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RESEARCH PAPER

## Positive Emotions in Recreational Sport Activities: The Role of Passion and Belongingness

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**Abstract** Athletes that are happy in their sport participate more often, and for longer. Therefore, understanding the processes that give rise to positive emotions in recreational sport is important. Grounded in the dualistic model of passion, the present study tested a structural model in which harmonious and obsessive passion predict positive emotions in recreational sport through the mediating influence of belongingness. It was hypothesized that harmonious passion would positively predict positive emotions via higher belongingness. By contrast, we expected that obsessive passion would negatively predict positive emotions via lower belongingness. A multi-section questionnaire containing the study variables was administered to 402 adult recreational sports participants. Structural equation modeling revealed that harmonious passion positively predicted belongingness that, in turn, positively predicted positive emotions. Obsessive passion and belongingness shared no relationship and hence belongingness did not mediate the obsessive passion–positive emotion link. These findings suggest that social influences within recreational sport should be particularly cognizant of emphasizing harmonious tendencies. This is because athletes with harmonious passion are more likely to feel socially-connected in sport and, therefore, exhibit higher levels of positive emotions.

**Keywords** Harmonious and obsessive passion · The need-to-belong theory · Psychological needs · Activity engagement · Well-being

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## 1 Introduction

Regular participation in recreational sport confers opportunities for enhanced physical health (e.g., reduced cardiovascular disease, diabetes, and cancer), psychological well-being (e.g., higher self-esteem, physical self-concept and life satisfaction), and social functioning (Khan et al. 2012). Yet across Europe (Eurobarometer 2010), and worldwide (The World Health Organization 2010), figures suggest that the majority of adults do not engage sufficiently in recreational sport for such benefits. The experiential quality of sports engagement is an influential predictor of regular participation. Numerous studies indicate that people who report enjoyment, happiness and satisfaction in recreational sport participate more regularly, and for longer (e.g., Annesi 2010; Adie et al. 2012; Allender et al. 2006). Understanding the processes that give rise to these aspects of positive emotionality in recreational sport is therefore important in order to increase adherence across the lifespan.

### 1.1 Passion and Positive Emotionality in Sport

One theoretical approach to the development of positive emotionality in sport is the dualistic model of passion (DMP; Vallerand 2010; Vallerand et al. 2003). Within the DMP, engagement in sport is understood to be energized by the passion one holds for their activity. Passion refers to the strong inclination, love, and value that one attributes to a sport which is self-defining (Vallerand et al. 2003). According to the DMP, passion can be underpinned by very different regulatory processes, depending on how the passionate activity has been internalized into one's identity. These internalization processes are purported to differentiate two qualitatively distinct forms of passion, harmonious and obsessive, each of which encapsulates divergent emotional outcomes.

Harmonious passion originates from autonomous internalization of an activity (such as sport). In other words, the passionate activity has been freely chosen, and is personally endorsed. Accordingly, the passionate activity does not take an overbearing place in one's identity but, rather, resides in harmony alongside ambient goals and values (e.g., "my sport reflects the qualities I like about myself"; Vallerand et al. 2003). Within harmonious passion, behavior is regulated by motivational processes indicative of volitional functioning. As such, it affords enthusiastic and flexible task engagement in sport, which is conducive to higher enjoyment, satisfaction, and happiness.

Obsessive passion, on the other hand, is purported to originate from controlled internalization of the activity. That is, the passionate activity has been chosen, and personally endorsed, but only inasmuch as it serves to fulfil some important contingency (e.g., bolster self-worth or garner approval). This ego-involvement contributes to dependency as the passionate activity takes an overbearing place in one's identity—conflicting with ambient goals and values (e.g., "I often have difficulties controlling the urge to participate in sport"; Vallerand et al. 2003). Accordingly, obsessive passion is regulated by motivational processes indicative of self-protection (e.g., seeking approval and eschewing identity threat). In doing so, it affords defensive and rigid task engagement, which is conducive to lower enjoyment, satisfaction and happiness.

Research supports the conceptualisations of harmonious and obsessive passion (for a review, see Vallerand 2010). In line with the volitional functioning engendered by harmonious passion, studies indicate that it is associated with a number of positive outcomes in sport and exercise. For instance, harmonious passion correlates with positive affect in activity engagement (Vallerand et al. 2003; Vallerand et al. 2006), identity congruence

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(Stenseng 2008) and flexible task persistence (Rip et al. 2006; Vallerand et al. 2003). Likewise, harmonious passion also correlates with lower risk behavior (Vallerand et al. 2003), intrapersonal conflict (Stenseng 2008; Stenseng et al. 2011), and burnout (Curran et al. 2011, 2013a; Gustafsson et al. 2011). Most relevant for the current study, a large and growing body of research attests to predictive ability of harmonious passion for enhanced enjoyment, vitality, life satisfaction and happiness (e.g., Stenseng and Phelps 2013; Vallerand et al. 2003, 2006), alluding to its influential role in promoting positive emotional outcomes in sport.

Obsessive passion, in line with its ego-involvement, is associated with a number of negative outcomes in sport and exercise. For example, obsessive passion correlates with higher socially prescribed perfectionism (Curran et al. in press), lower general self-esteem (Stenseng and Dalskau 2010), intrapersonal conflict (Stenseng et al. 2011), inflexible engagement (Rip et al. 2006), and burnout (Schellenberg, Gaudreau et al. 2013). It also corresponds with lower self-esteem (Stenseng and Dalskau 2010), motivational quality (Stenseng et al. 2011) and acceptance (Schellenberg et al. 2013). Importantly for the current study, obsessive passion is either negatively- or un-related to positive affect, well-being, and life satisfaction (e.g., Philippe et al. 2009; Stenseng and Phelps 2013; for a review, see Vallerand 2010) alluding to the notion that it impedes experiences of positive emotions in sport.

Given the types of passion are well documented to either promote (*viz.* harmonious) or impede (*viz.* obsessive) positive emotionality in sport, a next step in this line of enquiry is to identify potential mediating processes. This is particularly important because, according to the DMP, effects from passion to emotion are indirect and operate via important motivational mechanisms (Vallerand 2012). A number of intrapersonal mediators have been identified and include; situational affect (Rousseau and Vallerand 2008), rumination and flow (Carpentier et al. 2012), self-determined motivation (Curran et al. 2011), and coping (Schellenberg et al. 2013). In contrast to the manifold intrapersonal processes identified, to date, few interpersonal processes have been studied as mediators of the passion-emotions relationship. This is important because the types of passion have very different relational outcomes, which may give rise to very different emotional responses (Vallerand 2010). One relational outcome, that might explain the passion-emotion link, is perceptions of belongingness (Baumeister and Leary 1995).

## 1.2 Belongingness in Sport

Belongingness reflects a fundamental human need (Deci and Ryan 2000; Lavigne et al. 2011). It encapsulates the perception of closeness and appreciation by individuals that one cares for within important in-groups (Baumeister and Leary 1995). According to Baumeister and Leary (1995)'s need-to-belong theory, belongingness is a motivational force that has direct effects on emotional patterns. This is because, as a fundamental need, when social bonds are formed, and solidified, positive emotional outcomes ensue from the implicit satisfaction that being loved and valued by others confers. Yet when secure and warm bonds are not forthcoming, signs of negative emotionality are likely to ensue from the distress that manifests from social rejection and isolation. Research in education, work and health contexts support the salutogenic effects of belongingness (e.g., DeWall et al. 2008; Thau et al. 2007; Twenge et al. 2001).

Adopting a similar framework, a number of recent studies in sport also support the role of belongingness in facilitating positive emotionality for athletes. Adie et al. (2012), for instance, found that belongingness shared a positive association with vitality in a sample of young recreational athletes. Likewise, Gunnell et al. (2012) found that higher perceptions

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of belongingness corresponded with higher perceptions of positive emotionality in adult exercisers. These findings reflect a broader consensus that warm, reciprocal and secure social bonds are conducive to enjoyment, happiness, and satisfaction in sport (e.g., McAuley et al. 2000; Smith 2003; Smoll et al. 1993). Hence, the link between belongingness and positive emotionality in sport is readily apparent.

### 1.3 The Interplay of Passion, Belongingness, and Positive Emotions

Although passion and belongingness have established links with positive emotionality their specific interplay is yet to be investigated, especially in sport. Based on the DMP, and evidence that passion contributes to emotional outcomes via a motivation composite including belongingness (viz. psychological need satisfaction; Curran et al. 2013a), it is possible that the need to belong mediates the effects of passion to emotion. Harmonious passion should energize engagement in sport that is conducive to belongingness and subsequently higher positive emotionality. This is because harmonious passion arises from an autonomous internalization which engenders a volitional task engagement that is free from contingency. Such a lack of behavioral contingency is conducive to authenticity and an openness to experience (Hodgins and Knee 2002), which is important for warm, secure and lasting social bonds (see Barnes et al. 2007). Therefore, harmonious passion is likely to facilitate higher belongingness that will, in turn, give rise to higher positive emotionality.

Obsessive passion, by contrast, should energize lower positive emotionality as it undermines perceptions of belongingness. This is because obsessive passion arises from a controlled internalization, with a number of contingencies attached. These contingencies stem from the need to self-validate and, thus, obsessive passion inculcates highly ego-involved functioning. Such ego-involvement is conducive to defensive, aggressive, and morally questionable behaviors, especially under conditions of identity threat (e.g., Bureau et al. 2013; Donahue et al. 2009; Philippe et al. 2009). As a result, obsessive passion is likely to undermine perceptions of belongingness and, therefore, impede athletes' positive emotionality.

Research in sport on the relationship between passion and interpersonal outcomes is broadly supportive of these ideas. Lafrenière et al. (2008), for example, found that harmonious passion correlated positively with adult athletes' perceived closeness with their coach (whereas obsessive passion was unrelated to this outcome). More recently, across two studies, Philippe et al. (2010) found that harmonious (but not obsessive) passion positively predicted athletes' self- and coach reported interpersonal relationship quality via higher positive emotions. These authors employed a measure of interpersonal relationship satisfaction, rather than a perceived need to belong, and hence positioned it as an outcome rather than a mediator. Nevertheless, this research alludes to the notion that passion is important for aspects of belongingness in sport. In doing so, it supports the possibility that belongingness mediates the passion-positive emotions relationship.

### 1.4 The Present Study

The present study, then, explored the relationships between harmonious and obsessive passion, belongingness, and positive emotional outcomes in recreational sport. Specifically, we investigated whether belongingness mediated the effects of harmonious and obsessive passion on positive emotions. It was hypothesized that harmonious passion would positively predict belongingness, whereas obsessive passion would negatively predict belongingness. Belongingness, in turn, was expected to positively predict positive emotions. We grounded these hypotheses in Vallerand et al. (2008) DMP and Baumeister

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and Leary' (1995) need-to-belong framework. However, as an auxiliary aim, we also tested a model in which belongingness was the outcome, and positive emotion was the mediator, given support for this sequence has been found in previous research (Philippe et al. 2010).

## 2 Method

### 2.1 Participants and Procedure

Participants were 402 adult recreational sports participants (262 men, 140 women). The mean age of participants was 30.40 years ( $SD = 10.22$ ). Participants had been participating their activity for an average of 10.60 years ( $SD = 9.95$ ), and the average time spent on the activity per week was 12.80 h ( $SD = 10.09$ ). Prior to data collection, ethical approval was provided by the research ethics committee of a Norwegian University. Following this, adults were contacted and invited to participate via internet forums dedicated to recreational sports (e.g. swimming, soccer, cycling). The questionnaire was administered online, and was prefaced by a detailed informational cover page.

### 2.2 Measures

#### 2.2.1 *The Passion Scale*

The Passion Scale (Marsh et al. 2013) consists of two six-item subscales assessing harmonious and obsessive passion towards an activity. A sample item of the harmonious passion subscale was "This activity reflects the qualities I like about myself." A sample item of the obsessive passion subscale was "I have difficulties controlling my urge to do my activity." The respondents were asked to respond to each of the items according to a Likert-type scale (ranging from 1 = *not agree at all* to 7 = *very strongly agree*). Cronbach's alphas were .77 for the harmonious passion subscale and .80 for the obsessive passion subscale.

#### 2.2.2 *Belongingness*

The measurement of belongingness in sport was adopted from Sheldon et al. (2001) assessment of relatedness need satisfaction in relation to self-reported events, as well as Blanchard et al. (2009) scale to measure need satisfaction among athletes (basketball players). Three items were presented with reference to the stem "When I engage in this activity", including the items "I feel close to people that I share my interest with", "I feel connected to people who care for me, and whom I care for", and "I feel a sense of companionship with those I share my interest with". Responses were made on a 7-point Likert-type scale (ranging from 1 = *strongly disagree* to 7 = *strongly agree*). The scale showed good internal consistency:  $\alpha = .81$ .

#### 2.2.3 *Positive Emotional Outcomes*

Items were taken from the PANAS-X (Watson and Clark 1999) based on their relevance and applicability in a sporting context. Respondents were asked to relate to these terms based on their estimated positive emotional outcomes from activity engagement. This

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included six items, such as “happy”, “enthusiastic” and “satisfied”. The response scale was formulated with a reference to the stem “After having engaged in the activity I feel...” Responses were made on a 7-point Likert-type scale ranging from 1 (*never*) to 7 (*always*). The internal consistency for positive affect was  $\alpha = .88$ .

### 3 Results

Means, standard deviations, and correlations among the variables are presented in Table 1. Inspection of the skewness and kurtosis indices for all variables in the study proved normal (skewness ranged from  $-1.185$  to  $.859$ , and kurtosis from  $-.733$  to  $1.004$ ). Descriptives of the participants, such as gender, time investment, and longevity of their interest in the activity were not substantially differently associated with the two passion subscales. With the exception of the positive correlation between obsessive passion and positive emotions, the zero-order correlations were in the expected directions thus lending initial support to the hypotheses.

#### 3.1 The Measurement Model

Measurement models and structural models were tested using AMOS 17 (Arbuckle 2010). Due to the large number of items in the model, we created parcels for the passion construct and the positive emotions construct by aggregating the item with largest loading on a factor with the item with the smallest loading (Little, Cunningham, Shahar, & Widaman 2002). The data fit the measurement model well: NFI  $> .90$ , CFI  $> .95$ , RMSEA  $> .08$  (Hu and Bentler 1999).

#### 3.2 The Structural Model

The hypothesized structural model was then tested, including the paths from the two passion constructs towards belongingness as well as towards positive emotional outcomes, and the path from belongingness towards positive emotions. The paths from obsessive passion towards belongingness ( $\beta = -.03$ ,  $p = .57$ ), and positive emotions were not significant ( $\beta = .08$ ,  $p = .06$ ). All other paths were significant ( $p < .01$ ). The hypothesized model exhibited good fit:  $\chi^2(48) = 120.91$ ,  $p < .001$ , NFI =  $.94$ , CFI =  $.96$ , RMSEA =  $.06$ ,  $p < .001$  (see Fig. 1).

Due to the cross-sectional design, multiple alternative models may also provide an adequate fit to the data. As such, a theoretically viable alternative model was tested. This model was based on the possibility that positive emotions experienced in sport may lead one to return to the activity and, thus, to satisfy their need for belongingness (Philippe et al., 2010). It is, consequently, possible that positive emotions contribute to belongingness (as opposed to vice versa). Based on this theoretical argument, positive emotions were assumed to mediate the effects of obsessive and harmonious passion on belongingness in a structural model. Results indicated that this alternative model exhibited an identical fit to the hypothesized model:  $\chi^2(48) = 120.91$ ,  $p < .001$ , NFI =  $.94$ , CFI =  $.96$ , RMSEA =  $.06$ ,  $p < .001$ .<sup>1</sup>

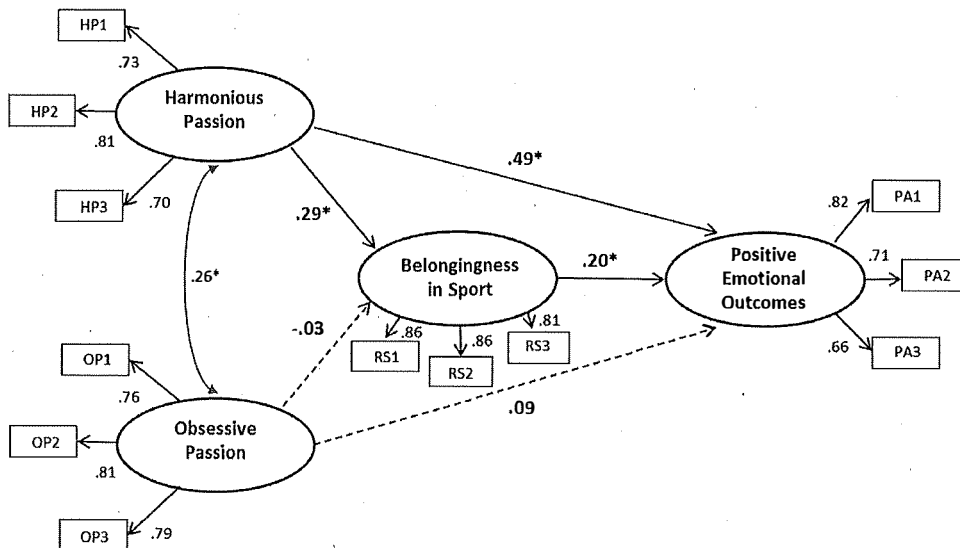
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<sup>1</sup> The direct paths from obsessive ( $\beta = .07$ ,  $p = .23$ ) and harmonious passion ( $\beta = .13$ ,  $p = .08$ ) to belongingness were not significant. Harmonious passion positively predicted positive emotion ( $\beta = .54$ ,  $p < .001$ ), whereas obsessive passion was unrelated to positive emotion ( $\beta = -.04$ ,  $p = .38$ ). Positive emotions, in turn, positively predicted belongingness ( $\beta = .20$ ,  $p < .05$ ).

**Table 1** Zero-order correlations between harmonious and obsessive passion, relatedness need satisfaction, and positive emotional outcomes

|                                   | M    | SD   | HP    | OP   | BEL   | PEO |
|-----------------------------------|------|------|-------|------|-------|-----|
| Harmonious passion (HP)           | 5.74 | 0.88 | –     |      |       |     |
| Obsessive passion (OP)            | 3.69 | 1.30 | .21** | –    |       |     |
| Belongingness in sport (BEL)      | 4.73 | 1.46 | .28** | .08  | –     |     |
| Positive emotional outcomes (PEO) | 5.42 | 0.82 | .47** | .16* | .29** | –   |

$N = 402$ , \*\*  $p < .01$ , \*  $p < .05$



**Fig. 1** Structural equation model involving passion, belongingness, and positive emotional outcomes. Path values are standardized regression coefficients (\*path significant on the .01-level). Items constituting the passion and the emotion constructs are parcels

### 3.3 Tests of Mediation

Structural equation modelling supported the mediational role of belongingness between harmonious passion and positive emotions. The direct effect from harmonious passion to positive emotions was significant ( $\beta = .59, p < .001$ ). This direct effect was then reduced when we included belongingness in the analysis ( $\beta = .49, p < .001$ ), thus indicating partial mediation (Holmbeck 1997). Moreover, analyses using the PRODCLIN software program (Tofghi and MacKinnon 2011) showed that the indirect effect of harmonious passion on positive emotional outcomes was significant ( $ab = .06$ ; 95 % CI = .02 – .11).

## 4 Discussion

The purpose of this study was to examine the mediating role of belongingness in the relationships between harmonious and obsessive passion on the one hand, and positive emotions in sport on the other. We hypothesized that harmonious passion would positively



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predict belongingness. By contrast, we hypothesized that obsessive passion would negatively predict belongingness. Belongingness, in turn, was expected to positively predict positive emotions. The findings partially supported these hypotheses. Harmonious passion positively predicted belongingness that, in turn, positively predicted positive emotion. In contrast, obsessive passion and belongingness shared no relationship and hence belongingness did not mediate the obsessive passion–positive emotion link.

#### 4.1 The Passion–Positive Emotion Relationship

The findings have a number of implications for the passion model. Notably, at the zero-order level, harmonious passion was positively associated with positive emotional outcomes from sports engagement. In line with extant research, our findings appear to suggest that the enthusiastic and flexible task engagement engendered by harmonious passion is conducive to higher happiness, enjoyment and satisfaction in sport. These results support research examining relationships between harmonious passion and emotional outcomes in, and outside, of sport (Vallerand 2012). They also substantiate the DMP, and imply that harmonious passion should be emphasized in sporting contexts. In short, sports participants who exhibit a harmonious passion are likely to have positive experiential outcomes and, hence, are more inclined to persist in their activities.

Unexpectedly, obsessive passion also shared a positive zero-order correlation with positive emotion. This finding runs counter to the predictions of the DMP, which holds that obsessive passion is problematic for athletes. It is possible that obsessive passion may have a complex relationship with positive emotion—particularly in achievement contexts. This is because obsessive passion can catalyze high levels of effort, and thus achievement, as a function of its highly energizing ego-involvement (see Bélanger et al. 2013). In the short term at least, the achievement enjoyed by obsessively passionate athletes may predispose them to higher levels of positive emotion. A number of researchers (Lafreniere et al. 2012; Mageau et al. 2011), supporting this idea, have noted that obsessive passion and performance interact to produce high levels of self-esteem and satisfaction under conditions of success. Provided our participants were satisfied with their goal progress in sport, the perceived ability promoted by obsessive passion may have yielded higher levels of positive affect.

#### 4.2 The Mediating Effect of Belongingness

Belongingness was found to partially mediate the harmonious passion–positive emotion relationship. Furthermore, the indirect effect of harmonious passion to positive emotion was significant. Harmonious passion encapsulates an unconditional sense of self-worth and thus confers opportunity for close and meaningful relationships with important others (as a function of its authenticity and openness to experience; Vallerand 2010). This social connectedness allows sports participants to perceive greater belongingness and thus positive emotionality (Baumeister and Leary 1995). Alongside other intrapersonal mediators, then, belongingness can be considered an important intrapersonal process linking harmonious passion to higher positive emotionality in sports participants.

In the case of obsessive passion, belongingness did not mediate its association with positive emotion. This was due to a lack of association between obsessive passion and belongingness in the structural equation model. When considered in conjunction with harmonious passion, then, obsessive passion appears to have a benign effect on athletes' perceived need to belong. A possible explanation for this finding is that obsessive passion

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is involved more directly with the active thwarting of belongingness. Obsessive passion triggers defensive and aggressive behaviors when self-worth is threatened (e.g., cheating, anger and interpersonal conflict; Donahue et al. 2009; Philippe et al. 2009; Vallerand 2010) and, thus, rather than inhibit belongingness per-se, might instead be expected to actively frustrate it. Bartholomew and colleagues (Bartholomew et al. 2011) conceptualized thwarted belongingness as social rejection and isolation that operates orthogonally with social warmth and connection (viz. satisfied belongingness). Future research should seek to examine the interplay of obsessive passion and belongingness thwarting.

#### 4.3 Alternative Model Testing

In addition to the hypothesized model, an alternative model was tested. The alternative model assumed that positive emotion anticipates belongingness, as opposed to the reverse. This was based on the possibility that positive emotions heighten reengagement in sports and hence provide opportunities for interpersonal attachment. Results indicated that the alternative model exhibited an identical fit to the hypothesized model. Accordingly, this study provides initial support for the suggestion that belongingness and positive emotions operate reciprocally—with each influencing the other.

Numerous approaches to belongingness and positive emotion similarly allude to their complex interplay (Fredrickson 2001; Deci and Vansteenkiste 2004). Just as people experience enjoyment and satisfaction from a sense of belonging, so too do positive emotions generate proactive behaviour that yields opportunities to build close relationships. This reciprocity is reflected in passion research that has positioned positive emotions as both an outcome (Lafrenière et al. 2008) and antecedent (Philippe et al. 2010) of belongingness. To disentangle belongingness and positive emotions temporally, and to confirm their possible reciprocal effects, longitudinal research is needed. By this means, cross-lagged associations may be modelled that overcome the limitations associated with regression using cross-sectional data (Maxwell and Cole 2007).

#### 4.4 Practical Implications

The finding that harmonious passion promotes positive emotions in recreational sport, via belongingness, has a number of applied implications. Foremost, social influences within recreational sport should be cognizant of emphasizing harmonious tendencies. An important prerequisite of harmonious passion is perceived volition. Volition can be facilitated in environments that are autonomy supportive (Mageau et al. 2009). Autonomy support involves encouraging athletes to be self-directed and to take initiative. It also includes opportunities to share opinions and make meaningful choices (Black and Deci 2000). Research indeed indicates that hallmarks of harmonious passion (e.g., persistence, enthusiasm, satisfaction) develop in autonomy supportive contexts (e.g., Curran et al. 2013b; Edmunds et al. 2008; Tessier et al. 2010). As such, when considering the structure of recreational sport, autonomy support should be central to decision making.

In the case of obsessive passion, no effects on belongingness were found. Furthermore, contrary to expectations, obsessive passion positively correlated with positive emotion. To conclude from these findings that obsessive passion is adaptive may be premature, since there is substantial evidence to suggest it has harmful consequences in the long-term (see Vallerand 2010). Practitioners should thus seek to at the very least manage, and preferably avoid, the development of obsessive passion in recreational sport. Obsessive passion develops in response to a burgeoning sense of psychological control, predominantly

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activated by conditional regard (Curran et al. 2013a). Sport environments emphasize conditional regard when they are passive to, or demean, those who are unsuccessful and only reward or praise high normative achievement. Hence, in addition to the provision of autonomy support, practitioners in recreational sport should reduce aspects of conditional regard.

## 5 Limitations and Conclusion

The findings made in this study must be considered in the context of its limitations. Notably, the nature of the study is cross-sectional and, consequently, the implied causal interpretations are based on theoretical criteria. Longitudinal studies or experiments must now be conducted in order to determine the specific causal sequence suggested in the hypothesized model (see Maxwell and Cole 2007). As well, the typical respondent in our study had been involved in their sport for several years, spent more than ten hours per week participating and responded to an online invitation. The generalizability of the study is thus limited by the homogeneity of our sample that may have been higher in passion and belonging due to their involvement in an online community. Lastly, the current study adopted self-report measures introducing the potential for greater social desirability and common-method bias (Podsakoff et al. 2003). Future research would benefit from other methods of data collection (e.g., observer ratings) to confirm the pattern of relationships observed in the current study.

Notwithstanding these limitations, the present study provides some thought provoking findings. Notably, consistent with the DMP, harmonious passion was found to be important for promoting positive emotion in sport. In addition, the findings suggest that the positive effect of harmonious passion to positive emotion is explained, in part, by higher perceptions of belongingness. Unexpectedly, obsessive passion positively correlated with positive emotions and did not predict perceptions of belongingness. Such findings allude to the complex nature of the obsessive passion-positive emotion interplay, which may be highly dependent on perceptions of achievement. In sum, then, positive emotion in sport is likely to ensue from high levels of harmonious passion and as such this type of passion should be emphasized in recreational sport settings.

## References

- Adie, J. W., Duda, J. L., & Ntoumanis, N. (2012). Perceived coach-autonomy support, basic need satisfaction and the well-and ill-being of elite youth soccer players: A longitudinal investigation. *Psychology of Sport and Exercise, 13*(1), 51–59.
- Allender, S., Cowbum, G., & Foster, C. (2006). Understanding participation in sport and physical activity among children and adults: a review of qualitative studies. *Health Education Research, 21*(6), 826–835.
- Annesi, J. J. (2010). Relations of changes in self-regulatory efficacy and physical self-concept with improvements in body satisfaction in obese women initiating exercise with cognitive-behavioral support. *Body Image, 7*(4), 356–359.
- Arbuckle, J. (2010). *AMOS 17*. Chicago, IL: IBM Corp.
- Barnes, S., Brown, K. W., Krusemark, E., Campbell, W. K., & Rogge, R. D. (2007). The role of mindfulness in romantic relationship satisfaction and responses to relationship stress. *Journal of Marital and Family Therapy, 33*(4), 482–500.
- Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., Bosch, J. A., & Thøgersen-Ntoumani, C. (2011). Self-determination theory and diminished functioning: The role of interpersonal control and psychological need thwarting. *Personality and Social Psychology Bulletin, 37*(11), 1459–1473.

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- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529.
- Bélanger, J. J., Lafrenière, M. A. K., Vallerand, R. J., & Kruglanski, A. W. (2013). When passion makes the heart grow colder: The role of passion in alternative goal suppression. *Journal of Personality and Social Psychology*, *104*(1), 126–147.
- Black, A. E., & Deci, E. L. (2000). The effects of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: A self-determination theory perspective. *Science Education*, *84*, 740–756.
- Blanchard, C. M., Amiot, C. E., Perreault, S., Vallerand, R. J., & Provencher, P. (2009). Cohesiveness, coach's interpersonal style and psychological needs: Their effects on self-determination and athletes' subjective well-being. *Psychology of Sport and Exercise*, *10*(5), 545–551.
- Bureau, J. S., Vallerand, R. J., Ntoumanis, N., & Lafrenière, M. A. K. (2013). On passion and moral behavior in achievement settings: The mediating role of pride. *Motivation and Emotion*, *37*(1), 121–133.
- Carpentier, J., Mageau, G. A., & Vallerand, R. J. (2012). Ruminations and flow: Why do people with a more harmonious passion experience higher well-being? *Journal of Happiness Studies*, *13*(3), 501–518.
- Curran, T., Appleton, P. R., Hill, A. P., & Hall, H. K. (2011). Passion and burnout in elite junior soccer players: The mediating role of self-determined motivation. *Psychology of Sport and Exercise*, *12*(6), 655–661.
- Curran, T., Appleton, P. R., Hill, A. P., & Hall, H. K. (2013a). The mediating role of psychological need satisfaction in relationships between types of passion for sport and athlete burnout. *Journal of Sports Sciences*, *31*(6), 597–606.
- Curran, T., Hill, A. P., & Niemiec, C. P. (2013b). A Conditional Process Model of Children's Behavioral Engagement and Behavioral Disaffection in Sport Based on Self-Determination Theory. *Journal of Sport and Exercise Psychology*, *35*(1), 30–43.
- Curran, T., Hill, A. P., Jowett, G. E., & Mallinson, S. H. (in press). The relationship between multidimensional perfectionism and passion in junior athletes. *International Journal of Sport Psychology*.
- 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*(4), 227–268.
- Deci, E. L., & Vansteenkiste, M. (2004). Self-determination theory and basic need satisfaction: Understanding human development in positive psychology. *Ricerche di Psicologia*, *27*, 17–34.
- DeWall, C. N., Baumeister, R. F., & Vohs, K. D. (2008). Satiated with belongingness? Effects of acceptance, rejection, and task framing on self-regulatory performance. *Journal of Personality and Social Psychology*, *95*(6), 1367–1382.
- Donahue, E. G., Rip, B., & Vallerand, R. J. (2009). When winning is everything: On passion, identity, and aggression in sport. *Psychology of Sport and Exercise*, *10*(5), 526–534.
- Edmunds, J., Ntoumanis, N., & Duda, J. L. (2008). Testing a self-determination theory-based teaching style intervention in the exercise domain. *European Journal of Social Psychology*, *38*(2), 375–388.
- Eurobarometer (2010). Sport and physical activity. European Commission Study on volunteering. Retrieved from [ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_334\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_334_en.pdf). 16.12.2013.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*(3), 218–226.
- Gunnell, K. E., Wilson, P. M., Zumbo, B. D., Mack, D. E., & Crocker, P. R. (2012). Assessing psychological need satisfaction in exercise contexts: Issues of score invariance, item modification, and context. *Measurement in Physical Education and Exercise Science*, *16*(3), 219–236.
- Gustafsson, H., Hassmén, P., & Hassmén, N. (2011). Are athletes burning out with passion? *European Journal of Sport Science*, *11*(6), 387–395.
- Hodgins, H. S., & Knee, C. R. (2002). The integrating self and conscious experience. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 87–100). Rochester, NY: University of Rochester Press.
- Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology*, *65*(4), 599–610.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55.
- Khan, K. M., Thompson, A. M., Blair, S. N., Sallis, J. F., Powell, K. E., Bull, F. C., et al. (2012). Sport and exercise as contributors to the health of nations. *The Lancet*, *380*(9836), 59–64.
- Lafreniere, 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*(4), 516–530.

- 
- Lafrenière, M. A. K., Jowett, S., Vallerand, R. J., Donahue, E. G., & Lorimer, R. (2008). Passion in sport: On the quality of the coach-athlete relationship. *Journal of Sport and Exercise Psychology, 30*(5), 541–560.
- Lavigne, G. L., Vallerand, R. J., & Crevier-Braud, L. (2011). The fundamental need to belong: On the distinction between growth and deficit-reduction orientations. *Personality and Social Psychology Bulletin, 37*, 1185–1201.
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling, 9*(2), 151–173.
- Mageau, G. A., Carpentier, J., & Vallerand, R. J. (2011). The role of self-esteem contingencies in the distinction between obsessive and harmonious passion. *European Journal of Social Psychology, 41*(6), 720–729.
- Mageau, G. A., Vallerand, R. J., Charest, J., Salvy, S. J., Lacaille, N., Bouffard, T., et al. (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*(3), 601–646.
- Marsh, H. W., Vallerand, R. J., Lafrenière, M.-A. K., Parker, P., Morin, A. J., Carbonneau, N., et al. (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*(3), 796–809.
- Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods, 12*(1), 23–44.
- McAuley, E., Blissmer, B., Marquez, D. X., Jerome, G. J., Kramer, A. F., & Katula, J. (2000). Social relations, physical activity, and well-being in older adults. *Preventive Medicine, 31*(5), 608–617.
- Philippe, F. L., Vallerand, R. J., & Lavigne, G. L. (2009a). 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*(1), 3–22.
- Philippe, F. L., Vallerand, R. J., Richer, I., Vallières, É., & Bergeron, J. (2009b). Passion for driving and aggressive driving behavior: A look at their relationship. *Journal of Applied Social Psychology, 39*(12), 3020–3043.
- Philippe, F. L., Vallerand, R. J., Houliort, N., Lavigne, G. L., & 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*(6), 917–932.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–900.
- Rip, B., Fortin, S., & Vallerand, R. J. (2006). The relationship between passion and injury in dance students. *Journal of Dance Medicine & Science, 10*(1–2), 14–20.
- Rousseau, F. L., & Vallerand, R. J. (2008). An examination of the relationship between passion and subjective well-being in older adults. *The International Journal of Aging and Human Development, 66*(3), 195–211.
- Schellenberg, B. J., Bailis, D. S., & Crocker, P. R. (2013a). Passionate hockey fans: Appraisals of, coping with, and attention paid to the 2012–2013 National Hockey League lockout. *Psychology of Sport and Exercise, 14*(6), 842–846.
- Schellenberg, B. J., Gaudreau, P., & Crocker, P. R. (2013b). Passion and coping: Relationships with changes in burnout and goal attainment in collegiate volleyball players. *Journal of Sport and Exercise Psychology, 35*(3), 270–280.
- Sheldon, K. M., Elliot, A. J., Kim, Y., & Kasser, T. (2001). What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of Personality and Social Psychology, 80*(2), 325–339.
- Smith, A. L. (2003). Peer relationships in physical activity contexts: A road less traveled in youth sport and exercise psychology research. *Psychology of Sport and Exercise, 4*(1), 25–39.
- Smoll, F. L., Smith, R. E., Barnett, N. P., & Everett, J. J. (1993). Enhancement of children's self-esteem through social support training for youth sport coaches. *Journal of Applied Psychology, 78*(4), 602–610.
- Stenseng, F. (2008). The two faces of leisure activity engagement: Harmonious and obsessive passion in relation to intrapersonal conflict and life domain outcomes. *Leisure Sciences, 30*(5), 465–481.
- Stenseng, F., & Dalskau, L. H. (2010). Passion, self-esteem, and the role of comparative performance evaluation. *Journal of Sports and Exercise Psychology, 32*(6), 881–894.
- Stenseng, F., & Phelps, J. (2013). Leisure and life satisfaction: the role of passion and life domain outcomes. *World Leisure Journal, 55*(4), 320–332.
- Stenseng, F., Rise, J., & Kraft, P. (2011). The dark side of leisure: obsessive passion and its covariates and outcomes. *Leisure Studies, 30*(1), 49–62.

- 
- Tessier, D., Sarrazin, P., & Ntoumanis, N. (2010). The effect of an intervention to improve newly qualified teachers' interpersonal style, students motivation and psychological need satisfaction in sport-based physical education. *Contemporary Educational Psychology, 35*(4), 242–253.
- Thau, S., Aquino, K., & Poortvliet, P. M. (2007). Self-defeating behaviors in organizations: the relationship between thwarted belonging and interpersonal work behaviors. *Journal of Applied Psychology, 92*(3), 840–847.
- The World Health Organization. (2010). Global Recommendations on Physical Activity for Health. Retrieved from [http://whqlibdoc.who.int/publications/2010/9789241599979\\_eng.pdf?ua=1](http://whqlibdoc.who.int/publications/2010/9789241599979_eng.pdf?ua=1).
- Tofghi, D., & MacKinnon, D. P. (2011). RMediation: An R package for mediation analysis confidence intervals. *Behavior Research Methods, 43*(3), 692–700.
- Twenge, J. M., Baumeister, R. F., Tice, D. M., & Stucke, T. S. (2001). If you can't join them, beat them: Effects of social exclusion on aggressive behavior. *Journal of Personality and Social Psychology, 81*(6), 1058–1069.
- Vallerand, R. J. (2010). On passion for life activities: The dualistic model of passion. *Advances in Experimental Social Psychology, 42*, 97–193.
- Vallerand, R. J. (2012). The dualistic model of passion in sport and exercise. In G. C. Roberts & D. C. Treasure (Eds.), *Advances in motivation in sport and exercise* (pp. 169–205). Champaign, IL: Human Kinetics.
- Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C., Léonard, M., et al. (2003). Les passions de l'âme: On obsessive and harmonious passion. *Journal of Personality and Social Psychology, 85*(4), 756–767.
- Vallerand, R. J., Ntoumanis, N., Philippe, F. L., Lavigne, G. L., Carbonneau, N., Bonneville, A., et al. (2008). On passion and sports fans: A look at football. *Journal of Sports Sciences, 26*(12), 1279–1293.
- Vallerand, R. J., Rousseau, F. L., Grouzet, F. M. E., Dumais, A., Grenier, S., & Blanchard, C. M. (2006). Passion in sport: A look at determinants and affective experiences. *Journal of Sport and Exercise Psychology, 28*(4), 454–478.
- Watson, D., & Clark, L. A. (1999). The PANAS-X: Manual for the positive and negative affect schedule-expanded form. Retrieved from [http://ir.uiowa.edu/psychology\\_pubs/11/](http://ir.uiowa.edu/psychology_pubs/11/).