

Passion for Work and Emotional Exhaustion: The Mediating Role of Rumination and Recovery

Eric G. Donahue,* Jacques Forest, and Robert J. Vallerand

Université du Québec à Montréal, Canada

Pierre-Nicolas Lemyre

Norwegian School of Sport Sciences, Norway

Laurence Crevier-Braud and Éliane Bergeron

Université du Québec à Montréal, Canada

The purpose of the present research is to present a model pertaining to the mediating roles of rumination and recovery experiences in the relationship between a harmonious and an obsessive passion (Vallerand et al., 2003) for work and workers' emotional exhaustion. Two populations were measured in the present research: namely elite coaches and nurses. Study 1's model posits that obsessive passion positively predicts rumination about one's work when being physically away from work, while harmonious passion negatively predicts ruminative thoughts. In turn, rumination is expected to positively contribute to emotional exhaustion. The results of Study 1 were replicated in Study 2. In addition, in the model of Study 2, obsessive passion was expected to undermine recovery experiences, while harmonious passion was expected to predict recovery experiences. In turn, recovery experiences were expected to protect workers from emotional exhaustion. Results of both studies provided support for the proposed model. The present findings demonstrate that passion for work may lead to some adaptive and maladaptive psychological processes depending on the type of passion that is prevalent.

Keywords: emotional exhaustion, passion, recovery, rumination

INTRODUCTION

In the past 30 years, the construct of burnout has received a lot of attention (see Freudenberger, 1974; Maslach & Jackson, 1981; Maslach, Schaufeli, &

* Address for correspondence: Eric G. Donahue, Laboratoire de recherche sur le comportement social, Département de psychologie, Université du Québec à Montréal, P.O. Box 8888, Succ. Downtown, Montréal, Québec, Canada H3C 3P8. Email: donahue.eric@courrier.uqam.ca or forest.jacques@uqam.ca

Leiter, 2001). Maslach and Jackson (1984, p. 4) define burnout as “emotional exhaustion, depersonalisation, and reduced personal accomplishment that can occur among individuals who work with people in some capacity”. It has been shown that emotional exhaustion is the best indicator of burnout (e.g. Piko, 2006; Schaufeli & Van Dierendonck, 1993). Emotional exhaustion refers to feelings of being emotionally drained out and feelings of extreme fatigue resulting from the chronic demands placed on a person. Research has looked at burnout in different populations of workers (e.g. managers, health care professionals, and professional athletes) in the hope of understanding the processes underlying such psychological burden (see Halbesleben & Buckley, 2004; Maslach & Jackson, 1984; Raedeke & Smith, 2009). Burnout can be experienced even by individuals who are passionate about their work (see Vallerand, 2010). Individuals can devote so much time and energy to their work that it becomes one of the central features of their identity (Vallerand & Houliort, 2003). Indeed, workers may be so engaged in their work that they are likely to experience positive emotions and enhanced well-being. However, workers may also become so involved that they can experience negative emotions and live an unbalanced lifestyle.

To the best of our knowledge, little research has empirically studied the relationship between passion for one’s work and feelings of emotional exhaustion. We believe that the concept of passion should allow us to better understand the processes involved in the emergence of feelings of emotional exhaustion. However, are all passionate workers likely to experience emotional exhaustion? If not, is there a type of passion that is more likely to trigger feelings of emotional exhaustion in passionate workers? More importantly, can some variables such as rumination and recovery play a mediating role between passion and emotional exhaustion? The purpose of the present research was to address these questions.

THE DUALISTIC MODEL OF PASSION

Harmonious and Obsessive Passion

Recently, Vallerand and his colleagues (Vallerand, 2008, 2010; Vallerand et al., 2003; Vallerand & Houliort, 2003; Vallerand & Miquelon, 2007) have proposed a Dualistic Model of Passion where passion is defined as a strong inclination toward a self-defining activity that one likes (or even loves), finds important (or highly values), and in which one invests time and energy. These activities come to be so self-defining that they represent central features of one’s identity (Vallerand, 2010). For example, an individual who loves his work, finds it important, and who invests a lot of time and energy in it is said to be passionate about his work. A passionate activity can also help people develop a sense of identity. Vallerand (2010) proposed that when a person

values, loves, and engages in an activity on a regular basis, the representation of this activity becomes integrated into the person's identity, consequently leading to a passion toward this activity. The activity has become so integrated into the person's identity that it represents one of its central features. For example, those who have a passion for work in accounting see themselves as "accountants", not just as someone going through the day calculating numbers.

Furthermore, Vallerand and his colleagues (2003) proposed two distinct types of passion depending on the way in which the passionate activity has been internalised into the person's identity. Obsessive passion results from a controlled internalisation of the activity into the person's identity. When the passionate activity comes to mind, people with an obsessive passion feel an urge to engage in the activity. These individuals feel an urge to engage in the activity either because of intrapersonal and/or interpersonal pressures and contingencies that are attached to the activity such as social acceptance or self-esteem (Mageau, Carpentier, & Vallerand, *in press*) or because the sense of excitement derived from activity engagement becomes uncontrollable. Eventually, the passionate activity takes disproportionate importance in the person's identity and creates conflict with other aspects of the person's identity or other activities in the person's life (Séguin-Lévesque, Laliberté, Pelletier, Blanchard, & Vallerand, 2003; Stenseng, 2008; Vallerand et al., 2003). Moreover, according to Vallerand and colleagues (2003), persistence in one's activity or work represents one of the criteria underlying the concept of passion. Because the passionate work activity is very dear to the heart of those who engage in it (after all it is part of their identity), workers are likely to persist in it for a long period of time. This is particularly the case for individuals with an obsessive passion. Typically, because work has taken control, and workers with an obsessive passion would be expected to be more persistent in their work. However, such persistence can be seen as being rigid because it can take place not only in the absence of positive emotional experience, but even when important costs are accrued to the person. Such rigid persistence can lead the person to persist in the passionate work even though some permanent negative consequences are experienced, eventually leading to low levels of psychological adjustment. Research has supported the above assumptions (see Vallerand, 2010, for a review). For instance, an individual with an obsessive passion for work might not be able to resist working after regular work hours the night he was supposed to see his son's basketball game. During his overtime work, he might feel upset with himself for working all night and not cheering for his son. He might therefore have difficulties focusing on the task at hand (work) and may not experience as much positive affect and flow as he should while working.

In contrast, harmonious passion results from an autonomous internalisation of the activity into the person's identity. Autonomous internalisation

occurs when individuals have freely accepted the activity as important for them. This type of internalisation produces a motivational force to engage in the activity willingly and engenders a sense of volition and personal endorsement about pursuing the activity. Individuals are not compelled to do the activity; instead, they can freely engage in it without having any contingencies attached to the activity. Thus, even if the activity occupies a significant space in the person's identity, it remains under the person's control and it is in harmony with other aspects of the person's life (Vallerand et al., 2003). Then the person can decide when and when not to engage in their work and should even be able to drop out of their work if the latter has become permanently negative for the person. Thus, when confronted with the possibility of working all night or cheering for his son's team, the individual with a harmonious passion toward his work can readily tell his co-workers that he'll come in early the next morning to do the job and proceed to be fully immersed in his son's game without thinking about work. People with a harmonious passion are able to decide not to work on a given night if needed without suffering or even to eventually terminate the relationship with the activity if they decide that it has become a permanent negative factor in their life. Thus, behavioral engagement in the passionate activity can be seen as flexible. Research has supported the above assumptions (see Vallerand, 2010, for a review).

Empirical support has been obtained for the Dualistic Model of Passion (see Vallerand, 2008, 2010, for reviews). For instance, research has shown that the two types of passion lead to different affective, behavioral, cognitive, interpersonal, and societal consequences in various activities other than work, such as gambling, education, sport, and leisure. Specifically, harmonious passion has been positively associated with feelings of fun and enjoyment (Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005; Vallerand et al., 2003), as well as positive emotions during and after engagement in the passionate activity (Vallerand et al., 2003), perceptions of challenge and control (Mageau et al., 2005), flow and concentration (Vallerand et al., 2003), and subjective well-being (Rousseau & Vallerand, 2008; Vallerand et al., 2008; Vallerand et al., 2007). In addition, harmonious passion has been negatively associated with feelings of guilt and feelings of being judged by others (Mageau et al., 2005). In contrast, obsessive passion has been positively related to feelings of guilt and negative emotions during and after engagement in the passionate activity (Mageau et al., 2005; Vallerand et al., 2003), negative affect and rumination when prevented from engaging in the passionate activity (Ratelle, Vallerand, Mageau, Rousseau, & Provencher, 2004; Vallerand et al., 2003), depression (Rousseau & Vallerand, 2003, 2008), and interpersonal conflict (Séguin-Lévesque et al., 2003), while being negatively linked to vitality (Mageau et al., 2005; Ratelle et al., 2004; Rousseau & Vallerand, 2003) and perceptions of control (Mageau et al., 2005).

Passion for Work

Research has provided support for the Dualistic Model of Passion in different contexts such as sport, video games, education, and gambling. However, Vallerand and Houliort (2003) were the first to test the Dualistic Model of Passion in the workplace. First, a number of exploratory and confirmatory factor analyses supported the two-factor structure of the Passion scale developed in order to assess participants' passion for work (Vallerand & Houliort, 2003). Both types of passion have been associated with high activity valuation, love for work, important amount of time and energy invested in work, and self-reported high levels of work being a passion as well as being part of participants' identity (e.g. Vallerand et al., 2003; Vallerand & Houliort, 2003). Overall, these findings on the factor validity of the Passion scale have been replicated in a number of studies with respect to a variety of activities (e.g. Carbonneau, Vallerand, Fernet, & Guay, 2008; Castelda, Mattson, MacKillop, Anderson, & Donovan, 2007; Vallerand & Houliort, 2003; Vallerand, Rousseau, Grouzet, Dumais, & Grenier, 2006, Studies 1, 2, and 3). Moreover, these studies highlight the importance of distinguishing between both types of passion for one's work in the prediction of workers' physical and psychological well-being rather than considering passion as a one-dimensional construct (Baum & Locke, 2004; Baum, Locke, & Smith, 2001; Cardon, 2008; Cardon, Zietsma, Saporito, Matherne, & Davis, 2005; Lam & Pertulla, 2008).

THE ROLE OF PASSION IN EMOTIONAL EXHAUSTION

Most of the research on burnout has been based on the original work of Maslach and Jackson (Maslach, 1993; Maslach & Jackson, 1981, 1984). Burnout has been associated with a variety of personal, physical, emotional, interpersonal, and behavioral dysfunctions (Burke & Deszca, 1986; Drake & Yadama, 1996; Firth & Britton, 1989; Jackson & Maslach, 1982; Jackson, Schwab, & Schuler, 1986; Kahill, 1988; Maslach & Jackson, 1985; Piko, 2006). According to Maslach, burnout can be divided into three categories of symptoms, namely emotional exhaustion, depersonalisation, and reduced personal accomplishment. However, in the past decade, emotional exhaustion has been shown to be the best indicator of burnout (e.g. Piko, 2006; Schaufeli & Van Dierendonck, 1993). Therefore, only emotional exhaustion will be used in the present research.

With respect to passion, a few studies have partially explored the relationship between passion for work and worker's burnout. For instance, Burke and Fiskensbaum (2009) proposed that passion may be involved in burnout. Specifically, they proposed that because with obsessive passion people cannot let go of the activity, workers with an obsessive passion may

be more at risk of developing burnout. On the other hand, harmonious passion may not contribute to burnout. However, Carbonneau et al. (2008) demonstrated that increases in harmonious passion were directly related to decreases in emotional exhaustion over a 3-month period in high school teachers. However, increases in obsessive passion were unrelated to emotional exhaustion. In subsequent research with nurses, Vallerand, Paquet, Philippe, and Charest (2010) further tested the role of mediators in the passion–emotional exhaustion relationship. They found that obsessive passion was positively associated with conflict at work that, in turn, was positively associated with emotional exhaustion. Conversely, harmonious passion was respectively positively and negatively associated with satisfaction at work and conflict at work that, in turn, led to decreases and increases in emotional exhaustion, respectively. It would appear that mediators other than those identified by Vallerand et al. (2010) may mediate the passion–emotional exhaustion relationship. Specifically, psychological variables experienced outside regular work hours may be at play between passion and emotional exhaustion. For instance, in a study with teachers, Caudroit and colleagues (2011) demonstrated that harmonious passion for teaching was positively related to participation in leisure time physical activity, as well as negatively related to work/family interference (Caudroit, Boiché, Stephan, Le Scanff, & Trouilloud, 2011). Conversely, they also demonstrated that obsessive passion for teaching was positively related to work/family interference, while being unrelated to participation in leisure time physical activity (Caudroit et al., 2011).

Furthermore, in line with previous findings on passion (see Vallerand, 2010, for a review), rumination about one's work may represent another potential mediator. Therefore, we believe that individuals who experience ruminative thoughts over a long period of time may eventually experience emotional exhaustion while individuals who engage in recovery experiences after work may protect themselves from emotional exhaustion. However, no study to our knowledge has yet tested the mediating role of rumination and recovery experiences outside regular work hours between both types of passion for work and emotional exhaustion. We address these issues below.

RUMINATION AND RECOVERY EXPERIENCES

Rumination is a term primarily used to describe repetitive and unintentional perseverative thoughts in the absence of obvious external cues (Martin & Tessier, 1996). Laboratory studies have revealed that individuals who demonstrate perseverative thinking when stressed show prolonged physiological arousal and delayed recovery (Roger & Jamieson, 1988). We believe that rumination might be one of the psychological processes involved in

emotional exhaustion, because when not physically and deliberately accomplishing work-related tasks, individuals may continue to think about their work, ruminate about work-related problems, or reflect on their superior's demands, and consequently deplete their energy level after regular work hours. When staying psychologically attached to their work during evening hours and weekends, individuals may not fully benefit from their time off work and eventually may come to experience emotional exhaustion. With respect to passion, Vallerand and colleagues (2003; Ratelle et al., 2004) demonstrated that individuals with an obsessive passion were more likely to ruminate on their passionate activity (e.g. sport, gambling), as well as to experience negative psychological outcomes (i.e. negative emotions, low levels of vitality), but those findings have not been replicated in a work setting. In addition, Carpentier, Mageau, and Vallerand (in press) recently demonstrated that individuals with an obsessive passion were more likely to experience ruminative thoughts about their passionate activity while doing another task. Consequently, rumination was negatively associated with both flow experiences during the other task and with subjective well-being. Conversely, individuals with a harmonious passion were more likely to experience flow during their passionate activity, as well as during the other task, which in turn led to more subjective well-being (Carpentier et al., in press).

Lately, the psychological construct of recovery has received a lot of attention in organisational psychology (Meijman & Mulder, 1998; Fritz, Sonnentag, Spector, & McInroe, in press; Sonnentag, 2003; Sonnentag, Binnewies, & Mojza, in press; Sonnentag, Binnewies, & Mojza, 2008; Sonnentag & Fritz, 2007; Sonnentag & Natter, 2004; Sonnentag & Zijlstra, 2006). Recovery experiences are defined as a process during which individual functional systems that have been called upon during a stressful work situation return to their baseline level when stressors are absent (Craig & Cooper, 1992; Meijman & Mulder, 1998). According to Sonnentag and Fritz (2007), the concept of recovery is divided into four strategies: psychological detachment, relaxation, mastery experiences, and control during leisure time. In line with recovery, it is important, after a long and stressful day at work, to physically and psychologically detach from work, to relax at home, to enjoy other activities, and to have control over your free time. However, being physically away from work does not automatically mean that workers are not bringing work home or thinking about work. Oftentimes, individuals have important deadlines to keep; however, delays will occur and eventually work will pile up. Thus, regardless of their location, individuals have to focus on getting their work done. This overtime outside of regular work hours will greatly decrease the amount of time off work and eventually recovery experiences will be impaired, which in turn can increase the experience of negative outcomes.

Thus, the absence of recovery experiences has been related to negative outcomes such as health complaints, depressive symptoms, sleep problems, fatigue, physical symptoms, and negative activation in the morning while the presence of recovery experiences has been associated with positive outcomes such as personal initiative and pursuit of learning at work, adaptive coping strategies, life satisfaction, job performance, low perceived effort at work, serenity, and positive activation in the morning (Binnewies, Sonnentag, & Mojza, 2009a, 2009b, 2010; Sluiter, De Croon, Meijman, & Frings-Dresen, 2003; Sonnentag, 2003; Sonnentag et al., 2008; Sonnetag & Zijlstra, 2006). Moreover, workers who use recovery experiences after work are more likely to experience fewer symptoms of burnout than workers who do not fully use recovery experiences (Sonnentag & Fritz, 2007). Finally, empirical research has shown that insufficient recovery experiences are associated with poor psychological and physical health, such as psychosomatic complaints and burnout (Grebner, Semmer, & Elfering, 2005; Sluiter, Van der Beek, & Frings-Dresen, 1999).

THE PRESENT RESEARCH

The overall goal of the present research was to assess the relationship between passion and emotional exhaustion and to test the mediating role of recovery experiences and rumination in this relationship. In line with the Dualistic Model of Passion and related past research, we expected that obsessive passion would contribute to emotional exhaustion, while harmonious passion would protect from it. As explained above, individuals with obsessive passion display rigid persistence toward work and cannot let go of their engagement in work (Rip, Fortin, & Vallerand, 2006; Vallerand et al., 2003; Vallerand, 2010). Obsessive passion has been found to positively predict rumination (e.g. Ratelle et al., 2004; Vallerand et al., 2003) in various activities other than work. Therefore, it was expected that individuals with an obsessive passion would be more likely to use ruminative thoughts outside regular work hours, to engage less in recovery experiences, and consequently to increase the chances of experiencing emotional exhaustion. Conversely, individuals with a harmonious passion maintain control over the passionate activity; thus, a person can physically and mentally disengage from their work activity when needed (for a review see Vallerand, 2010) and engage less in ruminative thoughts. Previous studies demonstrate that harmonious passion is either unrelated or negatively related to rumination (e.g. Ratelle et al., 2004; Vallerand et al., 2003) in activities such as gambling and sport. Thus, it was expected that individuals with a harmonious passion would be less likely to use ruminative thoughts outside of work, to increase recovery experiences, and consequently to decrease the experiences of emotional exhaustion.

The present research had two major purposes. The first purpose of the study was to propose and test a model on the role of the Dualistic Model of Passion in emotional exhaustion. The second purpose was to investigate the mediating role of rumination and recovery experiences outside of regular work hours between both types of passion and emotional exhaustion. Thus, the model tested in Study 1 involved only rumination as mediator of the passion–emotional exhaustion relationship. This model posited that obsessive passion should positively predict rumination, while harmonious passion should negatively predict rumination. In turn, rumination should positively predict emotional exhaustion. However, harmonious passion should directly and negatively predict emotional exhaustion because such findings have been obtained in past research on burnout (Carbonneau et al., 2008; Vallerand et al., 2010). This model was tested with a sample of elite Norwegian coaches because, like teachers, past research has shown this population to be very vulnerable to the experiences of burnout symptoms (e.g. Kelley, Eklund, & Ritter-Taylor, 1999; Raedeke, 2004; Raedeke, Granzkyk, & Warren, 2000). The model of Study 2 built upon that of Study 1 and further tested the role of both rumination and recovery experiences as mediators of the passion–emotional exhaustion relationship. Specifically, the first purpose of Study 2 was to replicate the results of Study 1 using a prospective design. The second purpose was to include the concept of recovery experiences (Sonnentag & Fritz, 2007) as a mediator between harmonious passion and emotional exhaustion. Finally, this model was tested with French-Canadian nurses because of the harsh work environment conditions they have to deal with, such as overcrowded emergency rooms and overtime hours.

STUDY 1

The purpose of Study 1 was to test the model outlined above with rumination serving as the key mediator between passion and emotional exhaustion with elite coaches. This model posits that obsessive passion positively predicts, while harmonious passion negatively predicts, rumination that, in turn, positively predicts emotional exhaustion. Finally, because harmonious passion has been found to directly and negatively predict emotional exhaustion, a direct link between the two variables was also proposed.

METHOD

Participants and Procedure

Participants were 117 professional coaches (103 men, 13 women, 1 unknown) in soccer, handball, hockey, biathlon, cross-country skiing, and basketball from Norway. Coaches were aged between 23 and 64 years ($M = 39.95$ years,

$SD = 11.83$ years). Most of them ($N = 68$) were coaching at the national level, 27 coached at the international level, and 10 coached at the regional level only (12 unknown). Coaches at the international and national levels are considered as full-time coaches, while those at the regional level are considered part-time coaches. These coaches were all recruited at the Norwegian School of Sport Sciences. On average, these participants had been coaching for 17.5 years ($SD = 9.94$ years) and engaged in coaching activities for an average of 22 hours ($SD = 12.40$ hours) per week.

Participation was voluntary and a consent form was signed by all participants. Coaches were recruited by phone or during one of their practices. They were told that the purpose of the questionnaire was to learn more about their behaviors and attitudes toward coaching. After giving written informed consent, each participant filled out the questionnaire individually and returned it to the experimenter. After completing the questionnaire, participants were debriefed with respect to the specific purposes of the study. Coaches did not receive compensation for completing the questionnaire.

Measures

All scales were translated into Norwegian by using the back-translation method (see Vallerand, 1989). In this method, the questionnaire was translated into the target language (i.e. Norwegian) by one translator and then translated back into the source language (i.e. English) by an independent translator who was blind to the original questionnaire. The two source-language versions were then compared. All scales presented good internal consistency after the translation, as well as good exploratory factor analysis. All scales, except the demographics and the emotional exhaustion subscale, were scored on a 7-point Likert scale, ranging from 1 (*do not agree at all*) to 7 (*very strongly agree*).

Demographics. Participants completed a demographic information section which included questions about age, gender, coaching level, weekly hours they engaged in coaching, and the number of years they had been coaching.

Passion for Coaching. Passion for coaching was measured using an adapted version of the Passion Scale for Work (Vallerand & Houliort, 2003). Throughout the adapted version, the word “*work*” has been changed into “*coaching*”. This scale has two six-item subscales assessing harmonious ($\alpha = .71$) and obsessive ($\alpha = .80$) passion. Items such as “Coaching is in harmony with the other activities in my life” and “I have an almost obsessive feeling for coaching” were used to respectively assess harmonious and obsessive passion. Participants were asked to indicate their level of agreement with

each item while thinking about their coaching experiences. Overall, the passion scale has been used in several studies and has been found to display high levels of internal, predictive, construct, and discriminant validity, and reliability (e.g. Donahue, Rip, & Vallerand, 2009; Mageau et al., 2005; Séguin-Lévesque et al., 2003; Vallerand et al., 2003; Vallerand & Houllfort, 2003; Vallerand et al., 2006).

Rumination Scale. An adapted version of the Rumination on Sadness Scale (Conway, Csank, Holm, & Blake, 2000) was used to measure individuals' tendency to ruminate about their work. For the purpose of this study, the ruminative thoughts were changed from one's sadness to one's work. This six-item scale measured the act of repeatedly going over thoughts about work while resting. Items such as "In general, while I am not working, I analyze and think continually about my work" and "In general, while I am not working, I become so deeply thoughtful about my work that I have difficulty thinking about anything else" were used to measure rumination. This scale has been used in several studies and has been found to display high levels of validity and reliability (e.g. Ratelle et al., 2004; Vallerand et al., 2003). The adapted version of the Rumination Scale showed good internal consistency in the present study ($\alpha = .89$).

Emotional Exhaustion. Coaches' emotional exhaustion was measured using the emotional exhaustion subscale of the Maslach Burnout Inventory (Maslach & Jackson, 1981). Items were scored on a 7-point Likert scale, ranging from 0 (*never*) to 6 (*every day*). This seven-item subscale (e.g. "I feel emotionally drained from my coaching" or "I feel frustrated by my coaching") was modified in order to measure coaches' emotional exhaustion. In the present study, only the emotional exhaustion subscale was used, as it has been shown to be the best indicator of burnout (e.g. Piko, 2006; Schaufeli & Van Dierendonck, 1993). Participants were asked to indicate their level of agreement with each item while thinking about their coaching. In the present study, the alpha value for this subscale was .91. Since its development, the Maslach Burnout Inventory has been used in several studies to measure burnout and has been found to have good levels of validity and reliability (see Bakker, Demerouti, & Schaufeli, 2002; Maslach & Jackson, 1984; Schutte, Toppinen, Kalimo, & Schaufeli, 2000).

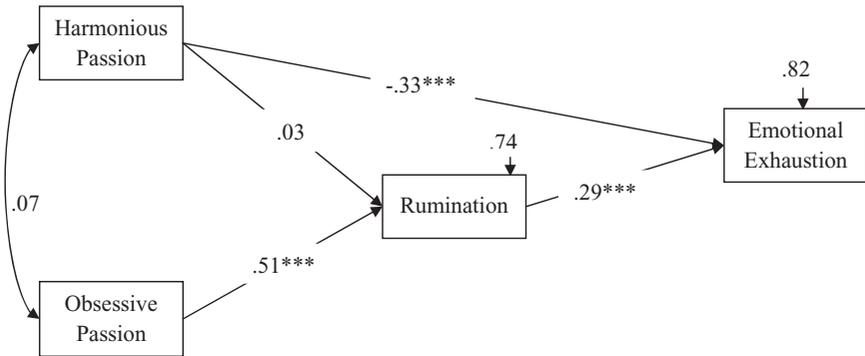
Statistical Analysis

The means, standard deviations, alphas, as well as the correlation matrix for the different variables are presented in Table 1. The hypothesised model was tested using a path analysis (i.e. a structural model with observed variables) with LISREL 8.80 (Jöreskog & Sörbom, 2003). The covariance matrix served

TABLE 1
Means, Standard Deviations, and Correlations of the Model Variables: Study 1

	Mean	SD	1	2	3	4
1. Harmonious passion	5.76	0.61	.71			
2. Obsessive passion	3.65	1.10	.07	.80		
3. Rumination	3.32	1.41	.06	.51***	.89	
4. Emotional Exhaustion	2.62	1.24	-.30**	.17†	.27***	.91

Note: $n = 117$, † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$. Alphas are on the diagonal.



Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

FIGURE 1. Results of Study 1’s path analysis: Cross-sectional design.

as database for the path analysis and the method of estimation was maximum likelihood. As shown in Figure 1, the model was composed of two exogenous variables (i.e. harmonious and obsessive passion toward coaching) and two endogenous variables (i.e. rumination and emotional exhaustion). Paths were specified according to the proposed model.

Statistical tests were conducted in order to determine the significance of the mediator sequence. In order to test this, the whole model sequence was broken down into two parts in order to assess each part of the chain composed of a predictor, a mediator, and an outcome. In line with recent simulation studies with respect to mediation analyses (Mackinnon, Lockwood, Hoffman, West, & Sheets, 2002; Preacher & Hayes, 2008; Shrout & Bolger, 2002), we focused on the significance of the association between the predictor and the mediator and that of the mediator and the outcome—that is, Baron and Kenny’s (1986) steps 2 and 3—and tested the significance of the whole

mediation sequence with Sobel tests. If the Sobel test is significant, the mediation effect is significant. Thus, in order to assess the mediating role of rumination in the relationship between obsessive passion and emotional exhaustion, we used a Sobel test.

Results

The results of the path analysis revealed a satisfactory fit of the model to the data (see Figure 1). The chi-square value was not significant, χ^2 ($df=3$, $N=117$) = 0.46, $p = .93$, and fit indices were satisfactory, with the Comparative Fit index (CFI) = 1.00, the Goodness-of-Fit Index (GFI = 1.00), the Normed Fit Index (NFI = .99), the Standardised Root Mean Square Residual (SRMR = .015), and the Root Mean Square Error of Approximation (RMSEA) = .00 [.00; .048] indicating support for the hypothesised model. As shown in Figure 1, the estimated paths between obsessive passion and rumination ($\beta = .51$) was positive and significant (t -value > 3.29) while the estimated path between rumination and emotional exhaustion ($\beta = .29$) was positive and significant (t -value > 3.29). On the other hand, the estimated path between harmonious passion and rumination ($\beta = .03$) was non-significant (t -value = .38) while the estimated path between harmonious passion and emotional exhaustion ($\beta = -.33$) was negative and significant (t -value > 3.29). In the present study, the covariance between harmonious and obsessive passion was non-significant .07 (t -value = .73). There were no differences in the model of Study 1 when controlling for coaches' number of years of experience and number of hours worked per week. Using a Sobel test, the significant value ($z = 2.17$, $p = .03$) of the indirect effect indicates that rumination mediates the relationship between obsessive passion and emotional exhaustion.

Discussion

In sum, as predicted, obsessive passion positively predicted the use of ruminative thoughts that, in turn, positively predicted emotional exhaustion. Moreover, findings demonstrated that harmonious passion prevented the use of rumination and, thus, indirectly protected coaches against the experience of emotional exhaustion. These results are in line with previous findings in settings other than work that demonstrated that harmonious passion is either negatively or unrelated to rumination (Ratelle et al., 2004; Vallerand et al., 2003). In other words, it seems that workers with an obsessive passion are more likely to ruminate about their work outside of regular work hours and consequently are more vulnerable to emotional exhaustion. However, this is not the case for workers with a harmonious passion because workers with a harmonious passion are less likely to experience rumination about their work

and consequently are less likely to experience emotional exhaustion at work. Overall, the present findings provided preliminary support for the role of obsessive passion in emotional exhaustion through higher levels of rumination. The findings also highlighted the psychological processes that appear to be at play in these relationships. Indeed, rumination proved to be a mediator of the relationship between passion and emotional exhaustion.

STUDY 2

The results of Study 1 provided preliminary support for the proposed sequence: obsessive passion \Rightarrow rumination \Rightarrow emotional exhaustion. The first purpose of Study 2 was to replicate the results of Study 1 using a prospective design. The second purpose was to include the concept of recovery experiences (Sonnentag & Fritz, 2007) as a mediator between harmonious passion and emotional exhaustion. Finally, the third purpose was to assess the relationship between obsessive and harmonious passion, rumination, and emotional exhaustion with another population at risk of experiencing emotional exhaustion, namely nurses. More specifically, in Study 2, the following model was tested. Obsessive passion was hypothesised to positively predict rumination (as in Study 1) but to negatively predict engagement in recovery experiences. The exact opposite hypotheses were formulated for harmonious passion. In turn, rumination and recovery experiences were respectively hypothesised to positively and negatively predict emotional exhaustion. Finally, as in Study 1, it was also hypothesised that harmonious passion would directly and negatively predict emotional exhaustion. In order to test the relationship between passion and recovery experiences, nurses were thus contacted at Time 1 and completed scales assessing passion for nursing. They were contacted a second time, three months later, and completed scales assessing recovery experiences, rumination, and emotional exhaustion.

METHOD

Participants and Procedure

A total of 118 nurses took part in the study. They were all French-Canadians working in hospitals in the Province of Québec, Canada. Most of them were female nurses (108 females, 8 males) and were aged between 22 and 34 years ($M = 26.85$ years, $SD = 2.63$ years). On average, these nurses had been working for 4.63 years ($SD = 3.29$ years) and engaged in nursing activities for an average of 36.66 hours ($SD = 6.04$ hours) per week. In this sample, 65 per cent of the nurses indicated that they worked overtime for an average of 5.70 hours per week ($SD = 4.72$ hours).

We had access to a list of 650 nurses, members of the Québec Professional Order of Nurses, who freely agreed to be contacted in order to complete questionnaires. Nurses were recruited by e-mail and completed the questionnaire via the Internet. They were told that the purpose of the questionnaire was to learn more about their behaviors and attitudes toward nursing. At Time 1, 175 nurses completed the questionnaire (the response rate was 27%). They were contacted again three months later in order to complete another questionnaire. Of the 175 nurses who completed the questionnaire at Time 1, 67 per cent of them completed the questionnaire at Time 2. After completing the second questionnaire, participants were debriefed with respect to the specific purposes of the study. Informed consent was obtained for Time 1 and Time 2. They were not compensated for their participation in this study.

Measures

The questionnaire at Time 1 contained scales assessing passion for work and demographic questions. The questionnaire at Time 2 contained scales assessing recovery, rumination, and emotional exhaustion. The Recovery Experience Questionnaire, the Rumination Scale, and the Emotional Exhaustion Scale were translated into French using the back-translation method. All scales, except the demographics and the emotional exhaustion subscale, were scored on a 7-point Likert scale, ranging from 1 (*do not agree at all*) to 7 (*very strongly agree*).

Demographic Variables. Participants completed a demographic information section, which included questions on age, gender, school level, weekly work hours, and the number of years they had been working.

Passion for Work. The original French version of the Passion Scale for Work was used in Study 2 (Vallerand & Houlfort, 2003). The harmonious and the obsessive subscales had reliability coefficients of .83 and .73, respectively.

Recovery Experience Questionnaire. Participants completed the 16-item scale assessing recovery experience after work (Sonnetag & Fritz, 2007). This scale has been used in several studies and has been found to display high levels of validity and reliability (e.g. Sonnetag & Fritz, 2007; Sonnetag et al., 2008). Participants were asked to indicate their level of agreement with respect to their free time. Four items assessed participants' relaxation after work (sample item: "I sit back and relax"; $\alpha = .92$), four items assessed participants' psychological detachment from work (sample item: "I get a break from the demands of work"; $\alpha = .89$), four items assessed participants'

mastery experiences (sample item: “I learn new things”; $\alpha = .92$), and finally four items assessed participants’ control (sample item: “I feel like I can decide for myself what to do”; $\alpha = .87$). The overall scale was used in the present study because of the low sample size.¹ The internal consistency of the scale was good ($\alpha = .89$).

Rumination Scale. The rumination scale used in Study 1 was also used in Study 2. The rumination scale showed good internal consistency ($\alpha = .94$).

Emotional Exhaustion. Participants completed the validated French version of the emotional exhaustion subscale of the Maslach Burnout Inventory (Dion & Tessier, 1994). Participants were asked to indicate their level of agreement with each item to assess how they felt in the past year. This subscale included four items such as “I feel emotionally exhausted by my work” ($\alpha = .86$). Items were scored on 7-point Likert scale, ranging from 0 (*never*) to 6 (*every day*).

Statistical Analysis

The means, standard deviations, alphas, and the correlation matrix for the different variables are presented in Table 2. The hypothesised model was tested using a path analysis (i.e. a structural model with observed variables) with LISREL 8.80 (Jöreskog & Sörbom, 2003). The covariance matrix served as database for the path analysis and the method of estimation was maximum likelihood. As shown in Figure 2, the model was composed of two exogenous variables (i.e. harmonious and obsessive passion toward nursing) and three endogenous variables (i.e. recovery, rumination, and emotional exhaustion). Paths were specified according to the proposed model.

Results

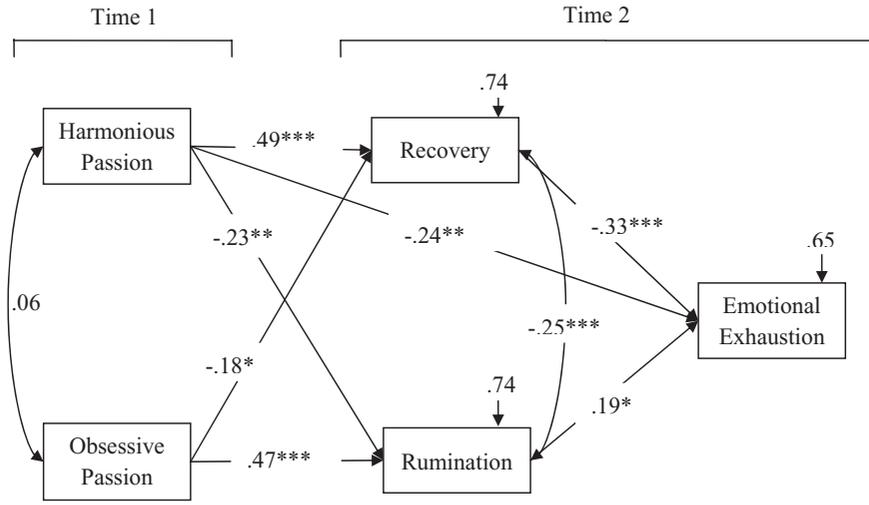
The results of the path analysis revealed a satisfactory fit of the model to the data (see Figure 2). The chi-square value was not significant, χ^2 ($df = 3$, $N = 118$) = 0.74, $p = .86$, and fit indices were satisfactory, with the CFI = 1.00, the GFI = 1.00, the NFI = 1.00, the SRMR = .015, and the RMSEA = .00

¹ As stated in the limitation section, the sample size of Study 2 is small. Consequently, a path analysis was preferred over more advanced statistical analyses, such as a structural model with latent variables. However, the four subscales were integrated into the correlation matrices in order to indicate their relations with the other variables in the model.

TABLE 2
Means, Standard Deviations, and Correlations of the Model Variables: Study 2

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Harmonious passion T1	4.71	.98	.83								
2. Obsessive passion T1	2.32	.90	.06	.73							
3. Psychological Detachment T2	3.10	.94	.20*	-.30***	.89						
4. Relaxation T2	3.62	.87	.38***	-.21*	.60***	.92					
5. Mastery experiences T2	3.63	.89	.33***	.16†	.09	.28**	.92				
6. Control T2	3.47	.93	.43***	-.10	.39***	.45***	.12	.87			
7. Recovery T2	3.45	.64	.48***	-.16†	.75***	.82***	.53***	.71***	.89		
8. Rumination T2	2.33	1.17	-.20*	.45***	-.49***	-.38***	-.03	-.29***	-.42***	.94	
9. Emotional exhaustion T2	3.33	1.04	-.44***	.18*	-.44***	-.49***	-.22*	-.36***	-.53***	.38***	.86

Note: $n = 118$, † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$. Alphas are on the diagonal. Only the overall recovery index was used in the model.



Note: $*p < .05$; $**p < .01$; $***p < .001$.

FIGURE 2. Results of Study 2’s path analysis: Prospective design.

[.00; .082], indicating support for the hypothesised model.² As shown in Figure 2, the estimated path between obsessive passion and rumination ($\beta = .47$) was positive and significant (t -value > 3.29) while the estimated path between harmonious passion and rumination ($\beta = -.23$) was negative and significant (t -value > 2.58). The estimated path between rumination and emotional exhaustion ($\beta = .19$) was positive and significant (t -value > 1.96). Moreover, as expected, the estimated path between harmonious passion and emotional exhaustion ($\beta = -.24$) was negative and significant (t -value > 2.58). These findings replicated the model of Study 1. Finally, the estimated path between harmonious passion and recovery experiences ($\beta = .49$) was positive and significant (t -value > 3.29) while the estimated path between obsessive

² In Study 2, we constructed another model controlling for work overload. The model was composed of three exogenous variables (i.e. harmonious passion, obsessive passion toward nursing, and work overload) and three endogenous variables (i.e. recovery, rumination, and emotional exhaustion). When controlling for work overload, the results of the path analysis revealed an acceptable fit of the model to the data. The chi-square value was not significant, χ^2 ($df = 5$, $N = 118$) = 5.54, $p = .35$, and fit indices were satisfactory, CFI = 1.00, GFI = .98, NFI = .98, SRMR = .034, and RMSEA = .031 [.00; .14], indicating support for the model. However, in line with Kline (2005), the RMSEA upper bound is above the cutoff value of .10, indicating poor fit to the model. Therefore, we cannot reject the null hypothesis that the fit of the model in the population is worse compared to the original model.

passion and recovery experiences ($\beta = -.18$) was negative and significant (t -value > 1.96). The estimated path between recovery experiences and emotional exhaustion ($\beta = -.33$) was negative and significant (t -value > 3.29). In addition, a negative covariance ($\beta = -.25$) was estimated between recovery experiences and rumination (t -value > 3.29). In the present study, the covariance between harmonious and obsessive passion was non-significant, .06 (t -value = .68).

Sobel tests were used in order to assess the mediating role of rumination and recovery experiences (Preacher & Hayes, 2008). The significant value ($z = -3.72, p > .001$) of the indirect effect indicates that recovery experiences mediate the relationship between harmonious passion and emotional exhaustion, while the marginally significant value ($z = -1.89, p = .058$) of the indirect effect indicates that rumination mediates the relationship between harmonious passion and emotional exhaustion. The marginally significant value ($z = 1.69, p = .09$) of the indirect effect indicates that recovery experiences mediate the relationship between obsessive passion and emotional exhaustion, while the significant value ($z = 3.13, p = .001$) of the indirect effect indicates that rumination mediates the relationship between obsessive passion and emotional exhaustion.

Discussion

The results of Study 2 provided strong support for the proposed model and the study hypotheses. Results of Study 2 replicated the results of Study 1. Specifically, rumination played a mediating role in the relationship between obsessive passion and emotional exhaustion. In addition, harmonious passion prevented the experience of emotional exhaustion three months later. Unlike what was found in Study 1, a significant negative relationship was found between harmonious passion and rumination. This negative relationship between harmonious passion and rumination has been found in previous studies (Ratelle et al., 2004; Vallerand et al., 2003). It seems that the interaction between the type of activity and the environment in which the activity occurs might play a role in this relationship. In this particular population, nurses are more likely to experience stressful and demanding situations every day, and consequently only nurses with a harmonious passion seem able to disconnect from their work at the end of the day. In addition, the results of Study 2, pertaining to the mediating role of recovery experiences, demonstrated that nurses with a harmonious passion were more likely to use recovery experiences while nurses with an obsessive passion were less likely to use recovery experiences. In turn, recovery experiences are more likely to prevent nurses from experiencing emotional exhaustion. Thus, overall, the present findings provided additional support for the role of passion in emotional exhaustion. They also highlighted the psychological processes that appear to

be at play in these relationships. In other words, nurses with a harmonious passion are less likely to experience emotional exhaustion because they are more likely to recover outside of regular work hours as opposed to ruminating about their work. However, nurses with an obsessive passion experience the opposite pattern and consequently are more likely to experience emotional exhaustion. Indeed, rumination and recovery experiences proved to be strong mediators of the relationship between passion and emotional exhaustion, with obsessive passion playing a facilitative role and harmonious passion a protective role in emotional exhaustion.

GENERAL DISCUSSION

The present research had two major purposes. The first purpose was to propose and test a model on the role of the Dualistic Model of Passion (Vallerand et al., 2003; Vallerand, 2008, 2010) in emotional exhaustion. The second purpose was to investigate the mediating role of rumination (Martin & Tessier, 1996) and recovery experiences outside of regular work hours (Meijman & Mulder, 1998; Sonnentag, 2003; Sonnentag et al., 2008; Sonnentag & Fritz, 2007; Sonnentag & Zijlstra, 2006) between both types of passion and emotional exhaustion. The models posited that obsessive passion is more likely to facilitate emotional exhaustion while harmonious passion is more likely to prevent its occurrence because of their differential relationships with recovery experiences and rumination. Specifically, in Study 1, it was found that an obsessive passion for coaching was positively related to the experience of rumination that, in turn, was positively related to emotional exhaustion. Conversely, a harmonious passion was found to directly and negatively predict emotional exhaustion. This last path was expected in light of past findings on the direct protective function of harmonious passion in burnout (Carbonneau et al., 2008). In Study 2, with a sample of nurses, it was found that obsessive passion was negatively related to recovery experiences but positively associated with rumination, while harmonious passion showed the opposite pattern. Consequently, the experiences of recovery were negatively related to emotional exhaustion while the experience of rumination was positively related to it. In other words, primarily holding a harmonious passion for work seems to protect workers from emotional exhaustion through the occurrence of recovery experiences and the absence of ruminative thoughts. The negative impact of obsessive passion on workers' psychological health was found to be mainly mediated by the experience of rumination. Furthermore, in the present research, the results have been obtained both with a cross-sectional (Study 1) and a prospective design (Study 2) and with participants from two different cultures (i.e. Norway and Canada, respectively). The present research leads to a number of implications.

A first implication is that the present research has shown that obsessive and harmonious passion, respectively, promote as well as prevent the occurrence of emotional exhaustion. Specifically, it was found that obsessive passion facilitated the experience of emotional exhaustion through two mediating variables. First, as found in both studies, obsessive passion contributed to emotional exhaustion through its relationship with ruminative thoughts outside work. Second, as found in Study 2, obsessive passion has also been found to be negatively related to recovery experiences. Thus, it would appear that one's rigid engagement in work induced by obsessive passion prevents one from fully recovering after work, consequently reducing one's energy levels. When this circular situation is repeated day after day, the individual returns to work every morning with less and less energy than the previous day and consequently symptoms of emotional exhaustion are likely to appear. With respect to harmonious passion, the present findings reveal that, instead of experiencing emotional exhaustion, people actually come to thrive at and outside of work. Specifically, harmonious passion was found to prevent emotional exhaustion through its positive and negative relationship with recovery experiences and rumination, respectively. Thus, because harmonious passion leads to more flexible task engagement, one can let go of work at the end of the day. Thus, rather than experiencing ruminative thoughts, one can fully enjoy life outside of work and return to work refreshed the next day. These two elements (recovery experiences and the prevention of ruminative thoughts) promote the prevention of emotional exhaustion. However, future research is still needed in order to determine whether other mechanisms could protect passionate workers against emotional exhaustion such as the role of family for individuals who have children or that of leisure activities for those who are involved in other passionate activities outside work (e.g. competitive sport, important life projects). Furthermore, additional research is needed to further validate these models with an intervention program.

A second implication of the present findings is that our conceptual analysis of emotional exhaustion was found to generalise to two cultures, namely Norway and Canada. These two cultures appear to yield similar results in both studies, with obsessive passion leading to the experience of emotional exhaustion through the mediating role of rumination. Moreover, in both studies, harmonious passion had a direct negative impact on emotional exhaustion probably because individuals with a harmonious passion are more likely to experience satisfaction at work (Vallerand et al., 2010). In addition, the present findings provide evidence that the model was also found to generalise across gender (Study 1's sample is primarily male while Study 2's sample is primarily female). However, results nevertheless highlighted two differences. First, findings demonstrated that coaches experience lower levels of emotional exhaustion compared to nurses. However, past research has demonstrated that elite coaching can be generalised to work in general

because, like other jobs, coaches also experience high levels of stress (e.g. Kelley et al., 1999). In this domain extreme pressure to perform well at the cost of potential job loss might lead to perfectionism on the job resulting in more intense appraisals of stress (Tashman, Tenenbaum, & Eklund, 2010). Second, findings revealed that harmonious passion was unrelated to rumination in elite Norwegian coaches, while harmonious passion was negatively related to rumination in Québec nurses. This difference may be culture specific as well as sample or job specific. However, these results replicated previous findings with participants from the Québec culture that demonstrated that harmonious passion was either negatively related or unrelated to rumination (Ratelle et al., 2004; Vallerand et al., 2003; Vallerand, 2010). It would appear that the relationship between harmonious passion and rumination is unclear. However, harmonious passion for work has never been positively related to rumination in past research. Therefore, future research is needed in order to make any conclusive statement on the generalisation of the present models.

These overall findings are in line with the literature on the relationship between the two types of passion and recovery experiences and rumination (see Vallerand, 2010), as well as that involving these two mediators and emotional exhaustion (see Maslach et al., 2001; Maslach & Leiter, 2008). These findings are also partly in line with research on the role of work engagement in burnout. For instance, Schaufeli and Salanova (2007) have suggested that engagement may represent an “antidote” to burnout. While we agree that work engagement may play a protective function against burnout, our findings suggest that this would only be the case for work engagement fueled by harmonious passion. Furthermore, we posit that such protection against burnout mainly takes place through the mediating role of recovery experiences and rumination. This analysis was supported in two studies. Overall, the present findings provide important support for our position.

Some limitations of the present set of studies need to be considered. First, a correlational design was used in both studies and therefore causality cannot be directly inferred. Although Study 2 used a prospective design and the present findings are in line with past theory and research, future research using experimental designs is needed in order to more firmly establish the causal role of passion in triggering the sequence leading to emotional exhaustion. These results are in line with those of Carbonneau and colleagues (2008), who, with the use of a cross-lagged panel design, demonstrated that passion leads to changes in both work satisfaction and burnout while these outcomes did not predict change in passion. Second, the present research relied exclusively on self-report data. While the present results were replicated in both studies and are consistent with past research, future research should seek to replicate the present findings with other assessments of emotional

exhaustion such as those from informants (e.g. spouse, friends, or co-workers). Third, it should be noted that the sample size in both studies is small. Therefore, future research is needed in order to reproduce the model by using more advanced statistical analyses such as structural model with latent model. Finally, it should be noted that the percentage of variance explained in emotional exhaustion in both studies was low to moderate in magnitude. This finding suggests that other psychological processes are at play. For instance, Vallerand and colleagues (2010) demonstrated that mediators such as satisfaction at work and conflict also play a mediating role between both types of passion and burnout. Future research is needed in order to determine how such additional processes may be best incorporated within the present model in predicting the occurrence of emotional exhaustion.

In conclusion, the present research highlighted the importance of distinguishing between two different forms of work engagement. It would appear that passion is a double-edged sword. On the one hand, one type of passion (obsessive) is conducive to emotional exhaustion while on the other hand, the other type of passion (harmonious) prevents its occurrence. These results were obtained both with a cross-sectional and a prospective design and with workers from two professional occupations in two different countries. Thus, an important issue with respect to emotional exhaustion is not whether someone is passionate or not toward work, but rather whether someone displays a harmonious or an obsessive passion. Therefore, the challenge for workers would appear to be able to develop a harmonious passion for their work while refraining from becoming obsessively passionate. The present findings may help to develop intervention programs that will help workers reach that goal and thus improve their well-being (Forest et al., in press). It would thus appear that the conceptualisation derived from the Dualistic Model of Passion offers a new avenue toward a better understanding of the processes that promote as well as prevent the occurrence of emotional exhaustion. Future research along these lines would therefore appear promising.

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