

“Work is My Passion”: The Different Affective, Behavioural, and Cognitive Consequences of Harmonious and Obsessive Passion toward Work

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Abstract

This study applies the dualistic model of passion (Vallerand et al., 2003) to the work setting and examines the relationships between harmonious passion (characterized by a strong but controllable desire to engage in an activity), obsessive passion (characterized by an internal pressure to carry out an activity), and optimal functioning outcomes at work. Harmonious passion associated positively with: mental health; three elements of flow (i.e., concentration, control, and autotelic experience); vitality, and affective commitment. These relationships were partly mediated by satisfaction of the basic psychological needs of autonomy, competence, and relatedness. In contrast, obsessive passion directly and negatively predicted mental health and weakly but positively predicted autotelic experience. Theoretical and applied implications are discussed. Copyright ©2010 ASAC. Published by John Wiley & Sons, Ltd.

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Keywords: positive organizational behaviour, passion, mental health, flow, optimal human functioning

Résumé

Cette étude applique le modèle dualiste de la passion au milieu de travail (Vallerand et al., 2003) et examine les liens entre la passion harmonieuse (caractérisée par un désir intense mais contrôlable à s'engager dans l'activité), la passion obsessionnelle (caractérisée par une pression interne à faire l'activité) et des indicateurs de fonctionnement optimal. Les résultats indiquent que la passion harmonieuse est liée positivement à la santé mentale, aux trois éléments d'état psychologique optimal de flow (à savoir la concentration, le contrôle et l'expérience autotélique), à la vitalité et à l'engagement affectif. Ces relations sont partiellement explicables par la satisfaction des besoins psychologiques de base que sont l'autonomie, la compétence et l'affiliation sociale. En revanche, la passion obsessionnelle est directement et négativement associée à la santé mentale et faiblement, mais positivement liée à l'expérience autotélique. L'article s'achève par un examen des implications théoriques et pratiques de l'étude. Copyright © 2010 ASAC. Published by John Wiley & Sons, Ltd.

Mots-clés : comportement organisationnel positif, passion, santé mentale, état psychologique optimal de flow, fonctionnement humain optimal

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Work is an important part of life if only because it monopolizes close to half of one's waking life, not including commuting time or the many years of training. While some people see their job as a paycheque or a stepping-stone to a higher position, others value their work to the point of considering it a vocation (Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). Indeed, work is so important for some people that it gives meaning to their existence (Morin & Dassa, 2006; Wrzesniewski, 2003) and becomes part of their identity (Vallerand & Houlfort, 2003).

Yet, people who deeply value their work do not necessarily engage in it similarly. The quality and quantity of work involvement greatly vary across people and this has important consequences. Nested in the general positive psychology approach (Seligman & Csikszentmihalyi, 2002), the motivational perspective of passion (Vallerand et al., 2003; Vallerand, 2008) can shed light on the mechanisms through which different patterns of time and energy investment in various activities impact people's affect, cognition, and behaviours. In the work domain, the theory of passion contributes to the general positive organizational scholarship (Cameron, Dutton, & Quinn, 2003) approach, which aims at studying the "positive outcomes, processes and attributes of organizations and their members" (p. 4). The main goal of the present study is to verify the applicability of the theory of passion to the work setting and investigate the extent to which passion is linked to important optimal functioning outcomes at work such as mental health, flow, vitality, and affective commitment.

The Concept of Passion

The concept of passion has a long philosophical history. However, in psychology, it is only recently that researchers have tackled the concept of passion toward an activity. Most empirical studies on passion pertain to romantic relationships (e.g., Hatfield & Walster, 1978) or are focused on concepts akin to passion such as personal interests (Krapp, 2002), commitment and over commitment (Dubé, Kairouz, & Jodoin, 1997), serious play (Rathunde, 1993), or personally salient activities (Waterman, 2005). Despite their different names, these concepts have in common an engagement toward an activity, an emotional component attached to the activity, and a level of value toward the activity.

In line with these different constructs, Vallerand and colleagues (2003) defined passion as a strong inclination toward an activity that people like, find important, and in which they invest significant time and energy. Along with these criteria comes another: to be passionate, the activity must be internalized within a person's identity (Vallerand et al.). For example, people who are passionate about golf do not only play golf, they have incorporated this activity into their lifestyle and they perceive themselves as golfers. The activity is thus internalized within the self and contributes

to the person's identity (Stenseng, 2008; Vallerand et al.). The dimension of value is especially important for passion because it separates passionate activities from other interesting but unimportant activities toward which people are intrinsically motivated.

Harmonious and Obsessive Passion

Vallerand and colleagues (2003) further postulated the existence of two types of passion: obsessive and harmonious.¹ The distinction between these two results from the internalization process that occurs when the passionate activity becomes part of the person's identity. This process can either be controlled or autonomous (Deci & Ryan, 2000; Sheldon, 2002). In the case of an autonomous internalization, the activity remains under the control of the individual and leads to a harmonious passion, while a controlled internalization leads to the development of an obsessive passion where the activity "controls" the individual.

Harmonious passion can be defined as a motivational force leading the individual to choose to engage in his or her activity. The individual thus freely devotes time and energy to the activity while remaining in control of his or her engagement. This creates a sense of volition and personal endorsement about pursuing the activity (Vallerand et al., 2003). Also, as its name implies, harmonious passion is in harmony or in balance with other life areas. In contrast, obsessive passion is characterized by an internal pressure to practice the activity. The individual has thus lost control over the activity and feels a constant pressure or an internal compulsion to engage in it. The activity takes a disproportionate place in the individual's identity and daily life, which in turn generates conflicts between the passionate activity and other life areas. Obsessive passion can even make the person dependent on his or her activity (Vallerand & Houlfort, 2003), just as a person becomes dependent on an illicit substance. This in turn creates rigid persistence in the activity, leading people to engage in the passionate activity even when the circumstances surrounding activity engagement makes it ill advised or counterproductive. For example, people with an obsessive passion are more likely to engage in their activity when injured (Rip, Fortin, & Vallerand, 2006) or to engage in that activity regardless of any consequences (i.e., heavy gambling leading to financial distress; Philippe & Vallerand, 2007).

Research in different life domains has supported the dualistic model of passion. The reliability and validity of the two-factor passion scale has been supported in various activities such as sport (e.g., Vallerand et al., 2006; Vallerand et al., 2008) and self-reported favourite activities (e.g., Philippe, Vallerand, & Lavigne, 2009; Stenseng, 2008). Research on the affective, behavioural, and cognitive consequences of passion has generally shown that harmonious passion is linked to positive consequences and that obsessive passion is related to less positive or negative consequences

(e.g., Carbonneau, Vallerand, Fernet, & Guay, 2008). For example, results indicate that harmonious passion is related to greater levels of vitality (Houlfort, Koestner, Vallerand, & Blanchard, 2009), more positive emotions during and after the practice of the passionate activity, and more episodes of complete absorption or flow (Vallerand et al., 2003). Obsessive passion was unrelated to these positive outcomes or related to negative outcomes such as conflicts in romantic relationships due to excessive activity engagement (Séguin-Lévesque, Laliberté, Pelletier, Blanchard, & Vallerand, 2003) and lower positive affect when people were prevented from engaging in the activity (Mageau & Vallerand, 2007).

Research also shows that passion can be distinguished from other motivational constructs such as intrinsic motivation. Passionate activities differ from intrinsically motivated activities in that they are deeply valued by the individual and they are internalized into the person's identity. This is not necessarily the case for intrinsically motivated activities. Because passionate activities are more central, they should have a more profound impact on people's lives than motivation or goals. Empirical evidence confirms that when motivation and harmonious passion are assessed toward a given activity, harmonious passion predicts positive and negative affect above and beyond what is predicted by motivation (Vallerand et al., 2003, Study 2). Passion, especially in its harmonious form, thus seems to be an important motivational force that can promote well-being, vitality, and flow. Given its importance in various life domains, the concept of passion should also greatly contribute to a person's experience in the work setting.

Passion for Work

In the popular press, passion for one's work seems to be related to positive outcomes (e.g., Anderson, 1995; Boyatzis, McKee, & Goleman, 2002; Bruch & Ghoshal, 2003; Chang, 2000; Gubman, 2004; Klapmeier, 2007). Many researchers have argued that passion is an active ingredient for venture growth (Baum & Locke, 2004; Baum, Locke, & Kirkpatrick, 1998; Baum, Locke, & Smith, 2001), well-being (Burke & Fiskensbaum, 2009), and entrepreneurial success (Cardon, 2008; Cardon, Wincent, Singh, & Drnovsek, 2009; Cardon, Zietsma, Saporito, Matherne, & Davis, 2005). These empirical and theoretical papers underline the importance of passion per se for these outcomes. However, unlike the dualistic model of passion, their definition of passion—either as love for work (e.g., Baum et al., 2001) or intense positive feelings and meaning (e.g., Cardon et al., 2009)—does not include the possibility that passion for work can be experienced in different ways. Vallerand and colleagues' (2003) distinction between harmonious and obsessive passion is particularly important given the opposite consequences associated with these different types of passion.

In an exploratory study involving 300 workers (e.g., managers, professors, technicians, etc.), Vallerand and

Houlfort (2003) applied the dualistic model of passion to work for the first time. Results indicated that harmonious passion was positively related to psychological adjustment (operationalized as a composite measure of positive and negative affect), and obsessive passion was negatively related to psychological adjustment. Furthermore, they showed that the relation between harmonious passion and psychological adjustment at work was mediated by need satisfaction (Vallerand & Houlfort). Specifically, results suggested that harmonious passion at work leads to psychological adjustment because this type of passion facilitates the satisfaction of the psychological needs for autonomy, competence, and relatedness. Stemming from Self-Determination Theory (SDT; Deci & Ryan, 2000), these three basic human needs may be viewed as essential and universal nutrients for mental health and optimal functioning in various settings (Ryan & Deci, 2000) including work (Gagné & Forest, 2009). While Vallerand and Houlfort expected obsessive passion to be negatively related to need satisfaction, results showed that obsessive passion was unrelated to need satisfaction but instead was directly and negatively linked to psychological adjustment. These preliminary results of the first study on passion at work and psychological adjustment are interesting in that they identify one of the psychological mechanisms responsible for the positive impact of harmonious passion on psychological adjustment. Since it was only tested in one sample, the mediating effect of need satisfaction should be tested in other organizations and types of jobs. Also, both the quantity and quality of the outcome measures used in this study were limited. A study that goes beyond examining the link between passion and psychological adjustment (which is a restricted notion) by examining mental health (which is more encompassing) and other optimal human functioning indicators shown to promote performance (e.g., flow) or less turnover (e.g., affective commitment) thus seems warranted. In addition to these affective and cognitive consequences, behavioural outcomes such as working on holidays, or out-of-work outcomes such as constantly thinking about work when not at work, have not been studied by Vallerand and Houlfort.

While the notion of psychological adjustment used by Vallerand and Houlfort (2003) is an important outcome, it cannot be equated with mental health. Literature on mental health has emphasized the importance of simultaneously including positive and negative indicators (e.g., Keyes, 2003). Although Vallerand and Houlfort included both positive and negative affect in their measure of psychological adjustment, mental health is more than general emotions (Lent, 2004; Massé, Poulin, Lambert, & Dassa, 1998).² Mental health at work, more than psychological adjustment, is of particular interest to researchers and practitioners alike because it has been related to important economic considerations (Schott, 1999). For example, costs associated with work-related mental health problems are estimated at 150

billion dollars in the USA (Danna & Griffin, 1999) and at 14 billion dollars per year in Canada (Stephens & Joubert, 2001). It thus seems important to examine the role of passion in relation to the more general, and clinically valid, construct of mental health. In addition, although empirical evidence in other life domains points to several benefits of having a harmonious passion, no research has yet attempted to link the two types of passion to an empirically-validated model of mental health.

Passion for Work: The Present Research

The main goals of this study were to apply the dualistic model of passion to the work setting and to replicate and extend Vallerand and Houliort's (2003) findings using a validated measure of mental health as well as additional indicators of optimal human functioning at work, which were shown to be related to more performance and less turnover. Another goal was to investigate the mediating effect of need satisfaction on the relationship between passion and well-being. Finally, people's relationships with work were examined with respect to their passion.

To investigate relationships between passion and mental health, the present study relied on Massé and colleagues' (1998a, 1998b) conceptualization of mental health. This model was chosen for the following reasons: it is a comprehensive multidimensional conceptualization, it covers the presence of well-being and the absence of distress, it has been validated, it is empirically different from other constructs, and it is designed for a nonclinical population.

Based on previous research on passion in various life domains (e.g., Vallerand et al., 2003) and at work (e.g., Vallerand & Houliort, 2003), we hypothesized that the two types of passion would predict mental health, but in opposite directions.

Hypothesis 1: Harmonious passion for work relates positively to psychological well-being and negatively to psychological distress.

Hypothesis 1a: Obsessive passion for work relates negatively to psychological well-being and positively to psychological distress.

Given that most research on passion has been conducted in other life domains, we know little about the impact of passion on optimal functioning indicators at work. Therefore, we also investigated the relationship between passion and flow (being totally absorbed; Csikszentmihalyi, 1990), vitality (psychological energy; Ryan & Frederick, 1997), and affective commitment (emotional attachment to the organization; Meyer & Allen, 1997). Flow and affective commitment were chosen because flow positively predicts

performance at work (Straume, 2008), and affective commitment negatively predicts turnover (Meyer & Allen, 1997). In line with previous studies conducted in other life domains (e.g., Philippe, Vallerand, Andrianarisoa, & Burnel, 2009), we hypothesized that:

Hypothesis 2: Harmonious passion for work relates positively to the three elements of flow (concentration, sense of control, and autotelic experience).

Hypothesis 3: Harmonious passion for work relates positively to vitality.

Hypothesis 3a: Obsessive passion for work relates negatively to vitality.

As for affective commitment, we predicted that because both types of passion involve a strong liking of the activity, they would relate positively to this outcome.

Hypothesis 4: Harmonious passion for work relates positively to affective commitment.

Hypothesis 4a: Obsessive passion for work relates positively to affective commitment.

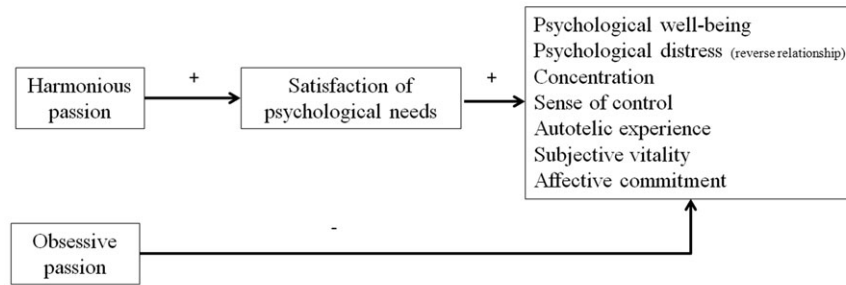
Another goal of the present research was to replicate Vallerand and Houliort's (2003) findings on the mediating effect of need satisfaction in the relationship between passion and the outcome variables. We expected that need satisfaction would mediate the relationships between harmonious passion and the outcome variables and that obsessive passion would have only direct relationships with these outcomes (see Figure 1).

Hypothesis 5: Need satisfaction mediates the relationships between harmonious passion and the following outcome variables: psychological well-being and distress, concentration, control, autotelic experience vitality, and affective commitment.

Finally, relationships between the two types of passion and different items pertaining to the relationship with work were examined. We measured the extent to which people took work home, worked during holidays, constantly thought about work, felt a sense of control over their career, would choose their career again if given the choice, and had fun at work. In line with previous findings (e.g., Séguin-Lévesque et al., 2003), we expected that harmonious passion would relate positively to adaptive work experiences and that obsessive passion would relate positively to maladaptive work experiences.

Hypothesis 6: Harmonious passion for work relates positively to career control and choice as well as general fun at work.

Figure 1.
Graphical representation of the mediation analyses



Hypothesis 6a: Obsessive passion for work relates positively to taking work home, working during holidays, and constantly thinking about work.

.74 (95% CI = .70 to .78; sample item: “I have difficulty controlling my need to do my work”). Participants answered using a scale ranging from 1 (Do not agree at all) to 7 (Very strongly agree).

Method

Mediating Variable

Participants and Procedure

Need satisfaction index. Need satisfaction was measured using 11 items derived from Morin and Dassa’s (2006) meaningful work characteristics scale. This scale measures different characteristics of a meaningful work, including the three psychological needs of autonomy, competence, and relatedness. Autonomy was measured with three items ($\alpha = .80$, 95% CI = .76 to .83; sample item: “My work allows me to make decisions”), competence with five items ($\alpha = .75$, 95% CI = .71 to .78; sample item: “I have the competencies needed to do my work well”), and relatedness with three items ($\alpha = .79$, 95% CI = .75 to .82; sample item: “My work gives me the opportunity to have good relationships with others”). The response scale was from 1 (Strongly disagree) to 6 (Strongly agree). Following Baard, Deci, and Ryan’s procedure (2004), scores were averaged to obtain a global need satisfaction index ($\alpha = .77$, 95% CI = .74 to .81).

Participants were French-speaking employees from a large service company in the province of Québec and were invited to participate in an academic study on job attitudes by the human resources department. A total of 439 participants (125 men, 314 women; response rate of 52%) completed an online questionnaire during work hours. The mean age of the group was 36.8 years (SD = 9.4 years) and mean tenure was 9.6 years (SD = 8.3 years).

Measures

Outcome Variables

Demographics. Demographic questions were asked regarding age, gender (1 = men and 2 = women), marital status (1 = living alone; single, separated, divorced, or widowed, 2 = living with someone; either married or not, previously divorced, or widowed), children (from 1 = none to 6 = five or more), and job tenure (in years).

Predictor Variable

Mental health. Participants completed the psychological well-being scale (Massé et al., 1998a) and the psychological distress scale (Massé et al., 1998b). Using the stem “During the last month . . .”, participants indicated their response on a 1 (Never) to 5 (Always) scale. The psychological well-being scale has 25 items ($\alpha = .88$, 95% CI = .84 to .93; sample item: “I had the impression of really enjoying life”), and the psychological distress scale 23 items ($\alpha = .89$, 95% CI = .86 to .93; sample item: “I didn’t have

Passion. The French-version of the passion for work scale (Vallerand & Houliort, 2003) has two 6-item subscales: harmonious passion with a Cronbach alpha in the current study of .83 and a 95% confidence interval (CI) of .80 to .85 (cf. Fan & Thompson, 2001; sample item: “The new things that I discover with my work allow me to appreciate it even more”); and obsessive passion with an alpha of

much initiative in general”). The psychological well-being scale can be separated into six factors (stability, sociability, control, self-esteem, and happiness), and the psychological distress scale into four factors (irritability, anxiety/depression, devaluing of oneself, and disengagement; Massé et al., 1998a, 1998b). These subscales are then averaged to obtain two global scores: psychological well-being and distress. Massé and colleagues (1998) performed a confirmatory factor analysis showing that mental health is a second-order factor that includes psychological well-being and distress as first-order factors.

State of flow. Three elements of flow at work were assessed using a French-version of the Flow State Scale (Jackson & Marsh, 1996), which was adapted to the work context (Forest, LeBrock, Madore, & Boudrias, 2005). Three subscales were used to capture the nature of flow (Csikszentmihalyi, Abuhamdeh, & Nakamura, 2005), also referred to as the immediate experience of flow (Straume, 2008). These subscales were concentration on the task ($\alpha = .92$, 95% CI = .91 to .93; sample item: “My attention is focused entirely on what I am doing.”), sense of control ($\alpha = .89$, 95% CI = .87 to .91; sample item: “I have a sense of control over what I am doing.”), and autotelic experience ($\alpha = .89$, 95% CI = .87 to .92; sample item: “I really enjoy the experience.”). Each subscale is composed of four items for a total of twelve items. The questionnaire started with the stem “In general, when I work...” and had a 1 (Do not agree at all) to 7 (Very strongly agree) response scale.

Vitality. Vitality was measured using the French-version (Rousseau, 2002) of the original 7-item scale (Ryan & Frederick, 1997; $\alpha = .86$, 95% CI = .84 to .88; sample item: “I feel energized.”). Using the stem “In general...”, participants indicated their response using a 1 (Do not agree at all) to 7 (Very strongly agree) response scale.

Affective commitment. Vandenberghe’s (2003) French-version of the affective commitment subscale was used in this study. The stem was: “The following statements pertain to your relation with the organization that employs you” and the response scale was from 1 (Never) to 5 (Always). This subscale has six items ($\alpha = .85$, 95% CI = .82 to .87; sample item: “I am proud to be part of this organization”).

Relationship with one’s work. Five items of the “Work-life Questionnaire” (Wrzesniewski et al., 1997) were used: “I never take work home with me,” “I tend to take my work with me on vacations,” “When I am not at work, I do not think much about my work,” “I feel in control of my work life,” and “I would choose my current work life again if I had the opportunity.” Answers were given on a 1 (Never) to 5 (Always) scale. Following Wrzesniewski and colleagues’ (1997) procedure, we used the items separately in order to test the direction and magnitude of the link between the attitudes measured by these items and the two types of passion. Finally, an item designed for this study was used to measure fun at work: “In general, would you say that you

have fun doing your work?” Answers to this single item were given on a 1 (Not at all) to 5 (A lot) scale.

Results

Preliminary Analyses

Data were normally distributed with kurtosis and skewness values within the +1 and –1 range (Tabachnik & Fidell, 2006) with no evidence of singularity or multicollinearity. Means, standard deviations, and correlations are presented in Table 1. Harmonious and obsessive passion were correlated ($r = .35$, $p < .001$) and both harmonious ($r = .63$, $p < .001$) and obsessive passion ($r = .22$, $p < .001$) were positively related to need satisfaction.

Consequences of Passion toward Work

To evaluate the relationships of the two types of passion with the outcome variables, hierarchical regression analyses were run while controlling for demographic variables at step 1 (see Table 2). Considering the high number of coefficients to interpret (13 in total), the Bonferroni correction (Tabachnik & Fidell, 2006) was applied. This method is a precaution against the inflation of Type I error probabilities that occur when multiple tests of statistical significance are interpreted on the same data. If this method is not used, Type I error probabilities associated with each test accumulate, resulting in high risks of finding an effect due to chance (for 13 tests, the critical p value would be .65 instead of .05). We thus took the usual significance level of $p < .05$ and divided it by 13 [.05/13]—the number of coefficients to interpret—and set it to $p < .004$.

Analyses revealed that the more people were harmoniously passionate toward their work, the more likely they were to report higher levels of psychological well-being ($\beta = .55$, $p < .001$), concentration at work ($\beta = .32$, $p < .001$), sense of control ($\beta = .41$, $p < .001$), autotelic experience ($\beta = .56$, $p < .001$), vitality ($\beta = .43$, $p < .001$), and affective commitment ($\beta = .46$, $p < .001$). Conversely, harmonious passion toward work negatively predicted psychological distress ($\beta = -.38$, $p < .001$). These results thus confirmed hypotheses 1, 2, 3, and 4.

In contrast, participants who reported higher levels of obsessive passion toward work also reported higher levels of psychological distress ($\beta = .19$, $p < .001$) and lower levels of psychological well-being ($\beta = -.24$, $p < .001$), thus confirming hypothesis 1a. They were also more prone to report lower levels of vitality ($\beta = -.14$, $p < .007$) but this relation, while being in the expected direction, was not significant given the stringent level of significance we applied ($p < .004$). Hence, hypothesis 3a was not confirmed. As predicted, obsessive passion was not related to elements of

Table 1
Means, Standard Deviations, and Intercorrelations

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	32	
1. Age	36.76	9.37	-																						
2. Gender	-	-	-.00	-																					
3. Marital status	-	-	.07	-.09*	-																				
4. Children	1.93	1.08	.30***	-.08	.36***	-																			
5. Tenure	9.58	8.28	.63***	-.01	.06	.20***	-																		
6. Harmonious passion	4.81	.87	.02	-.04	.03	.03	.02	(.83)																	
7. Obsessive passion	2.77	.91	-.02	-.14**	-.06	-.06	.01	.35***	(.74)																
8. Intrinsic need satisfaction index	5.08	.53	-.03	-.07	.03	-.00	.04	.63***	.22***	(.77)															
9. Psychological well-being	3.83	.48	.05	.05	.02	-.01	-.10*	.47***	-.05	.41***	(.88)														
10. Psychological distress	1.77	.47	-.10*	.00	-.11*	-.05	.04	-.33***	.05	-.35***	-.66***	(.89)													
11. Concentration	5.03	.91	.08	.02	-.07	-.09	.06	.34***	.16***	.31***	.38***	-.23***	(.92)												
12. Control	4.99	.88	.06	-.02	-.01	-.01	.12*	.41***	.11*	.41***	.53***	-.41***	.70***	(.89)											
13. Autotelic experience	4.89	.97	-.03	.04	-.02	.04	-.01	.61***	.32***	.51***	.44***	-.25***	.53***	.58***	(.89)										
14. Vitality	4.81	.93	-.02	-.01	.06	-.06	-.06	.39***	.03	.33***	.65***	-.44***	.43***	.51***	.54***	(.86)									
15. Affective commitment	3.61	.75	.09	-.02	-.04	-.01	.12*	.50***	.30***	.51***	.31***	-.29***	.18***	.25***	.45***	.26***	(.85)								
16. No work after hours	2.82	1.63	-.03	.03	.01	.03	-.03	-.00	-.18***	.02	.09	-.11*	-.06	.00	-.08	.02	-.07	-							
17. Work during holidays	1.76	1.19	-.13**	-.05	.03	-.03	-.07	.08	.34***	.04	-.11*	.12*	.11*	.04	.10*	.07	.09	-.30***	-						
18. Not constantly thinking about work	3.41	1.40	-.06	-.01	.08	.00	-.05	-.03	-.20***	-.00	.09	-.14**	-.02	.03	-.08	.04	-.11*	.41***	-.16***	-					
19. Career control	4.51	.94	-.01	.05	-.08	-.05	.05	.44***	.17***	.45***	.36***	-.29***	.38***	.48***	.50***	.33***	.31***	-.00	.11*	.06	-				
20. Career choice	4.38	1.51	-.13**	-.06	.03	-.03	-.02	.40***	.25***	.34***	.14**	-.14**	.27***	.21***	.40***	.20***	.25***	-.04	.22***	-.05	.41***	-			
21. Fun at work	4.01	.78	.14**	.13**	.03	.02	.12*	.46***	.16***	.43***	.44***	-.36***	.28***	.39***	.52***	.46***	.46***	.01	-.03	-.06	.36***	.25***	-		

Note: N = 439. * p < .05. ** p < .01. *** p < .001. Alpha coefficients on the diagonal.

Table 2
Hierarchical Regression Analyses between the Two Types of Passion and the Outcome Variables with Control of Demographic Variables at Step 1

Step	Outcome variables												
	Psychological well-being	Psychological distress	Concentration	Sense of control	Autotelic experience	Subjective vitality	Affective commitment	No work after hours	Work during holidays	Not constantly thinking about work	Career control	Career choice	Fun at work
	β	β	β	β	β	β	β	β	β	β	β	β	β
Step 1													
Age	.06	-.06	.07	-.03	-.03	.05	.03	-.03	-.14*	-.05	-.03	-.19**	.04*
Gender	.05	-.01	-.01	-.02	.02	-.01	-.04	.06	-.05	.00	.04	-.05	.14**
Marital status	.04	-.13*	.00	-.04	-.01	.08	-.05	.01	.02	.09	-.07	.05	.04
Children	-.03	.01	-.03	.03	-.03	-.02	.04	-.03	.03	-.02	-.02	.00	-.01
Tenure	.01	-.07	.02	.13*	.03	-.09	.11	-.01	.01	-.03	.07	.10	.04
R ²	.01	.03	.01	.02	.00	.01	.02	.01	.02	.01	.01	.03	.05
Step 2													
Age	.04	-.05	.07	-.03	-.03	.04	.03	-.04	-.12	-.06	-.03	-.19**	.13*
Gender	.03	.01	-.01	-.02	-.04	-.03	-.01	.03	-.01	-.02	.04	-.02	.15**
Marital status	.02	-.11*	-.00	-.05	-.01	.06	-.05	.00	.03	.08	-.08	.04	.03
Children	-.06	.04	-.04	.01	-.04	-.04	.03	-.04	.05	-.03	-.04	-.00	-.03
Tenure	.03	-.09	.02	.14*	.03	-.08	.10*	.01	-.05	-.01	.08	.09	.04
Harmonious passion	.55***	-.38***	.32***	.41***	.56***	.43***	.46***	.05	-.05	.03	.44***	.36***	.44***
Obsessive passion	-.24***	.19***	.05	-.04	.13*	-.14**	.13**	-.20***	.35***	-.22***	.02	.11*	.03
ΔR^2	.25	.10	.11	.14	.38	.15	.24	.03	.09	.03	.19	.14	.15
R ² total	.26	.13	.12	.16	.38	.16	.26	.04	.11	.04	.20	.17	.20

Note: N = 439. * $p < .05$, ** $p < .01$, *** $p < .001$.

flow except for autotelic experience where an unexpected and small positive relationship was observed ($\beta = .13, p < .003$). As for affective commitment, its association with obsessive passion was small and positive but nonsignificant ($\beta = .12, p < .01$), consequently not supporting hypothesis 4a. The effect-sizes ranged from small to large (Cohen, Cohen, West, & Aiken, 2003) as the two types of passion explained from 3% to 38% of the outcome variables (see Table 2).

Need Satisfaction as a Mediator between Passion toward Work and Outcomes

In line with Vallerand and Houliort (2003), we hypothesized that the affective (i.e., psychological well-being and distress, affective commitment) and cognitive consequences (i.e., concentration, control, autotelic experience, and vitality) of the two types of passion could be partially explained by the extent to which one’s passion satisfied the person’s psychological needs for autonomy, competence, and relatedness. To test this, we followed the four steps procedure outlined by Preacher and Leonardelli (2001). Firstly, direct relationships between the two types of passion and the mediator (need satisfaction) should be observed. The second step of this procedure is to verify that the predictor variables (harmonious and obsessive passions) have a significant and direct impact on the outcome variables when the mediator (need satisfaction) is not in the equation. As shown in Table 2, these prerequisites were met. The third step is to check that the mediator has a significant unique effect on the outcome variables. Finally, the fourth step entails a verification that the effect of the predictor variables (harmonious and obsessive passions) on the outcome variables is reduced or is no longer significant when the mediator is added to the

model. When all of these criteria are met, mediation is supported.

The four prerequisites for mediation were met for harmonious passion but not for obsessive passion. Specifically, need satisfaction partially mediated (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002) relationships between harmonious passion and psychological well-being and distress, concentration, control, autotelic experience, vitality, and affective commitment, hence confirming hypothesis 5 (see Table 3).

While the above procedure allows us to assess the presence of a mediation effect, it does not indicate its statistical significance. The Sobel test (1982) can verify whether the mediator statistically explains the effect of the predictor variable on the outcome variable. The Sobel tests were significant in all cases ($p < .001$) except for vitality ($p > .01$). When mediating effects were statistically significant, another procedure (Frazier, Tix, & Barron, 2004) was used to estimate the percentage of the relationship between the predictor and outcome variable that could be explained by the mediator. This was done by decomposing the common variance between the predictor and outcome variables into direct and indirect effects and then calculating the percentage of the relationships explained by the mediator (Frazier et al., 2004). This percentage is obtained by dividing the indirect effect by the total effect, which is the sum of the indirect and direct effects (see Frazier et al., 2004). Results indicate that the importance of need satisfaction as a mediator varies from one outcome variable to the next. More specifically, percentages of mediation are as follows: 18.3% for psychological well-being, 27% for psychological distress, 25.2% for concentration, 2.3% for sense of control, 20.1% for autotelic experience, and 30% for affective commitment.

Table 3
Comparison of Standardized Beta Coefficients for Direct Models between Harmonious Passion and the Outcome Variables and Mediator Models where Intrinsic Need Satisfaction Mediates the Relationships between Harmonious Passion and the Outcome Variables

	Standardized β for the direct models	Standardized β for the indirect models
	Direct effect	Indirect effect
<i>Outcome variables</i>		
Psychological well-being	.54***	.41***
Psychological distress	-.28***	-.23***
Concentration	.32***	.20***
Sense of control	.41***	.24***
Autotelic experience	.59***	.44***
Subjective vitality	.43***	.33***
Affective commitment	.45***	.27***

Note: $N = 439$, *** $p < .001$.

Relationship with One's Work

Effects of the two types of passion on people's relationship with their work were assessed and the results confirmed hypotheses 6 and 6a (see Table 2). Specifically, harmonious passion was positively related to having control over one's professional life ($\beta = .44, p < .001$), pursuing the same career choice if one had the opportunity ($\beta = .36, p < .001$), and to having fun while working ($\beta = .44, p < .001$). Higher levels of obsessive passion were negatively related to not taking work home ($\beta = -.20, p < .001$) and to not thinking about work when outside the workplace ($\beta = -.22, p < .001$). In other words, the more people reported an obsessive passion, the more likely they were to take work home and to constantly think about work when outside the workplace. Obsessive passion was also related to working during holidays ($\beta = .35, p < .001$). Interestingly, age was significantly and negatively related to making the same career choice if work life had to be relived ($\beta = -.19, p < .002$). Older people were thus less likely to report that they would make the same career choice if given the opportunity.

Discussion

Summary

The present study illustrates the applicability of the dualistic model of passion to the realm of work and the relevance of both harmonious and obsessive passions in predicting important work outcomes. Specifically, harmonious passion is related to mental health, the state of flow, vitality, and affective commitment. These relationships are partly mediated by the satisfaction of basic psychological needs of autonomy, competence, and relatedness. In contrast, obsessive passion is directly and negatively associated with mental health and weakly positively related to autotelic experience.

Contributions to Scholarship

The present research contributes to positive organizational scholarship (Cameron et al., 2003) research in three principal ways. Firstly, it shows that the dualistic model of passion (Vallerand et al., 2003) is a useful framework to better understand optimal human functioning at work. While some research has underscored passion for work as an important and positive motivational force (Baum & Locke, 2004; Baum et al., 1998, 2001; Cardon, 2008; Cardon et al., 2005), the dualistic model of passion broadens our understanding of passion by identifying two ways in which passion can be experienced: a harmonious type, which is associated with positive outcomes, and a more obsessive type, which leads to negative consequences. The present results show that only harmonious passion signifi-

cantly predicts mental health, flow, vitality, and affective commitment.

In addition, the importance of need satisfaction for optimal functioning at work is underscored by positive relationships between need satisfaction and positive work outcomes. These results are in line with previous findings linking need satisfaction to well-being and performance (Baard et al., 2004). Given that work-related mental health problems have been widespread in recent years, nurturing harmonious passion and satisfying psychological needs seem important and likely antidotes to these problems.

Thirdly, the present research extends available knowledge on the consequences of the two types of passion in the work domain. While previous research has investigated the relationship between passion and psychological adjustment (Vallerand & Houlfort, 2003), the current study is the first to examine the two types of passion in relation to an empirically validated measure of mental health, thereby identifying mental health as an additional consequence of passion. Harmonious passion at work was also related to optimal human functioning variables such as concentration, sense of control, autotelic experience, vitality, and affective commitment, while obsessive passion was negatively related to mental health and weakly positively related to autotelic experience.

Fourthly, the present research confirms need satisfaction as a mediator of the influence of harmonious passion on work-related outcomes, thus replicating and extending the findings of Vallerand and Houlfort (2003). Perhaps because people with a harmonious passion have internalized their activity autonomously (Deci & Ryan, 2000) they may be more capable of modulating their work investment to satisfy their various needs at work. For example, they may be more likely to take time to connect with their colleagues, invest time in training and development, and choose their activities according to their own values instead of responding to external cues, thereby satisfying their needs for relatedness, competence, and autonomy respectively. In contrast, need satisfaction did not mediate the negative relationships between obsessive passion and work outcomes. Obsessive passion has been shown to relate to conflicts between various life domains (Séguin-Lévesque et al., 2003). It may be that this disproportionate importance placed on work has a negative spillover effect (Edwards & Rothbard, 2000) on other areas of life like family or social life, which then results in lower levels of optimal human functioning.

Finally, the two types of passion were related to experiences at work that were consistent with each type of passion's conceptual definition. Indeed, only obsessive passion is related to behaviours that might elicit intra- and interpersonal conflicts and rigid persistence: bringing work home, working during holidays, and thinking about work after work hours. These results are in line with previous findings, which showed that obsessive passion is positively associ-

ated with intra- (Stenseng, 2008) and interpersonal conflicts (Séguin-Lévesque et al., 2003), as well as with behavioural rigidity (Rip et al., 2006). In contrast, harmonious passion is not related to these deleterious behaviours but is linked to control over one's professional life, career satisfaction, and fun at work.

Applied Implications

Interventions targeting people with high levels of obsessive passion should aim at reducing the encroachment of the passionate activity on other life areas and at helping people find more efficient ways to control their engagement in the passionate activity. For example, different strategies could be taught to bring work into perspective with other life domains and enhance work-life balance (Matjasko & Feldman, 2006).

Limitations and Future Research Directions

The first limitation of the present study is that only people from one organization were contacted and the replicability of the present findings needs to be established in other organizations and types of jobs. Secondly, the cross-sectional and correlational design of the present study calls for prudence in the interpretation of the findings as causality cannot be evaluated; longitudinal research is required. Finally, measures are all self-reported, which can artificially increase the observed correlations because of common method variance (Lindell & Whitney, 2001). This problem should be addressed in future studies by using "hard" data (e.g., records of absenteeism, sales in dollars, etc.).

Research avenues for future studies include investigating intra- and interpersonal antecedents that promote harmonious passion and prevent obsessive passion. Studies on the factors that influence passion toward an activity per se are also needed. People in positions of authority who facilitate identification with a given activity (and who emphasize its value) are likely to promote passion toward that activity (Mageau et al., 2009). Future studies could investigate whether managers who promote identification with work, and who emphasize the value of work, also induce a passion toward work among their employees. Looking at interpersonal determinants of the internalization of passionate activity, preliminary results have shown that an autonomy-supportive managerial style (Deci, Connell, & Ryan, 1989) can both promote harmonious passion and prevent the development of obsessive passion toward work (Moreau, Mageau, Forest, Brunet, & Savoie, 2008). This managerial style usually implies understanding the subordinates' perspective, providing choice, and encouraging initiative-taking as well as providing a rationale for tasks and regulations (Baard et al., 2004; Mageau & Vallerand, 2003). Studies are needed to replicate these findings with a larger sample and to identify other supervisory behaviours that

could promote harmonious passion and prevent or diminish obsessive passion for work.

Conclusion

In short, passion seems to be an important aspect of the new positive agenda in organizations, both as a research subject and an intervention target. Being passionate about one's work is possible. However, research shows that the consequences of passion will depend upon the type of passion that develops. Fostering a harmonious, as opposed to an obsessive, passion is crucial if companies wish to promote and maintain employees' mental health and optimal functioning. To the question "How can people's work make their life most worth living?" (Forest, 2004), which summarizes the emerging positive agenda in organizations, one reasonable answer thus seems to be: "By nourishing a harmonious passion toward work."

Notes

- 1 The first studies on passion (e.g., Blanchard, 1999) used a subscale to measure the intensity of passion along the harmonious and obsessive passion subscales. People who scored high on intensity (measured with the three criteria of the definition of passion, namely, liking the activity, valuing it, and investing time and energy in it) also reported a high level of either a harmonious or obsessive passion toward their activity. The intensity of passion subscale was thus not used systematically in subsequent research on passion as it could be assumed that people who reported having high levels of harmonious or obsessive passion were passionate toward their activity.
- 2 The conceptual difference between psychological adjustment and mental health is akin to the difference between hedonic and eudaimonic well-being (Waterman, 1993) where the former is a person's cognitive evaluation of whether positive affect is experienced more frequently than negative affect and the latter is a much larger concept that defines well-being in terms of the degree to which an individual is functioning optimally. Similarly, mental health includes psychological adjustment but it is a larger and more comprehensive concept (e.g., Lent, 2004).

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