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## Committed, inspiring, and healthy teachers: How do school environment and motivational factors facilitate optimal functioning at career start?☆



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### H I G H L I G H T S

- Beginning teachers reported that their primary motives for teaching are more autonomous than controlled.
- Teachers' motivation can explain the pathways through which certain school environment factors act on their functioning.
- Job experience moderates several relationships between environment factors, work motivation, and teachers' functioning.

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### A B S T R A C T

This study aimed to deepen the understanding of the role of work motivation in teachers at career start. Participants were 589 beginning French-Canadian teachers working in public elementary and high schools. In addition to situating the forms of motivation (autonomous versus controlled) that drive teachers in the three first years of their career, the results provide support for a model explaining the motivational pathways by which school environment factors (work overload, control, recognition, and sense of community) relate to teachers' psychological health (emotional exhaustion), attitude toward the job (occupational commitment), and behaviors in the classroom (climate that fosters student attentiveness).

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A significant proportion of teachers must cope with daunting challenges at the start of their career, which can manifest as symptoms of burnout, among others (Fernet, Lavigne, Vallerand, & Austin, 2014), as well as job dissatisfaction (Perie & Baker, 1997). Moreover, many teachers quit the profession in the first few years. Although researchers disagree on the actual percentage of teachers who quit early in their career—ranging from 5% to 50% (Clandinin et al., 2015)—attrition nevertheless appears to be an international

problem in general. For example, in Belgium, 24% of beginning teachers leave the profession within the first five years of their career (OECD, 2005). Meanwhile, from 30% to 50% of beginning teachers quit their career in the United States and the United Kingdom (Cooper & Alvarado, 2006; Darling-Hammond & Skyes, 2003; Ingersoll, 2003). Canada and Québec (the Canadian province where the present study was conducted) are also affected by this worrisome phenomenon, with an estimated 20% dropout rate in beginning teachers (Chouinard, 2005; Martel, 2009). Although some countries (e.g., Italy, France, and Hong Kong) report lower attrition rates (less than 10%; Cooper & Alvarado, 2006; Karsenti & Collin, 2013; OECD, 2005), teacher attrition remains a cause for concern, and research is needed to better understand the school environment and individual factors that can promote optimal functioning in teachers (e.g., commitment, high levels of energy) at

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career start.

A number of psychosocial determinants have been associated with adaptive problems and low retention rates in beginning teachers. These determinants are generally grouped into two categories: school environment factors (e.g., administrative and collegial support, work overload, lack of autonomy and professional development) and teachers' individual factors (e.g., demographic features and family characteristics; Schaefer, Long, & Clandinin, 2012). However, of the individual factors that have been assessed, the role of work motivation—or the reasons that drive teachers to engage in (or disengage from) their work—has not been clearly determined to date. Although we recognize the considerable contribution of the many studies, both historical and current, that have sought to understand teachers' motivation (see Watt & Richardson, 2012; Watt et al., 2012), most of them have been based on theories of motivation that focus primarily on intensity, without much concern for form. As such, few studies have examined the differentiated forms of motivation (autonomous vs. controlled) in teachers, and even fewer have investigated whether these forms of motivation can explain the relationships between school environment factors and job functioning at career start.

Drawing on self-determination theory (SDT; Deci & Ryan, 1985, 2000), the present study had two objectives. First, the descriptive objective was to explore the motivation reported by beginning teachers in the three first years of their career, and to examine whether these motivation forms differ according to certain demographic characteristics (age, gender, school level taught, job status). Two forms of motivation were examined: autonomous (i.e., teachers accomplish their work primarily out of a sense of pleasure and satisfaction and/or because they personally endorse the importance or value of their work) and controlled (i.e., teachers accomplish their work mainly because of internal or external pressure). Second, the predictive objective was to propose and test a model that would account for teachers' motivation (autonomous and controlled) in order to explain how certain school environment factors can simultaneously affect their psychological health (emotional exhaustion), attitude toward the job (occupational commitment), and behaviors in the classroom (ability to create a climate that fosters student attentiveness).

## 1. Optimal functioning in teachers

In this study, we focused on psychological, attitudinal, and behavioral indicators of job functioning that represent significant concerns for teachers and school administrators. These complementary indicators were: emotional exhaustion, occupational commitment, and the ability to create a classroom climate that fosters student attentiveness, respectively. Emotional exhaustion is a key dimension of burnout (Halbesleben & Bowler, 2007), and teachers are particularly vulnerable to this psychological state (Schaufeli & Enzmann, 1998). It refers to feelings of strain, and particularly the chronic fatigue that results from overtaxing work (Maslach, Schaufeli, & Leiter, 2001). Hakanen, Bakker, and Schaufeli (2006), in a study of teachers in Finland (mean job tenure was 13.5 years), showed that burnout (operationalized as emotional exhaustion and cynicism) was positively associated with job demands (e.g., workload, students' misbehavior) and negatively with job resources (e.g., job control, supervisory support) at the workplace. As for occupational commitment, it reflects employees' degree of emotional attachment, involvement, and identification with the occupation (Meyer, Allen, & Smith, 1993). In addition to a negative association with job stress in teachers (e.g., Jepson & Forrest, 2006), this attitude has been positively associated with staff turnover (Lee, Carswell, & Allen, 2000; for a meta-analytic review). Student attentiveness, for its part, tends to reflect their

teacher's ability to create a climate that encourages learning (Friedman, 1995). A longitudinal study by Carbonneau, Vallerand, Fernet, and Guay (2008) in French-Canadian teachers showed that teachers' passion, which characterized a strong psychological investment in the job, positively predicted student attentiveness in class.

It appears particularly relevant to consider these psychological, attitudinal, and behavioral characteristics in order to fully grasp how teachers can attain optimal functioning at career start, for two main reasons. First, it would allow identifying certain school environment and motivational factors that could prevent negative aspects (emotional exhaustion) and at the same time foster adaptive aspects (commitment, student attentiveness) of teachers' functioning. Evidently, manifestations of poor job functioning are generally associated with various organizational costs (e.g., absenteeism, turnover, lower performance; Lee & Ashforth, 1996; Lee et al., 2000). Second, the research reveals that job functioning is relatively stable over time. For example, in a study of school staff (60% teachers) with an average of 16 years of experience, Fernet, Gagné, and Austin (2010) obtained a 0.64 coefficient of temporal stability for emotional exhaustion over a 24-month period. Similarly, in a study of 494 experienced teachers (mean years of experience was 16 years), Carbonneau et al. (2008) obtained coefficients of 0.85 for burnout and 0.78 for student attentiveness over a three-month period. For occupational commitment, Fernet, Austin, and Vallerand (2012) obtained a coefficient of 0.73 over a 12-month period in 586 school principals (mean age was 45.2 years and mean years of experience in their position was 6.6 years). In light of this temporal stability, it becomes even more relevant to investigate school environmental and motivational determinants of early psychological, attitudinal, and behavioral functioning in beginning teachers, as it is liable to persist throughout an entire career. Although largely overlooked at career start (Fernet & Austin, 2014), the quality of job motivation is a cornerstone of optimal employee functioning (Gagné & Deci, 2005).

## 2. Self-determination theory

SDT (Deci & Ryan, 1985, 2000) provides a multidimensional perspective on motivation. It proposes that employees engage in tasks for motives (i.e., motivations) that vary in their degree of self-determination, and that these motivations have considerable influence on their psychological functioning. SDT distinguishes between two main forms of motivation: autonomous and controlled. Autonomous motivation refers to accomplishing a task for the inherent pleasure and satisfaction (intrinsic motivation), or because it involves attaining objectives that align with one's personal values (identified regulation). In contrast, controlled motivation refers to accomplishing tasks under the influence of internal pressures (introjected regulation; e.g., to avoid anxiety or guilt, or to reinforce a sense of self-worth) or external pressures (external regulation; e.g., to avoid negative consequences, or to obtain material or social reward).

There is growing empirical evidence to support that these forms of motivation operate in diverse life spheres, including the workplace (Gagné & Deci, 2005). For instance, autonomous motivation has been positively associated with psychological health (Blais, Lachance, Vallerand, Brière, & Riddle, 1993), job satisfaction (Millette & Gagné, 2008), and organizational (Lam & Gurland, 2008) and occupational commitment (Fernet, Austin et al., 2012). In contrast, controlled motivation has been positively associated with negative consequences for workers, such as workaholism (Van den Broeck et al., 2011), emotional exhaustion (Fernet, Austin et al., 2012), and turnover intention (Richer, Blanchard, & Vallerand, 2002).

Several studies have demonstrated the relevance of these motivation forms for teaching. In a study of high school teachers in Gabon (mean years of experience was 9 years), [Levesque, Blais, and Hess \(2004\)](#) found that autonomous motivation (relative to controlled) was positively associated with job satisfaction and negatively with emotional exhaustion and psychological distress. [Nie, Chua, Yeung, Ryan, and Chan \(2015\)](#) obtained similar results in 266 Chinese teachers (years of experience was not specified). Their results indicated that autonomous motivation was positively associated with job satisfaction, whereas controlled motivation was positively associated with work stress and ill-being. In a study of French-Canadian elementary and high school teachers (mean years of experience was 16 years), [Fernet, Sénécal, Guay, Marsh, and Dowson \(2008\)](#) showed that autonomous and controlled motivation were differentially associated with teachers' feelings of self-efficacy and burnout. [Pelletier, Séguin-Lévesque, and Legault \(2002\)](#) examined the relationship between motivation and interpersonal classroom style in French-Canadian elementary and high school teachers (mean years of experience was 18 years) and found that the more autonomously motivated (relative to controlled) the teachers, the more they reported using an autonomy-supportive style with their students. Similarly, in a study conducted among elementary school teachers in Israel (years of experience was not specified), [Roth, Assor, Kanat-Maymon, and Kaplan \(2007\)](#) found that teachers' autonomous motivation (relative to controlled) positively predicted students' motivation according to their perceptions of the teachers' pedagogical practices (specifically, teachers' autonomy-supportive behaviors). Taken together, these studies attest to the relevance of considering the quality of teachers' motivation in relation to various aspects of their psychological health, job-related attitudes, and classroom behaviors. However, we know little about these motivation forms at career start or how school environment factors can predict them.

### 2.1. School environment determinants of teacher motivation

SDT proposes that the workplace environment plays a key role in predicting employee motivation and job functioning ([Gagné & Deci, 2005](#)). For example, [Nie et al. \(2015\)](#) showed that teachers' perceptions of the support provided by their immediate superior were positively associated with intrinsic, identified, and introjected regulation, but negatively with external regulation (see also [Levesque et al., 2004](#)). Studies have also explored how other job characteristics determine employee motivation (e.g., [Fernet, Austin et al., 2012; Fernet, Guay, Sénécal, & Austin, 2012](#)). Drawing on the job-demands resources (JD-R) model ([Schaufeli & Bakker, 2004](#)), these studies suggest that job demands give rise to controlled motivation, whereas job resources nurture autonomous motivation. According to the JD-R model, job demands correspond to the various physical, psychosocial, and organizational aspects of the job that hinder task completion and generate individual costs ([Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001](#)), whereas job resources refer to the various physical, psychosocial, and organizational aspects of the job that help employees complete their tasks and that contribute to their individual development and well-being ([Bakker & Demerouti, 2007](#)).

More specifically, [Fernet, Guay et al. \(2012\)](#) showed that higher job demands (classroom overload, students' disruptive behaviors) over a school year reduced teachers' autonomous motivation (relative to controlled) in the classroom, which in turn predicted greater emotional exhaustion. Their analysis took into consideration the role of teachers' feelings of self-efficacy in class. Similarly, [Fernet, Austin et al. \(2012\)](#) found that job resources (job control, recognition, and quality of relationships with the staff) increased autonomous motivation and reduced controlled motivation over a

9-month period in French-Canadian school principals. They also found that autonomous motivation fostered occupational commitment and helped prevent emotional exhaustion, whereas controlled motivation led to emotional exhaustion over the same period. Albeit informative, these studies have not fully addressed the distinct role of work motivation (autonomous and controlled) to explain how specific job characteristics predict psychological, attitudinal, and behavioral outcomes in teachers at career start.

Hence, this study focuses on four key characteristics of the work environment: job control (also called decision latitude), job recognition, sense of community, and work overload. Job control refers to the extent to which an occupation or activity provides opportunities to make decisions and exercise control over the tasks to be accomplished ([Karasek, 1985](#)). Even though teachers are generally excluded from decisions that directly concern them (e.g., policy changes and implementation, curriculum changes, student disciplinary action), the research indicates that job control is positively associated with work engagement (vigor, dedication) and organizational commitment ([Hakanen et al., 2006](#)). Accordingly, an environment that allows more job control should foster more autonomous motivation and commitment in teachers ([Day, Stobart, Sammons, & Kington, 2006; Fernet et al., 2014; Rosenholtz, 1989](#)). [Fernet, Austin et al. \(2012\)](#) results in school principals supports this proposition: job control was positively associated with autonomous motivation and occupational commitment and negatively with controlled motivation and emotional exhaustion.

Job recognition refers to being valued by others for one's contribution to the job ([Leiter & Maslach, 2000](#)). This recognition can be proffered as an affective, a tangible, or a monetary reward ([Siegrist, 1996; Stajkovic & Luthans, 1997](#)). Doing one's best and being valued by diverse stakeholders (administrators, colleagues, students, parents) are dearly held values in this humanitarian profession ([Billingsley, 1993](#)). Therefore, as a central value of the occupational identity ([Kelchtermans, 1996](#)), recognition is also central to teachers' perceptions of competence and work motivation ([Kelchtermans, Ballet, & Piot, 2009](#)). In addition, the research indicates that lack of recognition is a major source of stress for teachers ([Travers & Cooper, 1996](#)). Past research supports this conclusion: job recognition has been positively associated with autonomous motivation and work commitment and negatively with controlled motivation and emotional exhaustion ([Fernet, Austin et al., 2012](#)).

Sense of community refers to the overall quality of social interactions at work, including relations of conflict, mutual support, closeness, and teamwork ([Leiter & Maslach, 2000](#)). According to SDT, individuals engage in interpersonal relations at work not only for functional purposes (e.g., to facilitate goal achievement) but also to satisfy basic psychological needs (i.e., autonomy, competence, and relatedness). Relationships based on trust and respect may foster, for instance, autonomy through acknowledgment of other's views and feelings. Basic needs are thought of as the required psychological nutrients for the development of autonomous motivation and optional job functioning ([Gagné & Deci, 2005](#)). Recently, [Fernet et al. \(2010\)](#) showed that peer relations at school were positively associated with employees' autonomous motivation and negatively with burnout. Quality of relations with staff has also been positively associated with autonomous motivation and occupational commitment, and negatively with controlled motivation and emotional exhaustion ([Fernet, Austin et al., 2012](#)).

Work overload refers to too many demands and not enough time to meet them ([Byrne, 1999](#)). Work overload is widely viewed as a major source of stress for teachers ([Day et al., 2006](#)). According to [Pines, Aronson, and Kafry \(1981\)](#), overwhelming demands produce not only a feeling of exhaustion, but also a sense of helplessness and entrapment. Put differently, work overload can hinder

the development of autonomous motivation and engender controlled motivation (Fernet, Guay et al., 2012), because it can discourage teachers from performing tasks that are aligned with their values and that therefore nurture their autonomy (Ryan & Deci, 2000). A recent study by Trépanier, Forest, Fernet, and Austin (2015) in nurses supports this proposition. The results indicate that job demands foster controlled motivation through frustration of the basic psychological needs (autonomy, competence, relatedness). In turn, controlled motivation positively predicts psychological distress and psychosomatic complaints but negatively predicts work engagement and in-role performance. Similar results were obtained by Fernet, Trépanier, Austin, Gagné, and Forest (2015, Study 2), who found that work overload was negatively related to autonomous motivation but positively to controlled motivation in high school principals.

### 3. The present study

This study aimed to deepen the understanding of the role of work motivation in teachers' adaption to the school environment and job functioning at career start. We had two main objectives: 1) to situate the motivation forms (autonomous and controlled) reported by teachers in their first three professional years and determine variations in these motivation forms according to certain sociodemographic variables (age, gender, level taught, job status); and 2) to propose and test a conceptual model to explain how certain school environment and motivational factors simultaneously affect psychological health (emotional exhaustion), attitude toward the job (occupational commitment), and behaviors in the classroom, conceived here as their ability to create a climate that fosters student attentiveness (student attentiveness).

Whereas the first objective is exploratory, the second objective is based on an examination of the conceptual model, presented in Fig. 1. In light of the above-presented theoretical rationale and the empirical literature, the proposed model is based on the following hypotheses:

**Hypothesis 1 (H1).** *Job demands (work overload) will be positively associated with controlled motivation (H1a), but negatively associated with autonomous motivation (H1b).*

**Hypothesis 2 (H2).** *Job resources (recognition [H2a], control [H2b], sense of community [H2c]) will be positively associated with*

*autonomous motivation, but negatively associated with controlled motivation (H2d, H2e, H2f, respectively).*

**Hypothesis 3 (H3).** *Controlled motivation will be positively associated with emotional exhaustion (H3a), but negatively associated with occupational commitment (H3b) and student attentiveness (H3c).*

**Hypothesis 4 (H4).** *Autonomous motivation will be negatively associated with emotional exhaustion (H4a), but positively associated with occupational commitment (H4b) and student attentiveness (H4c).*

Because this study considers teachers at the beginning of their career, we also explore the possibility that accumulated job experience would affect the proposed relationships. Currently, there is no consensus on the optimal duration of professional induction. Professional induction is considered an assimilation process, whereby beginning teachers complete an apprenticeship (Van Maanen & Schein, 1979) and during which they internalize the values, skills, and behaviors that are expected of them and acquire the social knowledge they need to fulfill their role (Louis, 1980). This process, in which socialization figures predominantly, generally refers to the manner in which newcomers manage to adjust to their new environment and adopt the behaviors, attitudes, and skills that are required for them to effectively fulfill their new role and function as a member of the organization (Fisher, 1986; Van Maanen, 1976). Although some researchers suggest that professional induction requires about six months (Ashforth & Saks, 1996; Cooper-Thomas & Anderson, 2002), the research in teachers has extended the induction period from three to five years (Katz, 1972; Liu & Ramsey, 2008; Weiss, 1999).

In this study, we focus on each of the first three years of the teaching career. During this period, it is possible that the relationships between school environment factors, teachers' work motivation, their functioning vary. Career entry is a particularly trying time (Gavish & Friedman, 2010) when teachers are liable to be highly sensitive and responsive to school environment factors. Arguably, this would influence their motivational state and job functioning. This rationale is based on the principle of internalization, or the process of transforming external factors into internal regulations (Deci & Ryan, 2000). To illustrate, over the first professional years, teachers can assimilate environmental factors and transpose them into their motivational regulations and psychological experience. Consequently, the effects of the motivational

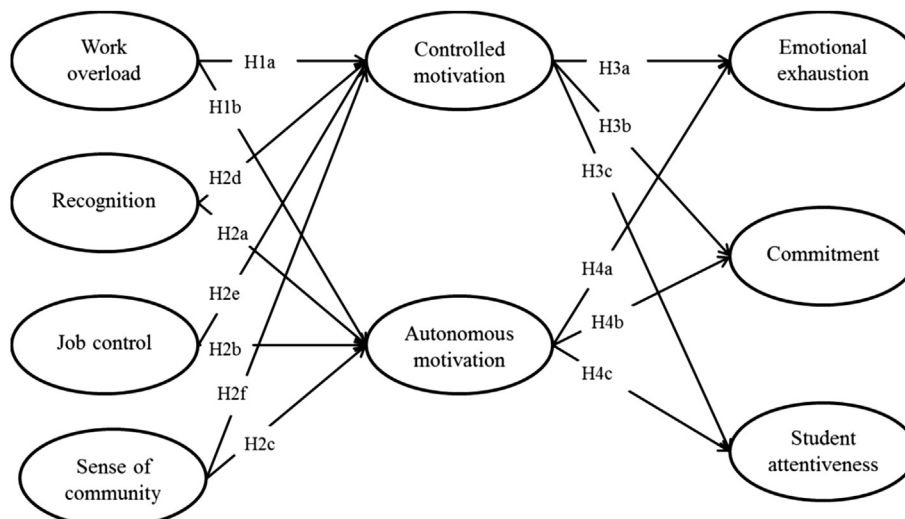


Fig. 1. The proposed model.

processes on teachers' job functioning would gradually become stronger during this period. It therefore appears important to explore potential differences in the proposed relationships between (1) school environment factors and motivation and (2) work motivation and functioning depending on teachers' years of experience.

## 4. Method

### 4.1. Participants and procedure

This study was conducted in beginning school teachers (less than 3 years of teaching experience) working in the province of Québec, Canada. Teachers received a letter at school explaining the study's aim (to investigate occupational well-being at career start in teachers) and inviting them to fill out an online questionnaire. A total of 589 teachers participated in the study (36% response rate). Participants were mostly women (85.7%), had a mean age of 26.36 years ( $SD = 3.44$ ), and had 2.01 ( $SD = 0.80$ ) years of teaching experience on average (first year = 27.5%; second year = 40.9%; third year = 31.6%). The majority of participants (60.6%) worked in elementary schools, with 34.6% in secondary schools and 4.8% in other educational institutions.

### 4.2. Measures

All measures were administered in French. Means, standard deviations, and correlations are presented in Table 1. Hancock's coefficient (i.e., coefficient Hancock & Mueller, 2001) was used to determine measure reliability. This coefficient is calculated from standardized factor loadings and is used to estimate the stability of the latent constructs across multiple observed variables. Values equal to or greater than 0.70 are judged satisfactory (Hancock & Mueller, 2001).

#### 4.2.1. School environment factors

Job characteristics were assessed using subscales of the Areas of Work Life Scale (AWS; Leiter & Maslach, 2004): work overload (6 items, coefficient  $H = 0.87$ ; e.g., "I do not have time to do the work that must be done"), job control (3 items, coefficient  $H = 0.57$ , e.g., "I have control over how I do my work"), recognition (4 items, coefficient  $H = 0.91$ , e.g., "I receive recognition from others for my work"), and sense of community (5 items, coefficient  $H = 0.92$ , e.g., "People trust one another to fulfill their roles"). All items were scored on a Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Using the overload items, three parcels were created by pairing higher-with lower-loading items and used as indicators of the latent construct of overload. Parceling is useful for scales containing more than five items because it reduces the number of estimated parameters, thereby improving the parsimony of the model while allowing control of measurement error between indicators (i.e.,

parcels; Bagozzi & Heatherton, 1994; Little, Cunningham, Shahar, & Widaman, 2002). The items for the three job resources (job control, recognition, and sense of community) were used as indicators of their respective latent construct. The psychometric properties (e.g., factor structure, reliability, consistency across occupational groups, and national context) of the AWS have been validated in previous studies (Leiter & Maslach, 2004).

#### 4.2.2. Work motivation

Work motivation was assessed with a short version of the Blais Work Motivation Inventory (BWMI; Blais, Lachance, Vallerand, Brière, & Riddle, 1993). Participants rated their degree of agreement with statements regarding different reasons for working. These reasons represented four types of motivation: intrinsic motivation (3 items, e.g., "Because I often have interesting things to learn on the job"), identified regulation (3 items, e.g., "Because it is the job I chose in order to accomplish my career goals"), introjected regulation (3 items, e.g., "Because I really need to succeed. Otherwise, I would be ashamed of myself"), and external regulation (3 items, e.g., "Because of the salary"). All items were scored on a scale ranging from 1 (Not at all for this reason) to 7 (Exactly for this reason). Three indicators were created by pairing intrinsic motivation and identified regulation items and used to assess the latent construct of autonomous motivation (coefficient  $H = 0.81$ ). Three indicators were created by pairing external and introjected regulation items and used to assess the latent construct of controlled motivation (coefficient  $H = 0.76$ ). The BWMI has shown satisfactory psychometric properties (e.g., factor structure, reliability, construct validity) in a validation study (Blais et al., 1993).

#### 4.2.3. Emotional exhaustion

Emotional exhaustion was assessed using the Maslach Burnout Inventory – General Survey (Schaufeli, Leiter, Maslach, & Jackson, 1996). A sample item is "I feel used up at the end of the work day" (5 items, coefficient  $H = 0.93$ ). Items were rated on a scale ranging from 1 (Never) to 7 (Every day). The five items were used as indicators of the latent construct of emotional exhaustion. Past research has established the scale's construct validity (factor structure, factor invariance, and reliability; Schutte, Toppinen, Kalimo, & Schaufeli, 2000).

#### 4.2.4. Occupational commitment

Commitment was assessed with the affective commitment subscale of the Occupational Commitment Questionnaire (OCQ; Meyer et al., 1993). Items were rated on a Likert scale from 1 (Strongly disagree) to 5 (Strongly agree) to indicate the extent of agreement with statements reflecting attitudes toward the occupation (e.g., "I feel emotionally attached to my occupation"; 6 items, coefficient  $H = 0.87$ ). Two parcels were created by pairing higher-with lower-loading items and used as indicators of the latent construct of commitment. In their validation study, Meyer et al.

**Table 1**  
Means, standard deviations, and correlations between latent variables.

Variables	Scale	Mean	SD	1	2	3	4	5	6	7	8	9
1. Work overload	1–5	3.03	0.80	–								
2. Job control	1–5	3.41	0.66	–0.64**	–							
3. Sense of community	1–5	3.55	0.82	–0.20**	0.34**	–						
4. Recognition	1–5	3.73	0.84	–0.33**	0.64**	0.44**	–					
5. Controlled motivation	1–7	2.95	1.07	0.12**	0.01	0.07	–0.04	–				
6. Autonomous motivation	1–7	5.14	0.955	–0.22**	0.42**	0.24**	0.38**	0.39**	–			
7. Emotional exhaustion	1–7	3.14	1.29	0.80**	–0.54**	–0.22**	–0.40**	0.18**	–0.33**	–		
8. Commitment	1–7	4.36	0.72	–0.32**	0.51**	0.35**	0.51**	0.09	0.64**	–0.44**	–	
9. Student attentiveness	1–4	2.88	0.47	–0.17**	0.27**	0.08	0.26**	–0.14*	0.31**	0.26**	0.26**	–

Note. \*\* $p < 0.01$ , \* $p < 0.05$ .

(1993) confirmed that the OCQ has satisfactory psychometric properties (i.e., factor structure and construct validity).

#### 4.2.5. Student attentiveness

Student attentiveness was assessed using a short version of the Pupil Behavior Patterns Scale (PBP; Friedman, 1995). On a scale from 1 (Never) to 4 (Very often), participants indicated how often the situations occurred. A sample item is, “Students in my class are indifferent, and I have to work hard to get them interested (reversed)” (4 items, coefficient  $H = 0.75$ ). The PBP shows satisfactory psychometric properties (e.g., test-retest reliability; Friedman, 1995).

## 5. Results

### 5.1. Descriptive analyses

The first objective of this study was to situate teachers in the first three years on the job in terms of a work motivational profile. Motivation is often evaluated using an index of relative motivation (i.e., a single score for both autonomous and controlled motivation; e.g., Fernet, Guay et al., 2012; Richer et al., 2002). This index can be represented by a percentage of autonomous relative to controlled motivation as reported by teachers. This percentage corresponds to the relative weight of one motivation form with respect to the other. Thus, teachers who reported more autonomous than controlled motives for engaging in their work are situated in the category “autonomous motivation,” and inversely, those who reported more controlled than autonomous motives are situated in the “controlled motivation” category. Results show that 98.7% of teachers in their first year reported more autonomous motivation (1.3% reported more controlled motivation), 97.4% of teachers in their second year reported more autonomous motivation (2.6% reported more controlled motivation), whereas 90.3% of teachers in their third year reported more autonomous motivation (9.7% reported more controlled motivation). Although informative, this analysis provides little insight into the nature of this variation (i.e., either it is autonomous motivation that decreases or controlled motivation that increases). Thus, we evaluated these two forms of motivation distinctly by investigating (and comparing) the mean level of motivation forms for the three years of experience. Results from ANOVAs indicate that teachers in their third year of teaching reported significantly less autonomous motivation ( $M = 5.18$ ,  $SD = 1.02$ ) than teachers in their first ( $M = 5.47$ ,  $SD = 0.91$ ) and second year ( $M = 5.49$ ,  $SD = 1.11$ ) of teaching ( $F(2, 566) = 5.43$ ,  $p = 0.005$ ). No significant differences were observed for controlled motivation ( $F(2, 565) = 1.62$ ,  $p = 0.198$ ).

We also examined whether the motivation forms differed according to certain demographic characteristics (age, gender, school level taught, job status). MANOVA analysis revealed a significant difference between controlled motivation and gender ( $F(1, 569) = 6.70$ ,  $p = 0.015$ ). Men reported more controlled motivation ( $M = 3.17$ ,  $SD = 0.19$ ) than women ( $M = 2.85$ ,  $SD = 0.15$ ). Thus, gender was considered in subsequent analyses to test the proposed model.

### 5.2. Test of the proposed model

The second objective was to test a conceptual model to explore relationships between school environment factors, teachers' motivation, teachers' psychological health (emotional exhaustion), teachers' attitude toward the job (occupational commitment), and teachers' behaviors in the classroom (ability to create a climate that fosters student attentiveness). The model was tested by structural equation modeling (SEM) using *Mplus* (Muthén & Muthén, 2012) with standardized coefficients obtained by maximum likelihood

estimation. Model adequacy was assessed using the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR). Values higher than 0.90 for the CFI and the TLI indicate an acceptable fit (Hoyle, 1995), whereas values lower than 0.08 for the SRMR and RMSEA suggest a relatively good fit (Browne & Cudeck, 1993; Hu & Bentler, 1999).

#### 5.2.1. Preliminary analysis

Before testing the proposed model, a measurement model (M1) was tested and provided a satisfactory fit to the data ( $\chi^2(812) = 1631.192$ ; CFI = 0.908; TLI = 0.897; RMSEA = 0.046 [CI = 0.043–0.049]; SRMR = 0.062). All observed variables had significant loading on their corresponding latent factor. Correlations between latent variables were in the expected direction (see Table 1).

#### 5.2.2. Main analysis

Before testing the proposed model (Fig. 1), the correlation matrix was inspected. Four proposed links were found to be non-significant: all three job resources (recognition, sense of community, and autonomy) with controlled motivation and controlled motivation with commitment (see Table 1). The proposed model was modified regarding these four relationships. An initial structural model (M2) depicting the proposed relationships in Fig. 1 (minus these four links) was tested. This model did not provide a satisfactory fit to the data ( $\chi^2(507) = 1337.475$ ; CFI = 0.887; TLI = 0.874; RMSEA = 0.059 [CI = 0.055–0.062]; SRMR = 0.075). Based on studies showing that job demands and resources are directly related to employee ill-being and well-being (e.g., Crawford, LePine, & Rich, 2010; Kinnunen, Feldt, Siltaloppi, & Sonnentag, 2011), we examined whether including direct relationships between the four job characteristics and the three outcomes would significantly improve the model fit. All these direct relationships were significant in the correlation matrix (except for sense of community and student attentiveness). Because these relationships were not inconsistent with our conceptual model, we included them in the model. A subsequent model (M3) comprised of M2 with the addition of all direct relationships (except for sense of community and student attentiveness) was tested and provided a satisfactory fit to the data ( $\chi^2(496) = 1056.972$ ; CFI = 0.923; TLI = 0.913; RMSEA = 0.049 [CI = 0.045–0.053]; SRMR = 0.054), with a significantly better fit than M2 ( $\Delta\chi^2[11] = 280.503$ ,  $p < 0.01$ ). It was therefore concluded that M3 was the best fitting model.

As shown in Fig. 2 (for simplicity, covariances are not shown), overload positively predicts controlled motivation but not autonomous motivation (supporting H1a, but not H1b). In addition, recognition and job control positively predict autonomous motivation, supporting H2a and H2b. Sense of community did not significantly predict autonomous motivation, nor did job resources (recognition, job control, sense of community) negatively predict controlled motivation. These results did not provide support for H2c, H2d, H2e or H2f. For the relationships between work motivation and teachers' functioning, the results show that controlled motivation positively predicts emotional exhaustion and negatively predicts student attentiveness, but not commitment (supporting H3a, H3c, but not H3b). Furthermore, autonomous motivation negatively predicts emotional exhaustion and positively predicts commitment and student attentiveness (supporting H4a, H4b, H4c). The results also reveal that overload positively predicts emotional exhaustion, whereas job control and sense of community positively predict commitment. To summarize, the final model supports three of the eight hypothesized relationships between school work environment and teachers' motivation as well as five of the six

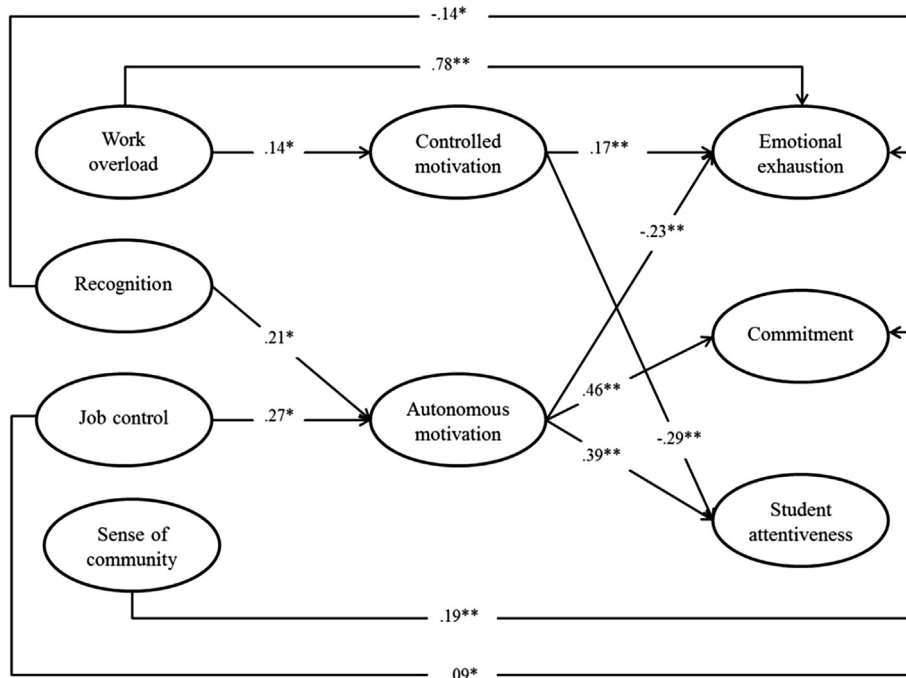


Fig. 2. The final model.

hypothesized relationships between teachers' motivation and indicators of their functioning at work.

In order to more thoroughly investigate the proposed model, bootstrapping analyses were conducted. Specifically, 95% confidence intervals were computed from 1000 bootstrap samples (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2008) to examine the indirect effects of school environment factors on teachers' functioning through work motivation. Results show that controlled motivation mediated the relationship between overload and emotional exhaustion (Estimate = 0.016 [CI = 0.002, 0.034],  $p = 0.043$ ) and mediated (marginally significantly) the relationship between overload and student attentiveness (Estimate =  $-0.026$  [CI =  $-0.055$ ,  $-0.002$ ],  $p = 0.064$ ). Autonomous motivation mediated the relationships between job control and emotional exhaustion (Estimate =  $-0.094$  [CI =  $-0.113$ ,  $-0.075$ ],  $p < 0.001$ ), job control and commitment (Estimate = 0.188 [CI = 0.068, 0.272],  $p < 0.001$ ), and job control and student attentiveness (Estimate = 0.160 [CI = 0.049, 0.197],  $p < 0.001$ ). All other indirect links (i.e., recognition to exhaustion, commitment, and student attentiveness through autonomous motivation) were found to be non-significant.

### 5.2.3. Supplementary analysis

Given that the first years of employment are a critical period for teachers, we explored whether accumulated job experience influences the relationships between school environment factors, work motivation, and functioning in beginning teachers. More specifically, hierarchical regression analyses using SPSS were conducted, with teacher's current teaching year moderating two sets of relationships: 1) between school environment factors and work motivation and 2) between work motivation and teachers' functioning. To avoid problems of multicollinearity, all variables were mean-centered before interaction terms were computed (Aiken, West, & Reno, 1991). The analyses were performed in two steps for each set of relationships. For the moderating role of experience in the relationship between school environment factors and work motivation, specific job characteristics (i.e., overload, job control,

recognition, or sense of community) and teachers' experience (year 1, 2, or 3) were entered in Step 1. In Step 2, the interaction term (job characteristic\*experience) was entered. For the moderating role of experience in the relationships between work motivation (i.e., autonomous or controlled) and teachers' experience (year 1, 2, or 3) were entered in Step 1 and their interaction term was entered in Step 2. A total of 14 interaction effects were tested. For each significant interaction, simple slopes were calculated for each teaching year (1, 2, and 3; Aiken et al., 1991).

Results reveal four interaction effects. More specifically, experience moderated (marginally significantly) the relationship between overload and controlled motivation ( $\Delta F(3,534) = 3.475$ ,  $p = 0.077$ ). Results show that the positive effect of overload on controlled motivation was significant only for teachers in their first year experience (Year 1  $\beta = 0.228$ ,  $p = .006$ ; Year 2  $\beta = 0.108$ ,  $p = 0.109$ ; Year 3  $\beta = 0.014$ ,  $p = .858$ ). Experience also moderated the relationships between controlled motivation and emotional exhaustion ( $\Delta F(3,516) = 7.09$ ,  $p < 0.001$ ) and between controlled motivation and student attentiveness ( $\Delta F(3,519) = 4.044$ ,  $p = 0.007$ ). Results show that the effect of controlled motivation on both outcomes was stronger for teachers in their first year of teaching: emotional exhaustion (Year 1  $\beta = 0.291$ ,  $p < 0.001$ ; Year 2  $\beta = 0.163$ ,  $p = 0.017$ ; Year 3  $\beta = 0.023$ ,  $p = 0.772$ ) and student attentiveness (Year 1  $\beta = -0.256$ ,  $p = 0.002$ ; Year 2  $\beta = 0.001$ ,  $p = 0.987$ ; Year 3  $\beta = 0.075$ ,  $p = 0.331$ ). Experience also significantly moderated the relationship between autonomous motivation and commitment ( $\Delta F(3,547) = 80.850$ ,  $p < 0.001$ ). The effect of autonomous motivation on commitment was stronger for teachers with three years of experience (Year 1  $\beta = 0.410$ ,  $p < 0.001$ ; Year 2  $\beta = 0.500$ ,  $p < 0.001$ ; Year 3  $\beta = 0.597$ ,  $p < 0.001$ ).

## 6. Discussion

The results of this study, based on self-determination theory (SDT), advance our understanding of the importance of the quality of beginning teachers' motivation for job functioning and

demonstrate that determinants in the school environment are differentially associated with this motivation.

### 6.1. Implications for research

#### 6.1.1. Portrait of teacher motivation at career start

This study adopts a motivational approach to account for the reasons that drive teachers to engage in (or disengage from) their work. The results reveal that a large proportion of teachers reported that their motives for teaching were more autonomous (for the interest, pleasure, or satisfaction in doing the job) than controlled (driven by internal or external pressures). These results concur with those of other studies on teaching as a career decision (e.g., [Watt et al., 2012](#)), indicating that teachers choose this profession mainly for reasons that are related to their values, either intrinsic (e.g., interest in teaching, enjoyment of the subject matter) or utilitarian (e.g., desire to make a social contribution and to work with children or adolescents). However, the results also indicate that some teachers reported more controlled than autonomous motivations. Instead of being fully self-determined in their work, these teachers felt more driven (i.e., obligated) to accomplish their work by pressures, either internal (e.g., to avoid feeling anxious or guilty, or to increase feelings of self-worth) or external (e.g., to avoid constraints, or to obtain material or social reward). Moreover, women generally appeared to feel less driven by obligation than men. These findings corroborate those of other studies in which women generally presented a more positive motivational profile at career start than their male counterparts (e.g., [Watt, Richardson, & Devos, 2013](#)). They also corroborate the findings of [Fernet et al. \(2008\)](#) study in more experienced teachers, where only autonomous motivation showed significant differences, with women generally reporting more autonomous motivation than men. Future studies could further explore these differences.

In addition, although our results indicate that teachers with more years of experience report more controlled motivation (teachers with one year of experience: 1.9% versus teachers with three years of experience: 9.7%) and less autonomous motivation profile (teachers with one year of experience: 98.1% versus teachers with three years of experience: 90.3%). These differences are mainly attributable to the degree of autonomous motivation. In fact, only the degree of autonomous motivation in teachers in their third professional year differs significantly from that in teachers in their first or second year. These results underscore the need to consider teachers' autonomous and controlled motivations separately. Furthermore, they call into question the assumption of the self-determination continuum proposed by SDT ([Deci & Ryan, 1985, 2000](#)), whereby the motivational regulations vary according to their degree of self-determination. This assumption implies that a loss of autonomous motivation should translate into a gain in controlled motivation, and vice versa. Similar to recent studies (e.g., [Chemolli & Gagné, 2014](#)), our results instead support the idea that these motivation forms operate independently. Longitudinal studies are needed to determine whether the observed differences in autonomous and controlled motivations between teachers in their first, second, and third year of teaching correspond to a real developmental pattern.

#### 6.1.2. School environment factors, work motivation, and teachers' functioning

The present study also sheds new light on the determinants and consequences of teachers' motivation at career start. First, the results show that job characteristics, both positive (job control and recognition) and negative (work overload), can influence teachers' motivation. It appears that negative school environment factors generate controlled motivation in teachers, whereas positive school

environment factors contribute to autonomous motivation. By revealing the distinct contribution of two positive environmental factors to autonomous motivation (i.e., job control and recognition), the results attest to the need for job resources to be considered separately rather than aggregated. However, most studies based on the JD-R model (see [Schaufeli & Taris, 2014](#) for a review) examine a set of positive environmental factors collectively called "job resources", which does not allow grasping the complexity and distinct nature of the relationships. For instance, in the present study, sense of community was not a significant predictor of teachers' autonomous motivation compared to the other environmental factors. This finding is initially surprising, given the abundance of evidence in the literature on the importance of interpersonal relations at work for explaining teachers' job functioning ([Schaefer et al., 2012; Van Maele & Van Houtte, 2015](#)). Nevertheless, given that teachers' autonomous motivation is determined by opportunities to make decisions and exercise some control over their tasks as well as a feeling of being recognized by others for their contribution, this result suggests that their motivation is not completely independent of the influence of other members of the community. Therefore, the social interactions within the community (e.g., mutual support, closeness) that are liable to reinforce teachers' autonomous motivation at career entry need to be examined in greater detail.

Second, the results advance the understanding of how the motivations of beginning teachers can predict attitudinal, emotional, and behavioral consequences. Because the results distinguish between autonomous and controlled motivations, they provide a more nuanced appreciation of their relative impact on teachers' functioning. Although we proposed that autonomous and controlled motivation would be differentially associated with positive (commitment, student attentiveness) and negative outcomes (emotional exhaustion), the results show that teachers' autonomous motivation has a particularly strong impact on job functioning, by boosting adaptive manifestations and preventing psychological costs. These results concur with those of recent studies in nurses and school principals ([Fernet, Austin et al., 2012, Fernet et al., 2015](#)). Furthermore, to our knowledge, they constitute the first empirical evidence that the quality of teachers' motivation can influence students' attitudes and behaviors in class. Unlike controlled motivation, autonomous motivations appear to support teachers' ability to create a classroom climate that fosters student attentiveness, a climate that is conducive to learning. One possible explanation for this relationship is that teachers who are driven by autonomous motivations may be more inspiring in the classroom compared to those driven by controlled motivations ([Patrick, Hisley, & Kempler, 2000](#)). They may also be more inclined to use autonomy-supportive teaching practices ([Pelletier et al., 2002; Taylor, Ntoumanis, & Standage, 2008](#)). Further studies are needed to better understand the variables at play, and particularly in the relationship between teachers' motivation and their ability to inspire their students, which are usually treated as two distinct entities ([Reeve & Su, 2014](#)).

#### 6.1.3. The moderating role of years of experience

Finally, this study extends the current knowledge of the role that job experience plays in the motivations of beginning teachers. Our results reveal that teachers are highly sensitive and responsive to certain school environment factors, and that this receptiveness colors their motivational experiences and job functioning. Two trends were identified from the analysis. The results on the controlled motivation process indicate that the effects of work overload on teachers' controlled motivation and of controlled motivation on emotional exhaustion and student attentiveness were particularly strong for teachers in their first year. The results



on the autonomous motivation process showed that the effects of the environmental adaptive factors (job control, sense of community, and recognition) on autonomous motivation were not moderated by years of experience. However, they suggest that the effect of autonomous motivation on occupational commitment grows stronger over three years: the relationship was strongest for teachers in the third year. This finding is surprising, given that the research in the broader area of workplace health indicates that perceptions of job characteristics, employee motivation, and various indicators of job functioning are generally stable over a career (Fernet, Austin et al., 2012; Hakanen, Schaufeli, & Ahola, 2008). A useful research direction would be to explore how teachers who are entering the profession assimilate environmental aspects and internalize them into internal regulations, and also, to identify motivational factors liable to promote their optimal functioning throughout the teaching career.

### 6.2. Limitations

This study includes certain limitations that should be mentioned. First, the cross-sectional design does not allow a definitive determination of the causal relationships between the variables, or an investigation of the developmental patterns associated with career advancement. Although several longitudinal studies provide support for some of the relationships in the proposed model (e.g., Fernet, Austin et al., 2012; Hakanen et al., 2008) we cannot exclude the possibility of reciprocal or inverse relationships between certain variables (Zapf, Dormann, & Frese, 1996). For instance, from a temporal perspective, emotional exhaustion might color teachers' perceptions of the job characteristics or their own motivations. Moreover, the results obtained in terms of job experience reflect differences across teacher cohorts (in their first, second, and third year of teaching) rather than differences related to changes undergone within a single teacher cohort over time (over the first three years of teaching). Longitudinal studies should be conducted to examine the forms of relationships observed as well as change trajectories. Second, because all data were collected using the same method, the correlation strengths may have been affected by common variance bias. However, the observed moderating effects would have limited this possibility. It would appear improbable that the presence of common variance would strengthen certain of the observed relationships—between work overload and controlled motivation, for example—only for teachers in their first professional year. Third, this study examined a limited number of school environment factors. Future studies should consider the contextual nature of schools within a broader perspective and include other school environment factors in order to shed light on their interrelationships and how this interplay can influence teacher motivation and job functioning. For example, future research could focus on contextual factors such as leadership, student population, and salary, as well as external environment factors such as the socio-economic setting (rural, suburban, or urban; Ingersoll & May 2012). Fourth, the results are based entirely on a sample of teachers in the province of Québec, Canada, which limits the generalizability of the findings. The proposed motivational model should be tested in other Canadian provinces and other countries.

### 6.3. Practical implications

Despite these limitations, this study has practical implications for improving job functioning in beginning teachers. From an organizational perspective, policy makers and school administrations would be advised to appraise the job characteristics of beginning teachers. Clearly, work overload is a particularly critical

aspect to consider at career start, but decision latitude and recognition—resources that can contribute to teachers' commitment, health, and performance through the development of autonomous motivation—should also be considered. An appraisal of school environment factors would be even more pertinent for school principals, given their leadership role in the professional development and retention of new teachers (Ingersoll & Kralik, 2004; Johnson, 2004). Through their status and actions, principals set the tone for the school: they exemplify the desired attitudes and behaviors for teachers and oversee the establishment of day-to-day procedures (Smircich & Morgan, 1982). Principals that embody good leadership can lighten the burden of job demands for teachers. For example, they can provide a meaningful rationale for the need for or the value of a task. They can also be available to provide teachers with information, clarify role and task ambiguities, respond to questions, and offer assistance or advice as needed. In addition, principals can increase the presence of job resources by creating a climate that welcomes collaboration, information sharing, and recognition (Day et al., 2006).

Although the influence of work organization cannot be overlooked in the study of teacher motivation, educational initiatives could be implemented to help new teachers understand their motivations as well as the potential impacts on their work attitudes and behaviors, teaching practices, and their students' achievement. These interventions could be included as part of initial teacher training and professional development programs in order to consolidate teachers' autonomous motivation, and ideally to better equip them to move away from controlled motivation. According to Kasser (2002), individuals can actively reflect on their intrinsic work values, and they can consider their diverse reasons for investing in their work. Whereas no study to our knowledge has investigated the effectiveness of this type of intervention, a recent study showed the utility of an SDT-based professional training program designed to raise the quality of teaching practices, including the use of collaboration, autonomy support, authentic tasks, involvement, and structure (Guay, Valois, Falardeau, & Lessard, 2016). Given that teachers' autonomous motivation is one of the basic ingredients for these practices, the inclusion of a module on teachers' motivational resources in such programs would be a promising direction.

## 7. Conclusion

This study aimed to deepen our understanding of teachers' motivation at career start through the theoretical lens of self-determination theory. Our results indicate that teachers in their first, second, and third year of professional service report different forms of work motivation: there appears to be a decrease in autonomous motivation over time. This is alarming, given that autonomous motivation was found to fuel optimal functioning in teachers (i.e., more commitment and student attentiveness, less emotional exhaustion) compared to controlled motivation, which negatively predicted this functioning (i.e., less student attentiveness and more emotional exhaustion). Our results also show that certain aspects of the school environment play a key role in predicting teachers' motivational processes. Thus, work overload fuels low-quality work motivation (i.e., controlled motivation), whereas recognition and job control promote high-quality work motivation (i.e., autonomous motivation). Even though there are many more avenues to be explored, our results provide valuable insights into the school environmental and individual factors that can boost job functioning in beginning teachers, resulting in a healthy and committed workforce that can inspire students to learn and develop their full potential.

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