

# On the Role of Passion for Work in Burnout: A Process Model

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**ABSTRACT** The purpose of the present research was to test a model on the role of passion for work in professional burnout. This model posits that obsessive passion produces conflict between work and other life activities because the person cannot let go of the work activity. Conversely, harmonious passion is expected to prevent conflict while positively contributing to work satisfaction. Finally, conflict is expected to contribute to burnout, whereas work satisfaction should prevent its occurrence. This model was tested in 2 studies with nurses in 2 cultures. Using a cross-sectional design, Study 1 ( $n = 97$ ) provided support for the model with nurses from France. In Study 2 ( $n = 258$ ), a prospective design was used to further test the model with nurses from the Province of Quebec over a 6-month period. Results provided support for the model. Specifically, harmonious passion predicted an increase in work satisfaction and a decrease in conflict. Conversely, obsessive passion predicted an increase of conflict. In turn, work satisfaction and conflict predicted decreases and increases in burnout changes that took place over time. The results have important implications for theory and research on passion as well as burnout.

Judy and Joan are nurses in the same department at the same hospital. They both love their work. They read about it, spend extra time discussing new cases, and regularly go to workshops. Not only do they love their work, but they also feel that nursing is an important part of their identity, of who they are deep down: They are nurses. They are pas-

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sionate about nursing; they just cannot get enough of it. Although Judy and Joan share some similarities regarding their strong engagement toward nursing, they nevertheless display some important differences. Judy feels that nursing is the *one* thing in her life that she could not live without. When she goes home at the end of the day, she still thinks about work. She just cannot let go of her work even when she knows she should be devoting time to her family and pursuing other interests. Over time, her rigid engagement toward her work, where she just cannot let go of nursing, has created conflict between her work and her personal life. This conflict has slowly started to eat at her. As a consequence, more and more, she now feels emotionally drained at work. Conversely, although she loves nursing, Joan has other interests in her life. Thus, when her day is done at the hospital, she looks forward to the evening activities with her husband and children as well as to her other personal interests (she loves painting and reading). Consequently, her flexible engagement toward work protects her from experiencing conflict between her work and other life activities. Furthermore, a focus on other life activities allows her to replenish herself, to come in at work with a keen spirit, and to experience satisfaction from her work. Such a sense of personal satisfaction at work, in turn, protects her from feeling emotionally exhausted.

Over the past 30 years, much research has been conducted on the construct of burnout. Although much research has focused on the role of social factors in burnout (Maslach, Schaufeli, & Leiter, 2001), such research does not explain why, in the same environment, one individual is thriving whereas another one is experiencing burnout symptoms, as in the preceding example. In line with researchers in the field of burnout (e.g., Maslach et al., 2001; Schaufeli & Salanova, 2007), we believe that in order to provide an answer to this question, we must look at individual work-related attitudes. One factor that would appear relevant pertains to passion (Vallerand et al., 2003). Indeed, as can be seen in the above example, being passionate for one's work can lead one to be consumed with one's work, thereby leading to the experience of conflict with other life activities and eventually to suffering from burnout. However, passion can also provide one with the energy to fully engage in one's work and to derive satisfaction from it while still fully pursuing other life interests that should protect one from burnout. So it would appear that passion can either facilitate or prevent the occurrence of burnout at work. The purpose of the present paper is to propose a resolution to this issue by reporting the results of

two studies on passion for work in helping professions (nursing) using the Dualistic Model of Passion.

### The Dualistic Model of Passion

Recently, Vallerand and colleagues (Vallerand, 2008; Vallerand et al., 2003; Vallerand & Houliort, 2003; Vallerand & Miquelon, 2007) proposed a conceptual model of passion toward activities. In line with Self-Determination Theory (SDT; Deci & Ryan, 1985, 2000), the Passion Model posits that people experience the need to grow psychologically and develop a sense of self and identity (Ryan & Deci, 2003). Vallerand et al. (2003) suggested that people will develop a passion toward enjoyable activities that are internalized in identity. A *passion* is defined as a strong inclination toward a self-defining activity that individuals like (or even love), that they value (and thus find important), and in which they invest time and energy (Vallerand et al., 2003). The Dualistic Model of Passion further posits that two distinct types of passion, obsessive and harmonious, develop as a result of the type of internalization process that takes place.

Obsessive passion results from a controlled internalization (see Deci & Ryan, 2000; Sheldon, 2002; Vallerand, 1997, 2001; Vallerand & Ratelle, 2002) of the activity into one's identity. Such an internalization originates from intra- and/or interpersonal pressure either because certain contingencies are attached to the activity, such as feelings of social acceptance or self-esteem, or because the sense of excitement derived from activity engagement becomes uncontrollable. With obsessive passion, individuals come to develop ego-invested self-structures (Hodgins & Knee, 2002) and eventually display a rigid persistence toward the activity. Thus, although individuals love the passionate activity, they find themselves in the position of experiencing an internal uncontrollable urge to engage in the passionate activity, leading to a more rigid and conflicted form of task engagement. Such pressured engagement should prevent the person from fully focusing on the task at hand and may interfere with the experience of positive affect and task satisfaction and even facilitate negative affect during task engagement. In addition, because with obsessive passion an internal urge leads the person to engage in the activity even when he or she should not, he or she may experience negative emotions once engagement in the passionate activity is terminated (e.g., guilt for having engaged in the activity when one

should not have done so). In a similar vein, this internal urge to engage in the passionate activity makes it very difficult for the person to fully disengage from thoughts about the activity, leading to conflict with other activities in the person's life.

Harmonious passion, by contrast, results from an autonomous internalization (Deci & Ryan, 2000; Ryan & Deci, 2000) of the activity into the person's identity. An autonomous internalization occurs when individuals have freely accepted the activity as important for them without any contingencies attached to it. Harmonious passion leads one to engage in the activity willingly and engenders a sense of volition and personal endorsement about pursuing the activity (Vallerand, Fortier, & Guay, 1997). Individuals do not feel compelled to engage in the enjoyable activity; rather, they freely choose to do so. With this type of passion, the activity occupies a significant but not overpowering space in the person's identity and is in harmony with other aspects of the person's life. In other words, with harmonious passion the authentic integrating self is at play (Hodgins & Knee, 2002). Harmonious passion is thus hypothesized to lead the person to engage in the task in a more flexible manner and thus to experience task engagement more fully. The person may then better concentrate on the task and experience positive affect, task satisfaction, and flow (i.e., the feeling that one is immersed in the activity; see Csikszentmihalyi, 1978) while engaging in the activity. Furthermore, because harmonious passion facilitates control of the activity, it should contribute to the experience of positive affect and task satisfaction and minimize the experience of negative affect *after* task engagement. It may even facilitate positive affect when the person does not engage in the passionate activity and does something else. In addition, such control over the activity should lead the person to display flexible persistence toward the activity. The person can then physically and mentally disengage from the passionate activity when doing other activities, thereby allowing the person to replenish him- or herself as well as preventing the experience of conflict with other activities (or people).

Organizational researchers have focused on concepts that would appear related to that of passion such as affective engagement (Meyer & Allen, 1997), work engagement (Schaufeli & Bakker, 2004), and vigor (Shirom, 2004). Affective engagement is defined as an emotional attachment and a high implication toward the organization (Meyer & Allen, 1997). Thus, a major distinction with

the concept of passion is that one's affective involvement is toward the organization and not toward one's work. Furthermore, Meyer and Allen do not indicate whether such engagement entails love for work and time spent on it as is posited by the passion construct. Work engagement (Schaufeli & Bakker, 2004; Schaufeli & Salanova, 2007) is seen by the authors as the opposite of burnout. Similarly, vigor is seen as a core affect that is the opposite of burnout (Shirom, 2004). Thus, if work engagement (and vigor) is seen at the opposite pole of burnout, and burnout is seen as resulting from one's work conditions and personal characteristics toward work, then engagement (and vigor) is best seen as a consequence and not as a type of work engagement *per se*. Conversely, passion is seen as a type of work engagement and involvement that should trigger psychological processes that lead to burnout (or not). Furthermore, both types of engagement (and vigor) do not distinguish between two types of engagement as is proposed by the Dualistic Model of Passion (i.e., harmonious and obsessive passion). Thus, overall, although the above constructs share some similarities with the concept of passion, there are also important distinctions.

Research conducted on the Dualistic Model of Passion has provided support for the model. For instance, results of exploratory and confirmatory factor analyses have supported the validity and reliability of the two-factor Passion Scale (see Rousseau, Vallerand, Ratelle, Mageau, & Provencher, 2002; Vallerand et al., 2003, Study 1; Vallerand, Rousseau, Grouzet, Dumais, & Grenier, 2006). In addition, both types of passion have been found to correlate positively with measures of activity valuation, of perceptions of the task as being a passionate activity, and of activity inclusion in the self. Vallerand et al. (2003, Study 1) also found a positive relation between harmonious passion and measures of flow and positive affect experienced during task engagement (see also Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005), whereas obsessive passion was positively related to negative affect (e.g., shame) and cognition (e.g., rumination) after engagement with the activity and when one is prevented from engaging in the activity altogether.

Additional research has also shown that harmonious passion is associated with general positive affect and subjective well-being, whereas obsessive passion is associated with general negative affect and is either unrelated or negatively related to subjective well-being (Rousseau & Vallerand, 2003, 2008; Vallerand & Houliort, 2003;

Vallerand et al., 2003, Study 2; Vallerand, Mageau, et al., 2008, Study 2; Vallerand et al., 2006; Vallerand et al., 2007, Studies 1 and 2). Obsessive passion also predicts highly persistent behavior in passionate activities that may be ill advised for the person such as winter cycling over icy roads in Quebec (Vallerand et al., 2003, Study 3), persisting in dancing while injured, leading to chronic injuries in ballet dancers (Rip, Fortin, & Vallerand, 2006), as well as heavy involvement in gambling activities (Rousseau et al., 2002) that may be conducive to pathological gambling (Philippe & Vallerand, 2007; Ratelle, Vallerand, Mageau, Rousseau, & Provencher, 2004; Vallerand et al., 2003, Study 4). Obsessive passion has been found to be positively related to conflict with other life activities (Vallerand et al., 2003, Study 1; Vallerand, Ntoumanis, et al., 2008, Study 3). Such conflict has been found to have negative repercussions on marital adjustment (Séguin-Lévesque, Laliberté, Pelletier, Blanchard, & Vallerand, 2003; Vallerand, Ntoumanis, et al., 2008, Study 3). Finally, harmonious passion has been shown to be either unrelated or negatively related to conflict and the above negative outcomes (see Vallerand, 2008, *in press*, for a reviews).

### The Present Research

The purpose of the present research was to propose and test a model on the role of passion for work in burnout. This model posits that passion is a distal predictor of burnout that sets things in motion by triggering a causal sequence wherein psychological mediators (work satisfaction and conflict) are activated. Then, in turn, these mediators lead to the experience of burnout. Specifically, obsessive passion positively predicts conflict between work and other life activities, whereas harmonious passion is expected to negatively predict conflict. In addition, harmonious passion is expected to positively predict work satisfaction, whereas obsessive passion is expected to be unrelated to it. Finally, conflict is expected to contribute to burnout, whereas work satisfaction should prevent its occurrence. This is because, with obsessive passion, one displays rigid persistence toward work and cannot let go of one's work involvement. This is expected to lead to conflict between work and other life activities and consequently to burnout. Furthermore, with obsessive passion, one cannot fully immerse in the activity, and thus little work satisfaction should be experienced. Conversely, harmonious passion allows one

to totally immerse oneself in the activity and to derive task satisfaction. Furthermore, because with harmonious passion, one maintains control over the passionate activity, one can physically and mentally disengage from the work activity when needed. One is thus protected from the experience of conflict between work and other life activities, from the experience of mental and emotional staleness, and consequently from burnout.

The proposed model is in line with past research. For instance, a recent study by Carbonneau, Vallerand, Frenette, and Guay (2008) with over 490 experienced teachers has shown that whereas obsessive passion for work was positively associated with burnout, harmonious passion was negatively related to it. Furthermore, other research has shown that obsessive passion positively predicts conflict between the passionate activity and other life activities (e.g., Séguin-Lévesque et al., 2003; Vallerand et al., 2003, Study 1; Vallerand, Ntoumanis, et al., 2008, Study 3) but is unrelated to task satisfaction (Vallerand & Houliort, 2003). On the other hand, harmonious passion has been found to be positively related to task satisfaction (Vallerand & Houliort, 2003; Vallerand et al., 2006, Studies 2 and 3) but to be either unrelated or negatively related to conflict between the task and other activities (Vallerand et al., 2003, Study 1; Vallerand, Ntoumanis, et al., 2008, Studies 1 and 3). Finally, past research on burnout has systematically shown that there is a positive relationship between work–family conflict and burnout (e.g., Demerouti, Bakker, & Schaufeli, 2005; Peeters, Montgomery, Bakker, & Schaufeli, 2005; Piko, 2006). Thus, the more one experiences work–family conflict, the more one is likely to experience burnout. On the other hand, a negative relationship between work satisfaction and burnout has been systematically obtained (e.g., Kalliath & Morris, 2002; Piko, 2006; Thomsen, Soares, Nolan, Dallender, & Arnetz, 1999).

As was seen above, much support exists for the different parts of the proposed model. However, no study has tested the integrative model of passion and burnout as a whole. This was the main purpose of the present research. In the present research, the proposed model was tested in two studies with nurses, as past research has shown this population to suffer from burnout symptoms (Maslach et al., 2001). The second purpose of the present research was to chart the role of the model variables to predict changes in burnout over time. Thus, whereas Study 1 was cross-sectional in nature, Study 2 followed the evolution of burnout over a 6-month period. We believe that the

present research should provide an important contribution to both the burnout and passion literatures. With respect to burnout, the present research should yield important information with respect to an integrative model of burnout wherein a personal characteristic (harmonious and obsessive passion) predicts the occurrence of a contributing (conflict) and a protective (work satisfaction) factor of burnout. Such a model leads to better knowledge of the conditions that influence burnout and the type of interventions that may prevent it. In addition, this model builds upon the recent work on passion and more specifically that of Carbonneau et al. (2008) on passion and burnout by providing crucial information on the differential effects of harmonious and obsessive passion on the mediating psychological processes (work conflict and satisfaction) leading to increases or decreases in burnout (see Vallerand, 2008). As such, it paves the way to future research in other contexts (e.g., sports, relationships) where conflict and satisfaction may serve as mediators of other outcomes.

## STUDY 1

The purpose of Study 1 was to test the proposed model using a cross-sectional design with experienced nurses in France. It was posited that obsessive passion would positively predict conflict between work and other life activities, whereas harmonious passion was expected to negatively predict conflict. On the other hand, harmonious passion was expected to positively predict work satisfaction, whereas obsessive passion was predicted to be unrelated to it. Finally, conflict and work satisfaction were expected to positively and negatively predict burnout, respectively.

## Method

### *Participants*

A total of 97 nurses took part in the study. They were all working in French hospitals in France. Most of them were female nurses (90 women, 6 men, and 1 missing value) and were aged between 21 and 57 years ( $M = 34.07$  years,  $SD = 9.95$  years). They were working, on average, 34.15 hr per week ( $SD = 4.16$  hr) and had been working as nurses for an average of 11.21 years ( $SD = 10.12$  years).



*Measures*

*The Passion Scale.* The Passion Scale (Vallerand et al., 2003) is composed of two subscales of six items each, assessing harmonious (HP) and obsessive (OP) passion. Each item is responded to on a 7-point Likert scale ranging from 1 (*do not agree at all*) to 7 (*completely agree*). A sample item for OP is “I have difficulties controlling my urge to do my work,” and a sample item for HP is “My work is in harmony with other activities in my life.” Results from exploratory and confirmatory factor analyses have provided strong support for the bifactorial structure of the scale in a number of life contexts, including sports (Vallerand et al., 2006, Study 1), gambling (Castelda, Mattson, MacKillop, Anderson, & Donovan, 2007; Rousseau et al., 2002), and work (Carbonneau et al., 2008; Vallerand & Houlfort, 2003). Furthermore, internal consistency analyses supported the reliability of the scale.

Alpha coefficients in this study were .72 for each of the two subscales. Participants were also asked to complete four items corresponding to Vallerand and colleagues’ (2003) passion criteria. These four items assessed nurses’ love of nursing, time involvement in nursing, the importance of nursing, and if nursing is a passion for them ( $\alpha = .70$ ). A mean score of 4 and up on these four items reveals at least a moderate level of passion for nursing (see Vallerand et al., 2003). Using this criterion, 88% of the participants reported to be passionate toward nursing.<sup>1</sup>

*Work satisfaction.* The Satisfaction at Work Scale (SAWS) was derived from the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The SAWS contains five items responded to on a 7-point Likert scale (1 = *do not agree at all*, 7 = *completely agree*) and assesses work satisfaction. A sample item is “I am satisfied with my work.” It has been used with success in past research (Richer, Blanchard, & Vallerand, 2002). In the present study, a principal component analysis yielded one factor accounting for 51% of the variance, with factor loadings ranging from .59 to .80. The alpha coefficient in this study was .76.

*Conflict.* Conflict with other life spheres was assessed with five items measuring the extent to which participants’ work of nursing conflicted with other important activities in their life. A sample item is “My work as a nurse conflicts with the other activities in my life.” In the present study, a principal component analysis yielded one factor accounting for 60% of

1. Results for the proposed model were exactly the same with and without the participants who indicated being less than moderately passionate toward nursing. Thus, all participants were kept in the analyses.

the variance, with factor loadings ranging from .55 to .92. The alpha coefficient in this study was .76.

*Burnout.* The Maslach Burnout Inventory (BMI; Maslach, Jackson, & Leiter, 1996) was used to measure burnout in nurses. In its original form, this scale is composed of 22 items assessing burnout with three subscales tapping emotional exhaustion, depersonalization, and diminished personal accomplishment. In this study, only the emotional exhaustion subscale was used, as it has been shown to be the best indicator of burnout (e.g., Gorter, Albrecht, Hoogstraten, & Eijkman, 1999; Piko, 2006; Schaufeli & Van Dierendonck, 1993). In line with past research (Gorter et al., 1999; Schaufeli & Van Dierendonck, 1993), one item from the emotional exhaustion subscale was deleted because it has been shown to better load on the other factors of the scale. The final scale we used was thus composed of eight items. A principal component analysis yielded one factor accounting for 52% of the variance, with factor loadings ranging from .51 to .82. The alpha coefficient in this study was .86.

### *Procedure*

Nurses were contacted through hospital unit managers or directors. Participants were told that the purpose of the study was to learn more about nursing. It was also mentioned that participation was voluntary and anonymous and that all responses would remain confidential—they would never be sent to their manager, director, or to anyone in the hospital. Indeed, nurses were asked to hand in their completed questionnaire in a sealed envelope. When completing the questionnaire package, participants were first asked to indicate their age, gender, the number of hours per week they were working on average, and the number of years of experience they had in nursing. They were then asked to complete the scales presented above.

### **Results and Discussion**

Table 1 reports the means, standard deviations, and correlations of all study variables. To test the proposed model, a path analysis was conducted with LISREL 8 (Jöreskog & Sörbom, 2003). The model was composed of two exogenous variables (HP and OP) and three endogenous variables (work satisfaction, conflict, and burnout). The covariance matrix served as the database for the path analysis, and the method of estimation was maximum likelihood. Paths were drawn according to the proposed model. In addition, a positive co-

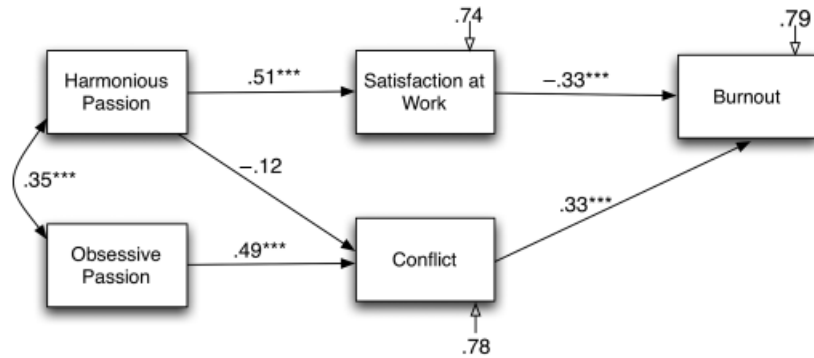
**Table 1**  
Means, Standard Deviations, and Correlations of the Model Variables:  
Study 1

	Mean	<i>SD</i>	1	2	3	4
Harmonious passion (1)	4.57	0.93	—			
Obsessive passion (2)	1.88	0.91	.35***	—		
Satisfaction at work (3)	4.09	0.97	.50***	.14	—	
Conflict (4)	3.38	1.41	.07	.44***	— .01	—
Burnout (5)	2.62	0.59	— .31**	.02	— .41***	.24*

*Note:* *n* = 97.  
\**p* < .05, \*\**p* < .01, \*\*\**p* < .001

variance was estimated between the two exogenous variables (see Kline, 2005). Results of the path analysis revealed an excellent fit to the data. The chi-square value was nonsignificant,  $\chi^2$  (*df* = 4, *N* = 97) = 4.50, *p* = .48, and other fit indices were excellent: nonnormed fit index (NNFI) = 1.00, comparative fit index (CFI) = 1.00, root mean squared error of approximation (RMSEA) = .00 [.00, .14], goodness-of-fit index (GFI) = .98, standardized root mean square (SRMR) = .054, and normed fit index (NFI) = .95.<sup>2</sup> As shown in Figure 1, all estimated paths were significant at least at *p* < .05, except for the path between HP and conflict, which had a standardized coefficient of −.12. Inspection of the correlation residuals revealed that all were nonsignificant, indicating that additional paths would not be significant and would not improve the model fits (Kline, 2005). Sobel tests were then conducted to confirm the significance of the two mediations between passion and burnout. The mediation of satisfaction at work between HP and burnout proved to be highly significant, *z* = 3.53, *p* < .001. Furthermore, the mediation of conflict between OP and burnout also showed to be significant, *z* = 2.28, *p* < .05. These results thus confirmed the significance of both mediations. Finally, two alternative models were tested. The first alternative model positioned burnout as a mediator between HP and satisfaction at work (HP → burnout → satisfaction at work) and between OP and conflict (OP → burnout →

2. There were no gender differences on all study variables. In addition, controlling for nurses' age, number of years of experience, and number of hours worked per week did not affect the results.



**Figure 1**

Path analytic model of the relationships among passion, satisfaction at work, conflict and burnout. Standardized path coefficients are presented. \*\*\* $p < .001$

conflict). Results of this alternative model revealed poor fit indices,  $\chi^2$  ( $df = 4$ ,  $n = 97$ ) = 40.61,  $p < .00001$ , RMSEA = .28. The second alternative model posited that passion was a mediator between conflict and satisfaction at work and burnout (conflict and satisfaction at work  $\rightarrow$  passion [HP and OP]  $\rightarrow$  burnout). This alternative model also yielded poor fit indices,  $\chi^2$  ( $df = 4$ ,  $N = 97$ ) = 40.61,  $p < .00001$ , RMSEA = .23. Overall, the results from alternative models suggest that the original model should be preferred.

In sum, as predicted, OP positively predicted conflict that was, in turn, positively associated with burnout. In addition, as expected, HP was negatively related to conflict (although it was not statistically significant). Finally, HP positively predicted satisfaction at work that was, in turn, negatively associated to burnout. Thus, overall, the present findings provided preliminary support for the role of passion in burnout. They also highlighted the psychological processes that appear to be at play in these relationships. Indeed, conflict and work satisfaction proved to be strong mediators of the relationship between passion and burnout, with the former playing a facilitative role and the latter a protective role in burnout.

## STUDY 2

Results of Study 1 provided preliminary support for the proposed model. However, one limit of this study was the use of a cross-sec-

tional design. Such a design makes it impossible to chart the prospective evolution of change in the model variables. Study 2 aimed at examining this issue. Thus, the purpose of Study 2 was to replicate the results of Study 1 using a prospective design. Nurses were thus contacted at Time 1 and completed scales assessing passion for nursing, work satisfaction, conflict, and burnout. They were contacted a second time, 6 months later, and the same measures were assessed again except for passion. For external validity purposes, the model was tested with nurses from a different country, namely, French-Canadian nurses from the Province of Quebec, Canada. It was hypothesized that obsessive passion would lead to increases in conflict over a 6-month period that would, in turn, be conducive to increases in burnout 6 months later. Conversely, harmonious passion was expected to lead to increases in work satisfaction over a 6-month period that would, in turn, be negatively associated with increases in burnout 6 months later. Finally, harmonious passion was expected to negatively predict increases in conflict.

## Method

### *Participants*

A total of 258 nurses took part in the study. They were all working in French-Canadian hospitals in the Province of Quebec, Canada. Most of them were female nurses (236 women, 22 men) and were aged between 27 and 60 years old ( $M = 45.53$  years,  $SD = 7.50$  years). They had been working as nurses for an average of 10.11 years ( $SD = 8.19$  years). Using the same criteria as in Study 1, 69% of the participants reported to be passionate toward nursing.<sup>3</sup>

### *Measures*

The measures used in Study 2 were the same as those used in Study 1 (the Passion Scale, the Satisfaction at Work Scale, the Conflict Scale, and the Maslach Burnout Inventory—emotional exhaustion subscale). All scales showed adequate levels of reliability (see Table 2 for the alpha coefficients of each scale at Times 1 and 2).

3. The alpha coefficient for the four items assessing the passion criteria was .74. Results for the proposed model were exactly the same with and without the participants who indicated being less than moderately passionate for their work as a nurse. Thus, all participants were kept in the analyses.

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

	Mean	SD	Alpha	1	2	3	4	5	6	7
Harmonious passion Time 1 (1)	4.46	1.09	.86	—						
Obsessive passion Time 1 (2)	1.88	0.77	.71	.19***	—					
Satisfaction at work Time 1 (3)	4.06	1.16	.88	.61***	.05	—				
Conflict Time 1 (4)	2.35	1.10	.80	-.17**	.35***	-.15*	—			
Burnout Time 1 (5)	2.63	1.43	.93	-.43***	.11	-.59***	.28***	—		
Satisfaction at work Time 2 (6)	3.89	1.18	.87	.58***	.08	.67***	-.14*	-.43***	—	
Conflict Time 2 (7)	2.32	0.99	.75	-.18**	.29***	-.18**	.66***	.28***	-.21**	—
Burnout Time 2 (8)	2.67	1.37	.93	-.41***	.13*	-.50***	.26***	.75***	-.56***	.33***

Note:  $n = 258$ .

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Procedure*

A total of 2,000 questionnaires with prestamped return envelopes were sent to the Fédération des Infirmières et Infirmiers du Québec (FIIQ), a provincial nurses' union in the Province of Quebec, Canada. The FIIQ then selected from their registering base a random sample of 2,000 nurses working in French-Canadian hospitals in the Province of Quebec. Each selected nurse received by mail a questionnaire along with a letter explaining the general purpose of the study. Participants were told that the aim of this study was to learn more about nursing. They were assured that they were free to participate or not in the study and that their answers would remain confidential, anonymous, and would not be sent to the FIIQ or to the hospital where they were working. The questionnaire first asked participants to report their age, gender, and the number of years of experience they had in nursing. Participants then completed the scales presented above. In all, 652 nurses returned their questionnaire fully completed at Time 1 for a response rate of 33%. The second assessment took place 6 months later. The FIIQ then sent a new questionnaire package to the 2,000 nurses who had been randomly selected at Time 1. It was again mentioned that participation was voluntary and anonymous. Nurses were then asked to complete a second time the Satisfaction at Work Scale, the Conflict Scale, and the Maslach Burnout Inventory. Overall, a total of 258 participants completed the questionnaire at both phases of the study, for a response rate of 40% between the Times 1 and 2.<sup>4</sup>

4. We examined whether participants who only completed the questionnaire at Time 1 differed from those who took part in both phases of the study. Results from a MANOVA (with all study variables at Time 1 as dependent variables, including age and years of experience) indicated that participants differed on two variables,  $F(5, 258) = 3.28, p < .01, \eta^2 = .025$ . Nurses who only completed the questionnaire at Time 1 were more obsessively passionate for their work ( $M = 2.04, SD = 0.087$ ) compared to those who participated at Times 1 and 2 ( $M = 1.88, SD = 0.77$ ),  $F(1, 258) = 5.21, p < .05, \eta^2 = .008$ . These former nurses also reported a higher level of conflict ( $M = 2.63, SD = 2.35$ ) than the nurses who completed both phases of the study ( $M = 2.35, SD = 1.10$ ),  $F(1, 258) = 7.98, p < .01, \eta^2 = .012$ . Finally, attrition rate did not differ as a function of gender or education (all  $\chi^2$  were nonsignificant). It should be noted that the effect sizes of these differences were quite small, accounting together for only 2% of the variance (Cohen, 1988). Therefore, it is reasonable to believe that these slight differences should not affect the present results in a significant manner. To ensure that attrition had not significantly affected results of Study 2, we conducted the same path analysis of Study 1 with only the Time 1 variables of Study 2, including all participants who completed the Time 1 measures ( $n = 652$ ). This path analysis was constrained to be equal across the group of participants who only completed Time 1 ( $n = 394$ ) and the group of participants who completed both Times 1 and 2 ( $n = 258$ ). The model with the parameter estimates constrained to be equal across

### Results and Discussion

Table 2 reports the means, standard deviations, and correlations of all study variables. To test the proposed model, a path analysis was conducted with LISREL 8 (Jöreskog & Sörborm, 2003). The model was composed of five exogenous variables (HP and OP, controlling for satisfaction at work, conflict, and burnout as assessed at Time 1) and three endogenous variables (satisfaction at work, conflict, and burnout as assessed at Time 2). The covariance matrix served as the database for the path analysis and the method of estimation was maximum likelihood. Paths were drawn according to the proposed model. In addition, a positive covariance was estimated among all exogenous variables.

Results of the path analysis revealed an excellent fit to the data. The chi-square value was nonsignificant,  $\chi^2$  ( $df = 10$ ,  $n = 258$ ) = 12.09,  $p = .29$ , and other fit indices were excellent, NNFI = .995, CFI = .998, RMSEA = .029 [.00, .06], GFI = .99, SRMR = .026, and NFI = .99.<sup>5</sup> As shown in Figure 2, all estimated paths were significant at least at  $p < .05$ , including the path between HP and conflict at Time 2. Inspection of the correlation residuals revealed that all were nonsignificant, indicating that additional paths would not be significant and would not improve the model fits (Kline, 2005). Sobel tests were then conducted to confirm the significance of the three mediations between passion and burnout. The mediation of the increases in satisfaction at work between HP and changes in burnout proved to be highly significant,  $z = 3.93$ ,  $p < .0001$ . Furthermore, the mediation of the increases in conflict between OP and increases in burnout was also significant,  $z = 1.96$ ,  $p = .05$ . These results thus confirmed the signifi-

the two groups perfectly replicated Study 1 results and fit adequately the data,  $\chi^2$  ( $df = 16$ ,  $n = 652$ ) = 36.50,  $p < .001$ , NNFI = .97, NFI = .96, CFI = .98, RMSEA = .064, GFI = .98, SRMR = .066. In addition, all correlation residuals were nonsignificant. Finally, this constrained path analysis did not differ from the model with no parameter constraint between the groups,  $\Delta\chi^2$  (5) = 6.73,  $p = .24$ , thus suggesting that the path analysis was virtually the same between participants who completed both Times 1 and 2 questionnaires and those who completed only that of Time 1.

5. There were no gender differences on all study variables. In addition, the number of years of experience was unrelated to all study variables. Age was negatively associated with conflict at Time 1 ( $r = -.13$ ,  $p < .05$ ). However, controlling for nurses' age, years of experience, and number of hours worked per week in the model did not affect the results.



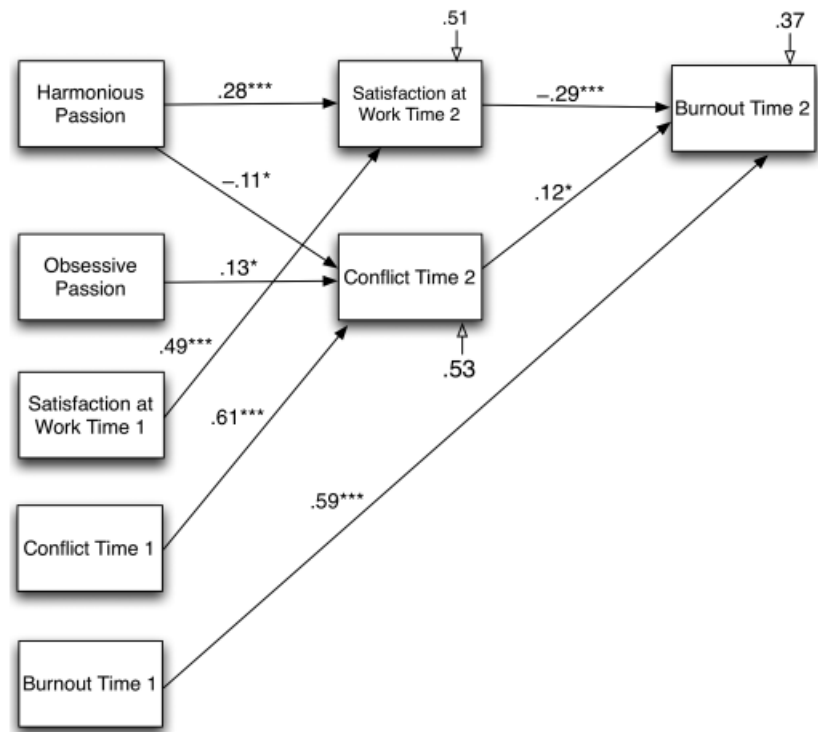


Figure 2

Path analytic model of the prospective relationships among passion, satisfaction at work, conflict and burnout. Standardized path coefficients are presented. Covariances between exogenous variables are not shown for clarity. The reader is referred to Table 2 to this effect.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

cance of both mediations. Finally, we examined if the mediation of the increases in conflict between HP and burnout was significant. A Sobel TEST revealed that this mediation was only marginally significant,  $z = 1.79$ ,  $p = .07$ .

We also tested the only alternative model possible in light of the prospective design. This model posits that burnout is a mediator between HP and satisfaction at work and between OP and conflict. Results of this alternative model revealed poor fit indices,  $\chi^2$  ( $df = 11$ ,  $n = 258$ ) = 36.87,  $p < .0002$ , RMSEA = .098 [.064, .13]. In addition, the Akaike Information Criterion (AIC) used to compare nonhierarchical models (see Kline, 2005) was higher for this alternative model

( $AIC_A = 86.88$ ) than for the proposed model ( $AIC_O = 64.09$ ). Together, these additional results reveal that the proposed model should be preferred.

## GENERAL DISCUSSION

The main purpose of the present research was to propose and test a model on the role of passion in burnout. This model posits that obsessive passion facilitates burnout whereas harmonious passion prevents its occurrence through their differential relationships with work satisfaction and conflict between work and other life activities. Specifically, the model posits that obsessive passion positively predicts conflict between work and other life activities, whereas harmonious passion negatively predicts it. On the other hand, harmonious passion is expected to positively predict work satisfaction, whereas obsessive passion is hypothesized to be unrelated to it. Finally, conflict and work satisfaction are expected to positively and negatively predict burnout, respectively. This model was supported in two studies, including a 6-month prospective study, with nurses from two countries. These findings lead to two major implications.

A first implication is that the present findings underscore the fact that the type of passion that one has for an activity that he or she engages in on a regular basis (such as work) matters greatly with respect to burnout. These findings suggest that engagement for one's work is not simply a matter of quantity (or high vs. low engagement). Rather, the type (or quality) of engagement one holds toward work also matters greatly, as obsessive passion was found to promote burnout and harmonious passion to prevent it, even after controlling for the number of hours worked. These findings are in line with research by Carboneau et al. (2008), who have shown that whereas obsessive passion is positively related to burnout, harmonious passion prevents its occurrence. Furthermore, the present findings are also in accord with past research on passion with a variety of activities that has shown that harmonious passion typically predicts adaptive outcomes, whereas obsessive passion typically leads to less adaptive outcomes and at times clearly maladaptive ones (Ratelle et al., 2004; Séguin-Lévesque et al., 2003; Vallerand, Mageau, et al., 2008; Vallerand et al., 2003; see also Vallerand, 2008, in press, for reviews).

The second major implication of the present research is that it appears that some of the psychological processes that promote as

well as prevent the occurrence of burnout have been uncovered. Specifically, in two studies it was found that obsessive passion facilitated the experience of burnout through two processes. First, obsessive passion contributed to burnout through its relationship with conflict between one's work and other life activities. Second, obsessive passion also has been found to be unrelated to work satisfaction, which can serve as an antidote to burnout. Thus, it would appear that rigid engagement toward one's work induced by obsessive passion prevents one from experiencing any work satisfaction and, on top of that, leads to conflict between work and other life activities. Thus, affective rewards from one's work are no longer forthcoming and the person cannot disengage from the work commitment because of the rigid engagement toward it. As a result, the person comes to experience burnout. Years ago, burnout researchers suggested that because of one's passion, people remained strongly engaged in their work, could not disengage from it, and under harsh conditions, would come to experience burnout (see Maslach et al., 2001). The present findings suggest that such an analysis applies only to obsessive passion and not to harmonious passion. Thus, the type of passion one holds toward work matters greatly.

Conversely, the present findings reveal that with harmonious passion, instead of experiencing burnout, people actually come to thrive at work. Specifically, harmonious passion was found to prevent burnout through its positive and negative relationship with work satisfaction and conflict, respectively. Thus, because harmonious passion leads to a more flexible task engagement, one can enjoy one's experience at work and derive satisfaction from it. Furthermore, such a flexible engagement allows one to let go of work at the end of the day. Thus, rather than experiencing conflict between work and life activities, one can then fully enjoy life outside of work and return to work refreshed the next day. These two elements (work satisfaction and the prevention of conflict) promote the prevention of burnout. It should be noted, however, that the role of harmonious passion in the prevention of work conflict was not particularly strong. In fact, it was the weakest link in the integrative model. Future research is needed in order to more firmly establish the validity of this path.

These overall findings are in line with the literature on the relationship between the two types of passion and task satisfaction and conflict (see Vallerand, 2008, in press), as well as that involving these two mediators and burnout (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) suggested that engagement may represent an “antidote” to burnout. Although we agree that work engagement may play a protective function against burnout, our findings suggest that this would only be the case for harmonious passion. Furthermore, we posit that such a protection against burnout takes place through the mediating role of work satisfaction and conflict and not directly. This analysis was supported in two studies. Furthermore, Study 2 also supported the role of harmonious passion in predicting *changes* in work satisfaction and conflict, that, in turn, predicted decreases and increases in burnout, respectively, over a 6-month period. 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 inferred from the present research. 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 burnout. Second, the present research relied exclusively on self-report data. Although the present results replicated in both studies and are consistent with the past literature, future research should seek to replicate the present findings with other assessments of burnout, such as those of informants (e.g., spouse, friends, or coworkers). Third, the response rate in Study 2 was low. Future research is needed to confirm that the present results generalize to the overall nursing population as well as to other workers. Fourth, it should be underscored that only one dimension of burnout was assessed in the present research, namely, emotional exhaustion. Although emotional exhaustion appears to be the most fundamental dimension of burnout (Maslach & Leiter, 2008), future research should further ascertain the role of passion in the experience of the other two burnout dimensions, namely cynicism and reduced efficacy. Finally, it should be noted that the percentage of variance explained in both studies was low to moderate in magnitude. This finding suggests that other psychological processes are at play. For instance, past research has shown that social variables such as a heavy workload and lack of autonomy are also involved in the experience of burnout (see Maslach et al., 2001). 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 burnout.

In sum, it would appear that passion is a double-edged sword. On the one hand, one type of passion (obsessive) is conducive to burnout, whereas on the other hand, the other type of passion (harmonious) prevents its occurrence. Thus, an important issue with respect to burnout is not whether someone is passionate or not toward work but rather whether someone displays a harmonious or an obsessive passion. Because passionate workers deeply care about their work, the challenge for them would appear to remain harmoniously passionate for their work while refraining from becoming obsessively passionate. It would thus appear that the conceptualization of passion offers a new avenue toward a better understanding of the processes promoting as well as preventing the occurrence of burnout. Future research along these lines would therefore appear promising.

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