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Abstract

Using signature strengths at work has been shown to influence workers' optimal functioning and well-being. However, little is known about the processes through which signature

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strengths lead to positive outcomes. The present research thus aimed at exploring the role of having a harmonious passion in the relation between using signature strengths and well-being. For this purpose, an intervention was developed where participants ($n = 186$) completed three activities aiming at developing their knowledge and use of their signature strengths at work. The results showed (1) that the intervention successfully increased participants' use of their signature strengths, (2) that participants from the experimental group reported a higher use of their signature strengths at the end of the study than participants from the control group, and (3) that increases in the use of signature strengths reported by participants from the experimental group were related to increases in harmonious passion, which in turn led to higher levels of well-being.

Keywords

harmonious passion, signature strengths, well-being

Introduction

It is vital for leaders to know the specific strengths of their employees as much as it is important for workers to know where they excel and how they can make a difference. However, research has shown that only one worker out of three can spontaneously name their strengths (Arnold, 1997; Hill, 2001) and that only 17 percent believe they are actually using their strengths at work most of the time (Buckingham, 2007). While research has shown that using our strengths leads to higher performance (e.g. Berman, 2008; Govindji and Linley, 2007; Park et al., 2004), researchers and leaders usually try to identify workers' weaknesses in order to increase performance (Joseph and Linley, 2006; Linley et al., 2010a). Although instructive, the weaknesses-oriented approach fails to orient workers toward more constructive goals, and thus needs to be complemented with a more positive, strengths-oriented approach. Following the suggestions of positive psychology (Seligman and Csikszentmihalyi, 2000) and positive organizational scholarship (Cameron et al., 2003), and as using employee's strengths in the workplace helps increase productivity and employees' well-being (Berman, 2008; Govindji and Linley, 2007; Park et al., 2004), the two goals of the present research are: 1) to test an intervention aiming to increase the use of signature strengths in the workplace; and 2) to identify the processes through which the use of signature strengths at work helps increase workers' well-being and vitality over time.

Strengths use literature

Two definitions of strength exist in the literature. First, Linley (2008: 9) defined strength as a 'pre-existing capacity for a particular way of behaving, thinking, or feeling that is authentic and energizing to the user, and enables optimal functioning, development and performance.' Second, Rath (2007) defined strength as the ability to consistently provide near-perfect performance on a task. Consequently, we can describe the construct of strength as a distinctive characteristic that energizes and motivates people to develop and function optimally.

Peterson and Seligman (2004) developed a questionnaire called the 'Values in Action Survey,' which provides people with their five signature strengths from a list of 24 potential strengths. This questionnaire has been validated with thousands of individuals in a number of different languages (e.g. English, French, Spanish, etc.; Park et al., 2006; Peterson and Park, 2004, 2006). The 24 strengths originate from one of six virtues (i.e. wisdom and knowledge, courage, humanity, justice, temperance, transcendence) that enable humans to thrive (Peterson and Seligman, 2004; Seligman et al., 2005). Research has shown that women typically have higher strength scores than men, even though the top five strengths are generally the same regardless of gender (Linley and Page, 2007). It has also been suggested (Park and Peterson, 2011) that signature strengths could be classified according to two axes: a mind–heart axis and a self–others axis. This classification helps determine what cluster of signature strengths would be best for different job types. For instance, a group of signature strengths involving high levels of others-oriented strengths and high levels of heart-oriented strengths could be beneficial for social workers, teachers and nurses, while a group of signature strengths with high levels of self-oriented strengths and high levels of mind-oriented strengths could be useful for directors and lawyers. Although this classification is promising, additional research is still needed to offer further evidence on its validity.

It is further believed that the identification and the use of signature strengths should not only lead to an optimal functioning in the workplace but also life in general. This claim is substantiated by research showing that using one's signature strengths leads to higher functioning (Berman, 2008; Govindji and Linley, 2007; Park et al., 2004), higher performance (Buckingham and Clifton, 2001; Clifton and Harter, 2003; Harter et al., 2002a, 2002b) and lower turnover (Asplund et al., 2007). These results have been obtained in different fields, such as coaching (Linley et al., 2009; Luthans, 2002; Smith, 2006), clinical psychology (Lopez and Kerr, 2006; Rashid and Ostermann, 2009; Tedeschi and Kilmer, 2005; Wong, 2006), education (Nickerson and Fishman, 2009) and work (Cascio and Boudreau, 2008; Hodges and Clifton, 2004; Kerfoot, 2005; Linley and Page, 2007; Peterson and Park, 2006).

In their search for ways to increase happiness, Seligman and colleagues (2005) tested five interventions that could be used in order to increase people's happiness levels over both short and longer time frames. Their most successful intervention asked participants to identify their signature strengths with Peterson and Seligman's (2004) Values in Action Survey. Participants were then instructed to use one of their signature strengths in a new way every day for one week. Compared with a placebo exercise, using at least one signature strength in a new way each day increased participants' happiness one month, three months, and even six months later. Furthermore, compared with participants from the placebo group, participants from the experimental group reported fewer depressive symptoms post-test and up to six months later. Given that participants were instructed to actively use their signature strengths for only one week, it is highly impressive that improvements in mental health (higher happiness and lower depressive symptoms) remained over a six-month period. These results suggest that if people's workplaces were designed to facilitate the use of signature strengths, their well-being could be greatly improved along with the performance of the organization (Cascio and Boudreau, 2008).

The initial results showing that using signature strengths is related to higher functioning and performance are promising and so are the positive short- and long-term results of the intervention program (Seligman et al., 2005) described previously. Furthermore, these results suggest that the use of signature strengths can be taught and increased significantly. However, to the best of our knowledge, very little research so far has identified the motivational processes involved in the positive influence of using signature strengths in the workplace (e.g. Linley et al., 2010b). Identifying a psychological process responsible for the positive impacts of the use of signature strengths on workers' well-being and productivity would improve our understanding of the phenomenon and would benefit practitioners in their application of these discoveries. We propose that having a harmonious passion for work (Vallerand, 2008, 2010; Vallerand et al., 2003) is one such motivational process.

The Dualistic Model of Passion

Vallerand and colleagues (2003) defined passion as a strong inclination toward an activity that is loved, considered highly important, is an important part of one's self-concept, and in which one invests significant amounts of time and energy. According to this conceptualization of passion, the passionate activity becomes internalized within the person's identity (Vallerand et al., 2003). For example, someone with a passion for coaching identifies him- or herself as a 'coach' and not simply as someone who coaches. Being a coach is part of who that person is.

The Dualistic Model of Passion (Vallerand, 2008, 2010; Vallerand et al., 2003) proposes that a harmonious passion results from autonomous internalization of an activity within a person's identity. Specifically, harmonious passion develops when an activity becomes part of an individual's identity without any constraints or contingencies associated with it, and when it has been freely chosen as highly important for oneself (Deci and Ryan, 2000; Sheldon, 2002; Vallerand et al., 2003). Furthermore, with harmonious passion, the activity remains under the control of the individual, even though it occupies a very important place in his/her life. An example of a harmonious passion would be a teacher who loves and highly values teaching but who can nonetheless freely and enthusiastically engage in his or her work without creating conflicts with the other important spheres of his or her life (e.g. relationships with family and friends). Consequently, this teacher can derive pleasure and self-actualization from teaching without jeopardizing his or her personal life.

A harmonious passion is conceptually distinct from the concept of work engagement, which is defined as a state of mind characterized by intense vigour, dedication, and absorption in one's work (Hakanen et al., 2006; Schaufeli et al., 2002). First, a harmonious passion is a self-defining characteristic that is part of people's sense of who they are (Vallerand et al., 2003) and not a state of mind. Second, it is conceivable to be highly dedicated and absorbed in one's work without being passionate for it (Vallerand and Houlfort, 2003). Specifically, one can be autonomously motivated toward a task or an activity (Deci and Ryan, 2000) because one recognizes that the task or activity is important for oneself without having a passion for it.

The Dualistic Model of Passion (Vallerand et al., 2003) further proposes another type of passion: obsessive passion. This type of passion is the result of a controlled internalization

of an activity within a person's identity. Specifically, intra and/or interpersonal contingencies associated with the activity, such as contingent self-esteem, social acceptance or high performance, lead to the development of an obsessive passion for that activity (e.g. Mageau et al., 2011). This type of passion is characterized by a love for the activity and a strong engagement. However, when the engagement becomes out of the person's control, the activity comes to the point where obsessively passionate people cannot help but to engage in the activity even when such engagement is ill-advised. Obsessive passion has generally been associated with negative and maladaptive affective, cognitive, behavioral and interpersonal outcomes (see Vallerand, 2008, 2010, for a review). An example of an obsessive passion would be a teacher who loves teaching but becomes so invested in his or her work that his or her entire self-esteem is derived from work. Obsessive passion thus generates conflicts between work and other spheres of life, to the point where family and social life are neglected.

Much support for the Dualistic Model of Passion exists (see Vallerand, 2008, 2010, for a review). For instance, harmonious passion has been associated with the experience of flow (Vallerand et al., 2003, Study 1) and positive emotions (Mageau et al., 2005; Vallerand et al., 2003, Study 1; Vallerand et al., 2006, Studies 2 and 3), with low levels of negative emotions (Mageau et al., 2005; Vallerand et al., 2003, Study 1), and with high levels of psychological health and other indices of psychological adjustment (Rousseau and Vallerand, 2003, 2008; Vallerand et al., 2007, Studies 1 and 2; Vallerand et al., 2008, Study 2). Similar results have been obtained in the work context. For example, harmonious passion has been associated with work satisfaction, positive emotions and flow experiences at work as well as with low levels of emotional exhaustion and low levels of psychological problems (Carbonneau et al., 2008; Forest et al., 2011; Houliort et al., 2010; Lavigne et al., 2011; Vallerand et al., 2010).

Recent research has started to investigate the antecedents of a harmonious passion (e.g. Mageau et al., 2009). Results from a series of studies showed that, for experts and novices alike, autonomy support from a parent or a significant adult (e.g. a coach or a teacher) predicted the development of a harmonious passion toward the activity (sports and musical training). Specifically, being surrounded by significant individuals who value self-initiation, provide choice and acknowledge others' perspective positively influences the development of a harmonious passion (Mageau et al., 2009). Another series of studies showed that the more workers feel they have a certain degree of control over how they do their work, and the higher their sense of professional autonomy, the more harmoniously passionate they are toward their work (Lavigne et al., forthcoming). Could knowing and actively using one's signature strengths at work also influence the development of a harmonious passion toward one's work?

The present research

Similarly to Mageau and colleagues' (2009) and Lavigne and colleagues' (forthcoming) results, we propose that using one's signature strengths at work should influence the development of a harmonious passion for work, which in turn should increase levels of well-being. Specifically, we believe that the use of signature strengths could lead to an increase in harmonious passion because, when workers feel that they are using their full

potential at work, they should be more likely to autonomously internalize their work in their identity (as opposed to a controlled internalization) and develop a harmonious passion toward work (Vallerand et al., 2003). Furthermore, by using their signature strengths, workers should be able to function optimally (Berman, 2008; Govindji and Linley, 2007; Park et al., 2004), which should increase harmonious passion by intensifying their love for their work, facilitating their identification with it and increasing their willingness to dedicate time and resources to their work. Then, as shown by past research (e.g. Carbonneau et al., 2008; Forest et al., 2011; Houliort et al., 2010; Lavigne et al., 2011; Vallerand et al., 2010), their psychological adjustment and well-being should benefit from having a harmonious passion toward their work. Specifically, we propose that by helping workers to use their signature strengths in the workplace, we can increase harmonious passion toward their work, which in turn should enhance their psychological well-being.

In order to test these hypotheses, we designed an intervention program where full-time university students who had a part-time job completed the Values in Action Survey (Peterson and Seligman, 2004) in order to identify their signature strengths and were subsequently instructed to use their signature strengths at work. Participants reported their levels of well-being both at the beginning of the study and two months later. This design enabled us to posit a number of hypotheses:

Hypothesis 1: Participants involved in the intervention would report a higher use of their signature strengths at the end of the study than participants who were not involved in the intervention.

Hypothesis 2: Participants involved in the intervention would report a higher use of their signature strengths at the end of the study compared to baseline.

Hypothesis 3: Variations in use of signature strengths between Time 1 and Time 2 would be associated with the variations in harmonious passion between Time 1 and Time 2. Specifically, we hypothesized that an increase in the use of signature strengths would predict an increase in harmonious passion.

Hypothesis 4: Variations in use of signature strengths would be positively associated with the variations in harmonious passion for work, which would then be positively associated with well-being at Time 2 after controlling for Time 1 levels of well-being. Thus, an increase in harmonious passion would mediate the relation between the increase in use of signature strengths and change in all three measures of well-being.

Hypotheses 3 and 4 were tested simultaneously with a cross-lagged panel design.

Method

Procedure

The intervention program used was an adaptation to the workplace of Seligman and colleagues' (2005) intervention program. At the beginning of the study, participants

completed a web-based questionnaire in which they reported how much they used their strengths at work, their levels of harmonious passion as well as a number of well-being indicators. Following the completion of this questionnaire, participants in the experimental group completed the Values in Action Survey (Peterson and Seligman, 2004) and were automatically informed of their five signature strengths. They were also asked to do two activities designed by Seligman and colleagues (2005) in order to increase their well-being. First, they were asked to describe themselves at their personal best at work. For this activity, participants were first asked to describe in detail how they were working and how they were feeling before using their signature strengths at work, and then they had to describe in detail how they would be working and how they would be feeling after using their signature strengths. For the second activity, they were asked to use at least two of their previously identified five signature strengths in new ways within the environment of their current job for a two-week period. They were then asked to describe which signature strengths they used in their work as well as reflect on the positive consequences of using these strengths in their current job. In sum, participants in the experimental group identified their signature strengths, visualized and described themselves at their personal best and used their signature strengths in new ways. A small number of participants constituted the control group and thus they did not partake in the intervention. Two months later, all participants completed the same questionnaire they had previously completed at the beginning of the study. All questionnaires were in French and participants completed both questionnaires through a web-based platform.

Participants

In the experimental group, 467 participants (185 males; mean age = 22.19, SD = 4.01) completed the Time 1 questionnaire, while 186 completed the Time 2 questionnaire (39.8% response rate). The final sample for the experimental group consisted of 186 (71 males) university students from the province of Québec. Most of the participants had a college/professional degree or a university certificate (76.8%) and were full-time students (85.5%). Participants were working on average 22.77 hours per week (SD = 12.00) at Time 1 and 23.47 hours per week (SD = 12.75) at Time 2. The mean age of the experimental group was 22.82 years (SD = 4.94). Participants in the control group were 36 (14 males) university students from the province of Québec. Most of the participants had a college/professional degree or a university certificate (63.9%) and were full-time students (88.9%). Participants from the control group were working on average 19.48 hours per week (SD = 8.95) at Time 1 and 19.20 (SD = 10.30) at Time 2. The mean age of the control group was 22.42 years (SD = 3.40).

All participants were recruited through their university classes and thus represent a convenience sample. All students were registered in the school of management, where it is common for students to have a part-time job that is at least somewhat related to their field of study. This is a particularity of the present sample. We believe that if the intervention of the present study has a significant influence on participants' harmonious passion and well-being levels even though they are only occupying temporary part-time positions, it would show the effectiveness of using one's signature strengths. We would

further argue that if significant relations are found in a student-job situation, stronger impacts should be observed in a full-time work setting.

Measures

Values in Action Although the Values in Action Survey was not included in the questionnaire and in the analyses, it was an important part of the intervention. The Values in Action Survey (Peterson and Seligman, 2004) is a 240-item self-report questionnaire that measures respondents' endorsement of statements relating to 24 distinct character strengths (10 items per strength). All items are reported on a five-point Likert scale ranging from (1) *Not like me at all* to (5) *Very much like me*. Based on their average scores on the 24 character strengths, respondents are presented with their own top five signature strengths. This questionnaire has been validated with thousands of individuals in a number of different languages (e.g. English, French, Spanish, etc., Park et al., 2006; Peterson and Park, 2004, 2006).

Harmonious Passion Scale¹ Vallerand and colleagues' (2003) Passion Scale was used in order to assess participants' harmonious passion toward their work. For the purpose of the present study, only the six-item harmonious passion subscale was used. A sample item is 'My work is in harmony with other activities in my life' ($\alpha = .87$ at Time 1 and $.90$ at Time 2). The Passion Scale has been shown to display high levels of validity and reliability in several life domains including work (Carbonneau et al., 2008; Forest et al., 2011; Rousseau et al., 2002; Vallerand and Houliort, 2003; Vallerand et al., 2003, 2010). Items were scored on a seven-point Likert scale, ranging from (1) *Do not agree at all* to (7) *Very strongly agree*.

Use of signature strengths Participants from both the experimental and the control groups completed 14 items about the use of their signature strengths (Govindji and Linley, 2007) at both measurement points. Sample items are 'I use my strengths every day' and 'My work gives me a lot of opportunities to use my strengths' ($\alpha = .92$ at Time 1 and $.94$ at Time 2). Items were scored on a seven-point Likert scale, ranging from (1) *Do not agree at all* to (7) *Very strongly agree*.

Vitality Participants completed the seven-item vitality scale (Ryan and Frederick, 1997) toward their work. A sample item is 'I nearly always feel alert and awake' ($\alpha = .90$ at Time 1 and $.92$ at Time 2). Items were scored on a six-point Likert scale, ranging from (1) *Never* to (6) *Always*.

Satisfaction with life In order to assess their life satisfaction, participants completed the 5-item satisfaction with life scale (Diener et al., 1985, validated in French by Blais et al., 1989). A sample item is 'I am satisfied with my life' ($\alpha = .87$ at Time 1 and $.87$ at Time 2). Items were scored on a seven-point Likert scale, ranging from (1) *Do not agree at all* to (7) *Very strongly agree*.

Psychological well-being Participants' psychological well-being was assessed with a short 10-item scale composed of three subscales from the Psychological Well-Being Scale

(Ryff, 1989; Ryff and Keyes, 1995). The three subscales were self-acceptance, purpose in life, and personal growth. Following the recommendations of Miquelon and Vallerand (2008), only these three subscales were assessed in the present study because the other three subscales of the Psychological Well-Being Scale are too closely related to Deci and Ryan's (1991, 2000) psychological needs for autonomy, competence, and relatedness. A total psychological well-being variable was computed by averaging all 10 items ($\alpha = .83$ at Time 1 and $.84$ at Time 2). Items were scored on a seven-point Likert scale, ranging from (1) *Do not agree at all* to (7) *Very strongly agree*.

Data analyses

A multivariate analysis of variance (MANOVA) with SPSS 16.0 was conducted on Time 1 demographic variables with participants from the experimental group in order to detect differences between those who completed both the Time 1 and 2 questionnaires and those who failed to complete the Time 2 questionnaire. Similarly, a multivariate analysis of variance was conducted on the Time 1 study variables with participants from the experimental group in order to detect differences between those who completed both the Time 1 and 2 questionnaires and those who only completed the Time 1 questionnaire. In order to detect differences between the control and the experimental groups on the use of signature strengths variable at both measurement points, univariate analyses of variance (ANOVA) were conducted. Furthermore, in order to detect changes between both measurement points on the use of signature strengths variable for both groups independently, paired-sample *t*-tests were conducted. Finally, a cross-lagged panel model was conducted on the data with LISREL 8.80 (Jöreskog and Sörbom, 2003). Change in well-being was obtained by controlling for the initial levels of well-being. Variations in the use of signature strengths and in harmonious passion between Time 1 and Time 2 were obtained by regressing each variable at Time 2 on itself at Time 1 and saving the residuals. These residuals, which represent change in both use of signature strengths and harmonious passion between Time 1 and Time 2, were then included in the cross-lagged model. The covariance matrix provided by SPSS 16.0 served as a database for the structural equations modeling analysis and the method of estimation was maximum likelihood.

Results

In the experimental group, 467 participants completed the Time 1 questionnaire while 186 completed the Time 2 questionnaire (39.8% response rate). In order to detect differences between those who were present at both measurement points and those who were only present at Time 1, we conducted a MANOVA on a number of demographic variables (e.g. age, gender, education, and children). The multivariate test was not significant ($F(7, 311) = 1.81, p > .05$). However, the univariate test for participants' age was found to be significant ($F(1, 317) = 7.41, p < .05$) and indicated that those who were only present at Time 1 were younger ($M = 21.64, SD = 3.26$) than those who were present at both measurement points ($M = 22.86, SD = 4.67$). We further conducted a MANOVA on the study variables at Time 1 (use of signature strengths, harmonious passion, life

satisfaction, psychological well-being, and vitality). The multivariate test was not significant ($F(5, 358) = 1.35, p > .05$).

The results of an ANOVA showed no difference between the control and the experimental groups on Time 1 use of signature strengths ($F(1, 220) = 3.24, p > .05$). In contrast, a significant difference was found between the control and the experimental groups at Time 2 in use of signature strengths ($F(1, 220) = 6.31, p < .05$). Participants from the experimental group used their signature strengths significantly more frequently than participants in the control group, thus supporting Hypothesis 1.

The results of a paired-sample *t*-test showed a marginally significant increase in the use of signature strengths between Time 1 and Time 2 for participants in the experimental group (t (d.f. = 185) = -1.62, $p < .11$). The mean at Time 2 ($M = 5.04, SD = .82$) was higher than the mean at Time 1 ($M = 4.96, SD = .79$), thus offering some support for Hypothesis 2. In contrast, no difference in use of signature strengths between Time 1 and Time 2 was found for participants in the control group (t (d.f. = 35) = .29, $p > .05$).

An inspection of the use of signature strengths scores showed that among the 186 participants from the experimental group, more than 55 percent had a higher score at Time 2 than at Time 1 while only 9 percent had a score at Time 2 that was equivalent to more than one standard deviation (i.e. .79) lower than their scores at Time 1. Thus, most participants use their signature strengths more at Time 2 than at Time 1, offering additional support for Hypothesis 2. The results so far show the significant impact of this simple intervention on participants' use of their signature strengths at work.

Structural equation modeling analyses were performed with the covariance matrix using the maximum likelihood estimation procedure in LISREL. Means, standard deviations, alphas, and correlations among the study's variables are presented in Table 1. The model tested in the present study was composed of two observed variables (variations in use of signature strengths and variations in harmonious passion) as well as two latent variables (well-being at Times 1 and 2). As shown in Figure 1, each well-being latent variable had three indicators (i.e. life satisfaction, psychological well-being and vitality). Furthermore, we allowed each of the three indicators at Time 1 to covary with its equivalent at Time 2 in order to prevent inflated estimates of stability (Marsh and Hau, 1996). These covariances are not presented in Figure 1 for clarity concerns.

We tested a model in which three paths were specified: one between well-being at Time 1 and well-being at Time 2; one between the variations in use of signature strengths and the variations in harmonious passion; and one between the variations in harmonious passion and well-being at Time 2. The model had a good fit to the data (χ^2 (d.f. = 15, $N = 186$) = 39.22, $p < .05$, normed chi-square (i.e. χ^2 /d.f.) = 2.61, RMSEA = .093 [.058; .130], NFI = .95, NNFI = .94, CFI = .97, model AIC = 81.22, and SRMR = .08). Results showed that variations in the use of signature strengths were positively associated with variations in harmonious passion, which in turn predicted change in psychological well-being, thus supporting Hypotheses 3 and 4. Specifically, the well-being latent variable at Time 1 was strongly and positively related to its equivalent at Time 2 (coefficient of .86 [high]), suggesting a relative stability of the construct over the two-month period of the present study. Furthermore, the variations in use of signature strengths were positively and significantly related to the variations in harmonious passion ($\beta = .30$). Finally, the variations in harmonious passion were positively and significantly related to change in

Table 1 Correlation matrix involving all variables

	Means	SD	Use of strengths T1	Harmonious passion T1	Vitality T1	Life satisfaction T1	Psychological well-being T1	Use of strengths T2	Harmonious passion T2	Vitality T2	Life satisfaction T2	Psychological well-being T2
Use of strengths T1	4.96	.79	.92 (.91, .93)									
Harmonious passion T1	4.48	1.08	.40***	.87 (.87, .90)								
Vitality T1	4.08	.92	.48***	.51***	.90 (.89, .92)							
Life satisfaction T1	5.44	1.08	.34***	.13†	.28***	.87 (.85, .89)						
Psychological well-being T1	5.42	.84	.35***	.14†	.38***	.54***	.83 (.80, .85)					
Use of strengths T2	5.04	.82	.62***	.28***	.33***	.30***	.35***	.94 (.93, .95)				
Harmonious passion T2	4.38	1.14	.32***	.73***	.47***	.23**	.23**	.37***	.90 (.90, .93)			
Vitality T2	3.95	1.03	.37***	.51***	.69***	.29***	.39***	.42***	.61***	.92 (.90, .93)		
Life satisfaction T2	5.35	1.12	.36***	.23**	.32***	.79***	.50***	.39***	.32***	.42***	.87 (.84, .89)	
Psychological well-being T2	5.25	.89	.35***	.18*	.38***	.49***	.70***	.43***	.30***	.45***	.61***	.84 (.81, .87)

Note: N = 186. Alpha coefficients and their 95% CI are shown on diagonal.
 †p < .10, * p < .05, ** p < .01, *** p < .001.

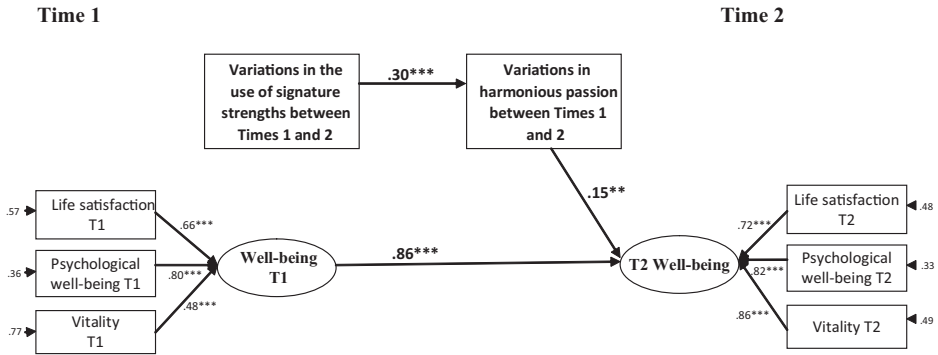


Figure 1 Results of the cross-lag panel model: Experimental group.
 Note: ** = $p < .01$; *** = $p < .001$.

well-being at Time 2 ($\beta = .15$). The standardized solutions of the model are presented in Figure 1. A Sobel test was then conducted in order to confirm the significance of the mediation ‘variations in use of signature strengths \rightarrow variations in harmonious passion \rightarrow change in well-being.’ The test result was significant (z value = 2.42, $p < .05$). Thus, the present model showed that after controlling for pre-intervention levels of well-being, increases in use of signature strengths predicted increases in harmonious passion, which significantly predicted final levels of well-being.

Discussion

The main purpose of the present research was to test an intervention in which participants were encouraged to use their signature strengths at work and study the subsequent influence that the intervention had on their harmonious passion for their work and their well-being. For that purpose, a number of university students who had a part-time job were recruited, followed an intervention, and were polled on two occasions. Recent research has begun to uncover significant positive relations between the use of signature strengths and optimal functioning as well as performance (Berman, 2008; Buckingham and Clifton, 2001; Clifton and Harter, 2003; Govindji and Linley, 2007; Harter et al., 2002a, 2002b; Park et al., 2004). Furthermore, research has shown that using signature strengths increases happiness levels and decreases depressive symptoms over a six-month period (Seligman et al., 2005). However, to the best of our knowledge, the motivational processes involved in these relations have not yet been studied. Better understanding of how using one’s signature strengths in the workplace can be beneficial to well-being is highly important because it will help to develop interventions that will be constructive and beneficial, not only for the individual but also for the organization. Consequently, in addition to testing a simple intervention, the present research also aimed to investigate the influence of a motivational process, specifically harmonious passion, that could explain the link between the use of signature strengths and well-being.

According to the Dualistic Model of Passion (Vallerand 2008, 2010; Vallerand et al., 2003), passion is an important part of an individual’s self-concept and a harmonious

passion results from an autonomous internalization of the passionate activity in the person's identity. Specifically, a harmonious passion results from an internalization that has no constraints or contingencies associated with it, when it has been freely chosen as highly important to oneself (Deci and Ryan, 2000; Sheldon, 2002; Vallerand et al., 2003). Even though numerous studies confirm that harmonious passion is associated with positive outcomes (e.g. Carbonneau et al., 2008; Forest et al., 2011; Houliort et al., 2010; Lavigne et al., 2011; Mageau et al., 2005; Vallerand, 2008, 2010; Vallerand et al., 2003, 2006, 2010), very little research has addressed the issue of what specifically leads to the development of a harmonious passion. Some recent evidence suggests that autonomy-supportive significant others (Mageau et al., 2009), as well as perceptions of having some control over how to accomplish one's work (Lavigne et al., forthcoming), positively influence harmonious passion levels. Similarly, we proposed that being able to use their signature strengths at work should also foster workers' harmonious passion levels. Specifically, it was hypothesized that when workers feel that they are using their full potential at work, they should be more likely to love their work, want to dedicate time and energy to their work, and autonomously internalize their work in their identity. Thus, we suggested that using one's signature strengths at work should promote a harmonious passion toward work. Furthermore, by using their signature strengths, workers are able to function optimally (Berman, 2008; Govindji and Linley, 2007; Park et al., 2004) and use their full potential, which should then intensify their love for their work and their identification with it. Thus, we proposed that the present study's intervention designed to increase participants' use of their signature strengths should increase their harmonious passion levels, which should in turn positively influence their well-being levels.

The results of the present research generally supported our hypotheses. First, compared with a group of participants who did not partake in the intervention, those who completed the Values in Action Survey (Peterson and Seligman, 2004) – who were instructed to visualize and describe themselves at their personal best, and who used their signature strengths in new ways – reported higher use of their signature strengths two months later. This result is informative because it shows that the intervention was successful in increasing participants' use of their signature strengths at work. Discovering their own signature strengths, thinking about themselves at their personal best, and using their signature strengths in new ways led to an increase in workers' use of signature strengths. However, these results were obtained with self-reported measures of the use of signature strengths and might not be an accurate representation of participants' actual use of their signature strengths in the workplace. Future research using observational data or other informants (e.g. superiors' perceptions of employees' use of signature strengths) would be highly informative. It could nonetheless be suggested that the positive influence of using one's signature strengths on well-being might be more accurately predicted with the self-reported measures than with observational measures. Future research is needed in order to test these hypotheses.

Another significant finding of the present research is the results of the cross-lagged panel model in which the role of harmonious passion for work was shown to be an important motivational process involved in the relation between the use of signature strengths and participants' well-being. The results were obtained even after controlling for the initial (pre-intervention) levels of well-being. Specifically, after controlling for

the stability of the well-being measures over the two-month period of the study, the variations in use of signature strengths at work were positively related to the variations in harmonious passion, which in turn were positively related to participants' well-being. The present results thus suggest that an increase in use of signature strengths at work is positively related to an increase in harmonious passion for work, which then predicts higher well-being. Consequently, it appears that being able to use one's signature strengths in the workplace does foster well-being through its positive influence on harmonious passion toward work. Mageau and colleagues' (2009) research proposed an antecedent of harmonious passion that is outside of an individual's control (parents' and coaches' autonomy support) while the present results suggest one that is under the person's control. This is interesting because it suggests that one can boost one's level of harmonious passion by actively using one's signature strengths at work, which has been shown to lead to numerous positive cognitive, affective, behavioral as well as interpersonal consequences (see Vallerand, 2008, 2010, for a review). The present research included three such positive consequences (life satisfaction, psychological well-being and vitality), which were positively predicted by harmonious passion even after controlling for their pre-intervention levels. Even though future research is needed in order to replicate the present findings, these results greatly contribute to the strengths literature (e.g. Linley et al., 2010a; Peterson and Seligman, 2004; Rath, 2007) as well as the passion literature (e.g. Vallerand, 2008, 2010; Vallerand et al., 2003).

A number of promising practical implications can be derived from the present research. First, this study adds to the growing evidence suggesting that using signature strengths leads to optimal functioning (Berman, 2008; Govindji and Linley, 2007; Park et al., 2004) and well-being (Seligman et al., 2005). Taken together, these results suggest that by having workers complete the Values in Action Survey (Peterson and Seligman, 2004), learn about their signature strengths, think about themselves at their personal best and use their signature strengths in new ways, an organization can increase its performance and lower its employees' psychological distress and absenteeism, which are known to have important costs (Danna and Griffin, 1999; Paoli and Merllié, 2001; Stephens and Joubert, 2001). Consequently, organizations and workers alike would thus benefit from this relatively simple intervention.

Second, the present study suggests that harmonious passion and well-being would be enhanced if organizations would start designing working environments and task assignments in ways that maximize the use of their employees' signature strengths. By helping workers identify their own signature strengths (by completing the Values in Action Survey) and by discussing potential changes that would result in the greater use of signature strengths, organizations could target specific modifications likely to result in higher well-being.

Finally, employees could be offered training sessions in their strengths-related areas. Team meetings could also be held in order to brainstorm how team members could maximize their use of their signature strengths. This strategy would have the added benefit of maximizing workers' involvement in the decision process, as well as informing team members of their respective strengths. Although recent evidence (Cascio and Boudreau, 2008) suggests that such changes could be highly beneficial for an organization, future research is still needed in order to determine exactly how much could be gained.

Some limitations of the present study need to be addressed. First, even though the present research tested the impact of an intervention and used a cross-lagged panel design, all study variables were self-reported by participants. As previously mentioned, future research using observational data or other informant data would be highly valuable. Second, even though the present research provides an indication of the direction of causality, multi-wave studies exploring the growth curves of the use of signature strengths and harmonious passion would be highly informative. Third, although the present research addressed the issue of signature strengths at work, participants were full-time university students working part-time. Future research with full-time workers is needed in order to replicate the present research's findings. However, we believe that, if the present study's intervention had a significant influence on participants' harmonious passion and well-being levels, even though they were only occupying a temporary part-time position, even stronger results would be observed with full-time workers. Fourth, although past research has started to show the influence of using our signature strengths on performance at work (e.g. Buckingham and Clifton, 2001; Clifton and Harter, 2003; Harter et al., 2002a, 2002b), the present study did not address this issue. Future research is needed to determine if intervention programs like the one used in the present study could also predict higher performance and productivity and if employees' harmonious passion toward their work would play the same motivational role. Given past research suggesting that workers' performance can be partly explained by their psychological well-being (Wright, 2010), we would argue that the use of signature strengths and harmonious passion should also predict performance and productivity. Finally, the participants involved in the present research were all French-Canadian university students. Future research should thus replicate the present findings with a broader and more heterogeneous population before they can be generalized to the general population of workers.

In conclusion, the present study innovated by showing that an intervention program designed to increase people's use of their signature strengths (Seligman et al., 2005) actually succeeded in reaching its goal. Furthermore, the present research showed that using one's signature strengths in the workplace leads to higher levels of harmonious passion toward one's work, which in turn leads to higher levels of life satisfaction, psychological well-being, and higher vitality. It thus appears that greater use of employees' signature strengths could help organizations to enhance their employees' well-being. Past research also suggests that it could also increase productivity levels (Buckingham and Clifton, 2001; Cascio and Boudreau, 2008; Clifton and Harter, 2003).

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Note

- 1 For the purpose of the present study, we were only interested in studying the influence of having a harmonious passion toward work on the use of signature strengths and workers' subsequent well-being. Based on past research, we did not believe that holding an obsessive passion toward work would lead to the use of personal growth strategies such as using one's signature strengths, and thus would not have a positive influence on workers' well-being (see Vallerand, 2008, 2010, for a review). Consequently, we did not include obsessive passion in the analyses of the present study. We nonetheless assessed participants' obsessive passion at Time 1 and correlated it with their self-report use of signature strengths at Time 1 in order to confirm our hypothesis. No relation was found between the two variables ($r = .00$) thus supporting our choice to exclude obsessive passion from the analyses.

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