

**Running Head:** Teacher emotional exhaustion

**Teacher emotional exhaustion: The synergistic roles of self-efficacy and student-teacher relationships**

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### Abstract

This study examined the role of teacher self-efficacy and student-teacher relationships (i.e., closeness and conflict) in predicting teacher emotional exhaustion over one school year. Regression analyses conducted among a sample of 161 third- to sixth-grade teachers indicated that, for those who reported high levels of self-efficacy, the sharing of close and conflictual relationships with their students revealed an association with increased levels of emotional exhaustion over time. Thus, when teachers cared and felt efficacious in their work with students, both types of relationships, close and conflictual relationships acted as job demands, increasing their risk of feeling exhausted. When teachers reported low self-efficacy, exposure to conflictual relationships acted as a buffer against emotional exhaustion, as they may have attributed difficulties experienced in the classroom to students rather than their lack of efficacy. Discussion on the Job-Demands-Resources model, emotional labor, and misalignment between teachers' beliefs and practices shed light on these unexpected results.

**Keywords:** Emotional exhaustion; self-efficacy; student-teacher relationship; closeness; conflict

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## 1. Introduction

Stress and strain are ubiquitous features of every job (Crompton, 2011). Yet, the impact of job stressors on emotional exhaustion is no less concerning (Bakker & de Vries, 2021; Olivier et al., 2021). As a key component of burnout, emotional exhaustion manifests as a cluster of physical and psychological symptoms, encompassing feelings of being overextended and emotionally worn out (Maslach et al., 2001; Maslach & Leiter, 2016). Emotionally exhausted employees report experiencing sleep difficulties, irritability, and frequently lacking energy (García-Carmona et al., 2019; Janosz et al., 2004), which in turn increases their risk of experiencing other difficulties, including anxiety, depression, and coronary heart disease (Salvafioni et al., 2017; Tóth-Király et al., 2020). When feeling emotionally exhausted, employees are prone to absenteeism, turnover intention, and actual turnover (Maslach et al., 2001; Maslach & Leiter, 2016; Taxer et al., 2019).

Due to the stressful nature of their occupation, teachers often present a particularly high risk of emotional exhaustion (Adams et al., 2017; García-Carmona et al., 2019; Johnson et al., 2005). Furthermore, between 20% and 40% of teachers leave the profession within the first five years of their career, possibly as a result of overextending themselves (Clandinin et al., 2015; Johnson & National Education Association, 2006; Kutsyuruba et al., 2017). Importantly, students taught by teachers who feel emotionally exhausted tend to have poorer academic achievement, suggesting that emotionally exhausted teachers may not devote the means necessary to support students' academic development (Arens & Morin, 2016). Grounded in the Job-Demands-Resources model (JD-R; Demerouti et al., 2001), this study focused on the synergistic role of personal and environmental demands and resources on primary school teachers' levels of emotional exhaustion.

According to the JD-R model (Demerouti et al., 2001), emotional exhaustion results from chronic exposure to a high level of job demands (Bakker & de Vries, 2021). Job demands are physical, psychological, social, or organizational aspects of a job requiring sustained coping efforts and thus entail a physiological or psychological cost for exposed employees (Bakker & Demerouti, 2007). Job resources, in contrast, facilitate the achievement of work goals and reduce the negative toll taken by job demands (Demerouti et al., 2001).

Social relationships in the workplace are critical in preventing or precipitating emotional exhaustion. These relationships can act either as job resources or job demands. For most professionals, experiencing positive social relationships at work (with coworkers or supervisors) contribute to fulfilling the need for belongingness and thus help prevent emotional exhaustion (Fernet et al., 2013; Trépanier et al., 2015; Van den Broeck et al., 2008). Negative social relationships tend to decrease job satisfaction and increase exhaustion for most employees (Morrison, 2008). Despite abundant evidence regarding the role of these types of social relationships, these conclusions only explain a fraction of the social reality teachers face. Indeed, teachers are distinctive by spending most of their working time with their students rather than with coworkers (Spilt et al., 2011). Furthermore, their interactions with their students are direct, intensive, and sustained, as they are mainly under their responsibility (Fouquereau et al., 2019). As a result, classroom management is a significant challenge for teachers and tends to be emotionally draining (Belt & Belt, 2017). Thus, teachers' perceptions of their relationships with their students are likely to play a critical role in determining their level of emotional exhaustion.

### 1.1 Emotional Exhaustion and Student-Teacher Relationships

Student-teacher relationships refer to the closeness or conflictual nature of teachers' interactions teachers share with each of their students (Pianta, 2001). Teachers sharing close relationships with their students, teachers report warm and affectionate bonds, as well as positive forms of communication, including spontaneous disclosures on the part of the student (Pianta, 2001). When relationships are conflictual, teachers feel they struggle with their students, perceive them as easily angered or irritated, and act in emotionally demanding ways (Pianta, 2001). Most research conducted so far on student-teacher relationships focuses on their contribution to student outcomes (e.g., Roorda et al., 2017). Yet, a few studies discuss how student-teacher relationships can influence teachers' well-being at work (Corbin et al., 2019; Milatz et al., 2015; Simões & Calheiros, 2019; Taxer et al., 2019). Spilt et al. (2011) noted in their seminal review on this topic the importance for future research to consider teachers' perceptions of these relationships (i.e., closeness and conflict) as these mental representations are most likely to contribute to emotional exhaustion.

Studies generally found that closeness and conflict share opposite associations with emotional exhaustion when assessed independently. First, cross-sectional studies demonstrated that teachers who

feel close to their students are less likely to report being emotionally exhausted at the same time (Donker et al., 2020; Rodríguez-Mantilla & Fernández-Díaz, 2016; Simões & Calheiros, 2019). A few longitudinal studies also reported decreased feelings of emotional exhaustion over time among teachers sharing close relationships with their students (Aldrup et al., 2018; Taxer et al., 2019). Second, conflictual relationships with students instead share associations with higher levels of emotional exhaustion among teachers (Gastaldi et al., 2014; Gagnon et al., 2018).

When assessing both facets of primary teachers' relationships with their students over two time-points, Corbin et al. (2019) found teachers reporting conflictual relationships felt more emotionally exhausted. Those reporting close relationships felt a greater sense of personal accomplishment but no difference in their exhaustion. Similarly, Gagnon et al. (2018) revealed associations between preschool student-teacher conflict, but not closeness, and their stress level at work. However, many teachers are likely to be simultaneously exposed to close and conflictual relationships with their students when considering the whole class (Olivier et al., 2018). This potential dual role of close and conflictual relationships requires clarification and replication, especially in light of the scarcity of research assessing the role of these relationships for the teachers themselves. The JD-R model (Demerouti et al., 2001) suggests that closeness (seen as a job resource) could buffer the effects of conflict (seen as a job demand). Thus, teachers who perceive sharing conflictual relationships with some students, but also close relationships with others, might be protected against increases in emotional exhaustion compared to teachers exposed only to conflictual relationships.

Others proposed that teachers and any other care providers expected to develop positive relationships with students, patients, or clients with whom developing positive relationships is critical, might come to see these relationships as emotionally demanding irrespective of their positive or negative nature (e.g., Larson & Yao, 2005). Teachers must create a positive bond with students as part of the recommended classroom management strategies in the school system where this study took place (Ministère de l'Éducation, 2020). Yet, demands related to classroom management are among the most important factors leading to emotional exhaustion and turnover (Karsenti & Collin, 2013). We noted above, we noted that student-teacher closeness might sometimes encompass spontaneous disclosures on the part of the student. Rather than being passive receptors of these disclosures, teachers must remain emotionally available to receive and support these disclosures. Emotional labor describes the effort and energy necessary to control one's feelings to display emotions considered appropriate emotions in the workplace (Ashforth & Humphrey, 1993; Morris & Feldman, 1996). Teachers must interact with several students in a way that responds to their diverse needs. They are thus increasingly at risk of feeling emotionally exhausted because of the various emotional labor strategies on which they have to rely in order to control their emotional expression at work (e.g., understanding, caring, patience) irrespective of their true feelings, which sometimes include irritation, sadness, or impatience (Fouquereau et al., 2019; Yin et al., 2019). Sharing close relationships with students might thus become a job demand as teachers must deploy effort to bond and display positive emotions with all of their students, even with those with whom they do not share an implicit connection or act in a disruptive manner. Encompassing both perspectives, this study seeks to shed some light on whether closeness is a job resource potentially compensating for the effects of conflict or whether closeness and conflict both represent job demand likely to increase the risk of emotional exhaustion.

The JD-R model also notes that personal resources (i.e., individual characteristics likely to foster resilience and competence in the face of adversity; Xanthopoulou et al., 2007) might help employees handle their ongoing job demands. Thus, when facing important demands, the JD-R model anticipates that personal resources, along with job resources, will act as protective factors to alleviate the negative consequences resulting from those demands (Xanthopoulou et al., 2007). Teacher self-efficacy is one of those key personal resources (Xanthopoulou et al., 2007).

### **1.2 Teacher Self-Efficacy**

Self-efficacy is a belief in possessing the ability to achieve a desired outcome (Bandura, 1994). Teachers who feel self-efficacious believe they can teach well and, with proper effort, positively influence all of their students, even the most challenging ones (Midgley et al., 2000). Teachers with low self-efficacy are under the impression that their students' success is due to factors external to themselves or think that some students will not make much progress regardless of their own effort (Midgley et al., 2000). A synthesis of four decades of research on the benefits of self-efficacy for a variety of outcomes indicated that teachers low in self-efficacy tend to experience greater levels of emotional exhaustion

(Bottiani et al., 2019; Kim & Burić, 2020; Skaalvik & Skaalvik, 2010, 2014, 2017; Zee & Koomen, 2016).

The JD-R model (Demerouti et al., 2001) expects teacher self-efficacy (as a personal resource) to act as a buffer against the negative repercussions of job demands on emotional exhaustion and may even help to maximize the benefits of job resources (Xanthopoulou et al., 2007). Following this perspective, Khani and Mirzaee's (2015) results showed that self-efficacy helped to prevent burnout among teachers exposed to several stressors. A longitudinal study by Dicke et al. (2014) also demonstrated the protective role of self-efficacy against the effects of classroom disturbances on teachers' emotional exhaustion. These results suggest that self-efficacy could also help protect teachers against the risk of emotional exhaustion posed by sharing conflictual relationships with their students. Moreover, self-efficacy could help potentialize the benefits of job resources (Xanthopoulou et al., 2007). Thus, teachers who feel confident in their ability to create a close relationship with all students might not see these relationships as demanding and may, in turn, maximally benefit from these close relationships.

Conversely, assuming all types of student-teacher relationships may represent an emotional demand for teachers due to their emotional labor implications (Yin et al., 2019), the opposite might also occur. More precisely, teachers with higher levels of self-efficacy may come to invest even more energy (and expand more resources) to maintain close relationships with their students, which in turn could contribute to increasing their risk of emotional exhaustion. In contrast, low self-efficacy involves the impression that students' behaviors primarily result from causes outside one's control (Midgley et al., 2000). Teachers with low levels of self-efficacy may not experience as many negative effects from their exposure to student-teacher conflict relative to their high self-efficacy colleagues who believe in their ability to influence student behaviors. It is interesting to note that Herman et al. (2018) found that up to 93% of teachers concomitantly reported high levels of self-efficacy, and high levels of exposure to work-related stress. Among those teachers, 3% of whom also reported high levels of burnout, and 30% reported moderate levels of burnout. Klassen and Chiu (2010) also noted teachers who reported high *workload* stress also tended to report high classroom management self-efficacy, whereas those who reported high *classroom* stress tended to report low classroom management self-efficacy. Despite an apparent consensus that teacher self-efficacy is associated with lower levels of emotional exhaustion (Bottiani et al., 2019; Kim & Burić, 2020; Skaalvik & Skaalvik, 2010, 2014, 2017; Zee & Koomen, 2016), Herman et al.'s (2018) and Klassen and Chiu's (2010) results indicate it is essential to consider how various aspects of teachers' work might interact to increase their risk of emotional exhaustion, which the goal of our study. More specifically, the present study thus sought to differentiate these two alternatives by clarifying whether teacher self-efficacy acts as a personal resource likely to buffer the negative effects of job demands (conflict) and to intensify the benefits of job resources (closeness) or whether it contributes to pushing teachers to invest even more of their own personal energy at maintaining close relationships with their students while helping them to emotionally disengage when facing student-teacher conflict.

### **1.3 Study Objectives**

The present study investigated the combined and synergistic role played by student-teacher relationships (i.e., conflict and closeness) and teacher self-efficacy in predicting emotional exhaustion among a sample of primary school teachers measured twice over the course of a school year. More specifically, this study first assessed whether conflict, closeness, and self-efficacy at the beginning of the school year were associated with emotional exhaustion at the end of the year while controlling for prior levels of exhaustion and other known confounders [i.e., sex, experience, work contract (full-time or part-time), grade level (3<sup>rd</sup> to 6<sup>th</sup>), and classroom disruptiveness; Aldrup et al., 2018; Spilt et al., 2011]. Second, this study assessed whether student-teacher closeness decreased the impact of student-teacher conflict on teachers' levels of emotional exhaustion. Third, this study assessed whether and how high levels of self-efficacy moderated the impact of student-teacher closeness and conflict on teacher emotional exhaustion. This last objective thus provided a direct test of whether teaching self-efficacy acted as a personal protective resource maximizing the benefits of closeness (as a job resource) and minimized the harmful effects of conflict (as a job demand) or whether it acted as an emotional labor imperative to increase the emotional drain associated with both types of student-teacher relationships.

## **2. Methods**

### **2.1 Participants**

This study relied on two independent convenience samples collected as part of larger research projects to maximize the size of our analytic sample of teachers, both conducted by the same team and following the same research protocol. The research team selected the participating schools to be representative of the schools within the same area in terms of size (very large and very small schools participated) and geographical locations (rural and urban schools from different school boards participated). The research team collected Sample A from five primary schools in a dominant middle-class area of the greater Montreal region (Canada). We collected data twice a year (November and April) over three school years (2009-2010 to 2011-2012). The participation rate for this project was 90% for students and 100% for teachers. The research team collected Sample B from seven primary schools in low-SES multicultural neighborhoods in Montreal (Canada). Following the same procedure as Sample A, we collected data twice a year (November and April) over two consecutive school years (2012-2013 and 2013-2014). The participation rate for this project was 70% for students and 100% for teachers.

New students and teachers could join the study as they entered the schools. The present study focuses on the first two time points, collected in November (T1) and April (T2) of the same school year, obtained for each individual teacher. This led to a total analytic sample of 161 (86.8% female) third to six grade teachers (Sample A:  $n=73$ ; Sample B:  $n=88$ ) and their 2,148 (49.5% girls) students (Sample A:  $n=1,223$ ; Sample B:  $n=925$ ). Teachers were between 20 and 60 years old, with 59.7% of them between 26 and 40 years old, and 76.7% had a full-time work contract. The students rated by the teachers between 8 and 13 years old.

## 2.2 Procedure

Both studies relied on similar procedures. The first and third authors' University research ethics committee approved both studies. At all data collection points, members of the research team informed teachers of the objectives of the study and let them know their participation was voluntary, their answers were entirely confidential, and it was their right to refuse to participate. Teachers actively consented to participate. The parents of the students also gave their active written consent for their child to participate in the study. At each time point, teachers had two weeks to complete the questionnaires. They also had one hour to answer the questionnaire, during which research assistants took charge of their class.

## 2.3 Measures<sup>1</sup>

**2.3.1 Emotional Exhaustion** was rated by teachers at both time points using the original French version of the relevant subscale from the School Socioeducational Environment Questionnaire (Janosz et al., 2004, 2007). Teachers rated eight items (e.g., "I feel unable to face another day at work."; T1:  $\alpha=.791$ ; T2:  $\alpha=.819$ ) on a four-point response scale (1=completely disagree to 4=completely agree).

**2.3.2 Student-Teacher Relationship** was measured using the French adaptation (Fallu & Janosz, 2003) of the Student-Teacher Relationship Scale (Pianta, 2001) at T1, encompassing a conflict (4 items; e.g., "This child and I always seem to be struggling with each other.";  $\alpha=.844$ ) and closeness (4-items; e.g., "I share an affectionate, warm, relationship with this child.";  $\alpha=.850$ ) subscales. Teachers rated each of their students for whom we obtained parental consent using a five-point response scale (1=absolutely not to 5=absolutely). More precisely, they completed a distinct set of ratings for each of these students, with the student clearly identified on the form to ensure that the mention "this child" used in the questionnaire could have a clear referent. In the present study, the first intraclass correlation coefficient (ICC1), representing the proportion of variance in these ratings occurring at the teacher level, is consistent with the presence of substantial inter-teacher differences in these ratings (closeness: ICC1=.232; conflict: ICC1=.218). The second intraclass correlation coefficient (ICC2, reflecting the reliability of these measures at the classroom level) is also substantial and comparable to the scale score reliability of the measure itself (closeness: ICC2=.802; conflict: ICC2=.789).

**2.3.3 Teacher self-efficacy** was measured at T1 using the French adaptation (Janosz et al., 2010) of the Patterns of Adaptive Learning Scale (Midgley et al., 2000). This scale includes seven items (e.g., "I have found that I can handle just about any learning problem";  $\alpha=.627$ ) rated on a five-point response scale (1=completely disagree to 5=completely agree).

**2.3.4 Covariates.** Teachers self-reported their sex (1=male; 2=female), age, years of teaching experience, and work contract (i.e., part-time or full-time). Teachers also rated the level of disruptiveness of their classroom at T1 ( $\alpha=.785$ ) using a four-item scale (e.g., "I spend more time

<sup>1</sup>Appendix A of the Online supplements reports the items used in the questionnaires.

disciplining students than teaching") ranging from 0=never to 5=very (Janosz et al., 2007).

#### **2.4 Analyses**

This study's preliminary analyses relied on confirmatory factor analysis to test the psychometric properties of the scales used in this study and their measurement invariance (Millsap, 2011) across samples for all measures, and over time for emotional exhaustion. These analyses generated factor scores (estimated in standardized units with  $M = 0$  and  $SD = 1$ ), which served as indicators for the main analyses. The reliance on factor scores was made necessary by the complexity of our longitudinal analyses coupled with our more limited sample size and made it possible to preserve the measurement properties of the scales (i.e., invariance; Morin, Boudrias, et al., 2017) while ensuring a partial control for unreliability (Skrondal & Laake, 2001). In these analyses, teachers' responses on the Student-Teacher Relationship Scales for each of their students were aggregated at the teacher level using a manifest aggregation procedure (e.g., Lüdtke et al., 2011) using the factor scores estimated at the student level, allowing us to estimate all models directly at the teacher level. To conduct these preliminary analyses, we used Mplus 8.4's robust weight least square with means and variance adjusted (WLSMV) estimator, which outperforms Maximum Likelihood estimation with ordinal rated items using five or fewer response categories and/or asymmetric response thresholds such as those used in the present study (Finney & DiStefano, 2013). Due to the complexity of these measurement models in relation to the current sample size, we estimated two separate models, one incorporating emotional exhaustion at T1 and T2 and self-efficacy (estimated at the teacher level) and another incorporating closeness and conflict (estimated at the student level). This procedure (i.e., extracting continuous factor scores from preliminary analytic models) allowed us to conduct our main analyses using the Maximum Likelihood Robust (MLR, which is robust to non-normality) estimator, as well as Full Information Maximum Likelihood procedures (Enders, 2010) to handle the limited number of missing responses on the main study variables (T1: 2.48% to 4.35%; T2: 8.08% to 8.70%).

Our main analyses involved the estimation of multivariate linear regression analyses within the Mplus 8.4 statistical package to assess the associations between the various predictors considered in the present study and teachers' levels of emotional exhaustion at T2. The first model included all covariates (i.e., sex, experience, work contract, grade level, sample, classroom disruptiveness, and emotional exhaustion at T1) and predictors (i.e., student-teacher closeness, student-teacher conflict, and teacher self-efficacy). The second model also included all two-way interactions between all predictors (i.e., self-efficacy x conflict, self-efficacy x closeness, and conflict x closeness). We created interaction terms by multiplying scores on the predictors and moderators (factor scores saved in standardized units and thus already mean-centered) involved in each interaction. Finally, the third model incorporated the three-way interaction between the predictors (i.e., self-efficacy x conflict x closeness). We interpreted statistically significant interactions by examining simple slopes depicting the effect of the predictor at different levels ( $-1SD$ ,  $M$ , and  $+1SD$ ) of the moderators (Marsh et al., 2013). Given that linear regression models are just identified (i.e., no degrees of freedom), fit indices ( $\chi^2$ , RMSEA, CFI, and TLI) are not available for these models. All models included the correlations between the predictors (main variables and interactions).

### **3. Results**

#### **3.1 Preliminary Analyses**

Tables S1 and S2 of the online supplements display the results from the preliminary measurement models. The results from these confirmatory factor analyses supported the appropriateness of our a priori measurement models for all constructs (i.e., emotional exhaustion at T1 and T2, self-efficacy, and student-teacher relationships), as well as their measurement invariance over time and across samples. Correlations between all variables are reported in Table 1 and are all in the expected direction.

#### **3.2 Main Analyses**

Table 2 reports the main results. The first model, focusing on the direct effects of the covariates and the predictors on teachers' levels of emotional exhaustion at T2, explained 70.2% of the variance in teachers' ratings of emotional exhaustion at T2. Emotional exhaustion at T1 was the only covariate significantly contributing to the prediction of emotional exhaustion at T2. The direct associations between conflict and closeness at T1 and teachers' emotional exhaustion at T2 were not significant, whereas the direct association between self-efficacy and teachers' emotional exhaustion at T2 was. This result indicated that teachers who felt more efficacious reported higher levels of emotional exhaustion

at T2 (controlling for their T1 levels of emotional exhaustion).

The second model revealed two statistically significant two-way interaction effects, which increased the explained variance to 72.3%. First, as illustrated in Figure 1: (a) for teachers low in self-efficacy, conflict shared an association with lower levels of emotional exhaustion at T2; (b) for teachers with average levels of self-efficacy, conflict was not associated with emotional exhaustion at T2; (c) for teachers high in self-efficacy, conflict was associated with higher levels of emotional exhaustion at T2. Second, as illustrated in Figure 2: (a) for teachers low and average in self-efficacy, closeness was not associated with emotional exhaustion at T2; (b) for teachers high in self-efficacy, closeness was associated with higher levels of emotional exhaustion at T2. The interaction between conflict and closeness was not statistically significant. Likewise, the three-way interaction between closeness, conflict, and self-efficacy incorporated into the third model was also not statistically significant.

#### **4. Discussion**

Teachers tend to present a higher risk of emotional exhaustion than other types of employees (Adams et al., 2017; García-Carmona et al., 2019; Johnson et al., 2005). The present study assessed the additive and synergistic roles of student-teacher conflict, closeness, and teacher self-efficacy as possible drivers of emotional exhaustion. Existing studies typically indicate that sharing conflictual relationships with students tends to increase teachers' levels of emotional exhaustion (Gastaldi et al., 2014; Huelsman et al., 2018), whereas self-efficacy decreases that risk (Kim & Burić, 2020; Skaalvik & Skaalvik, 2010, 2014, 2017; Zee & Koomen, 2016). The effects of sharing close relationships with students were equivocal. Some studies showed no additional effect of close relationships beyond conflict (Corbin et al., 2019; Gagnon et al., 2018). Others found a positive longitudinal role of these relationships in decreasing teachers' risk of emotional exhaustion beyond the effects of their preexisting levels of emotional exhaustion (Aldrup et al., 2018; Taxer et al., 2019). Aligned with these previous results, our descriptive statistics showed a negative association between teacher self-efficacy and emotional exhaustion, a positive association between student-teacher conflict and emotional exhaustion, and no association between student-teacher closeness and emotional exhaustion. However, these patterns become more complex when considering the joint role of teacher self-efficacy and student-teacher relationships. For teachers who felt self-efficacious, both types of relationships with their students increased their risk of being emotionally exhausted over time. In contrast, for teachers low in self-efficacy, sharing close relationships did not share an association with emotional exhaustion, whereas sharing conflictual relationships decreased emotional exhaustion. Given that teachers in the two samples included in this study participated ten years ago, readers should interpret these results in light of social changes that might interact with quality relationships, such as the increased use of information and communication technology (ICT) in the classroom and the use of new teaching strategies as a result of the pandemic.

##### **4.1 Self-Efficacy as a Possible Driver of Emotional Labor Among Teachers**

Previous studies have suggested that teachers sharing conflictual or close relationships with most of their students tended to respectively feel more and less emotionally exhausted (Aldrup et al., 2018; Gastaldi et al., 2014; Gagnon et al., 2018; Taxer et al., 2019). Our results indicated that teachers' feelings of self-efficacy seem to drastically modify the role of student-teacher relationships in relation to their risk of emotional exhaustion. More precisely, when jointly considering all variables, teachers' feelings of being able to help all students learn, being in control of their students' progress, and making a difference in their students' lives surprisingly resulted in a slight increase in their risk of emotional exhaustion, while student-teacher conflict and closeness no longer had a main effect on emotional exhaustion. Thus, once accounting for teachers' self-efficacy, student-teacher closeness and conflict no longer seemed to act as relational job resources and demands, at least from the perspective of the JD-R model (Demerouti et al., 2001; Xanthopoulou et al., 2007). In contrast, teacher self-efficacy interacted with these relationship components.

First, teachers with high levels of self-efficacy felt more emotionally exhausted when reporting close and warm relationships with their students. Contrasting with the generally acknowledged benefits of positive relationships involving one's coworkers or supervisor (e.g., Fernet et al., 2013), close relationships with one's students thus seem to act as a job demand for self-efficacious teachers. More precisely, teachers who feel responsible for and in control of their students' learning (i.e., high in self-efficacy) may come to see it as their responsibility to create a positive bond with all students, to be attentive to their feelings, and to take time to communicate with them in a caring manner irrespective



of their own levels of emotional availability and genuine affinity (e.g., Yin et al., 2019). They potentially see developing and maintaining close relationships with their students might be seen as an additional demand for emotional labor (Fouquereau et al., 2019; Yin et al., 2019) in their already complex and demanding classroom management role. Thus, relative to teachers who do not try as hard to create close relationships with all students, self-efficacious teachers might need to rely on strategies requiring them to hide their natural emotions, fake false positive emotions, or work on themselves to display the required positive emotions when interacting with their students (Fouquereau et al., 2019; Yin et al., 2019), rather than being free to express their naturally felt emotions. Unfortunately, these strategies likely increase their risk of emotional exhaustion (Lee, 2019; Yin et al., 2019).

Our results also echo Chang's (2009) suggestion that teachers who care about their students' learning and achievement might become more emotionally sensitive to several aspects of their job than those who do not care as much. Similarly, without considering the role of self-efficacy, perceiving close relationships with students might not lead to teachers' emotional exhaustion but may rather nurture their sense of accomplishment (Corbin et al., 2019). As such, student-teacher closeness might act as a double-edged sword, playing both the role of a job demand when teachers care deeply about their students, and of job resource in relation to helping to nurture teachers' feelings of personal accomplishment.

Alternatively, research also indicates teachers' actual practices do not always reflect their underlying beliefs (e.g., Basturkmen, 2012; Buehl & Beck, 2015). Even when teachers feel they can help all their students learn and connect with them (high self-efficacy), they might not necessarily be able to create positive relationships with most of their students. Our result potentially reflect this through the lack of correlation between self-efficacy and closeness (see Table 1). Given this possible misalignment, teachers who feel self-efficacious may dedicate more energy to creating positive relationships with their students than those who feel slightly less self-efficacious and thus see the development of such relationships as beyond their capabilities. This inconsistency between teacher self-efficacy and closeness likely interferes with the ability of both types of resources to play their expected protective role against emotional exhaustion. To better unpack these associations, future studies could assess the various subpopulations of teachers displaying different configurations of self-efficacy, student-teacher relationships, and emotional exhaustion in any sample (e.g., Herman et al., 2018). Indeed, rather than considering teachers as a homogeneous population regarding their beliefs, practices, and reactions to stressors, this approach would make it possible to identify subpopulations of teachers among whom distinct mechanisms might be operating.

Second, teachers with high levels of self-efficacy seemed to experience conflictual relationships with their students as particularly distressing, leading to a higher risk of emotional exhaustion. Following Chang's (2009) argument, teachers who care about their students and feel they can help all of them progress during the school year (i.e., high in self-efficacy) might see conflictual relationships as personal failures, which could, in turn, explain their higher risk of emotional exhaustion. In contrast, when facing conflictual relationships with their students, teachers' level of emotional exhaustion should remain stable when they do not care as much, feel they have little impact on students' learning, or see these issues as out of their control (i.e., low self-efficacy). More specifically, among teachers low in self-efficacy, exposure to conflictual relationships may act as a buffer against emotional exhaustion by suggesting that students might cause the difficulties experienced in the classroom rather than their own lack of efficacy. These explanations remain hypothetical and warrant further investigation.

Although not explicitly tested in the current study, teachers with low self-efficacy who share poor relationships with their students might thus become disengaged from their role with students (Kim & Burić, 2020). As disengagement is an avoidance coping strategy sometimes used to maintain mental health (Dijkstra & Homan, 2016), teachers who numb themselves from those negative relationships and self-perceptions might not become more exhausted during the school year. Yet, the long-term benefits of this strategy are questionable (Dijkstra & Homan, 2016). In both cases, attributing conflictual relationships to the students or other external causes might paradoxically protect teachers from emotional exhaustion, which warrants further investigation to identify potential mechanisms. A possible misalignment between teachers' beliefs (i.e., self-efficacy) and practices (i.e., their role in conflict) might come into play in these counterintuitive results (Basturkmen, 2012; Buehl & Beck, 2015). Some teachers low in self-efficacy who perceive conflictual relationships with their students might still feel effective and thus not become more exhausted over the school year, although this hypothesis warrants formal tests.

However, the high level of stability of emotional exhaustion ( $r = .839$ ) coupled with the association already present at T1 between self-efficacy and exhaustion ( $r = -.318$ ) suggest that at least a subset of the teachers low in self-efficacy were already exhausted at the beginning of the school year. This might have resulted in a floor effect (i.e., these teachers' levels of exhaustion cannot decrease as much as those of their initially non-exhausted colleagues), making it harder to detect the effects of conflictual relationships with their students on their already high levels of exhaustion.

In addition, given that the current study encompassed a single school year, it did not consider the long-term effects (encompassing multiple school years) of persistent exposure to conflictual and close student-teacher relationships. Indeed, the pervasive negative impact of student-teacher conflict, just like the benefits of closeness, may only appear over several school years. Year-to-year fluctuations in the quality of student-teacher relationships might only result in temporary fluctuations in levels of emotional exhaustion. Thus, the frequency or intensity of the conflictual and close relationships experienced by teachers in our sample might not represent how these relationships evolve over time as a result of exposure to different cohorts of students. For instance, previous research found an association between student misbehavior and teacher emotional exhaustion, but mainly as a chronic process spanning over five school years (Olivier et al., 2021). Future studies should replicate our results over a longer time period and to try to disaggregate the mechanisms specific to a school year from those chronically repeated over several years.

#### **4.2 Combined Role of Conflictual and Close Relationships**

Finally, we found no support for the expected buffering role of student-teacher closeness against the negative impact of student-teacher conflict. A few teachers might share close and conflictual relationships with some students (Olivier et al., 2018). In such cases, closeness might be a protective factor for those teachers. Yet, according to our findings, this expectation does not seem accurate for three reasons. First, our results indicated that conflictual relationships with students did not represent a risk of exhaustion (i.e., a main effect) for teachers when considering their feelings of self-efficacy. Likewise, the direct role of close relationships with students on teacher exhaustion is uncertain, according to a few previous longitudinal studies (Corbin et al., 2019; Gagnon et al., 2018). As such, accounting for self-efficacy (which appeared as a stronger predictor with a clear main effect) might overshadow the potentially smaller synergistic role of closeness and conflict. Second, closeness and conflict might also be incompatible. In a few rare cases, teachers might share both relationships with their students, especially students with behavior problems (Olivier et al., 2018). These inconsistent relationships might not reflect the whole classroom (Wu et al., 2010). Alternatively, for those who do share both types of relationships, closeness and conflict might have distinct roles in their feelings of exhaustion, which, as our results suggest, should be interpreted in light of how efficacious teachers feel. Finally, as mentioned previously, sharing close relationships with students might represent a job demand rather than a resource, pushing teachers to rely on problematic emotional labor strategies (Yin et al., 2019). Teachers may see close relationships with students as emotionally demanding, and thus feel unable to compensate for sharing conflictual interactions with students.

#### **4.3 Limitations**

We should acknowledge a few limitations to properly appreciate our results. Thus, while our sample size was similar to or larger than that used in previous studies covered in Ford et al.'s (2014) review of the longitudinal studies conducted in the occupational health literature, our sample remains relatively small in terms of the number of teachers. In this regard, Ford et al. (2014) warned that larger sample sizes remain desirable to detect small magnitude effects and maximize the generalizability of the findings and their practical significance. Furthermore, all our data were generated from teacher self-reports, although the teachers reported on their relationships with each student. People are an important source of information on their own symptoms, thoughts, and emotions. However, despite the anonymity of the survey, teachers may not have been entirely comfortable reporting certain feelings or thoughts, especially those seen as not acceptable in their job. Also, we collected data 10 years ago. Several changes have occurred since then. It would be important to understand how the role of self-efficacy and teacher-student relationships might have evolved during and after the current COVID-19 pandemic, as teachers and their students had to adapt to distance learning methods (Klusmann et al., 2023; Soncini et al., 2021).

Considering the unexpected nature of some of our results and the lack of information in our data to assess potential underlying processes (e.g., emotional labor, teacher disengagement, etc.), we

can only speculate on the mechanisms at play to explain them. The explanations described in the discussions warrant validation in future studies. Rather than assuming the results would generalize to the whole sample, relying on person-centered analyses (e.g., Herman et al., 2018; Morin & Litalien, 2019) to identify studying subsets of the population characterized by different types of relationships, or different profiles of emotional adaptation, may also yield important insights into the associations observed in the present study. Finally, results from this study are somewhat counterintuitive, at least compared to a subset of the existing research literature, and potentially suggest a regression-to-the-mean effect of emotional exhaustion. Pending replication, we invite readers to treat these findings carefully, especially considering their possible practical implications.

#### 4.4 Future Directions

This study reinforces the complexity of teachers' roles and work environment, highlighting how different individual and environmental features interact in changing the nature of personal and job demands and resources. Teachers' feelings of self-efficacy seem to be particularly important in determining how job demands and resources affect their well-being at work. Studies seeking to understand teacher well-being, emotional exhaustion, and burnout should also consider whether research questions should also consider the role of teacher self-efficacy. Moreover, the various close and conflictual relationships teachers share with their students over several years might have an accumulating role in their levels of emotional exhaustion, which would be an interesting research question to pursue in the future. Finally, our study considered teachers' relationships with all the students in their classroom. However, these relationships are dyadic and bidirectional, with the teacher and the student contributing to their unique relationship. Future studies should also consider how these individual relationships contribute to teacher well-being.

More specifically for teachers' practice, developing close and positive relationships with their students appears to be unmistakably beneficial for students (e.g., Roorda et al., 2017). However, our results suggest it might be worth considering the cost of upholding such relationships all the time for teachers. The pressure put on them to develop and maintain these close relationships might become distressing as closeness seems to be a job demand for teachers who feel efficacious, potentially increasing their risk of feeling exhausted. The emotional labor literature (e.g., Fouquereau et al., 2019; Yin et al., 2019) proposes a few strategies to help employees better manage their emotions without increasing their risk of emotional exhaustion. The adaptability of these approaches translates to the teaching occupation remains open to investigation. This raises questions on how school principals and psychologists can best support teachers in their role so that students and teachers all benefit from the positive relationships they share.

#### 5. References

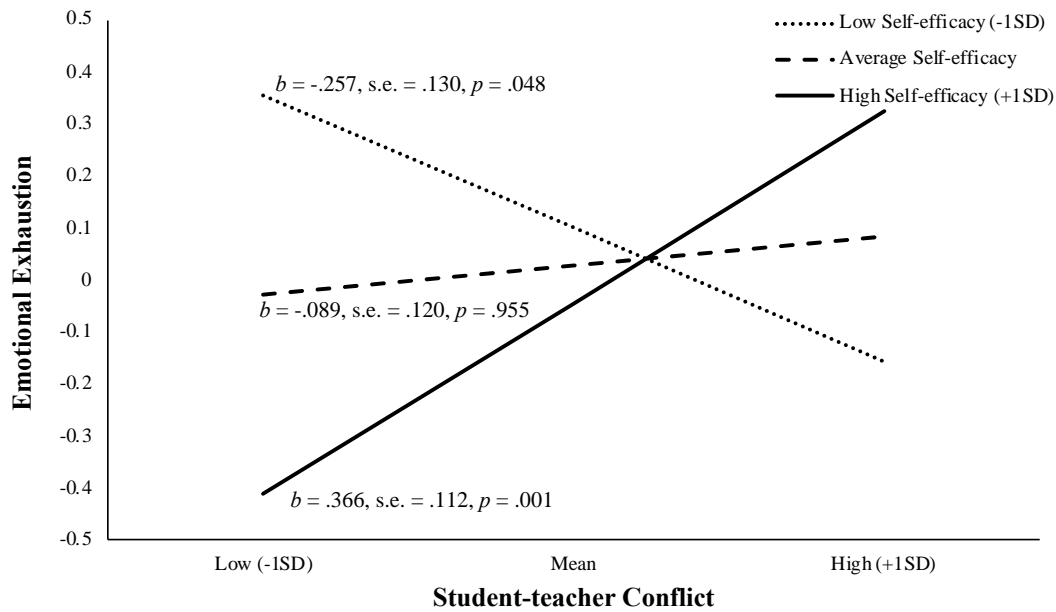
- Adams, C.J., Hough, H., Proeschold-Bell, R.J., Yao, J., & Kolkin, M. (2017). Clergy burnout: A comparison study with other helping professions. *Pastoral Psychology*, *66*(2), 147-175. <https://doi.org/10.1007/s11089-016-0722-4>
- Aldrup, K., Klusmann, U., Lüdtke, O., Göllner, R., & Trautwein, U. (2018). Student misbehavior and teacher well-being: Testing the mediating role of the teacher-student relationship. *Learning and Instruction*, *58*, 126–136. <https://doi.org/10.1016/j.learninstruc.2018.05.006>
- Arens, A. K., & Morin, A.J.S. (2016). Relations between teachers' emotional exhaustion and students' educational outcomes. *Journal of Educational Psychology*, *108*(6), 800–813. <https://doi.org/10.1037/edu0000105>
- Ashforth, B.E., & Humphrey, R.H. (1993). Emotional labor in service roles: The influence of identity. *The Academy of Management Review*, *18*(1), 88-115. <https://doi.org/10.2307/258824>
- Bakker, A.B., & Demerouti, E. (2007). The Job-Demands-Resources Model: State of the art. *Journal of Managerial Psychology*, *22*(3), 309-328. <https://doi.org/10.1108/02683940710733115>
- Bakker, A.B., & de Vries, J.D. (2021). Job Demands-Resources theory and self-regulation: New explanations and remedies for job burnout. *Anxiety, Stress, & Coping*, *34*(1), 1-21. <https://doi.org/10.1080/10615806.2020.1797695>
- Basturkmen, H. (2012). Review of research into the correspondence between language teachers' stated beliefs and practices. *System*, *40*(2), 282-295. <https://doi.org/10.1016/j.system.2012.05.001>
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71–81). Academic Press.
- Belt, A., & Belt, P. (2017). Teachers' differing perceptions of classroom disturbances. *Educational*

- Research*, 59(1), 54-72. <https://doi.org/10.1080/00131881.2016.1262747>
- Bottiani, J.H., Duran, C.A.K., Pas, E.T., & Bradshaw, C.P. (2019). Teacher stress and burnout in urban middle schools: Associations with job demands, resources, and effective classroom practices. *Journal of School Psychology*, 77, 36-51. <https://doi.org/10.1016/j.jsp.2019.10.002>
- Buehl, M.M., & Beck., J.S. (2015). The relationship between teachers' beliefs and teachers' practices. In H. Fives, & M.G. Gill (Eds.) *International Handbook of Research on Teacher Beliefs*, Routledge. <https://doi.org/10.4324/9780203108437>
- Chang, M.-L. (2009). An appraisal perspective of teacher burnout: Examining the emotional work of teachers. *Educational Psychology Review*, 21(3), 193-218. <https://doi.org/10.1007/s10648-009-9106-y>
- Clandinin, D.J., Long, J., Schaefer, L., Downey, C.A., Steeves, P., Pinnegar, E., Robblee, S.M. & Wnuk, S. (2015). Early career teacher attrition: Intentions of teachers beginning. *Teaching Education*, 26(1), 1-16. <https://doi.org/10.1080/10476210.2014.996746>
- Corbin, C.M., Alamos, P., Lowenstein, A.E., Downer, J.T., & Brown, J.L. (2019). The role of teacher-student relationships in predicting teachers' personal accomplishment and emotional exhaustion. *Journal of School Psychology*, 77, 1-12. <https://doi.org/10.1016/j.jsp.2019.10.001>
- Crompton, S. (2011). What's stressing the stressed? Main sources of stress among workers. *Canadian Social Trends*, Catalogue no. 11-008 Retrieved from <https://www150.statcan.gc.ca/n1/pub/11-008-x/2011002/article/11562-eng.htm>
- Demerouti, E., Nachreiner, F., Bakker, A.B., & Schaufeli, W.B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499-512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Dicke, T., Parker, P.D., Marsh, H.W., Kunter, M., Schmeck, A., & Leutner, D. (2014). Self-efficacy in classroom management, classroom disturbances, and emotional exhaustion: A moderated mediation analysis of teacher candidates. *Journal of Educational Psychology*, 106(2), 569-583. <https://doi.org/10.1037/a0035504>
- Dijkstra, M.T.M., & Homan, A.C. (2016). Engaging in rather than disengaging from stress: Effective coping and perceived control. *Frontiers in Psychology*, 7, 1-12. <https://doi.org/10.3389/fpsyg.2016.01415>
- Donker, M., Ericsman, M.C., van Gog, T., & Mainhard, T. (2020). Teachers' emotional exhaustion: Associations with their typical use of and implicit attitudes toward emotional regulation strategies. *Frontiers in Psychology*, 11, 867. <https://doi.org/10.3389/fpsyg.2020.00867>
- Enders, C. K. (2010). *Applied missing data analysis*. Guildford.
- Fallu, J.-S., & Janosz, M. (2003). La qualité des relations élèves-enseignants à l'adolescence : un facteur de protection de l'échec scolaire. [The quality of student-teacher relationship in adolescence: a protective factor of school failure] *Revue de psychoéducation*, 32, 7-29.
- Fernet, C., Austin, S., Trépanier, S., & Dussault, M. (2013). How do job characteristics contribute to burnout? Exploring the distinct mediating roles of perceived autonomy, competence, and relatedness. *European Journal of Work and Organizational Psychology*, 22(2), 123-137. <https://doi.org/10.1080/1359432X.2011.632161>
- Finney, S.J., & DiStefano, C. (2013). Nonnormal and categorical data in structural equation modeling. In G.R. Hancock & R.O. Mueller (Eds.), *Structural equation modeling: A second course* (pp. 439-492). Information Age Publishing.
- Ford, M., Matthews, R., Wooldridge, J., Mishra, V., Kakar, U., & Strahan, S. (2014). How do occupational stressor-strain effects vary with time? A review and meta-analysis of the relevance of time lags in longitudinal studies. *Work & Stress*, 28(1), 9-30. <https://doi.org/10.1080/02678373.2013.877096>
- Fouquereau, E., Morin, A.J.S., Lapointe, E., Mokoukolo, R., & Gillet, N. (2019). Emotional labor profiles: Associations with key predictors and outcomes. *Work & Stress*, 33(3), 268-294. <https://doi.org/10.1080/02678373.2018.1502835>
- Gagnon, S.G., Huelsman, T.J., Kidder-Ashley, P., & Lewis, A. (2018). Preschool student-teacher relationships and teaching stress. *Early Childhood Education Journal*, 47, 217-225. <https://doi.org/10.1007/s10643-018-0920-z>
- García-Carmona, M., Marín, M.D., & Aguayo, R. Burnout syndrome in secondary school teachers: A systematic review and meta-analysis. *Social Psychology of Education*, 22(1), 189-208.

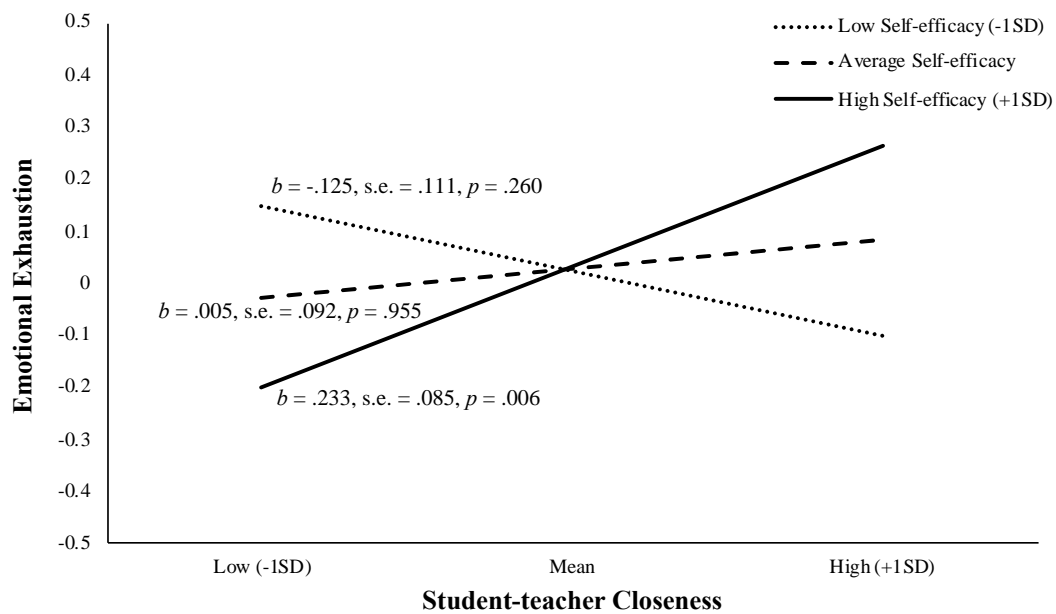
- <https://doi.org/10.1007/s11218-018-9471-9>
- Gastaldi, F.G., Pasta, T., Longobardi, C., Prino, L., & Quaglia, R. (2014). Measuring the influence of stress and burnout in teacher-child relationship. *European Journal of Education and Psychology*, 7(1), 17-28.
- Herman, K. C., Hickmon-Rosa, J., & Reinke, W. M. (2018). Empirically derived profiles of teacher stress, burnout, self-efficacy, and coping and associated student outcomes. *Journal of Positive Behavior Interventions*, 20(2), 90-100. <https://doi.org/10.1177/1098300717732066>
- Janosz, M., Bowen, F., Chouinard, R., & Desbiens, N. (2004). *Le Questionnaire d'Évaluation de l'Environnement Socioéducatif pour écoles primaires. [The Socioeducational Environment Evaluation Questionnaire for primary schools]* Groupe de recherche sur les environnements scolaires (GRES), École de Psychoéducation, Université de Montréal.
- Janosz, M., Bouthillier, C., Bowen, F., Chouinard, R., & Desbiens, N. (2007). *Rapport de validation du Questionnaire sur l'environnement socioéducatif des écoles primaires. [Validation report of the Socioeducational Environment Evaluation Questionnaire for primary schools]* Groupe de recherche sur les environnements scolaires, Université de Montréal.
- Janosz, M., Bélanger, J., Dagenais, C., Bowen, F., Abrami, P.C., Cartier, S.C., Chouinard, R., Desbiens, N., & Fallu, J.-S. (2010). *Aller plus loin, ensemble : synthèse du rapport final d'évaluation de la stratégie d'intervention Agir Autrement. [Going further, together : Summary of the final report of the New Approaches, New Solutions intervention strategy]* Groupe de recherche sur les environnements scolaires, Université de Montréal.
- Johnson, S., Cooper, C., Cartwright, S., Donald, I., Taylor, P. & Millet, C. (2005). The experience of work-related stress across occupations. *Journal of Managerial Psychology*, 20(2), 178–187. <https://doi.org/10.1108/02683940510579803>
- Johnson, S.M., & National Education Association of the United States. (2006). *The workplace matters: Teacher quality, retention, and effectiveness*. National Education Association.
- Karsenti, T. & Collin, S. (2013). Why are new teachers leaving the profession? Results of a Canada-wide survey. *Education*, 3(3), 141-149. Doi: 10.5923/j.edu.20130303.01
- Khani, R., & Mirzaee, A. (2015). How do self-efficacy, contextual variables and stressors affect teacher burnout in an EFL context? *Educational Psychology*, 35(1), 93–109. <https://doi.org/10.1080/01443410.2014.981510>
- Kim, L.E., & Burić, I. (2020). Teacher self-efficacy and burnout: Determining the directions of prediction through an autoregressive cross-lagged panel model. *Journal of Educational Psychology*, 112(8), 1661-1676. <https://doi.org/10.1037/edu0000424>
- Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102(3), 741-756. <https://doi.org/10.1037/a0019237>
- Klusmann, U., Aldrup, K., Roloff-Bruchmann, J., Carstensen, B., Wartenberg, G., Hansen, J., & Hanewinkel, R. (2023). Teacher's emotional exhaustion during the COVID-19 pandemic: Levels, changes, and relations to pandemic-specific demands. *Teaching and Teacher Education*, 121, 103908. <https://doi.org/10.1016/j.tate.2022.103908>
- Kutsyuruba, B., Walker, K., Godden, L., & Matheson, I. (2017). *Pan-Canadian document analysis study: Understanding the role of teacher induction and mentoring programs in teacher attrition and retention*. Faculty of Education, Queen's University. <https://doi.org/10.13140/RG.2.2.34962.45760>
- Larson, E.B., & Yao, X. (2005). Clinical empathy as emotional labor in the patient-physician relationship. *Journal of the American Medical Association*, 293(9), 1100-1106. <https://doi.org/10.1001/jama.293.9.1100>
- Lee, Y.H. (2019). Emotional labor, teacher burnout, and turnover intention in high-school physical education teaching. *European Physical Education Review*, 25(1), 236-253. <https://doi.org/10.1177/1356336X17719559>
- Lüdtke, O., Marsh, H.W., Robitzsch, A., & Trautwein, U. (2011). A 2 X 2 taxonomy of multilevel latent contextual models: Accuracy–bias trade-offs in full and partial error correction models. *Psychological Methods*, 16 (4), 444-467. <https://doi.org/10.1037/a0024376>
- Maslach, C., Schaufeli, W.B., & Leiter, M.P. (2001). Job burnout. *Annual Review Psychology*, 52, 397-422. <https://doi.org/10.1146/annurev.psych.52.1.397>

- Maslach, C., & Leiter, M. (2016). Understanding the burnout experience: Recent research and its implications for psychiatry. *World Psychiatry, 15*(2), 103–111. <https://doi.org/10.1002/wps.20311>
- Marsh, H.W., Hau, K.T., Wen, Z., Nagengast, B., & Morin, A.J.S. (2013). Moderation. In T.D. Little (Ed.), *Oxford Handbook of Quantitative Methods*. (pp. 361-386). Oxford University Press.
- Midgley, C., Maehr, M., Hruda, L., Anderman, E., Anderman, L., Freeman, K., Gheen, M., Kaplan, A., Kumar, R., Middleton, M.J., Nelson, J., Roeser, R., & Urdan, T. (2000). *The patterns of adaptive learning scales (PALS)*. University of Michigan.
- Milatz, A., Lüftenegger, M., & Schober, B. (2015). Teachers' relationship closeness with students as a resource for teacher wellbeing. *Frontiers in Psychology, 6*, 1-16. <https://doi.org/10.3389/fpsyg.2015.01949>
- Millsap, R. (2011). *Statistical approaches to measurement invariance*. Taylor & Francis. <https://doi.org/10.4324/9780203821961>
- Ministère de l'éducation (2020). *Référentiel de compétences professionnelles : profession enseignante*. Gouvernement du Québec, Ministère de l'éducation.
- Morin, A.J.S., Boudrias, J.S., Marsh, H.W., McInerney, D.M., Dagenais-Desmarais, V., Madore, I., & Litalien, D. (2017). Complementary variable-and person-centered approaches to the dimensionality of psychometric constructs: Application to psychological wellbeing at work. *Journal of Business and Psychology, 32*(4), 395-419. <https://doi.org/10.1007/s10869-016-9448-7>
- Morin, A.J.S., & Litalien, D. (2019). *Mixture modeling for lifespan developmental research*. Retrieved from Oxford Research Encyclopedia of Psychology Online Database. <https://doi.org/10.1093/acrefore/9780190236557.013.364>
- Morris, J.A., & Feldman, D.C. (1996). The dimensions, antecedents, and consequences of emotional labor. *The Academy of Management Review, 21*(4), 986-1010. <https://doi.org/10.2307/259161>
- Morrison, R. L. (2008). Negative relationships in the workplace: Associations with organizational commitment, cohesion, job satisfaction and intention to turnover. *Journal of Management & Organization, 14*(4), 330–344. <https://doi.org/10.5172/jmo.837.14.4.330>
- Olivier, E., Archambault, I., & Dupéré, V. (2018). Boys' and girls' latent profiles of behavior and social adjustment in school: Longitudinal links with later student behavioral engagement and academic achievement. *Journal of School Psychology, 69*, 28-44. <https://doi.org/10.1016/j.jsp.2018.05.006>
- Olivier, E., Janosz, M., Morin, A.J.S., Archambault, I., Geoffrion, S., Pascal, S., Goulet, J., Marchand, A., & Pagani, L.S. (2021). Chronic and temporary exposure to student violence predicts emotional exhaustion in high school teachers. *Journal of School Violence, 20*(2), 195-211. <https://doi.org/10.1080/15388220.2021.1875841>
- Pianta, R. (2001). *Student-Teacher Relationship Scale-Short Form*. Psychological Assessment Resources.
- Rodríguez-Mantilla, J. M., & Fernández-Díaz, M. J. (2017). The effect of interpersonal relationships on burnout syndrome in secondary education teachers. *Psicothema, 29*(3), 370–377.
- Roorda, D. L., Jak, S., Zee, M., Oort, F. J., & Koomen, H. M. Y. (2017). Affective teacher-student relationships and students' engagement and achievement: A meta-analytic update and test of the mediating role of engagement. *School Psychology Review, 46*(3), 239–261. <https://doi.org/10.17105/SPR-2017-0035.V46-3>
- Salvagioni D. J., Melanda F. N., Mesas A.E., González A. D., Gabani F.L., & Andrade S. M. (2017). Physical, psychological and occupational consequences of job burnout: A systematic review of prospective studies. *PLoS ONE, 12*(10), 1-29. <https://doi.org/10.1371/journal.pone.0185781>
- Simões, F., & Calheiros, M.M. (2019). A matter of teaching and relationships: Determinants of teaching style, interpersonal resources and teacher burnout. *Social Psychology of Education, 22*(4), 991–1013. <https://doi.org/10.1007/s11218-019-09501-w>
- Skaalvik, E.M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education, 26*(4), 1059-1069. <https://doi.org/10.1016/j.tate.2009.11.001>
- Skaalvik, E.M., & Skaalvik, S. (2014). Teacher self-efficacy and perceived autonomy: Relations with teacher engagement, job satisfaction, and emotional exhaustion. *Psychological Reports: Employment Psychology & Marketing, 114*(1), 68-77. <https://doi.org/10.2466/14.02.PR0.114k14w0>
- Skaalvik, E.M., & Skaalvik, S. (2017). Motivated for teaching? Associations with school goal structure, teacher self-efficacy, job satisfaction and emotional exhaustion. *Teaching and Teacher Education, 67*, 152-160. <https://doi.org/10.1016/j.tate.2017.06.006>

- Skrondal, A., & Laake, P. (2001). Regression among factor scores. *Psychometrika*, *66*(4), 563–575. <https://doi.org/10.1007/BF02296196>
- Soncini, A., Politi, E., & Matteucci, M.C. (2021). Teachers navigating distance learning during COVID-19 without feeling emotionally exhausted: The protective role of self-efficacy. *School Psychology*, *36*(6), 494-503. <https://doi.org/10.1037/spq0000469>
- Spilt, J.L., Koomen, H.M.Y., & Thijs, J.T. (2011). Teacher wellbeing: The importance of teacher-student relationships. *Educational Psychology Review*, *23*(4), 457–477. <https://doi.org/10.1007/s10648-011-9170-y>
- Taxer, J.L., Becker-Kurz, B., & Frenzel, A.C. (2019). Do quality teacher-student relationships protect teachers from emotional exhaustion? The mediating role of enjoyment and anger. *Social Psychology of Education: An International Journal*, *22*(1), 209–226. <https://doi.org/10.1007/s11218-018-9468-4>
- Tóth-Király, I., Morin, A.J.S., & Salmela-Aro, K. (In Press). Reciprocal associations between burnout and depression: An eight-year longitudinal study. *Applied Psychology: An International Review*, *70*(4), 1691-1727. <https://doi.org/10.1111/apps.12295>
- Trépanier, S., Forest, J., Fernet, C., & Austin, S. (2015). On the psychological and motivational processes linking job characteristics to employee functioning: Insights from self-determination theory. *Work & Stress*, *29*(3), 286–305. <https://doi.org/10.1080/02678373.2015.1074957>
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress*, *22*(3), 277–294. <https://doi.org/10.1080/02678370802393672>
- Wu, J.-Y., Hughes, J.N., & Kwok, O.-M. (2010). Teacher-student relationship quality type in elementary grades. *Journal of School Psychology*, *48*(5), 357-387. <https://doi.org/10.1016/j.jsp.2010.06.004>
- Xanthopoulou, D., Bakker, A.B., Demerouti, E., & Schaufeli, W.B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, *14*(2), 121–141. <https://doi.org/10.1037/1072-5245.14.2.121>
- Yin, H., Huang, S., & Chen, G. (2019). The relationships between teachers' emotional labor and their burnout and satisfaction: A meta-analytic review. *Educational Research Review*, *28*, 1-18. <https://doi.org/10.1016/j.edurev.2019.100283>
- Zee, M., & Koomen, H. (2016). Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. *Review of Educational Research*, *86*(4), 981–1015. <https://doi.org/10.3102/0034654315626801>



**Figure 1**  
*Results from the Self-Efficacy x Conflict Interaction in the Association with Emotional Exhaustion at T2*



**Figure 2**  
*Results from the Self-Efficacy x Closeness Interaction in the Association with Emotional Exhaustion at T2*



**Table 1***Correlations*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.Sex										
2.Experience	-.092									
3.Work Contract (FT/PT)	-.115	-.099								
4.Grade level	-.033	.005	.015							
5.Sample	.023	-.083	.226**	-.030						
6.Disruptiveness	.107	-.103	-.010	.060	-.051					
7.Exhaustion (T1)	-.139	.159*	.014	.128	-.052	.245**				
8.Self-efficacy (T1)	.035	-.143	.034	-.008	.056	-.318**	-.564**			
9.Conflict (T1)	.022	-.133	.007	.132	.123	.461**	.251**	-.214**		
10.Closeness (T1)	-.005	-.046	-.066	-.144	-.087	-.184*	-.142	.136	-.404**	
11.Exhaustion (T2)	-.081	.139	.034	.147	-.052	.202*	.839**	-.418**	.193*	-.114

Note. \*  $p \leq .05$ ; \*\*  $p \leq .01$ . Sex: 1=male; 2=female. Grade level: 3=3<sup>rd</sup> grade; 4=4<sup>th</sup> grade; 5=5<sup>th</sup> grade; 6=6<sup>th</sup> grade. Sample: 1=Sample A; 2=Sample B.

**Table 2***Results from the Multivariate Regression Models Explaining Emotional Exhaustion at T2*

	Direct links model			Two-way interactions model			Three-way interaction model		
	<i>b</i>	s.e.	$\beta$	<i>b</i>	s.e.	$\beta$	<i>b</i>	s.e.	$\beta$
<i>Covariates</i>									
Sex	.174	.093	.068	.105	.099	.041	.099	.097	.039
Experience	.010	.021	.024	.012	.021	.027	.010	.021	.024
Work Contract (FT/PT)	.001	.002	.021	.002	.003	.035	.002	.003	.031
Grade level	.017	.034	.024	.026	.034	.037	.024	.035	.033
Sample	.001	.081	.001	-.026	.077	-.015	-.018	.078	-.010
Disruptiveness	.001	.051	.001	-.002	.051	-.002	.000	.051	.000
Exhaustion (T1)	.896	.054***	.896	.896	.054***	.895	.897	.055***	.896
<i>Independent Variables</i>									
Self-efficacy (T1)	.105	.053*	.097	.054	.053	.050	.041	.054	.038
Conflict (T1)	-.087	.126	-.040	-.089	.120	-.041	-.082	.120	-.037
Closeness (T1)	-.026	.096	-.014	.005	.092	.003	.002	.092	.001
<i>Interactions</i>									
Self-efficacy x Conflict				.387	.136**	.168	.359	.147*	.156
Self-efficacy x Closeness				.222	.103*	.108	.234	.097*	.114
Conflict x Closeness				-.354	.216	-.082	-.364	.213	-.084
Conflict x Closeness x Self-efficacy							-.158	.185	-.044
<i>R</i> <sup>2</sup>	.702	.053***		.723	.046***		.724	.046***	

Note. \*  $p \leq .05$ ; \*\*  $p \leq .01$ ; \*\*\*  $p \leq .001$ .

**Online Supplements for  
Teacher emotional exhaustion: The synergistic roles of self-efficacy and student-teacher  
relationships**

**Appendix A  
Teacher questionnaire**

“Dans le dernier mois...” [*“In the past month...”*]

**Emotional Exhaustion**

- |  |  |
|--|--|
| 1. ... j'ai été si fatigué(e) au réveil que je me suis senti(e) incapable d'affronter une nouvelle journée de travail. | 1. [ <i>... I woke up so tired that I felt unable to face another day of work.</i> ]         |
| 2. ... je ne me suis plus senti(e) capable de me donner comme avant dans ma tâche d'enseignement.                      | 2. [ <i>... I no longer felt able to dedicate myself as I used to in my teaching task.</i> ] |
| 3. ... j'ai eu le sentiment d'être facilement irrité(e) ou contrarié(e).   | 3. [ <i>...I have felt easily irritated or upset.</i> ]                                      |
| 4. ... j'ai eu de la difficulté à m'endormir.  | 4. [ <i>...I had trouble falling asleep.</i> ]   |
| 5. ... mon travail à l'école m'a satisfait. (inversé)  | 5. [ <i>... my work at school has satisfied me.</i> ]<br>(reverse coded)                     |
| 6. ... j'ai aimé plus mon emploi que la majorité des gens. (inversé)   | 6. [ <i>...I liked my job more than most people.</i> ]<br>(reverse coded)                    |
| 7. ... il m'est souvent arrivé de ne pas avoir envie d'aller travailler.   | 7. [ <i>... I often didn't feel like going to work.</i> ]                                    |
| 8. ... si j'avais pu, j'aurais réorienté ma carrière.  | 8. [ <i>... if I could have, I would have changed my career.</i> ]                           |

**Student-Teacher Relationship**

**Closeness**

- |  |  |
|--|--|
| 1. ... j'ai partagé une relation proche et chaleureuse avec cet enfant.            | 1. [ <i>... I shared a close and warm relationship with this child.</i> ]                |
| 2. ... cet enfant a partagé spontanément avec moi des informations à son sujet.    | 2. [ <i>... this child has spontaneously shared information about himself with me.</i> ] |
| 3. ... il a été facile de bien comprendre ce que cet enfant ressentait.            | 3. [ <i>... it was easy to really understand how this child was feeling.</i> ]           |
| 4. ... cet enfant a partagé facilement ses sentiments et ses expériences avec moi. | 4. [ <i>... this child easily shared his feelings and experiences with me.</i> ]         |

**Conflict**

- |  |   |
|--|---|
| 1. ... cet enfant et moi avons toujours tendance à lutter l'un contre l'autre. | 1. [ <i>... this child and I always tend to fight against each other.</i> ] |
| 2. ... cet enfant s'est mis facilement en colère contre moi.                   | 2. [ <i>... this child got angry with me easily.</i> ]                      |

- |   |   |
|---|---|
| 3. ... travailler avec cet enfant a pris toute mon énergie.   | 3. [ <i>... working with this child took all my energy.</i> ]                           |
| 4. ... lorsque cet enfant était de mauvaise humeur, je savais que nous étions partis pour une longue journée. | 4. [ <i>... when that child was in a bad mood, I knew we were off for a long day.</i> ] |

### Teacher Self-Efficacy

- |   |   |
|---|---|
| 1. ... j'ai constaté que si j'essaie vraiment, je peux réussir à rejoindre même l'élève le plus difficile.  | 1. [ <i>... I have found that if I really try, I can reach even the most difficult student.</i> ]   |
| 2. ... j'ai constaté que certains facteurs hors de mon contrôle ont une plus grande influence sur la réussite de mes élèves que je n'en ai. (inversé) | 2. [ <i>... I have found that certain factors beyond my control have a greater influence on the success of my students than I do.</i> ] (reverse coded) |
| 3. ... j'ai constaté que je suis capable d'aider tous les élèves de ma classe à s'améliorer de façon remarquable.                                     | 3. [ <i>... I have found that I am able to help everyone in my class improve dramatically.</i> ]  |
| 4. ... j'ai constaté que certains élèves ne feront pas beaucoup de progrès cette année, peu importe ce que je fais. (inversé)                         | 4. [ <i>... I have found that some students will not make much progress this year no matter what I do.</i> ] (reverse coded)                            |
| 5. ... j'ai constaté que je suis certain(e) que je fais une différence dans la vie de mes élèves.   | 5. [ <i>... I have found that I am confident that I am making a difference in the lives of my students.</i> ]   |
| 6. ... j'ai constaté que je ne peux pas faire grand-chose pour m'assurer que tous mes élèves fassent des progrès remarquables cette année. (inversé)  | 6. [ <i>... I have found that there is not much I can do to ensure that all of my students make remarkable progress this year.</i> ] (reverse coded)    |
| 7. ... j'ai constaté que je peux gérer à peu près n'importe quel problème d'apprentissage.  | 7. [ <i>... I have found that I can handle just about any learning problem.</i> ]   |

### Classroom Disruptiveness

- |  |   |
|--|---|
| 1. ... dans ma classe, les élèves ont travaillé sans déranger les autres. (inverser)   | 1. [ <i>... in my class, the students worked without disturbing others.</i> ] (reverse coded)   |
| 2. ... dans ma classe, on a perdu beaucoup de temps à cause des élèves qui dérangeaient (niaisent, parlent fort, s'amusent au lieu de travailler). | 2. [ <i>... in my class, we wasted a lot of time because of students who were disturbing (messing around, talking loudly, having fun instead of working).</i> ] |
| 3. ... dans ma classe, cela a toujours pris du temps avant de commencer une activité.  | 3. [ <i>... in my class, it always took time before starting an activity.</i> ]   |
| 4. ... dans ma classe, j'ai passé plus de temps à faire de la discipline qu'à enseigner.   | 4. [ <i>...in my class, I spent more time disciplining than teaching.</i> ]   |

**Table S1**

*Measurement Invariance across Time and Samples for the Confirmatory Factor Analytic Model Estimated on the Emotional Exhaustion (T1-T2) and Self-Efficacy (T1) Measures*

	$\chi^2$	<i>df</i>	CFI	TLI	RMSEA	RMSEA 90% CI	$\Delta\chi^2$	$\Delta df$	$\Delta CFI$	$\Delta TLI$	$\Delta RMSEA$
1. Configural invariance	570.329*	438	.946	.938	.061	.046; .075	–	–	–	–	–
2. Weak invariance	585.124*	466	.952	.948	.056	.040; .070	25.394	28	+0.006	+0.010	-.005
3. Strong invariance	638.895*	529	.955	.957	.051	.034; .065	61.362	63	+0.003	+0.009	-.005
4. Strict invariance	691.155*	552	.944	.948	.056	.041; .069	59.631*	23	-.011	-.009	+0.005
5. Partial strict invariance <sup>1</sup>	687.031*	551	.945	.949	.055	.041; .068	55.125*	22	-.010	-.008	+0.004
6. Correlated uniquenesses invariance	696.248*	559	.944	.950	.055	.041; .068	12.928	8	-.001	+0.001	.000
7. Latent variance-covariance invariance	661.867*	565	.961	.965	.046	.028; .060	3.705	6	+0.017	+0.015	-.009
8. Latent mean invariance	658.028*	568	.964	.968	.044	.026; .059	1.425	3	+0.003	+0.003	-.002

*Note.* \* $p < .05$ ;  $\chi^2$ : Chi square test of exact fit and degrees of freedom (*df*); CFI: Comparative Fit Index; TLI: Tucker-Lewis Index; RMSEA: Root Mean Square Error of Approximation and 90% Confidence Interval (CI);  $\Delta$ : Change according to the previous retained model;  $\Delta\chi^2$ : Chi square difference test calculated using the Mplus DIFFTEST function for WLSMV estimation. <sup>1</sup>: The residual variance of one Emotional Exhaustion item at T1 was found to differ from T1 and was thus freed.

**Table S2**

*Measurement Invariance across Samples for the Confirmatory Factor Analytic Model Estimated on the Student-Teacher Relationship (Conflict and Closeness; T1) Measures*

	$\chi^2$	<i>df</i>	CFI	TLI	RMSEA	RMSEA 90% CI	$\Delta\chi^2$	$\Delta df$	$\Delta CFI$	$\Delta TLI$	$\Delta RMSEA$
1. Configural invariance	787.101*	38	.964	.947	.137	.129; .145	–	–	–	–	–
2. Weak invariance	825.364*	44	.963	.952	.130	.122; .138	31.933*	6	-.001	+0.005	-.007
3. Strong invariance	857.686*	66	.962	.968	.107	.100; .113	37.683*	22	-.001	+0.016	-.023
4. Strict invariance	884.030*	74	.961	.971	.102	.096; .108	41.807*	8	-.001	+0.003	-.005
5. Latent variance-covariance invariance	557.702*	77	.977	.983	.077	.071; .083	10.708*	3	+0.016	+0.012	-.025
6. Latent mean invariance	501.546*	79	.980	.986	.071	.065; .077	13.275*	2	+0.003	+0.003	-.006

*Note.* \* $p < .05$ ;  $\chi^2$ : Chi square test of exact fit and degrees of freedom (*df*); CFI: Comparative Fit Index; TLI: Tucker-Lewis Index; RMSEA: Root Mean Square Error of Approximation and 90% Confidence Interval (CI);  $\Delta$ : Change according to the previous retained model;  $\Delta\chi^2$ : Chi square difference test calculated using the Mplus DIFFTEST function for WLSMV estimation.