotional demands stemming from tackling the classroom needs and requests [6]. Other findings underline the role played by the need to cope with conflictual relationships with colleagues, students, and their families, as well as difficulties in successfully balancing competing demands stemming from the work and family domains [7,8]. Consistent with these findings, further results reveal that teachers recognize the excessive workload as a principal stressor during their daily activity, along with the inadequate opportunity to collaborate with colleagues and lacking support from the school principals [9]. A noteworthy review of the literature written by McCarthy and colleagues [10] focused on teachers' perception of lacking opportunities to rely on adequate resources in order to deal with demanding aspects of their job. In particular, burnout is conceived as the result of the unbalance between teaching demands (e.g., students with problematic behaviors) and teaching resources (e.g., school support personnel). In line with this perspective, the main purpose of the current study was to contribute to the ongoing literature by delving deeper into the reciprocal relationships between emotional dissonance, need for recovery, and emotional exhaustion. These paths will be framed according to the health impairment process described in the Job Demands-Resources (JD-R) model [11], which represents one of the prominent paradigms applied to assess the influence of job characteristics on a wide range of organizational and individual outcomes [12]. Although academic literature confirms the existence of circular dynamics involving job demands, job resources, and individual's well-being [13], to our knowledge studies focusing on the long-term relationships between job demands, need for recovery, and emotional exhaustion are still lacking. The direction of the causal relationship between the constructs under investigation will be explored through a longitudinal study covering three important moments of teachers' activity: the beginning of the school year, the end of the first term, and the end of the school year.

1.1. The Nomological Network of Emotional Exhaustion

Burnout research has widely established that emotional exhaustion represents the central and earliest dimension of job burnout, subsequently giving rise to symptoms of cynicism and reduced personal efficacy. Emotional exhaustion entails feelings of depletion of one's physical and emotional resources, tiredness and chronic fatigue that results in a perceived inability to perform one's daily tasks [14]. A renowned paradigm aimed at describing the burnout trajectory is provided by the health-impairment process postulated in the JD-R model [11]. Since the earliest version of this model, emotional exhaustion has been conceived as a consequence of employees' exposure to chronic job demands, defined as those aspects of work that require a significant expenditure of energy (e.g., time pressure, work overload, role ambiguity). Accordingly, a persistent condition of emotional exhaustion may give rise to adverse individual and work-related outcomes. For instance, research on educational settings revealed that emotional exhaustion may decrease the level of job satisfaction and commitment among teachers and, at the same time, could induce them to quit the teaching profession [15,16]. According to academic literature a main antecedent of exhaustion is emotional dissonance, defined as the inconsistency between the emotional states actually experienced by employees and the emotional display imposed by the work environment [17]. In other words, the emotion regulation effort involved in exhibiting unauthentic emotions in order to meet the display rules recommended by one's work environment or professional role (i.e., emotional dissonance) entails a severe depletion of individual resources, thus resulting in a greater occurrence of emotional exhaustion symptoms (for a review [18]). Specifically, the literature on the emotion regulation process offers compelling evidence that the strategies adopted by workers in order to regulate their emotions are influenced by the interaction among variables belonging to the work environment, personal characteristics, and events [19]. This process includes two reverse emotion regulation strategies: the antecedent-focused strategies entail the modification of one's emotions to genuinely experience the required emotion, whereas the response-focused strategies are limited to adjustment of the observable behavioral and expressive component of emotions [20]. These strategies correspond to deep acting and surface

acting strategies, respectively. The enactment of emotion regulation strategies considerably affects the individual intrapsychic states and could lead to the negative experience of emotional dissonance and/or energy depletion. In particular, the momentary outcome of emotional dissonance, that is the state of tension experienced when the emotions felt and displayed contradict each other. On the one hand, the individual has no chance of exhibiting his/her real feelings because they would appear unprofessional and violate the emotional display rules imposed by one's role and work environment [21]. On the other hand, the compliance with display rules of the required emotions, entails suppressing one's spontaneous emotions and sense of authenticity. In the long run, the constant effort in displaying those emotions that are not genuinely felt, could deplete their resources and turn into a condition of emotional exhaustion [22,23]. This proximal outcome of emotional dissonance is associated to long-term health-related consequences, such as symptoms of depression, substance use, and sleep disorders [24,25]. Moreover, the research confirmed the central role of emotional dissonance compared to a range of emotional demand variables in the experience of emotional exhaustion and job satisfaction [26].

As mentioned above, need for recovery is defined as the individual perception of one's need to restore the energies spent while working. To be specific, this necessity increases during the last hours of work and immediately after, and it can be satisfied by avoiding work-related stimuli by the individual [27]. The experienced level of need for recovery is proportional to the fatigue cumulated during the working time and, if not restored, the subsequent inability to efficiently manage working tasks may trigger a further depletion of resources and long-term detrimental outcomes, such as burnout symptoms [28]. To be specific, job demands may deplete the individual resources needed to carry out one's working duties, therefore inducing employees to face the necessity to recover and to experience a state of exhaustion [29]. Need for recovery has been defined as an early symptom of work-related fatigue that describes the early stages of strain accumulation and successively translates into a long-lasting condition of energy depletion, such as emotional exhaustion [30]. Consistent with this description, empirical research has revealed that intervention strategies aimed at reducing emotional exhaustion and fatigue are influenced by the initial level of need for recovery, since the latter represents an antecedent of persisting symptoms of work-related fatigue and exhaustion [31].

1.2. The Role of Reversed Causal Effects Within the Health-Impairment Process

The JD-R model postulates that the health-impairment process is not a one-way path, but rather it involves reversed causal effects [13]. The same applies to the motivational process, in which work engagement on the one side and well-being and performance outcomes on the other, are related over time with reciprocal causation [32]. According to this perspective, emotional exhaustion could represent at the same time a predictor and an outcome of an excessive amount of job demands. To date, academic research has provided compelling empirical support to this preposition. Longitudinal research has revealed that emotional exhaustion may increase the perception of job demands such as work-family conflict [33], work overload, work hours, and work-home barriers [34]. In line with these results, the current study postulated that emotional exhaustion may foster the perceived level of emotional dissonance among teachers. This assumption can be substantiated using the construct of self-undermining behavior [35]. In particular, employees experiencing high levels of job strain (for instance, a persistent condition of emotional exhaustion) are affected by a reduced capacity to effectively manage their emotions at work, thus they are more likely to incur a considerable level of emotional dissonance.

Although the current paper research assumed that need for recovery may influence the experienced level of emotional exhaustion among teachers, research evidence also suggested the presence of a reciprocal relationship among these constructs. In particular, a recent study revealed that emotional exhaustion mediates the relationship between the core strategies of emotional labor (i.e., deep and surface acting) and need for recovery, so that high levels of surface acting result in a greater need for recovery through a higher level of emotional exhaustion [36]. According to these findings, surface

acting (i.e., an emotional regulation strategy that fakes the required emotional expressions) produces a significant daily resource depletion at work, which results in higher levels of emotional exhaustion and, in turn, a limited amount of resources that employees are able to spend during their leisure time (i.e., a high need for recovery). This result suggests that the attempt to tackle excessive job demands may lead employees to perceive a thorough shortage of their emotional resources (i.e., emotional exhaustion) and, subsequently, to experience a higher urge to recuperate [37].

2. The Present Study

Based on our theoretical analysis, and in line with the empirical findings and theoretical reasoning presented above, the main aim of the current study is to explore longitudinal relationships between emotional dissonance, need for recovery, and emotional exhaustion. Particularly, based on the health impairment process of the JD-R model, we propose reciprocal relationships between the above-mentioned variables.

Specifically, the following hypotheses guide the study:

Hypothesis 1. *Emotional dissonance relates positively to emotional exhaustion among teachers.*

Hypothesis 2. *Teachers' need for recovery relates positively to emotional exhaustion.*

Hypothesis 3. *Emotional exhaustion fosters the emotional dissonance experienced by teachers.*

Hypothesis 4. *Emotional exhaustion fosters the need for recovery experienced by teachers.*

Taken together, H1 and H3 imply that emotional dissonance and emotional exhaustion are reciprocal; moreover, H2 and H4 imply that need for recovery and emotional exhaustion are reciprocal.

3. Materials and Method

The data were collected as part of an extensive research project on work-related well-being of Italian schoolteachers. Participants were approached three times to fill out a questionnaire (time lag: 4 months between each wave). To be specific, the waves covered three important moments of the teacher's activity: the beginning of the school year, the end of the first term, and the end of the school year. The survey was designed in agreement with privacy and anonymity regulations (as required by Italian law). All subjects were informed of the aim of the study, the procedures to collect the data, and assured that there were no potential risks or costs involved. Moreover, they were allowed to voluntarily choose to participate or not. The research team assured the anonymity and confidentiality of the employees' responses throughout the entire study process. Information about the researcher was provided in the event of further questions. With regard to ethical standards for research, this study was conducted in accordance with the Declaration of Helsinki. In order to ensure participant's anonymity, the teachers were asked to fill in a personal code on all three questionnaires. In total, a sample of 465 teachers was approached at the beginning of the academic year (T1), of which 299 (64.3%) returned the first questionnaire. Four months later, at the end of the first term (T2), 166 (35.7% of the original sample) questionnaires were returned. The third questionnaire was distributed among 166 teachers and returned by 108 (23.2%). One multivariate outlier was identified and subsequently dropped from the analysis. Therefore, the final panel group included 107 teachers. Missing values were replaced by the series mean. Actually, several factors may have contributed to the teachers' decision to drop out of the study. Italian teachers are allocated through a centralized system built upon teachers' seniority and specific administrative rules. As a result, the Italian school system is characterized by a considerable level of turnover due to the annual renewal of the positions filled by teachers with yearly employment contracts and to satisfy the requests stemming from the vacancy chain. Besides, a high percentage of tenured teachers present mobility requests to advance their career or be relocated in

their most preferred geographical location. According to the EU Commission, 29% of Italian teachers changed school or geographical area during the period 2015–2018. In this scenario, the dropout rate usually reported in three-wave studies could have been exacerbated by specific characteristics of the working population considered (i.e., teachers). Specifically, we could hypothesize that teachers aware of their incoming relocation became gradually less motivated to participate in this study over the course of the school year. Furthermore, the dropout occurring in the current sample was similar to previous longitudinal research with three time points focusing on indicators of workers' well-being, that reported a response rate close to 20% [38,39].

The final sample consisted of 96 female (90%) and 11 male (10%) teachers working in different types of schools (34% in primary schools; 52% in lower secondary, and 14% in upper secondary schools). A total of 73% were married or cohabiting. Concerning the age, 14% of the participants were aged 35 and under, 27% were aged between 36 and 45, 26% between 46 and 50, and 32% were aged over 50. Most teachers had considerable job tenure; 51% of them had over 20 years of teaching experience. Moreover, 42% had worked at the same school for up to 5 years (at the time of the survey), 33% between 6 and 10 years, and 26% for over 10 years. On average, participants worked 30.8 h per week ($SD = 7.5$). In general, the sample was quite representative of the general population of teachers in Italy, where women are largely predominant, accounting for 78.4%, taking into account teachers working from primary to upper secondary education. Moreover, 55% of the Italian teachers were aged 50 or older in 2016, whereas only 12% were aged under 40 years old [40]. The panel group had comparable gender, marital status, and age with the drop-outs ($n = 192$), whereas it differed from the drop-outs in terms of job tenure ($\chi^2(4) = 10.40, p < 0.05$), since the panel group comprised more teachers with brief teaching experience. Moreover, to test whether drop-outs differed from the panel group in terms of emotional exhaustion, need for recovery, and emotional dissonance, we performed a multivariate analysis of variance (MANOVA), in which the group (panel vs. drop-outs) was the independent variables (IV), whereas the mean values of the aforementioned variables were the dependent variables (DV). The results revealed that there were no significant differences between the panel group and the drop-outs with regard to the mean values of the study variables (Wilks' $\lambda = 0.99, F(3; 295) = 0.54, p = 0.66$; emotional exhaustion: $F(1; 298) = 0.15, p = 0.70$; need for recovery: $F(1; 298) = 0.32, p = 0.58$; emotional dissonance: $F(1298) = 0.81, p = 0.37$). We therefore concluded that the drop-outs were comparable with the panel group.

3.1. Measure

Emotional dissonance (i.e., having to express positive feelings that one does not actually feel, or when one actually feels irritation or anger, or feelings that one must suppress and cannot express spontaneously) was measured with a four-item scale [41] assessed on a 4-point frequency scale ranging from 1 ("never") to 4 ("almost always"). An example item is: "I have to express positive emotions even if I don't feel them".

Emotional Exhaustion was measured by using the emotional exhaustion dimension of the Maslach Burnout Inventory-Educators Survey [42,43], scored on a 7-point frequency scale, ranging from "0" (never) to "6" (always). An example item is: "I feel emotionally drained from my work".

Need for recovery was assessed with the Need for Recovery Scale [44,45] and comprising 11 items (i.e., "Often, after a day's work I feel so tired that I cannot get involved in other activities") using a dichotomous answering scale (0 = no, 1 = yes). The scale score of need for recovery after work was transformed into a scale ranging from 0 to 100 [46], such as the higher the score, the higher the fatigue symptoms presented by the teacher.

3.2. Strategy of Analysis

Our panel data were analyzed by means of structural equation modeling (SEM) techniques using the AMOS software package [47], with the Maximum Likelihood Estimation method. Owing to small sample size, we reduced the number of freely estimated parameters by using manifest variables [48].

This approach has been used in previous studies in the field of the JD-R model (e.g., in [49]). We tested the hypotheses by comparing competing models regarding the causal relationships between emotional dissonance, need for recovery, and emotional exhaustion. Particularly, we tested four competing models. The first model was the stability model (M1) which included autocorrelations (i.e., the correlations between the corresponding errors of each construct across the three measurement waves) and synchronous correlations (i.e., the correlations between the errors of the constructs measured at the same time). The fit of the stability model was then compared with that of three more complex models: the Causality Model (M2) which is identical to M1, but included additional cross-lagged structural paths from T1/T2 emotional dissonance to T2 and T3 emotional exhaustion, and from T1/T2 need for recovery to T2 and T3 emotional exhaustion; the Reversed Causation Model (M3) which is identical to M1, but included additional cross-lagged structural paths from T1/T2 emotional exhaustion to T2 and T3 emotional dissonance, and T2 and T3 need for recovery; and the Reciprocal Model (M4) which is a combination of M2 and M3.

Comparing these four models enabled us to test our hypotheses and also the direction of causality. To be specific, whether emotional dissonance and need for recovery predict emotional exhaustion or the other way around, or whether they mutually influence each other. Several complementary fit indices were used to examine the overall quality and fit of the hypothesized and alternative models to the data: Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), the Incremental Fit Index (IFI), Non-Normed Fit Index (NNFI), and Root Mean Square Error of Approximation (RMSEA). For GFI, CFI, IFI, and NNFI, values greater than 0.90 (and preferably greater than 0.95) indicate a good fit between the model and the data [50,51]. An RMSEA value of 0.05 or less indicates a close fit, and values up to 0.08 would still indicate a reasonable error of approximation [52]. The fit of nested models was compared by examining the significant changes in the Chi-square values and corresponding degrees of freedom.

Finally, the model includes gender and job tenure at the same school as two control variables.

4. Results

4.1. Descriptive Statistics

The means, standard deviations, Pearson correlations, and internal consistencies of all study variables are presented in Table 1. All significant relationships between the variables were in the expected direction. Test-retest reliabilities for all study variables were higher than 0.56 ($p < 0.001$), indicating that the constructs are rather stable. As shown in the diagonal of Table 1, all scales showed satisfactory reliabilities [53].

Table 1. Means (M), standard deviations (SD), Cronbach's alphas (in parentheses), and correlations among the study variables ($n = 107$).

	<i>M</i>	<i>SD</i>	<i>r</i>											
			1	2	3	4	5	6	7	8	9	10		
1. T1 Emotional Dissonance	2.01	0.85	(0.87)											
2. T1 NFR	34.82	29.53	0.29**	(0.87)										
3. T1 Exhaustion	16.07	11.29	0.41***	0.68***	(0.90)									
4. T2 Emotional Dissonance	1.91	0.85	0.64***	0.25*	0.31**	(0.89)								
5. T2 NFR	34.62	30.30	0.41***	0.76***	0.55***	0.37***	(0.88)							
6. T2 Exhaustion	16.94	11.80	0.40***	0.75**	0.81***	0.41***	0.75***	(0.92)						
7. T3 Emotional Dissonance	1.95	0.81	0.64***	0.29**	0.42***	0.57***	0.36***	0.47***	(0.85)					
8. T3 NFR	42.33	33.18	0.27**	0.68***	0.56***	0.24*	0.75***	0.71***	0.36***	(0.91)				
9. T3 Exhaustion	16.40	11.55	0.44***	0.64***	0.74***	0.30**	0.66***	0.83***	0.39***	0.72***	(0.92)			
10. Gender (1 = male)	0.10	0.31	0.01	−0.03	0.01	−0.05	−0.10	0.04	0.13	−0.09	0.02	na		
11. Job Tenure	0.57	0.50	−0.13	0.20*	0.18	−0.13	0.12	0.19	−0.05	0.14	0.19	−0.09		

Note. T1 = Time 1; T2 = Time 2; T3 = Time 3; NFR = Need for recovery; Job tenure: 0 = ≤10 years; 1 = >10 years; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

4.2. Longitudinal Testing

Table 2 presents a summary of the model fit indices of the SEM analysis, as well as the comparison between the four models presented in the method section. As can be seen in Table 2, the causal model (M2) with cross-lagged associations between T1/T2 emotional dissonance to T2 and T3 emotional exhaustion, and between T1/T2 need for recovery to T2 and T3 emotional exhaustion provided a better fit to the data than the stability model without cross-lagged associations. Moreover, the reversed causation model (M3) fitted the data better than M1. Finally, the model including both causal and reversed paths simultaneously, yielded a good fit to the data. Table 2 also shows that M4 fitted significantly better than M1, M2, and M3.

The significant paths of M4 are graphically presented in Figure 1. As shown, not only the paths from T1 emotional dissonance and T1 need for recovery to T2 and T3 emotional exhaustion were significant, but also the cross-lagged effects from T1 exhaustion to T2 and T3 emotional dissonance and need for recovery. This supports the existence of reciprocal relationships over time. No significant effects were found for any control variable in M4.

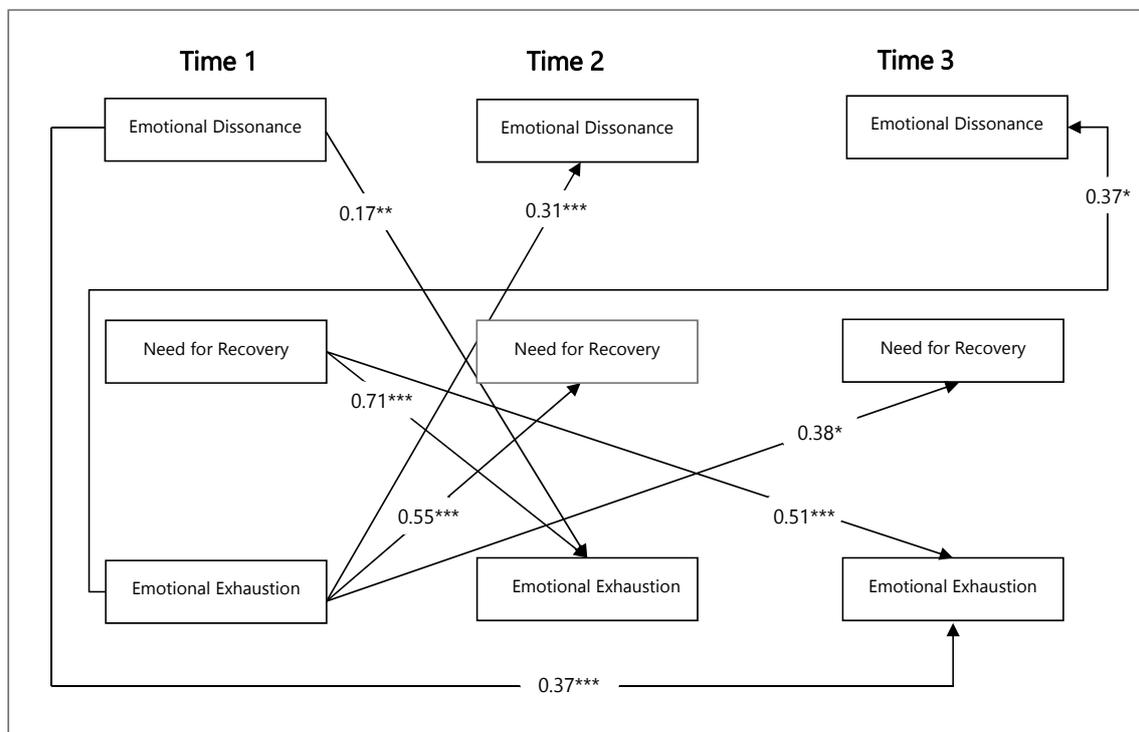


Figure 1. Significant lagged paths ($p < 0.05$) in the Reciprocal Model (M4). Note. Autocorrelations and synchronous correlations are omitted for reasons of clarity. Control variables did not have any significant effect in M4. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 2. Goodness-of-fit indices of the nested models ($n = 107$).

Model		χ^2	<i>df</i>	GFI	CFI	IFI	NNFI	RMSEA	Comparison	$\Delta\chi^2$	Δdf
M1.	<i>Stability Model</i>	187.45***	37	0.80	0.79	0.80	0.69	0.20	-	-	-
M2.	<i>Causality Model</i> ED/NFR T1 → EX T2-T3 ED/NFR T2 → EX T3	98.33***	25	0.87	0.90	0.90	0.78	0.17	M1-M2	89.12***	12
M3.	<i>Reversed-Causation Model</i> EX T1 → ED/NFR T2-T3 EX T2 → ED/NFR T3	147.53***	25	0.84	0.83	0.84	0.63	0.22	M1-M3	39.92***	12
M4.	<i>Reciprocal Model</i> ED/NFR T1 → EX T2-T3 ED/NFR T2 → EX T3 EX T1 → ED/NFR T2-T3 EX T2 → ED/NFR T3	29.69	19	0.95	0.99	0.99	0.96	0.07	M1-M4 M2-M4 M3-M4	157.76*** 68.64*** 117.84***	18 6 6

Note. T1 = Time 1; T2 = Time 2; T3 = Time 3; ED = Emotional Dissonance; EX = Emotional Exhaustion; NFR = Need for Recovery; GFI = Goodness-of-Fit Index; CFI = Comparative Fit Index; IFI = Incremental Fit Index; NNFI = Non-Normed Fit Index; RMSEA = Root Mean Square Error of Approximation; *** $p < 0.001$.

5. Discussion

The current study was aimed at examining how emotional dissonance, need for recovery, and emotional exhaustion are related over time, by using the general framework of the health impairment process of the JD-R model. More specifically, our central assumption was that the relationships between emotional dissonance and emotional exhaustion on the one hand, and between need for recovery and emotional exhaustion on the other, are reciprocal over time. To study these relationships, we adopted a three-wave study, which covered three important moments of the teacher's activity: the beginning of the school year, the end of the first term, and the end of the school year. As expected, our analyses strongly confirmed that emotional dissonance is related to emotional exhaustion in the short-term (4 months) and longer term (8 months). This is in line with the main assumption of the JD-R, which suggests that chronic job demands (e.g., emotional demands) exhaust employees' cognitive and physical resources and may therefore lead to the depletion of energy (i.e., a state of exhaustion) and to health problems [13]. The causal role of emotional dissonance in predicting higher levels of exhaustion suggests that a crucial role could be played by specific resources of workers, such as emotional intelligence. Previous findings indicate that emotional intelligence constitutes an individual characteristic able to promote positive relationships in the workplace improving respective and relationality [54]. According to this perspective and the results obtained in the current study, emotional intelligent workers may also experience greater well-being at work and prevent the occurrence of burnout symptoms. Since emotional intelligence is an open-to-development resource, the relevance of interventions aimed at fostering this skill that, in turn, could contribute to shaping a healthy and sustainable work environment [55]. Consistent with the field of psychology of sustainability, healthier and suitable work contexts (e.g., schools) could be fostered by sustainable development strategies that also allow tackling with the growing unpredictability of working roles and duties [1].

From a broader perspective, the obtained results should be considered within the framework of economic crisis and contracting economic markets started in 2008. Specifically, along with higher rates of job loss and unemployment occurring across the EU countries, the progressive rise of a collective climate of fear and panic due to the economic and social instability, has altered the individual attitude towards one's job (e.g., organizational commitment) and had a detrimental impact on several indicators of workers' health and well-being [56,57].

In line with previous results, the current study suggests that emotional dissonance translates into a state of tension that reduces the individual emotional resources and, as a consequence, could enhance the level of exhaustion [58]. Accordingly, it can be argued that also among teachers the request to exhibit emotions contrasting with their actual feelings could imply a detrimental effect in terms of feelings of frustration stemming from the inability to successfully perform their job (i.e., emotional exhaustion). This result is consistent with many studies, which indicated that emotional job demands are stressful for teachers and specifically related to emotional exhaustion and job dissatisfaction [59]. Moreover, in a recent meta-analysis among teachers, Yin, Huang and Chen [60] found that emotional job demands were positively related to all three dimensions of burnout and negatively related to job satisfaction. This causal relationship becomes particularly relevant in the educational contexts since emotional exhaustion has emerged as a predictor of harmful outcomes, such as an impaired level of commitment in teaching activities and higher turnover intentions [15,16].

Consistent with our hypotheses, the results showed that also the paths from emotional exhaustion to emotional dissonance were significant. Taken together, these findings suggest that emotional exhaustion can be an outcome as well as predictor of emotional dissonance, such that higher stress results in less favorable working conditions over time. In other words, teachers who feel exhausted by their job, may also have more difficulties in effectively managing their emotions at work, so that they experience higher emotional dissonance. This is consistent with some meta-analyses [61,62], that revealed that persons with higher physical or psychological strain symptoms at baseline reported an increase in job stressors over time, corroborating the idea of reciprocal relationships between job demands on the one hand and poor health and well-being on the other hand. A mechanism

proposed to explain this reversed causality is offered by Zapf and colleagues [63], who proposed the so-called drift hypothesis, suggesting that individuals with bad health drift to jobs in which high job demands are more prevalent. A similar explanation has been proposed in the gloomy perception mechanism, in which unhealthy employees (e.g., anxious employees) may evaluate their environment more negatively, by reporting worse work characteristics.

As far as the relationship between need for recovery and emotional exhaustion is concerned, our findings showed that need for recovery led to more emotional exhaustion 4 and 8 months later. This is consistent with the Effort-Recovery model [64], particularly with the assumption that need for recovery represents the early stages of strain accumulation (i.e., cumulative process) which may translate into long-term detrimental outcomes, such as health symptoms (e.g., emotional exhaustion), if the worker has not enough time and possibilities to recuperate [30].

The current study also supported the reversed path between these constructs, in that teachers' levels of emotional exhaustion were shown to increase the need for recovery experienced by teachers. Consistent with previous findings, the obtained results suggest that the feeling of exhaustion entails the perception to rely on an inadequate pool of resources and, as a consequence, an intense need to invest one's non-work time in the attempt to recuperate [37].

However, according to Sonnentag [65] there is a need of studies addressing reverse causation as well as reciprocal processes, since with respect to studies on recovery, this kind of relationship has very rarely been addressed, and has resulted in mixed findings.

Overall, results of the present study underline that emotional dissonance, need for recovery, and emotional exhaustion activate health impairment processes in a dynamic and reciprocal way over time. Results suggest that emotional demands and need for recovery are not only associated with emotional exhaustion in a given moment or situation of working life, but the connection between these variables extends in time through a reciprocal influence on each other also. The absence of specific interventions aimed at reduction and prevention of strain, risks triggering the activation of a health impairment process that leads to a gradual depletion of resources resulting in poorer and poorer health conditions of workers [28].

From a theoretical point of view, the present study contributes to the advancement of knowledge on the theme in two ways. First, results have shed some light on the existing circular dynamics involving job demands and individual's well-being, responding to the need of more evidence about the reverse causation and the circular processes of variables' interaction [65]. Secondly, evidence from the study helped to better understand and explain the dynamics that intervene in the experience of strain of teachers, which represent an occupational category with high risk of burnout symptoms [2].

Limitations

Before discussing the practical implications of these findings, the limitations of this study should be considered. Firstly, all data were self-reported which increases the likelihood of common method variance effects. However, the longitudinal design of our research reduces the risks of common method bias [66]. Secondly, the sample size was relatively small. As suggested by Ford et al. [61], large samples are needed to ensure adequate power to detect lagged and reverse causation effects in individual studies. Finally, although the reciprocal model (M4) showed a better fit compared to M1, M2, and M3, the hypothesized panel paths were not significant for all waves. In particular, no significant paths were observed from T2 to T3, meaning that the conditions at T2 are not pivotal to the explanation of outcomes at T3. This also means that our findings do not allow to give evidence of any mediational effect of the variables at T2 (for example: T1 emotional dissonance predicts T3 emotional exhaustion through T2 need for recovery). This could underscore the complexity of the phenomena. A similar result could also be related to the interval between the waves of the study. The present study employed two 4-month time lags. Ford et al. [61] also demonstrated that the reverse causation effects of psychological strain are larger for longer time lags, suggesting that reverse causation effects increase with time. Although this time lag was chosen in consideration of the Italian school context, it could be interesting to also

consider different (i.e., longer) time lags in order to better understand if they could correspond with the “true” causal intervals for the process under study. Since the study population of the present study consisted of school teachers only, we also suggest that future research tests whether these processes also hold in other occupational groups.

6. Conclusions

To summarize, results were generally in line with predictions. Emotional dissonance and exhaustion on the one hand, and need for recovery and exhaustion on the other, were found to be reciprocal. Results from this study present many practical implications for the sustainable development of teachers’ quality of working life, as well as for institutions.

Firstly, our findings confirmed the impact of emotional dissonance on emotional exhaustion over time. To sum up, when teachers display emotions that are not coherent with their feelings, their resources tend to deplete over time leading them to experience feelings of emotional exhaustion. Due to this evidence, an increasing need to reduce the emotional dissonance experienced by teachers is emerging. In line with the psychology of sustainability and sustainable development, it seems worthwhile to help teachers with a more comprehensive understanding of the emotional job demands of teaching, as well as possible coping strategies. As suggested by Xanthopoulou and colleagues [36], training focused on the emotional regulation of teachers may help them to acquire and maintain the resources they need to manage emotional demands at work. Training should be focused on the cognitive reappraisal of a specific working situation that involves emotional responses and they should foster deep acting instead of surface acting. Not only training, but supervisors may also exert a key role for the reduction of emotional dissonance. When facing tasks including emotions activation, supervisors may help teachers reappraising a specific working situation in order to foster the adoption of appropriated emotional strategies focused on deep acting [36]. Indeed, the process for managing emotional expressions at work could be attained through a more suitable strategy focused on modifying one’s inner feelings in order to match the required emotions, thus preserving workers’ sense of authenticity (i.e., deep acting) or, in contrast, by simulating emotional expression in order to meet specific work rules (i.e., surface acting) [67].

Secondly, our study reveals that recovery represents a fundamental moment of the day in which individuals can re-acquire resources lost during working hours. The time needed to recover is proportional to energies spent and, if not able to fully restore his personal resources, the individual experiences an accumulation of tiredness and fatigue. Alongside, the perception of need to recover rises and, in the long run, may result in long-term outcomes of burnout, as for example emotional exhaustion. As a consequence, an increased attention to interventions aimed at the promotion of a full recovery and an enrichment of personal resources is needed. Moving forward along this path, Clauss and colleagues [31] have recently proven the efficacy of an intervention based on a daily work reflection as an instrument able to increase personal resources available to manage working tasks and, consequently, decreasing the need for recovery and emotional exhaustion perceived by caregivers [31]. Authors proved that recalling positive events experienced during the working day fosters the development and increase of personal resources, consequently decreasing the need for recovery and emotional exhaustion individually perceived. The ability of individuals to reduce their levels of need for recovery and emotional exhaustion also depends on their ability to psychologically “detach” (representing the feeling of being away from a work-related situation) from work. As suggested by Sonnentag and colleagues [27] a potential strategy aimed at easing psychological detachment during one’s leisure time entails planning specific re-creative activities combined with the adoption of “rituals”, conceived as rules helping to detach from work. According to this perspective, psychological detachment from work represents a strategic tool in order to avoid thinking about work-related issues, thus allowing the full progression of the recovery process.

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