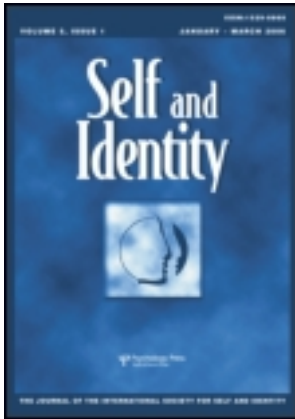


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Marc-André K. Lafrenière^a, Ariane C. St-Louis^a, Robert J. Vallerand^a & Eric G. Donahue^a

^a Laboratoire de Recherche sur le Comportement Social, Université du Québec à Montréal, Montréal, Québec, Canada
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On the Relation between Performance and Life Satisfaction: The Moderating Role of Passion

MARC-ANDRÉ K. LAFRENIÈRE
ARIANE C. ST-LOUIS
ROBERT J. VALLERAND
ERIC G. DONAHUE

Laboratoire de Recherche sur le Comportement Social, Université du Québec à Montréal, Montréal, Québec, Canada

The dualistic model of passion (Vallerand, 2010) regards passion as a strong inclination toward a self-defining activity that one loves, values, and in which one invests a substantial amount of time and energy. The model proposes two distinct types of passion, harmonious and obsessive, that predict adaptive and less adaptive outcomes, respectively. It was hypothesized that individuals with an obsessive passion would have their life satisfaction dependent on their performance. This is so because obsessive passion leads the activity to take a disproportionate place in one's life. On the other hand, this should not be the case for harmonious passion. Results of Study 1 (N = 63) revealed that the more professional painters had an obsessive passion toward their art, the more they experienced increases in life satisfaction following a success. On the other hand, accentuated decreases in life satisfaction were experienced following a failure. In contrast, harmonious passion was unrelated to this phenomenon. Study 2 was conducted with a sample of hockey fans (N = 77) who reported their life satisfaction the day after each game of a 2009 National Hockey League playoff series. Results using hierarchical linear modeling analyses replicated findings from Study 1.

Keywords: Passion; Life satisfaction; Success and failure.

Losing the last game of the season; failing to get into graduate school; getting a paper rejected. Certain situations connote clear success or failure that cannot be changed in the near future. Thus, one has to deal affectively with these events (Campbell & Sedikides, 1999; Sedikides & Gregg, 2008). Moreover, not all individuals react identically to the same event and a number of psychological factors may moderate such phenomena (e.g., Lucas, Clark, Georgellis, & Diener, 2003; Mroczek & Spiro, 2005; Pavot, Diener, & Fujita, 1990). It is posited that passion (Vallerand, 2008, 2010; Vallerand et al., 2003) represents one such psychological factor. Indeed, if individuals are passionate toward an activity, success or failure in the purview of the activity should influence their life satisfaction. However, as we shall see, life satisfaction may not only be affected by the presence of passion, but also by the type of passion that is predominant in an individual. Thus, the purpose of this paper was to investigate the

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Correspondence should be addressed to: Robert J. Vallerand, Laboratoire de Recherche sur le Comportement Social, Département de Psychologie, Université du Québec à Montréal, Box 8888, Succursale Centre-Ville, Montréal (Québec) Canada, H3C 3P8. E-mail: vallerand.robert_juqam.ca

moderating role of passion for an activity on the relation between success and failure within the activity and life satisfaction.

The Dualistic Model of Passion

The Concept of Passion

The dualistic model of passion (Vallerand, 2008, 2010; Vallerand et al., 2003) defines passion as a strong inclination toward a self-defining activity that one loves, finds important, and invests a significant amount of time and energy in. This model further proposes that two distinct types of passion exist, harmonious and obsessive, which can be differentiated in terms of how the passionate activity has been internalized into one's identity. Past research has shown that values and regulations concerning uninteresting, though important, activities can be internalized in either an autonomous or a controlled fashion (Deci, Eghrari, Patrick, & Leone, 1994). Internalization represents the process through which individuals transform socially sanctioned values and behaviors into personally endorsed ones (Deci & Ryan, 2000). When the internalization process is autonomous, people will voluntarily recognize these principles as important, assimilate them into their identity, and thus fully accept them as their own. However, when the internalization process is controlled, people will be compelled to identify with these principles, and thus behaviors and values may either remain external or be only partially internalized in the identity. Along the same vein, Vallerand and colleagues (2003) proposed that these two divergent internalization processes may also occur with interesting and loved activities. Moreover, they should determine the type of passion that individuals will develop toward their activity, harmonious or obsessive.

Harmonious passion refers to a strong desire to freely engage in the activity and results from an autonomous internalization of the activity into the person's identity. Such an internalization process occurs in contexts where the person willingly accepts the activity as important, instead of feeling pressured, either internally or externally, to do so (Vallerand et al., 2003). The activity is thus part of an integrated self-structure (Hodgins & Knee, 2002). Consequently, the activity occupies a significant but not overriding space in the person's identity and is thus in coherence with other aspects of the person's life. Therefore, to the extent that they are predominantly harmoniously passionate, individuals should show more openness and less defensiveness to what is occurring in the activity (Hodgins & Knee, 2002). People with a harmonious passion should thus experience positive outcomes not only during (e.g., positive affect, concentration, flow), but also after activity engagement (e.g., general positive affect, psychological adjustment, etc.).

Obsessive passion refers to an uncontrollable urge to partake in the activity and results from a controlled internalization of the activity into one's identity. This process originates from intrapersonal and/or interpersonal pressure because particular contingencies are attached to the activity such as feelings of social acceptance. While this phenomenon leads the activity to be part of the person's identity, individuals with an obsessive passion come to develop ego-invested self-structures toward the passionate activity (Deci & Ryan, 2000; Hodgins & Knee, 2002). Consequently, the activity occupies a significant space in the person's identity that prevails over other aspects of the person's life. Therefore, to the extent that they are predominantly obsessively passionate, individuals should show more sensitivity

and defensiveness to what is occurring in the activity (Hodgins & Knee, 2002). Moreover, when an activity represents such a dominant role in one's identity it is not easily put aside. Individuals with an obsessive passion thus experience an uncontrollable urge to engage in their activity; their passion must run its course as people come to be dependent on it. As a result, they run the risk of experiencing conflict with other life domains and negative consequences (e.g., negative affect, rumination) during and after engagement in the passionate activity.

Empirical findings have been consistent with this conceptualization of passion. Results from exploratory and confirmatory factor analyses supported the two-factor structure of the Passion Scale (e.g., Castelda, Mattson, Mackillop, Anderson, & Donovanick, 2007; MacKillop, Anderson, Castelda, Mattson, & Donovanick, 2006; Stenseng, 2008; Vallerand et al., 2003, Study 1; Vallerand, Rousseau, Grouzet, Dumais, & Grenier, 2006, Study 1; see Vallerand, 2010, for a review). The Passion Scale has shown high levels of internal consistency as well as predictive, discriminant, construct, and external evidence of validity. Furthermore, results using this scale revealed that both harmonious and obsessive passion were positively correlated with measures of activity valuation, of the activity being perceived as a passion, and inclusion of the activity in the person's identity (Vallerand et al., 2003, Study 1).

These findings support the view that both harmonious and obsessive passion are indeed a "passion" as each one reflects adequately the definition of the passion construct. However, the two types of passion have been found to be differentially associated with various outcomes. Harmonious passion is positively related, whereas obsessive passion is either unrelated or negatively related, to psychological adjustment indices including life satisfaction (Philippe, Vallerand, & Lavigne, 2009; Rousseau & Vallerand, 2008; Vallerand et al., 2003, Study 2; Vallerand et al., 2007) and also with positive emotions and flow during activity engagement (Lafrenière, Jowett, Vallerand, Donahue, & Lorimer, 2008, Study 2; Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005; Vallerand et al., 2003, Study 1; Vallerand et al., 2006, Study 2). Moreover, harmonious passion is negatively related, whereas obsessive passion is positively related, with the experience of conflict between one's passion and other life activities (Vallerand et al., 2003, Study 1; Vallerand, Paquet, Philippe, & Charest, 2010).

The Present Research

Passionate activities are important to people and do not simply reflect a short-lived interest. In the initial study on passion, Vallerand et al. (2003, Study 1) demonstrated that passionate people spend on average eight hours per week on the passionate activity representing roughly 10% of their waking time. Thus, passionate activities are clearly central to people's life. Consequently, what individuals experience within the passionate activity should matter for one's subjective well-being. There has been little research on the interplay between passion and activity-related events (e.g., Mageau, Carpentier, & Vallerand, 2011). This is surprising as passion should make a difference in people's reactivity to events in the purview of the activity. Furthermore, harmonious and obsessive passion should have diametrical consequences. Individuals with an obsessive passion come to develop ego-invested self-structures toward the passionate activity (Deci & Ryan, 2000; Hodgins & Knee, 2002) in which the activity takes a disproportionate place in their identity that outweighs other aspects of the person's life. Consequently, because obsessive passion for an activity entails lower self-complexity (Linville, 1985, 1987), individuals should be less likely to hold other

important self-aspects. As a result, with obsessive passion, activity-related events should influence one's life satisfaction, given that relative to other life domains the passionate activity represents a greater proportion of one's identity. Thus, obsessive passion should lead life satisfaction to be dependent on success and failure within the activity. On the other hand, with harmonious passion, the activity occupies an important, but not overwhelming, space in people's identity. Consequently, because harmonious passion for an activity entails greater self-complexity (Linville, 1985, 1987), individuals should be more likely to hold several important self-aspects. Consequently, individuals with a harmonious passion should handle activity-related events in a less defensive (Hodgins & Knee, 2002) and more mindful manner (Brown & Ryan, 2003), given that relative to other life domains the passionate activity represents a more balanced proportion of their identity, which should act as a buffer against activity-related events and preclude spill over to their life satisfaction. Thus, with harmonious passion, life satisfaction should not be dependent upon success and failure within the activity. However, such an engagement in the activity should be conducive to higher levels of psychological adjustment overall, which should not be the case for obsessive passion.

The purpose of the present research was to investigate the moderating role of harmonious and obsessive passion for an activity on the relation between success and failure experienced in the activity and life satisfaction. Study 1 investigated whether obsessive passion moderated the association between painting performance and life satisfaction with a sample of professional painters during creative (successful) or uncreative (unsuccessful) periods of their life. More specifically, the more professional painters reported having an obsessive passion, the more they should experience an increase in life satisfaction in a creative period of their life. On the other hand, the more professional painters reported having an obsessive passion, the more they should experience a decrease in life satisfaction during an uncreative period of their life. The purpose of Study 2 was to replicate the results of Study 1 with passionate hockey fans using a diary study during a 2009 National Hockey League (NHL) playoff series. It was hypothesized that only obsessive passion would lead hockey fans' life satisfaction to be dependent on their team performance. Finally, in line with past research (Philippe, Vallerand, & Lavigne, 2009; Rousseau & Vallerand, 2008; Vallerand et al., 2003, Study 2, 2007, Study 2), harmonious passion should be generally conducive to higher levels of life satisfaction in both studies. Additionally, this relationship should not vary as a function of success and failure. On the other hand, obsessive passion should be unrelated or negatively related to overall levels of life satisfaction.

Study 1

The aim of Study 1 was to investigate the moderating role of harmonious and obsessive passion for painting on the relation between participants' life satisfaction during either a creative (success condition) or uncreative period (failure condition) of their life. It was hypothesized that the more participants reported having an obsessive passion for painting, the more they should experience an increase in life satisfaction in the success condition. Furthermore, the more participants reported having an obsessive passion, the more they should experience a decrease in life satisfaction in the failure condition. Moreover, it was hypothesized that harmonious passion should be positively related to life satisfaction in general and that the latter would not vary as a function of success and failure. On the other hand, obsessive passion should be unrelated or negatively related to overall levels of life satisfaction.

Method

Participants and Procedure

A call for participation was posted on an electronic mailing list of professional painters from the Province of Québec, Canada. Sixty-three professional painters (28 males, 34 females, and 1 unspecified) took part in the present study. The mean age of the participants was 52.24 years ($SD = 11.95$ years). Participants had been painting professionally on average for 19.70 years ($SD = 11.74$ years) and were devoting an average of 22.71 hours to it per week ($SD = 15.20$ hours). No incentive was given in exchange for participation. All participants initially completed the Passion Scale (Vallerand et al., 2003) and were subsequently randomly assigned to one of two conditions. In the failure condition, painters ($N = 30$) were asked to recollect a period of their life where they felt *uncreative*. Immediately after the recall, they were invited to report their life satisfaction during this specific period. In the success condition, painters ($N = 33$) were instead asked to write about a period of their life where they felt *creative*.

Measures

Passion for painting. Passion towards painting was measured using the Passion Scale (Vallerand et al., 2003). This instrument includes two 6-item subscales assessing harmonious and obsessive passion. Participants were asked to complete the scale's items toward painting (sample item for harmonious passion: "Painting is in harmony with the other activities in my life", $\alpha = .78$; sample item for obsessive passion: "I have almost an obsessive feeling for painting", $\alpha = .83$). This scale was completed on a 7-point Likert scale ranging from 1 (*not agree at all*) to 7 (*very strongly agree*). All other scales presented below were completed on the same 7-point Likert scale. The Passion Scale has been used in several studies and has shown high levels of validity and reliability (see Carbonneau, Vallerand, Fernet, & Guay, 2008; Donahue, Rip, & Vallerand, 2009; Philippe, Vallerand, Andrianarisoa, & Brunel, 2009; Philippe, Vallerand, Houliort, Lavigne, & Donahue, 2010; Philippe, Vallerand, Richer, Vallières, & Bergeron, 2009; Vallerand et al., 2008).

Life satisfaction. Participants' life satisfaction was assessed using the French-Canadian version (Blais, Vallerand, Pelletier, & Brière, 1989) of the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). This scale consists of five items (sample item: "I am satisfied with my life", $\alpha = .93$).

Data Analysis

Hierarchical multiple regression analyses were conducted to examine the main effects and interactions effects of conditions and passion on life satisfaction. For the purpose of the study, experimental conditions were dummy coded with a score of 1 attributed to the success condition and a score of 0 attributed to the failure condition. According to Aiken and West's (1991) procedures, independent variables (i.e., conditions and harmonious and obsessive passion) were centered before calculating the interaction products. Conditions, harmonious and obsessive passion were entered in the first step, while the condition \times harmonious passion interaction and the condition \times obsessive passion interaction were entered in the second step. Furthermore, significant interactions terms were graphed with high and low scores at one standard deviation above and below the mean (Aiken & West, 1991). Visual inspection of slopes helped to interpret the significant interaction terms.

Results

Preliminary Analyses

There was no missing value in the present research since the online survey required that participants answer all items of a given variable. Inspection of the skewness indices for all variables proved adequately normal (values ranged from -1.35 to 0.15). Data screening revealed no value higher than three standard deviations from the mean. Additionally, in order to screen for multivariate outliers, we computed Mahalanobis distance values for all participants. No participant exceeded the critical chi-square value at the $p = .001$ level. In addition, all bivariate scatterplots were linear and homoscedastic. Gender and age differences were also examined. Results demonstrated no significant main effect for gender and age on all variables of the present study. Thus, we do not report gender or age in the following analyses. Finally, results showed no differences on both types of passion between the two conditions. Means, standard deviations, and Pearson correlations are presented in Table 1.

Main Analyses

Step 1 explained 29% of variance in life satisfaction and was significant, $F(3, 59) = 8.16, p < .05$ (see Table 2). Results showed that the success condition ($\beta = 0.38, p < .05$) and harmonious passion ($\beta = 0.49, p < .05$) both positively predicted life satisfaction. On the other hand, results revealed that obsessive passion was unrelated to life satisfaction. The addition of the two-way interaction terms between conditions and passion in Step 2 marginally increased explained variance by 6%, $F(5, 57) = 2.85, p = .06$ (see Table 2). Results showed that only the condition \times obsessive passion interaction was significant ($\beta = 0.34, p < .05$). As expected, a plot of this interaction (see Figure 1) revealed that the more people reported having an obsessive passion toward their art, the more they experienced an increase in life satisfaction in the success condition. On the other hand, the more people held an obsessive passion, the more they experienced a decrease in life satisfaction in the failure condition. In contrast, harmonious passion was positively related to life satisfaction in general and this relationship did not vary as a function of success and failure conditions.

Study 2

Study 1 had one important limitation: it relied on participants' recollection of their life satisfaction. Thus, it is possible that the memory of harmoniously and obsessively passionate individuals was biased (Sedikides & Green, 2000). Consequently, the first purpose of Study 2 was to replicate the results of Study 1 using a

TABLE 1 Means, Standard Deviations, and Correlations Involving all Variables ($N = 63$)

	<i>M</i>	<i>SD</i>	2	3
1. Harmonious passion	5.65	1.00	.30*	.36*
2. Obsessive passion	3.78	1.45		-.03
3. Life satisfaction	4.50	1.79		

Note: * $p < .05$.

TABLE 2 Results of the Hierarchical Linear Regression Analysis Predicting Life Satisfaction from Success vs. Failure Condition and Harmonious and Obsessive Passion ($N = 63$)

	F	R^2	ΔR^2	Condition ^a	HP	OP	Condition × HP	Condition × OP
Step 1	8.16*	.29	.29	.38*	.41*	-.13	—	—
Step 2	2.85 [†]	.36	.06	.38*	.49*	-.36*	-.05	.34*

Notes: HP = Harmonious passion; OP = Obsessive Passion. ^a 0 = failure condition; 1 = success condition. * $p < .05$; [†] $p = .06$.

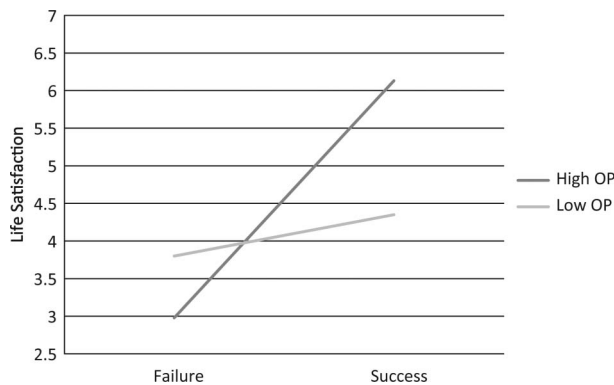


FIGURE 1 Life satisfaction of participants with high and low obsessive passion for painting under success vs. failure conditions.

Note: OP = Obsessive Passion; High OP = One standard deviation higher than the mean on the obsessive passion subscale; Low OP = One standard deviation lower than the mean on the obsessive passion subscale.

diary study in order to correct for this drawback. A second purpose of Study 2 was to replicate the findings of Study 1 with a different population, namely hockey fans during a 2009 NHL playoff series. Past research with sports fans (Vallerand et al., 2008) reveals that they can be highly passionate. Furthermore, the two types of passion (for one's team) lead to the same types of outcomes as those obtained with other types of activities. A third purpose of Study 2 was to address one possible counter explanation. Specifically, one might expect that obsessive passion should be more strongly related to perceived activity importance and that this could be the underlying process responsible for the moderation. We predicted that this should not be the case. Indeed, past research has shown that both types of passion have been found to be positively related to activity importance (Vallerand et al., 2003, Study 1). Thus, the same effects observed in Study 1 should be observed in Study 2, this time controlling for perceived activity importance. It was thus hypothesized that the more hockey fans had an obsessive passion, the more they should experience an increase in life satisfaction following a victory from their favorite team. On the other hand, the more hockey fans had an obsessive passion, the more they should experience a decrease in life satisfaction following a loss from their favorite team. This should not be the case for fans high on harmonious passion. Finally, it was hypothesized that harmonious passion should be positively related, while obsessive passion should be

unrelated or negatively related, to mean level of life satisfaction over the course of a 2009 NHL playoff series.

Method

Participants and Procedure

An invitation to partake in this study was posted on online forums dedicated to specific hockey teams that were taking part in the 2009 NHL playoffs. Three hundred thirty-one hockey fans completed the initial questionnaire through an online survey. This questionnaire was composed of the Passion Scale (Vallerand et al., 2003) and the Satisfaction with Life Scale (Diener et al., 1985). Participation was voluntary and no incentive was given in exchange for participation. Of these 331 participants, 77 (39 males and 38 females) consented to participate in a diary study for the duration of either the first (for the Montréal Canadiens' fans) or the second round (for the other teams' fans) of the 2009 NHL playoffs. A multivariate analysis of variance (MANOVA) showed no difference on all variables from the initial questionnaire between those who participated in the diary study and those who did not. All other statistical analyses presented below were executed on those 77 participants only. The mean age of the participants was 34.30 years ($SD = 12.86$ years). They were supporters of a variety of teams, namely the Montréal Canadiens ($N = 35$; 45.5%), North Carolina Hurricanes ($N = 14$, 18.2%), Boston Bruins ($N = 11$, 14.3%), Pittsburgh Penguins ($N = 11$, 14.3%), Washington Capitals ($N = 4$; 5.2%), Anaheim Ducks ($N = 1$, 1.3%), and the Detroit Redwings ($N = 1$, 1.3%). A MANOVA showed no difference on all variables from the initial questionnaire (i.e., harmonious and obsessive passion and dispositional life satisfaction) between hockey teams.

Each morning following a hockey game in which a team had played, fans received an e-mail inviting them to partake in an online follow-up questionnaire regarding this specific game. Over the course of the diary study, participants responded to follow-up questionnaires on 1 to 7 occasions, with an average of 2.99 completed surveys per participant. These questionnaires were composed of a slightly adapted version of the Satisfaction with Life Scale (Diener et al., 1985) in order to assess situational life satisfaction and were accessible until 2 hours before the beginning of the next game. IP addresses were checked to prevent potential duplicate responders.

Measures

Passion for being a hockey fan. Fans' passion toward supporting one's favorite team was assessed using the Passion Scale (Vallerand et al., 2003). Participants were asked to complete the scale's items with regard to their favored hockey team (sample item for harmonious passion: "Being a hockey fan [e.g., Bruins fan] is in harmony with other things that are part of me", $\alpha = .83$; sample item for obsessive passion: "Being a hockey fan [e.g., Bruins fan] is so exciting that I sometimes lose control over it", $\alpha = .86$). The Passion Scale has been used in several studies and has shown high levels of validity and reliability, including research with fans (Vallerand et al., 2008, Study 1).

Activity importance. Fans' perceived importance for supporting their favorite team was assessed using a single item ("Being a hockey fan [e.g., Bruins fan] is important for me").

Life satisfaction. Participants' life satisfaction was measured at both the dispositional (in the initial questionnaire) and situational (in follow-up questionnaires) levels. This scale is composed of five items (sample item for dispositional life satisfaction: "In general, my life is close to my ideal", $\alpha = .90$; sample item for situational life satisfaction: "Right now, my life is close to my ideal", $\alpha = .92$ to $.96$) from the Satisfaction with Life Scale (Diener et al., 1985).

Performance of the favorite team. For the purpose of the study, team performance was dummy coded with a score of 0 attributed to a defeat and a score of 1 attributed to a win.

Data Analysis

Data were analyzed using hierarchical linear modeling (HLM) with HLM 6.0 (Raudenbush, Bryk, & Congdon, 2004) given that the present study involved a hierarchically structured data set, where repeated situational measures (i.e., situational life satisfaction and team performance) were nested under participants' dispositional measures (i.e., harmonious and obsessive passion, and dispositional life satisfaction). Moreover, HLM analyses with the restricted maximum likelihood method of estimation were used. This study thus allowed us to examine within-individual as well as between-individual sources of variances on participants' situational life satisfaction. All dispositional variables were centered at the sample mean (Raudenbush & Bryk, 2002).

Using HLM, the relations among fans' harmonious and obsessive passion, activity importance, favorite team performance, and situational life satisfaction while controlling for dispositional life satisfaction were examined with the following equation:

$$\text{Level 1: Situational life satisfaction}_{ij} = \beta_{0j} + \beta_{1j}(\text{Team performance}) + r_{ij}$$

$$\begin{aligned} \text{Level 2: } \beta_{0j} = & \gamma_{00} + \gamma_{01}(\text{Harmonious passion}) \\ & + \gamma_{02}(\text{Obsessive passion}) + \gamma_{03}(\text{Activity importance}) \\ & + \gamma_{04}(\text{Dispositional life satisfaction}) + u_{0j} \end{aligned}$$

$$\begin{aligned} \beta_{1j} = & \gamma_{10} + \gamma_{11}(\text{Harmonious passion}) \\ & + \gamma_{12}(\text{Obsessive passion}) + \gamma_{13}(\text{Activity importance}) \\ & + \gamma_{14}(\text{Dispositional life satisfaction}) + u_{1j} \end{aligned}$$

Results

Preliminary Analyses

There was no missing value in the present research because the online survey required that participants answer all items of a given variable. Inspection of the skewness indices for all variables proved adequately normal (values ranged from -1.00 to 0.59). Data screening revealed no value higher than three standard deviations from the mean. Additionally, in order to screen for multivariate outliers, we computed Mahalanobis distance values for all participants. No participant exceeded the critical chi-square value at the $p = .001$ level. In addition, all bivariate scatterplots were linear and homoscedastic. Gender and age differences were also

examined. Correlations and HLM analyses showed that age and gender did not influence the present findings. These variables are thus not reported in the following analyses. Descriptive statistics for situational life satisfaction and team performance were obtained by aggregating the data from all follow-up questionnaires. Means, standard deviations, and Pearson correlations are presented in Table 3. As expected, both harmonious and obsessive passion were positively related to activity importance.

Main Analyses

Predictions of the variability of means (β_{0j}) and slopes (β_{1j}) are presented in turn (see Table 4). The two types of passion, activity importance, and dispositional life satisfaction were entered as predictors of both means and slopes. Results from the prediction of means (β_{0j}) showed that harmonious and obsessive passion and activity importance did not predict situational life satisfaction. Results also demonstrated that dispositional life satisfaction positively predicted situational life satisfaction ($\gamma_{03} = .88, p < .05$).

Results showed that whether or not one's team won or lost predicted situational life satisfaction ($\gamma_{10} = .15, p < .05$). Thus, participants experienced an increase in

TABLE 3 Means, Standard Deviations, and Correlations Involving all Variables ($N = 77$)

	<i>M</i>	<i>SD</i>	2	3	4	5	6
1. Harmonious passion	5.38	1.09	.53*	.68*	.13	.10	.01
2. Obsessive passion	3.06	1.52		.69*	.02	-.02	.09
3. Activity importance	5.62	1.68			.12	.05	.10
4. Dispositional life satisfaction	4.90	1.21				.88*	.11
5. Situational life satisfaction ^a	5.07	1.19					.19
6. Performance of the Favorite Team ^a	0.29	0.35					

Notes: ^a The mean reflects a aggregation of situational scores. * $p < .05$.

TABLE 4 Results of the HLM Analysis Predicting Situational Life Satisfaction from One's Team Performance and Harmonious and Obsessive Passion ($N = 77$)

Fixed effect	Coefficient	<i>t</i> -ratio	<i>p</i> -value
<i>Means as outcomes, β_{0j}</i>			
Intercept (γ_{00})	5.06	78.96	.00
Harmonious passion (γ_{01})	0.08	0.88	.38
Obsessive passion (γ_{02})	- 0.04	- 0.08	.94
Activity importance (γ_{03})	- 0.08	- 1.18	.24
Dispositional life satisfaction (γ_{04})	0.85	14.49	.00
<i>Slopes as outcomes, β_{1j} (Performance of the Favorite Team)</i>			
Intercept (γ_{10})	0.15	2.35	.05
Harmonious passion (γ_{11})	- 0.08	- 1.20	.24
Obsessive passion (γ_{12})	0.22	2.28	.03
Activity importance (γ_{13})	- 0.01	- 0.08	.94
Dispositional life satisfaction (γ_{14})	0.10	1.43	.16

situational life satisfaction following a victory from their favorite team. In addition, results from the prediction of slopes involving team performance (β_{1j}) revealed that only obsessive passion ($\gamma_{12} = .22, p < .05$) moderated the relation between team performance and situational life satisfaction. Specifically, the more people reported having an obsessive passion, the greater the relation between team performance and situational life satisfaction. On the other hand, results demonstrated that neither harmonious passion, activity importance, nor dispositional life satisfaction moderated the relation between team performance and situational life satisfaction.

General Discussion

The purpose of the present research was to investigate the moderating role of harmonious and obsessive passion for an activity on the relation between success and failure experienced in the activity and life satisfaction. It was hypothesized that the more participants reported having an obsessive passion, the more they should experience an increase in life satisfaction following a success. On the other hand, the more participants reported having an obsessive passion, the more they should experience a decrease in life satisfaction following a failure. This is so because ego-invested rather than integrative self-processes are at play (Deci & Ryan, 2000; Hodgins & Knee, 2002) with obsessive passion, leading the activity to take disproportionate place in the person's identity that outweighs other aspects of their life. On the other hand, this should not be the case for harmonious passion because the activity occupies an important, but not overwhelming, space in people's identity. Finally, in line with past research (Philippe, Vallerand, & Lavigne, 2009; Rousseau & Vallerand, 2008; Vallerand et al., 2003, Study 2, 2007), it was posited that harmonious passion would be generally conducive to higher levels of life satisfaction while obsessive passion should be unrelated or negatively related to it. Results from two studies partially supported the hypotheses. These findings lead to a number of implications.

A first implication is that passion matters with respect to the relationship between success and failure experienced in the passionate activity and life satisfaction. Results of two studies showed that the more individuals had an obsessive passion, the more they experienced increases in life satisfaction following a success. On the other hand, accentuated decreases in life satisfaction were experienced following a failure. In addition, results of Study 2 revealed that this effect was not attributable to perceived activity importance. Indeed, obsessive passion led life satisfaction to be dependent on success and failure within the activity over and beyond perceived activity importance. In contrast, harmonious passion did not moderate the relationship between life satisfaction and success and failure within the activity. Thus, it seems that the subjective evaluation of one's life when confronted with success or failure in the purview of the passionate activity does not simply depend on the presence of passion but more particularly on the extent to which one's passion is obsessive or not. Moreover, the present findings extend past research (Philippe, Vallerand, & Lavigne, 2009; Rousseau & Vallerand, 2008; Vallerand et al., 2003, Study 2, 2007) as it was found that obsessive passion is not simply unrelated or negatively related to life satisfaction but, more precisely, instigates life satisfaction to be dependent on success and failure within the activity. Furthermore, this phenomenon might explain why obsessive passion is usually unrelated or negatively related to global life satisfaction. In fact, this emotional instability may be damaging for optimal flourishing. Over time, these experiences could accumulate and change a person's

typical level of life satisfaction (see Fredrickson & Joiner, 2002, for a similar rationale). On the other hand, individuals with a predominant harmonious passion appear to be more open and less defensive to what is occurring in the activity and this could possibly initiate an upward spiral toward increasing life satisfaction. Future research is needed in order to test this hypothesis.

Past research on life satisfaction has found that not all individuals react identically to the same event (e.g., Lucas et al., 2003; Mroczek & Spiro, 2005; Pavot et al., 1990). Likewise, the present findings demonstrated that passion represents a psychological factor that helps understand between-individual differences in life satisfaction in response to life events. More precisely, the present findings showed that individuals with a predominant obsessive passion are on a roller coaster where their life satisfaction goes up and down as a function of events within the passionate activity. This was not the case for individuals with a predominant harmonious passion. Future research using the dualistic model of passion (Vallerand, 2008, 2010; Vallerand et al., 2003) to investigate people's life satisfaction in reaction to important life events such as unemployment, retirement, and divorce would thus appear fruitful.

The findings with respect to passion and global life satisfaction deserve special attention. Results of Study 1, conducted with painters, revealed that harmonious passion was positively related to life satisfaction while obsessive passion was unrelated to it. On the other hand, results of Study 2, conducted with hockey fans, revealed that harmonious passion was positively but non-significantly related, while obsessive passion was unrelated, to mean level of daily life satisfaction over the course of a 2009 NHL playoff series. These conclusions are generally in line with those of past research (Lafrenière et al., 2009; Philippe, Vallerand, & Lavigne, 2009; Rousseau & Vallerand, 2008; Vallerand et al., 2003, Study 2, 2006, Study 3, 2007, Study 2, 2008, Studies 1 & 2) that found harmonious passion to be positively related to life satisfaction while obsessive passion was unrelated or negatively related to it in a variety of life domains. However, contrary to initial hypotheses, harmonious passion was unrelated to mean level of life satisfaction in Study 2. Nevertheless, the difference of correlation coefficients (see Cohen & Cohen, 1983; Preacher, 2002) between harmonious passion and life satisfaction from Studies 1 ($r = .36, p < .05$) and 2 ($r = .10, p > .05$) was not significant ($Z = 1.59, p > .05$). Thus, it seems that the relatively small sample size of Studies 1 and 2 to examine between-individual differences may possibly be the cause of these divergent findings. In addition, both studies used different methodologies. Study 1 relied on participants' recollection of their life satisfaction, while Study 2 used a diary study. Thus, it is possible that the different approaches used in both studies produced these dissimilar findings. In fact, the recollection of one's life satisfaction could be quite different from the mean level of daily life satisfaction (see Sedikides & Green, 2000). Future research is needed in order to test these hypotheses.

Still, one might expect that distinctions in the type of passionate activity will result in different consequences for harmonious and obsessive passion. It is possible that more active activities, such as painting, in comparison to more passive activities, such as being a fan, might be more influential on people's life satisfaction. Indeed, past research has shown that proactive and instrumental activities that individuals have control over (Maton, 1990; Schultz, 1976; Sheldon & Lyubomirsky, 2007; Sonnentag, 2001) contribute to a much greater extent to people's well-being. Consequently, future research is required to evaluate the role of harmonious and obsessive passion for different types of activity on life satisfaction.

Limitations

Some limitations should be kept in mind when interpreting the current findings. First, the retrospective design used in Study 1 and the quasi experimental design used in Study 2 do not allow us to infer causal inferences. Consequently, researchers should try to replicate the present findings using experimental designs in order to clearly establish the directionality of effects. Second, only life satisfaction was investigated in the present research. Future research should evaluate a broader range of subjective well-being measures (see Pavot, 2008; Ryan & Deci, 2001) to expand our understanding of the moderating effects of harmonious and obsessive passion for an activity on the relation between success and failure within the activity and hedonic as well as eudaimonic well-being. Finally, even though team performance in Study 2 was objective, all other measures in this study were self-report. Consequently, future research is needed in order to replicate the present findings with informant reports (e.g., spouse, friends, and family) of one's life satisfaction.

In sum, the findings from the present research suggest that passion matters with respect to life satisfaction. More precisely, results from two studies revealed that obsessive passion led life satisfaction to be dependent on performance within the passionate activity where life satisfaction goes up and down as a function of success and failure within the passionate activity. This was not the case for harmonious passion. To return to the introduction, it would then appear that success or failure in the purview of the passionate activity does influence one's subjective evaluation of his life. Nevertheless, this phenomenon does not simply depend on the presence of passion, but more particularly on the extent to which one's passion is obsessive or not.

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