

We are our passions: The role of identity processes in harmonious and obsessive passion and links to optimal functioning in society

Nabil Bouizegarene, Sarah Bourdeau, Caroline Leduc, Anne-Sophie Gousse-Lessard, Nathalie Houlfort & Robert J. Vallerand

To cite this article: Nabil Bouizegarene, Sarah Bourdeau, Caroline Leduc, Anne-Sophie Gousse-Lessard, Nathalie Houlfort & Robert J. Vallerand (2018) We are our passions: The role of identity processes in harmonious and obsessive passion and links to optimal functioning in society, *Self and Identity*, 17:1, 56-74, DOI: [10.1080/15298868.2017.1321038](https://doi.org/10.1080/15298868.2017.1321038)

To link to this article: <https://doi.org/10.1080/15298868.2017.1321038>



Published online: 08 May 2017.



Submit your article to this journal [↗](#)



Article views: 109



View related articles [↗](#)



View Crossmark data [↗](#)



We are our passions: The role of identity processes in harmonious and obsessive passion and links to optimal functioning in society

Nabil Bouizegarene[§], Sarah Bourdeau, Caroline Leduc, Anne-Sophie Gousse-Lessard, Nathalie Houlfort and Robert J. Vallerand

Département de Psychologie, Université du Québec à Montréal, Montreal, Canada

ABSTRACT

The Dualistic Model of Passion (DMP) proposes two types of passion, namely harmonious passion and obsessive passion. The DMP posits that the activity becomes part of one's identity. However, little research assessed how the two types of passion relate to identity. Two important facets of identity hypothesized to be associated with passion are identity integration and identity styles. In two studies, we assessed these types of identity processes as determinants of passion. We expected the presence of positive associations between on the one hand informational identity style, identity integration, and their interaction term and HP on the other, and positive associations between normative identity style and OP. Participants in both studies ($N1 = 107$ and $N2 = 135$) completed the Identity Style Inventory-3, the Identity Integration subscale of the Multidimensional Self-Esteem Inventory, and the Passion Scale. In addition, in Study 2 we also looked at the relationships between passion and five indicators of the construct of Optimal Functioning in Society. Overall, results were consistent with our hypotheses.


ARTICLE HISTORY

Received 30 May 2016
Accepted 15 April 2017
Published online 9 May 2017

KEYWORDS

Identity styles; passion;
identity integration

Our passions are an important part of who we are. They are used to define ourselves and are often used to present ourselves to others. The Dualistic Model of Passion (DMP; Vallerand, 2010, 2015; Vallerand et al., 2003) defines passion as an activity that people like (or love), find important, highly value, in which they invest time and energy, and that they integrate into their identity. For instance, those who have a passion for rock climbing do not just highly value and enjoy climbing; they are “climbers.” Since its inception a decade ago, the DMP has been the subject of a flurry of research in a wide variety of contexts and has shown that passion matters with regards to several important outcomes (Curran, Hill, Appleton, Vallerand, & Standage, 2015; Vallerand, 2015). However, little research has looked at the determinants of passion. Further, whereas identity is a defining feature of passion, no research has studied the link between the two constructs. The major purpose of the present research was thus to better understand how identity processes is associated with the development of passion. In addition, a secondary purpose is to assess the role of passion in optimal functioning.

CONTACT Nabil Bouizegarene  bouizegarene.nabil@courrier.uqam.ca, nabil.bouizegarene@gmail.com

[§]Département de Psychologie, Université du Québec à Montréal, Montreal, Canada

The DMP

According to the DMP, passion can be integrated in identity in two different ways, leading to two types of passion. First, harmonious passion (HP) refers to a strong desire to engage in the activity that remains under the individual's control. An activity becomes an HP following the person's autonomy and because of the pleasure they derive from engaging in it. As such, the activity becomes an HP as it becomes part of an integrated self-structure (Hodgins & Knee, 2002) as a result from an autonomous internalization (Deci & Ryan, 2000). Individuals with an HP for the activity can decide whether or not they engage in the activity, and they experience harmony between the passion and other aspects of their lives. With HP, the individual is capable of a flexible engagement into the activity that is conducive to a variety of positive cognitive, affective, and behavioral outcomes (see Curran et al., 2015; Vallerand, 2010, 2015 for reviews). The second form of passion, obsessive passion (OP), refers to a strong desire to engage in the activity that is not under the person's control. The activity is internalized in identity through the controlled internalization process (Deci & Ryan, 2000). This internalization process takes place when an activity becomes part of the self because of the external pressures and contingencies attached to the activity that one loves rather than simply the pleasure individuals experience when engaging in it, as is the case with HP. As a result, individuals develop ego-invested structures (Hodgins & Knee, 2002) such that their self-worth becomes dependent upon engaging and performing well in the activity. Thus, the person feels compelled to engage in the activity that he or she loves. With OP, individuals rigidly persist in the activity without disengaging from performance thoughts and are thus prevented from fully focusing on the task during activity engagement. It is as if the passion controlled the person. Over time, it comes to occupy an overpowering space such that individuals experience conflict between the activity and other aspects of their lives.

Research supports the validity and conceptualization of the DMP. First, several studies supported the factorial structure of the Passion Scale, revealing that it does indeed consist in two different types of passion (harmonious and obsessive) (e.g., Marsh et al., 2013; Vallerand et al., 2003; Vallerand, Rousseau, Grouzet, Dumais, & Grenier, 2006). Second, research has consistently shown that both types of passion are associated with passion's defining features: Activity valuation, time invested in the activity, activity persistence, and activity inclusion in identity (Vallerand et al., 2008, Study 1; Vallerand et al., 2007, Study 1; Aron, Aron, & Smollan, 1992). Third, research has also shown that HP and OP respectively lead to very different psychological experiences and outcomes (see Vallerand, 2010, 2015 for reviews). HP is positively, whereas OP is either unrelated or negatively associated with, psychological adjustment indices (e.g., Philippe, Vallerand, & Lavigne, 2009; Rousseau & Vallerand, 2008; Vallerand et al., 2007). In addition, HP is positively associated with the experience of flow (Vallerand et al., 2003, Study 1), positive emotions (e.g., Mageau & Vallerand, 2007; Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005; Philippe, Vallerand, Houliort, Lavigne, & Donahue, 2010), reduced negative emotions (Mageau et al., 2005; Vallerand et al., 2003, Study 1), increased concentration during the task (Mageau et al., 2005; Vallerand et al., 2003, Study 1), and higher relationship quality (Ratelle, Carbonneau, Vallerand, & Mageau, 2013). Conversely, OP has been found to be positively associated with negative emotions (Mageau et al., 2005; Philippe et al., 2010), anxiety (Rousseau & Vallerand, 2003), defensiveness, threat susceptibility (Donahue, Rip, & Vallerand, 2009; Lafrenière, Bélanger, Sedikides, & Vallerand, 2011), and conflict between one's passion and other life domains (Caudroit, Boiche, Stephan, Le Scanff, & Trouilloud, 2011; Vallerand, Paquet, Philippe, & Charest, 2010).

As can be seen, the overall picture that emerges is that HP leads to more adaptive outcomes than OP does. Still, little is known about the determinants of passion (see Vallerand, 2015). Up to now, Mageau and her collaborators (2009) showed that children and teenagers who value dedication, specialization in a single activity, and whose parents value their activity tend to develop a passion for a specific activity. Furthermore, they showed that autonomy support positively predicted the subsequent development of HP. They also found that identification with the activity, that is, seeing the activity as contributing to one's identity and being a part of the self, was associated with the development of both types of passion [see also Vallerand et al. (2003, Study 1) and Marsh et al. (2013)]. Other determinants of passion were identified by Lalande and collaborators (2017), who showed that need satisfaction outside and inside the activity one is passionate about predicted the development of HP while need satisfaction inside but not outside the activity predicted the development of OP. Finally, workers' use of their signature strengths (Forest et al., 2012), workers' emotional intelligence (Houlfort & Rinfret, 2010), and workers whose leaders adopted a transformational leadership style (Houlfort & Vallerand, 2012) were all found to facilitate the development of harmonious passion for work.

Of importance, identity processes should determine which type of passion results as the DMP posits that the activity becomes a passion as a result of it becoming internalized into identity. For instance, Murnieks, Mosakowski, and Cardon (2014) found that entrepreneurial identity centrality, that is, seeing entrepreneurship as an important part of the self, was positively associated with entrepreneur's passion. Furthermore, while internalization of the activity into identity is a defining feature of passion, no research to date has disentangled the different identity processes that lead to an harmonious passion from those that lead to an obsessive passion.

Identity processing styles

Marcia's (1966) identity status paradigm initiated a tradition of empirical research by testing Erikson's (1959) seminal work on identity. Marcia focuses on the state of people's identity. For instance, people with an achieved identity status currently know themselves and what they want to do with their lives, whereas someone with a diffuse identity status has currently no idea who they are and are confused with regards to their lives' purposes. This focus on identity status leaves aside the issue of identity *processes*. Adding to Marcia's work, Berzonsky (1992, 2011) conceptualizes identity styles in terms of individual differences in the processing and internalization of identity-relevant information. Since identity styles pertain to different types of internalization into identity, and because passion is hypothesized to originate from different types of internalization of activities into identity, identity styles would appear highly important determinants of passion.

Berzonsky (2011) postulates the existence of three identity processing styles: Informational, normative, and diffuse identity styles. Each style refers to a specific way of processing identity-relevant information. Individuals with an informational identity style will fully reach for available self-relevant information (Berzonsky, 2011). They are capable of identity commitments that emerge from a thorough exploration process of identity options, and they can also flexibly modify their self-images when they deem it necessary. In contrast, individuals with a normative identity style are rigid and close-minded with regards to available self-relevant information, and they prefer the stability of identity (Berzonsky, 2011). They

mostly construct their identity by imitating social norms and internalizing significant others' beliefs and values. In addition, they favor keeping their present self-views over revising them. Finally, individuals with a diffuse identity style have a strong tendency to avoid both exploration and commitment towards self-relevant information. As a result, their identity is fragmented and fluctuates according to situational demands and circumstances (Berzonsky, 2011). Thus, individuals' adopting a diffuse identity style, in contrast with those adopting an informational or normative identity style, should not develop passion for an activity since they do not develop long-term commitments and identifications, as is characteristic of passion. For this reason, in the present research, we only measured the informational and normative identity styles.

Research has shown that identity processing styles are associated with a variety of outcomes. Specifically, informational identity style was positively associated with autonomy, educational purpose, mature interpersonal relationships (Berzonsky & Kuk, 2000), success expectations, task focusing (Berzonsky, Nurmi, Kinney, & Tammi, 1999), and cognitive complexity (Berzonsky & Ferrari, 1996). Normative identity style was positively associated with avoidant coping strategies (Berzonsky, 1992; Berzonsky & Adams, 1999), defensiveness and rigidity, confirmation-biased reasoning, intolerance for ambiguity, need for closure, reality distorting defense mechanisms, prejudice and right-wing authoritarianism (Berzonsky, 2011; Soenens, Duriez, & Goossens, 2005), social maladjustment, as manifested in low empathy (Soenens et al., 2005), and low levels of interpersonal intimacy (Berzonsky & Kuk, 2005). Mixed results were obtained with regards to psychological well-being. Vleioras and Bosma (2005) found that it was positively associated with informational identity style and not with normative identity style while other research (Berzonsky, 2011; Berzonsky & Cieciuch, 2014) found that both styles were positively associated with well-being.

Overall, research suggests that the informational identity style represents a relatively more adaptive psychological process than normative identity style. However, some research has shown that informational identity style does not always lead to higher levels of identity integration, that is, the individual's perception of the efficiency of his or her self-concept in integrating new information, directing life experiences, and organizing it coherently (O'Brien & Epstein, 1988). Indeed, Luyckx and colleagues (2007) showed that when it is coupled with low autonomy, informational identity style leads to low levels of identity integration. This is consistent with research showing that informational style is positively associated with Marcia's identity achievement status (i.e., a construct similar to identity integration) and identity moratorium status (i.e., an indicator that identity development has been stalled and has not been integrated; Berzonsky & Neimeyer, 1994; Krettenauer, 2005) altogether. This might be because, as suggested by Berzonsky (2003), informational identity style can have a dark side. Specifically, identity exploration can perpetuate itself indefinitely if the individual feels overwhelmed by choices and options, leaving the individual indecisive, unsure, and thereby preventing identity integration from taking place. Therefore, whereas informational identity is mostly associated with positive outcomes, such should be especially the case in the presence of identity integration.

The present research

According to the DMP, a passion for an activity develops when the latter is integrated in identity. Thus, identity processes should be a key determinant of passion. Further, because

the way through which the activity is internalized into identity determines which type of passion (i.e., harmonious vs. obsessive passion) results, different identity processing styles should be considered. Specifically, since HP occurs following the autonomous internalization of an activity, it should be expected that informational identity style (which is linked to autonomy; Berzonsky & Kuk, 2000) is positively associated with HP. Also, since HP develops when the activity is internalized in an integrated self-structure (Hodgins & Knee, 2002), it should be hypothesized that identity integration is positively associated with HP. Finally, since OP is posited to result from a controlled internalization of an activity leading to a more defensive stance (Bélanger, Lafrenière, Vallerand, & Kruglanski, 2013), we expected that normative identity style (which is linked to defensiveness; Berzonsky, 2011; Soenens et al., 2005) would be positively associated with OP.

In line with the above, the main purpose of the present research was to examine the associations between identity processes and HP and OP in two studies. In Study 1, we examined the associations between identity styles, identity integration, and both types of passion. In Study 2, we aimed to replicate Study 1 with respect to the associations between identity processes and passion. Furthermore, since both identity processes and passion have been shown to affect psychological adjustment, a second purpose of Study 2 was to test if passion mediates the relationship between identity processes and psychological adjustment, herein indexed as a multidimensional measure of well-being: Optimal functioning in society (OFIS) (e.g., Vallerand, 2013).

Study 1

The purpose of Study 1 was to examine the associations between identity styles, identity integration, and types of passion. In line with the above, we reasoned that using a normative identity style should lead individuals to internalize activities in their identities in a controlled fashion, thereby promoting the development of an OP. Thus, we hypothesized that normative identity style would be positively associated with OP. Furthermore, because it entails to actively explore and seek out self-relevant information based on one's own experiences, an informational identity style should be positively associated with the internalization of activities in an autonomous way, and thus with HP. Further, since HP takes place when the activity becomes part of an integrated self-structure (Hodgins & Knee, 2002), we also hypothesized that identity integration should also be positively associated with HP. Finally, based on the hypothesis that individuals adopting an informational identity style do not experience positive outcomes when they feel overwhelmed by choices that forestall identity integration (Berzonsky, 2003), we expected that an informational identity style should lead to HP, especially in the presence of identity integration.

Method

Participants and procedures

Participants ($N = 109$) were students in a large French-Canadian university in Montreal. Because our objective was to study the identity of typical undergraduate students, we chose to exclude participants older than 35 years of age ($N = 2$) as they do not fit the typical profile of undergraduate students. There were no univariate and multivariate outliers in the data. The sample ($N = 107$) consisted of 62 women (58%) and 45 men (42%) with 85 native French

speakers (79%), 21 native English speakers (20%). Participants were aged between 18 and 34 years of age (mean age 22.12 years; SD = 3.23 years). Participants were recruited in undergraduate's courses and their participation was voluntary and not compensated. They were invited to complete a paper and pencil questionnaire in classrooms for a survey regarding passion for their university studies. A power analysis using G*power 3.1 suggested that our sample size of 107 provided us with a power of .99, given an effect size f^2 of .27 for a multiple regression with 6 predictors. Thus, it can be seen that the present study was appropriately powered.

Measures

Unless otherwise noted, all items were rated on a Likert scale ranging from 1 (*do not agree at all*) to 7 (*strongly agree*) with higher scores indicating higher levels of the corresponding construct.

Passion for university studies. In order to assess participants' passion for their university studies, the Passion Scale (Marsh et al., 2013; Vallerand et al., 2003) was used. This 12-item scale assesses passion for an activity, and was used to assess passion for university studies specifically. The scale consists of two subscales, assessing HP (6-item subscale; e.g., "My university studies are in harmony with the other activities in my life"; McDonald's Omega = .87 [.73, .85]) and OP (6-item subscale; e.g., "I have the impression that my university studies control me"; McDonald's Omega = .71 [.73, .85]).¹ Participants responded on a scale ranging from 1 = "Do not agree at all" to 7 = "Totally agree." The Passion Scale has shown high levels of validity and reliability and it is largely invariant for gender, language, and type of activities (see Marsh et al., 2013; Vallerand, 2015).

Identity style with respect to one's studies. In order to assess participants' identity style at university, two subscales of the Identity Style Inventory-3 (Berzonsky, 1992) were used. Furthermore, we used an adaptation of the original ISI-3 by Bouizegarene and Philippe (2015) to tap university related identity processing styles. The original scale was reduced because some items did not adapt well to the context of university studies, which resulted in a 10-item scale with 6 items for informational identity style (e.g., "I've spent a great deal of time thinking seriously about the field in which I should specialize in at university."; McDonald's Omega = .88 [.73, .85]) and 4 items for normative identity style (e.g., "With regards to university, I've more-or-less always operated according to the values with which I was brought up."; McDonald's Omega = .67 [.73, .85]). Participants were asked to rate all items on a 5-point Likert scale (1 = *Do not agree at all* and 5 = *Totally agree*).

Identity integration. In order to assess participants' identity integration, a subscale of the Multidimensional Self-Esteem Inventory (O'Brien & Epstein, 1988) was used. This 10-item subscale assesses the level of identity integration of participants (e.g., "I seldom experience much conflict between the different sides of my personality.") and showed acceptable reliability (McDonald's Omega = .83 [.73, .85]). Participants were asked to rate all items on a 5-point Likert scale (1 = *Do not agree at all* and 5 = *Totally agree*).

Results

Preliminary analyses

First, we assessed the normality of each variable by screening the scores for *Skewness* and *Kurtosis*. All variables were normally distributed. Next, correlations were conducted to examine the relationships among variables. Means, standard deviations, and correlations for all the variables are presented in Table 1. HP for university studies was positively correlated with OP for university studies ($r = .27, p = .001$) and identity integration ($r = .29, p = .001$). OP was positively correlated with normative identity ($r = .25, p = .001$). Finally, normative identity and informational identity were positively correlated ($r = .35, p = .001$). Therefore, participants with HP for university studies are more likely to have higher levels of identity integration and those with OP for university studies a normative identity style.

Main analyses

A multiple stepwise hierarchical regression was conducted to predict HP with age, sex and OP as predictors in Step 1, identity integration, informational identity, and normative identity in Step 2, and the identity integration \times informational identity interaction in Step 3. Results are presented in Table 2. As expected, controlling for age, sex, OP, and all identity variables, the results revealed that identity integration was positively associated with HP and informational identity style was marginally positively associated with HP, whereas normative identity was not associated with HP. Contrary to our hypotheses, although the interaction term of informational identity style and identity integration was in the expected direction, it did not reach significance. Nonetheless, in light of the hypothesized interaction, we conducted simple slopes analyses by standardizing these two variables and examining their relation to HP and OP when they were at low level (-1 standard deviation), and high level ($+1$ standard deviation) (Aiken & West, 1991). Results revealed that informational identity style was positively associated with HP at higher levels of identity integration ($\beta = .27, p = .039$), but not at lower levels of identity integration ($\beta = .10, p = .483$). These findings provide tentative support for the conjoint role of both identity integration and informational identity style in the development of HP.

Another multiple hierarchical regression was performed to predict OP with age, sex and HP as predictors in Step 1, identity integration, informational identity, and normative identity in Step 2, and the identity integration \times informational identity interaction in Step 3. Results are presented in Table 2. As expected, controlling for age, sex, HP, and all identity variables, the results revealed that identity integration was negatively associated with OP while normative identity style was positively associated with OP. Noteworthy is the positive association of OP with age, which suggests that individuals have a more rigid and pressured identification

Table 1. Correlations among study variables (Study 1).

	<i>M</i>	<i>SD</i>	01	02	03	04	05
01. Harmonious passion	4.82	.91	–				
02. Obsessive passion	2.86	.84	.27**	–			
03. Informational identity	3.78	.60	.17	.13	–		
04. Normative identity	3.31	.67	.14	.25**	.35***	–	
05. Identity integration	2.55	.42	.29**	–.10	–.09	.18	–

Note: $N = 107$.

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

Table 2. Hierarchical regression analyses of identity variables on type of passion (Study 1).

Variable	Harmonious passion										Obsessive passion				
	R ²	ΔR^2	β	t	95% C.I. for B		R ²	ΔR^2	β	t	95% C.I. for B				
					Lower	Upper					Lower	Upper			
Step 1	.08	.05					.16								
Sex			.04	.28	-.28	.42									
Age			-.03	-.29	-.05	.03									
Obsessive passion			.28	2.82*	.11	.52									
Harmonious passion															
Step 2	.20	.15					.25	.09							
Sex			.02	.11	-.30	.37									
Age			-.03	-.40	-.05	.03									
Obsessive passion			.31	3.07**	.13	.54									
Harmonious passion															
Identity integration			.34	3.57***	.15	.50									
Normative identity			-.05	-.52	-.22	.15									
Informational identity			.18	1.90	-.01	.35									
Step 3	.21	.15					.25	.00							
Sex			.02	.16	-.33	.36									
Age			-.04	-.30	-.04	.02									
Obsessive passion			.30	2.99**	.11	.53									
Harmonious passion															
Identity integration			.35	3.60***	.16	.51									
Normative identity			-.07	-.60	-.24	.12									
Informational identity			.18	1.82	-.02	.35									
Informational identity x identity integration			.08	.71	-.22	.15									

Note: N = 107.

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

to their studies as they get older. The interaction term of informational identity style and identity integration was not related to OP. Follow-up analyses were also conducted using simple slopes (Aiken & West, 1991) and did not reveal any significant effects.

In sum, results of Study 1 supported our hypotheses to the effect that different types of identity processing styles seem to underlie the two types of passion. Specifically, OP seems to result from a normative identity processing style whereas HP seems to be influenced by both an informational identity processing style and identity integration. In addition, even though the interaction term was not significant, the results from simple slopes analysis suggest that informational identity style is especially important as a determinant of HP in the presence of high identity integration.

Study 2

The results of Study 1 provided support for the relationships between different identity styles and identity integration with the two types of passion. One goal of Study 2 was to replicate these findings. A second goal of Study 2 was to assess the role of passion in an important outcome, namely optimal functioning. Several researchers have adopted a multidimensional perspective on well-being underlining that optimal functioning is composed of several different elements apart from simply feeling good (Huppert, 2009; Ryff & Keyes, 1995; Seligman, 2011; Vallerand, 2013). In line with these perspectives, Vallerand (2013; Vallerand & Carbonneau, 2013) introduced the construct of OFIS. The OFIS construct posits that the optimally functioning person experiences psychological, physical, and relational wellness, performs at a high level, and contributes significantly to his or her community or even society at large. Although past research has shown that HP positively predicts the five aspects of optimal functioning whereas OP is negatively or not associated with these indicators, such research has taken place in separate studies (i.e., some studies looked at psychological well-being and some at other dimensions of OFIS). Thus, the second purpose of Study 2 was to empirically test the role of passion as a key determinant of OFIS taken as a whole within the confines of the same study.

Finally, the third and central purpose of this study was to test the validity of an integrative model examining the associations of identity style and identity integration with passion, and the extent to which the two types of passion relate differently to optimal functioning. We hypothesized that the present findings would replicate the findings of Study 1 on identity style and integration as correlates of the two types of passion. Specifically, we hypothesized that normative identity style would be positively associated with OP while both informational identity style and identity integration would be positively associated with HP. Furthermore, in line with the results of Study 1, we hypothesized that informational identity style would be especially important as a determinant of HP in the presence of high identity integration. Finally, in accordance with Vallerand's conceptualization of OFIS, we expected that HP would be positively associated with all five facets of OFIS, whereas OP would be negatively associated or not associated with the various OFIS elements.

Method

Participants and procedures

As in Study 1, participants ($N = 146$) were students in a large French-speaking university in Montréal. There were many older participants in this sample. Eleven participants (8% of the

sample) were more than 35 years old and, as in Study 1, we excluded them. The sample ($N = 135$) consisted of 85 women (62%) and 50 men (38%) with 102 native French speakers (74%), 28 native English speakers (22%), and 5 native speakers of another language (4%). Participants were aged between 18 and 34 years old (mean age 23.09 years; $SD = 3.64$ years). Participants were invited to complete in a classroom a paper and pencil questionnaire dealing with a survey on passion for their university studies. Their participation was voluntary, and it was not compensated. We did a Monte Carlo Study with 10 000 replications on MPLUS 7 (Muthén & Muthén, 2005) to determine power. Results showed that our current sample size provided us with a power of .83 on average for each parameter, a level that is generally considered adequate (Muthén & Muthén, 2002).

Measures

The scales used in Study 1 were also used in Study 2 to assess identity style, identity integration, and passion for university studies. McDonald's Omega's were .90 [.73, .85] for informational identity style, .71 [.73, .85] for normative identity style, .89 [.73, .85] for identity integration, .90 [.73, .85] for harmonious passion, and .75 for obsessive passion.

Optimal functioning in society. In order to assess participants' OFIS (Vallerand, 2013), a 26-item questionnaire was prepared for the purpose of this study. This questionnaire is composed of five dimensions that correspond to psychological, physical, and relational well-being, as well as performance and contributions to one's community or society at large. These five dimensions are presented below.

Psychological well-being. This dimension was assessed by using the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). This well-validated 5-item scale assesses participants' general satisfaction with their lives (e.g., "I am satisfied with my life"). Participants responded on a scale ranging from 1 = "Never" to 7 = "Almost always." Higher scores indicate higher levels of psychological well-being (McDonald Omega = .85 [.73, .85]).

Physical well-being. This dimension was assessed through a physical symptom checklist adapted from an instrument developed by Knäuper, Rabiau, Cohen, and Patriciu (2004). This 8-item checklist assesses participants' level of negative physical symptoms (i.e., headaches, dizziness, etc.). Participants were asked how often they experience those physical symptoms in general. They responded on a scale ranging from 1 = "Never" to 7 = "Almost always." The scores were reversed such that higher scores indicate higher levels of physical health (McDonald Omega = .82 [.73, .85]).

Relational well-being. Relational well-being was assessed using a subscale of the Quality of Interpersonal Relationship Scale (QIRS; Sénécal, Vallerand, & Vallières, 1992). This 4-item subscale assesses the extent to which relationships one has with other people in general are enriching, satisfying, harmonious, and inspire trust (e.g., "In general, my relationships with the people whom I interact (friends, family, colleagues) are satisfying"). Participants were asked to respond to items on a 5-point Likert scale ranging from 0 = "Not at all" to 4 = "Extremely." Higher scores indicate higher levels of interpersonal relationship quality (McDonald Omega = .93 [.73, .85]).

Performance. In order to assess participants' academic performance, a 5-item subscale was used. The subscale assesses the level of performance in participants' studies (e.g., "In my schoolwork, I adequately complete the tasks that I've been assigned"). Participants responded on a scale ranging from 1 = "Never" to 7 = "Almost always." Higher scores indicate higher levels of performance (McDonald Omega = .83 [.73, .85]).

Contributions to society. Finally, in order to assess participants' contribution to society, a 4-item subscale based on Vallerand's (2013) conceptualization assesses participants' level of contributions to society (e.g., "Your behavior has a positive impact on your community or society"). Participants responded on a scale ranging from 1 = "Never" to 7 = "Almost always." Higher scores indicate higher levels of contribution to society (McDonald Omega = .84 [.73, .85]).

We conducted a second-order CFA in order to test the factorial structure of the OFIS scale. The indicators were each of the 26 items of the 5 dimensions of the OFIS construct. Each indicator was modeled to load on each of the 5 dimensions (the first-order latent variables), and in turn each of the 5 dimensions were modeled to load on the OFIS latent variable (the second-order latent construct). The model was tested using maximum likelihood estimation with robust standard errors (MLR estimation), and covariances were freely estimated among all exogenous variables. Results showed that the model provided a good fit to the data ($\chi^2(294) = 406.11, p > .05$; CFI = .91; RMSEA = .05; SRMR = .07). These results supported the hypothesized structure of the OFIS scale.

Results

Preliminary analyses

We first assessed the normality of each variable by screening the scores for *Skewness* and *Kurtosis*. All variables were normally distributed. Next, correlations were conducted to examine the relationships among variables. Means, standard deviations and correlations are presented in Table 3. As can be seen, the results of Study 1 were replicated. Furthermore, the correlations involving the two types of passion and elements of the OFIS construct were in line with the hypotheses. Specifically, correlations involving HP revealed a positive pattern of functioning whereas those with OP showed the opposite pattern.

Main results

A path analysis using MPLUS 7 (Muthén & Muthén, 2005) was conducted in order to test the hypothesized model. The hypothesized model included four exogenous variables (informational identity, normative identity, identity integration, and the interaction term of identity integration and informational identity), five endogenous variables (psychological, physical, and relational well-being, performance, and contribution to society), and two mediators (HP and OP). The model was tested using maximum likelihood estimation with robust standard errors (MLR estimation) and covariances were freely estimated among all exogenous variables. The model provided a good fit to the data ($\chi^2(21) = 26.50, p = .188$; CFI = .97; RMSEA = .04; SRMR = .04).

Results are presented in Figure 1. Identity integration ($\beta = .36, p = .001$), informational identity style ($\beta = .30, p = .001$), and their interaction term ($\beta = .22, p = .001$) were positively associated with HP, whereas normative identity style was negatively associated with HP

Table 3. Correlations among study variables (Study 2).

	M	SD	01	02	03	04	05	06	07	08	09	10
01. Harmonious Passion	4.82	.93	–									
02. Obsessive Passion	2.69	.98	.13	–								
03. Informational Identity	3.68	.62	.29***	.24**	–							
04. Normative Identity	3.20	.67	.03	.24**	.33***	–						
05. Identity integration	2.60	.36	.35***	–.13	.04	.07	–					
06. Satisfaction with life	5.01	1.25	.28**	–.04	.17*	.05	.15	–				
07. Contribution to society	4.89	1.14	.25**	.17*	.18*	.03	.25**	.11	–			
08. Physical symptoms	5.51	.90	–.18*	.09	–.02	–.11	–.29***	–.17*	–.22**	–		
09. Interpersonal relationships quality	5.70	.94	.28**	–.12	.15	.01	.18*	.47***	.20*	–.22*	–	
10. Performance	5.44	.87	.40***	.05	.28**	.14*	.16	.30***	.29***	–.23*	.36***	–

Note: $N = 135$.* $p < .05$; ** $p < .01$; *** $p < .001$.

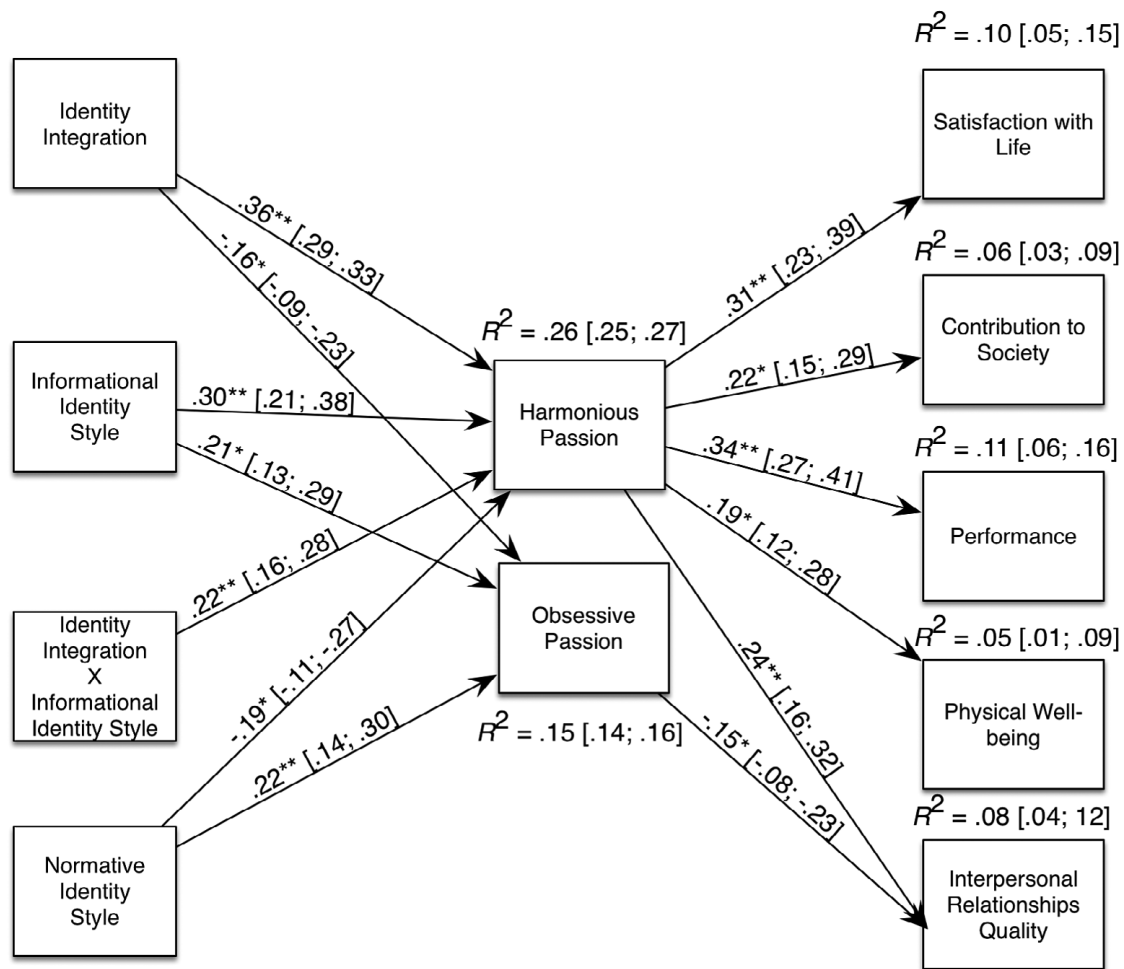


Figure 1. Path analysis model of the associations among identity styles, identity integration, the interaction of informational identity style and identity integration, harmonious passion, obsessive passion, and psychological adaptation.

Notes: Non-significant associations and covariances between variables are not shown for the sake of clarity. * $p < .05$; ** $p < .01$. Standardized beta weights are displayed with their 95% associated confidence intervals. R^2 and associated 95% confidence intervals for the endogenous variables are also presented.

($\beta = -.19, p = .019$). Follow-up analyses of the interaction were conducted using simple slopes (Aiken & West, 1991), as in Study 1. Results revealed that informational identity style positively predicted HP at higher levels of identity integration ($\beta = .45, p = .001$), but not at lower levels of identity integration ($\beta = .14, p = .119$). In turn, HP was positively associated with all five OFIS indicators: [psychological well-being, ($\beta = .31, p = .001$); contribution to society, ($\beta = .22, p = .011$); performance, ($\beta = .34, p = .001$); physical health, ($\beta = .20, p = .016$); and interpersonal relationships quality, ($\beta = .24, p = .001$)]. Furthermore, as in Study 1, normative identity style ($\beta = .22, p = .007$) was positively associated with OP. In addition, informational identity style ($\beta = .21, p = .016$) was also positively associated with OP, while identity integration was negatively associated with it ($\beta = -.16, p = .028$). In turn, OP was negatively associated with interpersonal relationships quality ($\beta = -.15, p = .035$), but unrelated to the other OFIS indices. In sum, the hypothesized model was largely supported.²

General discussion

The present research sought to examine the role of identity processes in HP and OP. We also sought to analyse the role of passion in OFIS. Overall, our hypotheses were largely supported. As expected, results showed that both informational identity style and identity integration predicted HP, whereas normative identity style predicted OP. In addition, however, the results of Study 2 also revealed that informational identity style positively predicted OP. Furthermore, identity integration negatively predicted OP in Study 2. Finally, as hypothesized, the results also revealed that HP positively predicted all five dimensions of OFIS, whereas OP negatively predicted relational well-being and was not associated with the other elements of optimal functioning. These findings lead to a number of implications. These are discussed in turn below.

The role of identity processes in passion

One key theoretical assumption of the DMP is that the activity that one is passionate about is internalized in identity. Further, the DMP also posits that because different types of internalization processes lead to the two types of passion, different identity styles should be associated with HP and OP. The present research is the first to empirically test and support the role of identity processes in passion. Identity processing styles and identity integration were both positively associated with passion, thus providing support for Vallerand and colleagues' (2003; Vallerand, 2010, 2015) claim that identity is a definitional component of passion. Furthermore, this research identifies the types of identity processes that are associated with the development of specific types of passion. In both studies, normative identity style was positively associated with OP. This suggests that individuals who tend to define themselves by internalizing social norms and important others' values and beliefs (which is characteristic of normative identity processing) also tend to develop passions based on external pressure or contingencies attached to the activities (which is a characteristic of OP). Individuals with an OP do love, value, and invest time and energy into the activity they are passionate about. However, consistent with the DMP, the present results suggest that a crucial determinant of both type of passion lies in the way the activity is internalized in identity. To the extent that the search for identity process is autonomous in nature, with a personal search that leads to a fruitful conclusion and integration, an HP should develop. Conversely, to the extent that the search for identity is experienced as influenced by others such as is the case with normative beliefs, an OP toward the beloved activity should develop.

The issue with respect to the role of informational identity style in passion deserves attention, as in Study 2 it was associated with both HP and OP. This is consistent with research showing that while informational identity style is mostly associated with positive outcomes, it may also lead to negative ones (Luyckx et al., 2007). Indeed, our research shows that to explore and wilfully attend to self-relevant information does not imply that individuals will necessarily develop a HP; they may also develop an OP that may lead to some negative outcomes. The simple slopes analysis of Study 1's interaction and the moderated mediation results of Study 2 suggest that informational identity style leads to HP especially when it is coupled with high identity integration. In other words, it is especially in the presence of high levels of identity integration that informational identity style acts as an important catalyst for the development of HP.

The Role of Passion in OFIS

Past research has confirmed the important role of passion for a number of outcomes associated with optimal functioning. For instance, past research has shown in separate studies that HP facilitates, whereas OP is either unrelated or undermines, psychological well-being (e.g., Lafrenière, St-Louis, Vallerand, & Donahue, 2012; Lafrenière, Vallerand, & Sedikides, 2013; Vallerand, 2012), health (e.g., Burke, Sabiston, & Vallerand, 2012), positive interpersonal relationships (e.g., Lafrenière, Bélanger, Constantine, & Vallerand, 2011; Philippe et al., 2010), performance and creativity (e.g., Bonneville-Roussy, Lavigne, & Vallerand, 2011; St-Louis & Vallerand, 2015; Vallerand et al., 2007, 2008), and contributions to society (e.g., St-Louis, Carbonneau, & Vallerand, 2016; see also Curran et al., 2015; for a meta-analysis and Vallerand, 2010, 2015 for reviews). Vallerand (2013) proposed that the five elements above represent the basis of OFIS. The present findings are the first to provide empirical support for the integrated perspective of the OFIS construct. Results of the CFA showed that OFIS indeed represents a multidimensional construct constituted of the five proposed elements of psychological, physical, and relational well-being, performance, and contributions to society. Furthermore, the path analysis results of Study 2 supported the claims from the DMP that HP facilitates all dimensions of OFIS, and thus that HP favors an optimal balance between several important facets of the person's functioning. Indeed, HP was positively associated with psychological, physical, and relational wellness, and also with high performance and significant contributions to society, suggesting that HP can foster the full functioning of the person. In contrast, and consistent with our hypotheses, OP was not significantly associated with psychological well-being, physical health, contributions to society and performance, and was negatively associated with relational wellness. In other words, having a passion, and more specifically an HP, for a meaningful aspect of one's life, such as one's studies, can bring about a full range of adaptive outcomes deemed important for one's optimal functioning. This is not so for OP, which can even be seen as promoting negative outcomes.

Limitations

Some limitations of the present research ought to be underscored. The use of self-report methodologies might have artificially increased the associations among the variables, due to shared method variance. Further, the data were cross-sectional in nature and should be replicated using longitudinal and experimental designs to provide additional support for the causal role of identity in passion and of passion in OFIS. The direction of the effects proposed here reside on conceptual assumptions. Although these assertions make sense conceptually, and to some degree empirically (i.e., when the path is tested with passion predicting identity the model does not fit), the methodology of the present research does not allow us to establish with certainty these claims that identity determines passion. It should also be noted that in the present research, we have focused on passion toward university studies. Although past research has shown that this area is highly relevant for teenagers and young adults (see Stoeber, Childs, Hayward, & Feast, 2011), additional research is needed to generalize the claims we make with respect to identity as a determinant of passion in other life domains. In addition, researchers should consider other measures of identity processes such as Marcia's interview method (Marcia, 1966). Also, it would be interesting to include the diffuse identity style in future research to determine if it is indeed unrelated to

passion. Finally, researchers should consider using other measures of adjustment than self-reports such as physiological measures.

In sum, the present research findings are the first to empirically test the role of identity processes in passion, which is a fundamental component of the DMP. Specifically, the present findings suggest that identity integration and identity styles play a role in the type of passion that develops, although research using longitudinal and experimental designs is needed to replicate and confirm these results. Finally, this research is the first to empirically show that HP, but not OP, may positively contribute to all five dimensions of psychological, physical, and relational well-being, performance, and contributions to society.

Notes

1. Research suggests that the Cronbach alpha systematically underestimates internal consistency especially when a scale contains few items, and when each of the scale's dimensions target different areas and processes (Dunn, Baguley, & Brunsden, 2014). In such cases, the McDonald's Omega represents a more precise indicator of internal consistency (e.g., Dunn et al., 2014; Zinbarg, Revelle, Yovel, & Li, 2005). Based on these considerations we chose to report the McDonald's Omega indices and to use them as an indicator of the internal consistency of our scales. The Omega coefficient is interpreted in the same way as the alpha coefficient. In any event, for comparison purposes here are the Cronbach alpha values. In Study 1 alpha's and 95% CI were: .80 [.73, .85] for HP, .55 [.40, .67] for OP, .68 [.56, .75] for identity integration, .58 [.43, .65] for informational identity, and .52 [.38, .65] for normative identity style. In Study 2 alpha's and 95% CI were: .79 [.72, .84] for HP, .61 [.49, .70] for OP, .60 [.50, .70] for identity integration, .65 [.52, .71] for informational identity, .52 [.41, .65] for normative identity style, .84 [.78, .87] for psychological well-being, .75 [.67, .80] for physical well-being, .74 [.68, .82] for performance, .90 [.87, .93] for relational well-being, and .79 [.69, .82] for contribution to society.
2. We also tested two alternative models where the order of the variables was in the opposite direction of the proposed model. Specifically, these two alternative models posit that passion is a determinant of identity (Model 1: Passion variables → identity variables → OFIS outcomes; Model 2: OFIS outcomes → passion variables → identity variables). Both models fits were clearly inadequate (Model 1: $\chi^2(21) = 56.124, p = .983; CFI = .76; RMSEA = .16; SRMR = .09$; Model 2: $\chi^2(21) = 76.564, p = .745; CFI = .64; RMSEA = .18; SRMR = .11$). Thus, even though ultimately experimental and longitudinal methods are needed to demonstrate the causality of the relationship among model variables, this analysis provides some additional support to the idea that identity is a determinant of passion and not the other way around.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by Social Sciences and Humanities Research Council of Canada.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, 63, 596–612. doi:10.1037/0022-3514.63.4.596

- Bélanger, J. J., Lafrenière, M.-A. K., Vallerand, R. J., & Kruglanski, A. W. (2013). Driven by fear: The effect of success and failure information on passionate individuals' performance. *Journal of Personality and Social Psychology, 104*, 180–195. doi:10.1037/a0029585
- Berzonsky, M. D. (1992). Identity style and coping strategies. *Journal of Personality, 60*, 771–788.
- Berzonsky, M. D. (2003). Identity style and well-being: Does commitment matter? *Identity: An International Journal of Theory and Research, 3*, 131–142. doi:10.1207/S1532706XID030203
- Berzonsky, M. D. (2011). A social-cognitive perspective on identity construction. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 55–76). New York, NY: Springer.
- Berzonsky, M. D., & Adams, G. R. (1999). Reevaluating the identity status paradigm: Still useful after 35 years. *Developmental Review, 19*, 557–590.
- Berzonsky, M. D., & Cieciuch, J. (2014). Mediation role of identity commitment in relationships between identity processing style and psychological well-being. *Journal of Happiness Studies, 17*, 145–162. doi:10.1007/s10902-014-9588-2
- Berzonsky, M. D., & Ferrari, J. R. (1996). Identity orientation and decisional strategies. *Personality and Individual Differences, 20*, 597–606. doi:10.1016/0191-8869(96)00001-3
- Berzonsky, M. D., & Kuk, L. S. (2000). Identity status, identity processing style, and the transition to university. *Journal of Adolescent Research, 15*, 81–98.
- Berzonsky, M. D., & Kuk, L. S. (2005). Identity style, psychosocial maturity, and academic performance. *Personality and Individual Differences, 39*, 235–247.
- Berzonsky, M. D., & Neimeyer, G. J. (1994). Ego identity status and identity processing orientation: The moderating role of commitment. *Journal of Research in Personality, 28*, 425–435. doi:10.1006/jrpe.1994.1030
- Berzonsky, M. D., Nurmi, J. E., Kinney, A., & Tammi, K. (1999). Identity processing style and cognitive attributional strategies: Similarities and difference across different contexts. *European Journal of Personality, 13*, 105–120. doi:10.1002/(SICI)1099-0984(199903/04)13:2<105::AID-PER325>3.0.CO;2-H
- Bonneville-Roussy, A., Lavigne, G. L., & Vallerand, R. J. (2011). When passion leads to excellence: The case of musicians. *Psychology of Music, 39*, 123–138.
- Bouizegarene, N., & Philippe, F. L. (2015). Episodic memories as building blocks of identity processing styles and life domains satisfaction: Examining need satisfaction and need for cognitive closure in memories. *Memory, 24*, 616–628. doi:10.1080/09658211.2015.1034138
- Burke, S. M., Sabiston, C. M., & Vallerand, R. J. (2012). Passion in breast cancer survivors: Examining links to emotional well-being. *Journal of Health Psychology, 17*, 1161–1175.
- Caudroit, J., Boiche, J., Stephan, Y., Le Scanff, C., & Trouilloud, D. (2011). Predictors of work/family interference and leisure-time physical activity among teachers: The role of passion towards work. *European Journal of Work and Organizational Psychology, 20*, 326–344.
- Curran, T., Hill, A. P., Appleton, P. R., Vallerand, R. J., & Standage, M. (2015). The psychology of passion: A meta-analytical review of a decade of research on intrapersonal outcomes. *Motivation and Emotion, 39*, 631–655. doi:10.1007/s11031-015-9503-0
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268.
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71–75. doi:10.1207/s15327752jpa4901_13
- Donahue, E. G., Rip, B., & Vallerand, R. J. (2009). When winning is everything: On passion and aggression in sport. *Psychology of Sport & Exercise, 10*, 526–534.
- Dunn, T. J., Baguley, T., & Brunsden, V. (2014). From alpha to omega: A practical solution to the pervasive problem of internal consistency estimation. *British Journal of Psychology, 105*, 399–412.
- Erikson, E. H. (1959). Identity and the life cycle: Selected papers. *Psychological Issues, 1*, 1–171. Madison, CT: International Universities Press.
- Forest, J., Mageau, G. A., Crevier-Braud, L., Bergeron, É., Dubreuil, P., & Lavigne, G. L. (2012). Harmonious passion as an explanation of the relation between signature strengths' use and well-being at work: Test of an intervention program. *Human Relations, 65*, 1233–1252.
- Hodgins, H. S., & Knee, C. R. (2002). The integrating self and conscious experience. *Handbook of self-determination research, 87–100*.

- Houliort, N., & Rinfret, N. (2010). Favoriser la satisfaction au travail des directeurs généraux du réseau de la santé et des services sociaux: Impact du style de leadership adopté et de la passion envers le travail. [To facilitate the work satisfaction of general managers of health and social services: The impact of leadership style and passion for work]. In D. B. Raveleau & F. B. Hassel (Eds.), *Management humain des organisations: Grandeurs et misères de la fonction de dirigeant* (pp. 165–185). Paris: Éditions L'Harmattan.
- Houliort, N., & Vallerand, R. J. (2012). Leadership and organizational culture as determinants of passion for work. Manuscript submitted for publication.
- Huppert, F. A. (2009). Psychological well-being: Evidence regarding its causes and consequences. *Applied Psychology: Health and Well-Being*, 1, 137–164.
- Knäuper, B., Rabiau, M., Cohen, O., & Patriciu, N. (2004). Compensatory health beliefs: Scale development and psychometric properties. *Psychology & Health*, 19, 607–624. doi:10.1080/0887044042000196737
- Krettenauer, T. (2005). The role of epistemic cognition in adolescent identity formation: Further evidence. *Journal of Youth and Adolescence*, 34, 185–198. doi:10.1007/s10964-005-4300-9
- Lafrenière, M.-A. K., Bélanger, J. J., Sedikides, C., & Vallerand, R. J. (2011). Self-esteem and passion for activities. *Personality and Individual Differences*, 51, 541–544.
- Lafrenière, M.-A. K., St-Louis, A. C., Vallerand, R. J., & Donahue, E. G. (2012). On the relation between performance and life satisfaction: The moderating role of passion. *Self and Identity*, 11, 516–530.
- Lafrenière, M.-A. K., Vallerand, R. J., & Sedikides, C. (2013). On the relation between self-enhancement and life satisfaction: The moderating role of passion. *Self and Identity*, 12, 597–609.
- Lalande, D., Vallerand, R. J., Lafrenière, M.-A. K., Verner-Filion, J., Laurent, F.-A., Forest, J., & Paquet, Y. (2017). Obsessive passion: A compensatory response to unsatisfied needs. *Journal of Personality*, 85, 163–178. doi:10.1111/jopy.12229
- Luyckx, K., Soenens, B., Berzonsky, M. D., Smits, I., Goossens, L., & Vansteenkiste, M. (2007). Information-oriented identity processing, identity consolidation, and well-being: The moderating role of autonomy, self-reflection, and self-rumination. *Personality and Individual Differences*, 43, 1099–1111.
- Mageau, G., & Vallerand, R. J. (2007). The moderating effect of passion on the relation between activity engagement and positive affect. *Motivation and Emotion*, 31, 312–321.
- Mageau, G. A., Vallerand, R. J., Charest, J., Salvy, S.-J., Lacaille, N., Bouffard, T., & Koestner, R. (2009). On the development of harmonious and obsessive passion: The role of autonomy support, activity specialization, and identification with the activity. *Journal of Personality*, 77, 601–646.
- Mageau, G. A., Vallerand, R. J., Rousseau, F. L., Ratelle, C. F., & Provencher, P. J. (2005). Passion and gambling: Investigating the divergent affective and cognitive consequences of gambling. *Journal of Applied Social Psychology*, 35, 100–118.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3, 551.
- Marsh, H. W., Vallerand, R. J., Lafrenière, M. A. K., Parker, P., Morin, A. J. S., Carbonneau, N., ... Paquet, Y. (2013). Passion: Does one scale fit all? Construct validity of two-factor passion scale and psychometric invariance over different activities and languages. *Psychological Assessment*, 25, 796.
- Murnieks, C. Y., Mosakowski, E., & Cardon, M. S. (2014). Pathways of passion identity centrality, passion, and behavior among entrepreneurs. *Journal of Management*, 40, 1583–1606.
- Muthén, L. K., & Muthén, B. O. (2002). How to use a Monte Carlo study to decide on sample size and determine power. *Structural equation modeling*, 9(4), 599–620.
- Muthén, L. K., & Muthén, B. O. (2005). *Mplus: Statistical analysis with latent variables: User's guide* (pp. 1998–2012). Los Angeles, CA: Muthén & Muthén.
- O'Brien, E. J., & Epstein, S. (1988). *The multidimensional self-esteem inventory (MSEI): Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Philippe, F. L., Vallerand, R. J., Houliort, N., Lavigne, G., & Donahue, E. G. (2010). Passion for an activity and quality of interpersonal relationships: The mediating role of emotions. *Journal of Personality and Social Psychology*, 98, 917–932.
- Philippe, F. L., Vallerand, R. J., & Lavigne, G. L. (2009). Passion does make a difference in people's lives: A look at well-being in passionate and non-passionate individuals. *Applied Psychology: Health and Well-Being*, 1, 3–22.

- Ratelle, C. F., Carbonneau, N., Vallerand, R. J., & Mageau, G. (2013). Passion in the romantic sphere: A look at relational outcomes. *Motivation and Emotion, 37*, 106–120.
- Rousseau, F. L., & Vallerand, R. J. (2003). Le rôle de la passion dans le bien-être subjectif des aînés. [The role of passion in elders' subjective well-being] *Revue Québécoise de Psychologie, 24*, 197–211.
- Rousseau, F. L., & Vallerand, R. J. (2008). An examination of the relationship between passion and subjective well-being in older adults. *International Journal of Aging and Human Development, 66*, 195–211.
- Ryff, C. D., & Keyes, C. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*, 719–727.
- Seligman, M. (2011). *Flourish: A new understanding of happiness, well-being-and how to achieve them*. London: Nicholas Brealey Pub.
- Senécal, C. B., Vallerand, R. J., & Vallières, E. F. (1992). Construction et validation de l'Échelle de la Qualité des Relations Interpersonnelles (EQRI) [Construction and validation of the quality of interpersonal relations scale]. *Revue Européenne de Psychologie Appliquée, 42*, 315–322.
- Soenens, B., Duriez, B., & Goossens, L. (2005). Social-psychological profiles of identity styles: Attitudinal and social-cognitive correlates in late adolescence. *Journal of Adolescence, 28*, 107–125.
- St-Louis, A. C., Carbonneau, N., & Vallerand, R. J. (2016). Passion for a cause: How it affects health and subjective well-being. *Journal of Personality, 84*, 263–276.
- St-Louis, A. C., & Vallerand, R. J. (2015). A successful creative process: The role of passion and emotions. *Creativity Research Journal, 27*, 1–13.
- Stoeber, J., Childs, J. H., Hayward, J. A., & Feast, A. R. (2011). Passion and motivation for studying: Predicting academic engagement and burnout in university students. *Educational Psychology, 31*, 513–528.
- Vallerand, R. J. (2010). On passion for life activities: The dualistic model of passion. *Advances in Experimental Social Psychology, 42*, 97–193. New York, NY: Academic Press.
- Vallerand, R. J. (2012). The role of passion in sustainable psychological well-being. *Psychological Well-Being: Theory, Research, and Practice, 2*, 1–21.
- Vallerand, R. J. (2013). Passion and optimal functioning in society: A eudaimonic perspective. In A. S. Waterman (Ed.), *The best within us: Positive psychology perspectives on eudaimonic functioning* (pp. 183–206). Washington, DC: APA Books.
- Vallerand, R. J. (2015). *The psychology of passion: A dualistic model*. New York, NY: Oxford University Press.
- Vallerand, R. J., Blanchard, C. M., Mageau, G. A., Koestner, R., Ratelle, C., Léonard, M., ... Marsolais, J. (2003). Les passions de l'âme: On obsessive and harmonious passion. [The soul's passions: On obsessive and harmonious passion] *Journal of Personality and Social Psychology, 85*, 756–767.
- Vallerand, R. J., & Carbonneau, N. (2013). The role of passion in optimal functioning in society. In D. McInerney, H. W. Marsh, R. Craven, & F. Guay (Eds.), *Theory driving research: New wave perspectives on self-processes and human development*, (pp. 53–82). Greenwich, CT: Information Age Publishing.
- Vallerand, R. J., Mageau, G. A., Elliot, A., Dumais, A., Demers, M.-A., & Rousseau, F. L. (2008). Passion and performance attainment in sport. *Psychology of Sport & Exercise, 9*, 373–392.
- Vallerand, R. J., Paquet, Y., Philippe, F. L., & Charest, J. (2010). On the role of passion in burnout: A process model. *Journal of Personality, 78*, 289–312.
- Vallerand, R. J., Rousseau, F. L., Grouzet, F. M. E., Dumais, A., & Grenier, S. (2006). Passion in sport: A look at determinants and affective experiences. *Journal of Sport & Exercise Psychology, 28*, 454–478.
- Vallerand, R. J., Salvy, S. J., Mageau, G. A., Elliot, A. J., Denis, P., Grouzet, F. M. E., & Blanchard, C. B. (2007). On the role of passion in performance. *Journal of Personality, 75*, 505–534.
- Vleioras, G., & Bosma, H. A. (2005). Are identity styles important for psychological well-being? *Journal of Adolescence, 28*, 397–409.
- Zinbarg, R. E., Revelle, W., Yovel, I., & Li, W. (2005). Cronbach's α , Revelle's β , and McDonald's ω H: Their relations with each other and two alternative conceptualizations of reliability. *Psychometrika, 70*, 123–133.