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Theory and Research in Passion for Sport and Exercise

Robert J. Vallerand¹ and Jérémie Verner-Filion²

¹Laboratoire de Recherche sur le Comportement Social, Université du Québec à Montréal

²Département des sciences de l'éducation, Université du Québec en Outaouais

Dedicated athletes, coaches, and exercisers are often referred to as being passionate toward their sport or activity. It is as if people ascribe passion some magical properties allowing individuals to overcome obstacles and reach their goals. Consider some of the most successful athletes and what they say about passion. For instance, Nadia Comaneci, the gymnastics queen of the 1976 Olympics and the first gymnast ever to record a perfect 10 in an event, said the following about gymnastics: "You do what you do because you have passion."¹ Arguably the best hockey player of his generation, Sydney Crosby agrees with Comaneci: "I've always had a passion for hockey, ... That's the key...You have to enjoy doing what you do."² Finally, in an interview when he turned 50, Michael Jordan, probably the best basketball player of all time, went further and mentioned the following: "The greatest thing about the game of basketball to me is the passion and the love I have for it."³

Clearly, for Jordan, Crosby, and Comaneci, passion matters, and these athletes (and former athletes as in the case of Comaneci and Jordan) are not alone in feeling this way. Each day, thousands if not millions of individuals engage in sport and exercise and many of them experience a deep love for it. It is something special, that they highly value, and something that they are passionate about. For a large part of these athletes and exercisers, passion allows them to experience a variety of adaptive outcomes. For instance, Jordan, Crosby, and Comaneci have reported repeatedly experiencing flow, positive emotions, and instances of high performance in their career. However, we all know athletes and coaches whose

passion may take them astray. For instance, one coach widely recognized as being passionate and the 3-times NCAA Champion, Coach Bobby Knight, was fired in 2000 after 29 years at the University of Indiana for violent behavior against his own players. So, it would appear that passion may also lead to maladaptive outcomes. In short, passion for one's sport or physical activity can lead to either adaptive or maladaptive outcomes.

The purpose of this chapter is to conduct a review of the available literature in sport and physical activity that will allow us to describe the role of passion for sport and physical activity in adaptive and less adaptive outcomes, as well as look at the determinants of passion.⁴ Such a task will be performed while using the predominant theoretical formulation on passion, the Dualistic Model of Passion (Vallerand, 2008, 2010, 2015; Vallerand et al., 2003). Following a discussion on the concept of passion and the presentation of the Dualistic Model of Passion, we review research on the role of passion as it pertains to intrapersonal and interpersonal outcomes. We then review research on the development of passion. Finally, we conclude with suggestions for future research.

The Concept of Passion

On the History of Passion

It is interesting to note that the concept of passion has a long history but a short past. Indeed, passion as a construct dates back to the Greek philosophers and as such is clearly one of the early constructs studied by philosophers over the course of several centuries. Three positions have emerged (see Vallerand, 2015, Chapter 2).

1 Retrieved from globalnews.ca/news/3412062/comaneci-darling-of-76-olympics-revisits-montreal/

2 Retrieved from www.feelingsuccess.com/5-quotes-from-stanley-cup-winner-sidney-crosby-that-can-teach-us-about-achieving-and-sustaining-a-high-level-of-performance/

3 Retrieved from an interview with Ahmad Rashad for NBA TV, February 18, 2013.

4 We thank Dr. Thomas Curran for providing us with valuable feedback on our chapter.

The first posits that passion entails a loss of reason and control (see Plato, 429–347 BC and Spinoza, 1632–1677). In line with the etymology of the word passion (from the Latin “passio” for suffering) people who have a passion are seen as experiencing some suffering. They are seen as slaves to their passion as it comes to control them. The second perspective portrays passion in a more positive light. The Romantics were important proponents of this second perspective. Hegel (1770–1831), for instance, argues that passions are necessary to reach the highest levels of achievement and Kierkegaard (1813–1855) even suggested that life is not worth living without passion. Thus, this second view of passion posits that passion can lead to some positive outcomes. Taken together, these two antagonistic positions highlight the duality of passion.

Little is known, however, about a third perspective on passion that suggests that some passions are “good” and others are “bad.” This position emerged at the turn of the 20th century, at a time when a branch of philosophy became psychology, and took place mainly in France (Joussain, 1928; Ribot, 1907). For instance, Joussain (1928) proposed that passions could interact among themselves in at least two ways. First, some passions can conflict with other passions and try to extinguish them. Second, one’s passion can peacefully coexist with other existing passions. In fact, Joussain proposed that “virtue is to be obtained through the *equilibrium* that we establish among our passions and the multiple consequences that they create for us and others” (p. 103; the translation is from French and the italics are ours). John Dewey (1930) subsequently seconded this perspective on the importance of harmony among competing passions. Inherent in this position is that passions are not all equivalent and while some may be adaptive, others are less so with corresponding consequences on the outcomes that we experience.

The perspective of Joussain, Ribot, and Dewey did not lead to any research and the construct of passion was neglected in psychology for several decades after the above analysis. It is the research of Elaine Hatfield (e.g., Hatfield & Walster, 1978) on passionate love that brought some interest back into passion. Although important, such research on passionate love did not deal with passion for activities. Subsequently, some interest was displayed by Frijda, Mesquita, Sonnemans, and Van Goozen (1991) who proposed that people will spend large amounts of time and effort in order to reach their passionate goals. Other psychologists have devoted attention to passion for work where passion was defined simply as love for work (Baum & Locke, 2004), which although important does not distinguish it from intrinsic motivation. Finally, Vallerand et al. (2003) published their *Journal of Personality and Social Psychology* article

on passion in which they presented the Dualistic Model of Passion that seeks to explain the nature, determinants, and consequences of passion while incorporating the duality inherent in passion underscored by philosophers and early psychologists. They also presented empirical support for their position (including one study, Study 2, that focused on American football) and developed an instrument to assess passion. By doing so, they opened up a new field of research on the construct of passion that paved the road to research in a variety of areas, including sport and exercise.

On the Construct of Passion

Following an analysis of past writings in philosophy and psychology and in light of the absence of a definition of passion, Vallerand et al. (2003) proposed a multidimensional definition of passion. This definition was later slightly modified as follows by Vallerand (2015, p. 33):

Passion can be seen as a strong inclination toward a specific object, activity, concept or person that one loves (or at least strongly likes), highly values, invests time and energy in on a regular basis, and that is part of one’s identity. Furthermore, two forms of passion seem to exist. The first can be seen as being in harmony with other aspects of the self and the person’s life and should mainly lead to adaptive outcomes. The second form of passion may conflict with aspects of the self and life and should mainly lead to less adaptive, and sometimes, even maladaptive outcomes.

The above definition summarizes the various elements of passion. The first core element is that passion is experienced toward a *specific* activity, as opposed to a generalized passion for everything and anything. There is a special connection between a given individual and a specific activity. Thus, one may be passionate for playing basketball but not football or tennis. Passion is not a trait. Further, passion may be experienced toward a given activity (e.g., golf, football), object (e.g., a sports card collection), concept (e.g., promoting exercise in youth), or even a person or team (e.g., being a fan of the New England Patriots). It should be clear that passion can be experienced toward all roles in sport, from being an athlete, a coach, a referee, and a fan. In fact, research has been done on all of these dimensions of sport.

The second element is that passion entails having a profound and enduring *love* of the activity. If you do not love the activity dearly, even if you engage in it regularly, it is not passion. Another component of passion is the high value given to the activity and the fact that the activity is perceived to be very important and meaningful. In

fact, when asked to provide a list of important dimensions or aspects of their life, the activity that one is passionate about is way up there at the top of the list. A fourth element is that passion is a *motivational*, rather than affective, construct. Indeed, the writings of Immanuel Kant (1724–1804) are clear, passion is not an emotion but rather something that is enduring and not fleeting like emotions and, further, it moves people toward the beloved object or activity.

The fifth element is that passion provides high levels of psychological energy, effort, and persistence. The sixth component is that passion emerges when activities are internalized in one's *identity*. An individual passionate toward swimming does not merely swim; he or she *is a swimmer*. The activity is part of his or her identity. Finally, the last dimension of passion is that it takes a *dualistic* form and can lead to adaptive or maladaptive outcomes. Thus, as we shall see below, there are two types of passion, one that is more adaptive (harmonious) and another that is less so (obsessive).

Passion and Other Constructs

The seven defining elements of passion presented above are important because they provide a clear, multidimensional, picture of what passion is (and what it is not). As such, they allow for a finer distinction between passion and other psychological constructs. The concept of passion has some ties with other concepts developed in psychology such as those of flow (Csikszentmihalyi, 1978) and intrinsic and extrinsic motivation (Deci & Ryan, 2000). The apparent similarity with intrinsic motivation is striking as both involve interest and liking (or loving) toward the activity. However, intrinsically motivated activities are typically not seen as being internalized in the person's identity (Deci & Ryan, 2000) and are best seen as emerging from the person-task interaction at the short-term level (Koestner & Losier, 2002). Furthermore, contrary to the concept of passion, no theory or research has hypothesized or found that intrinsic motivation can lead to maladaptive outcomes. On the other hand, extrinsic motivation does not entail performing an activity out of enjoyment, but for reasons that lie outside of the activity. Thus, irrespective of the type of extrinsic motivation (e.g., integrated or identified regulation) a fundamental difference between passion and extrinsic motivation is the relative lack of loving for the activity with the latter construct. Research empirically supports these distinctions between passion and intrinsic and extrinsic motivation (see Vallerand et al., 2003, Study 2).

Flow is generally defined as the experience one has when fully immersed in the activity. Because passion can contribute to how one's activity engagement is experienced, it has been hypothesized and found that flow is a

consequence of passion (see Vallerand et al., 2003, Study 1) that derives mainly from the more adaptive form of passion (harmonious). Further, the flow concept does not include a distinction between two types of engagement that would reflect the duality of outcomes proposed by passion.

It should be noted that other constructs seemingly related to passion have been proposed in sport psychology. Such constructs include sport commitment (Carmack & Martens, 1979), running addiction (Sachs, 1981), and exercise dependence (Hausenblas & Downs, 2002). At least two points are in order here. First, being committed and addicted to or dependent on sport may take place in the absence of love for the activity. Not so with passion. Passion entails a deep love for the activity one is passionate about. A second point is that it is not clear how concepts dealing with dependence and addiction and the like can be adaptive, leading to positive outcomes and processes. Thus, there is something missing to account for the positive experiences and outcomes derived from one's engagement in sport and physical activity. As such, these constructs do not present a balanced perspective on processes leading to either adaptive or maladaptive outcomes. The Dualistic Model of Passion (DMP), on the other hand, makes that distinction.

In sum, while the passion framework does share some conceptual similarities with other motivational constructs, it also differs from these in significant ways. Furthermore, it would appear that no theoretical conceptualization exists to explain the adaptive and maladaptive effects of passion. We now turn to one theory that does so, the DMP.

The Dualistic Model of Passion

Over the past 15 years or so, Vallerand and his colleagues (Vallerand, 2001, 2008, 2010, 2015; Vallerand et al., 2003; Vallerand & Houliort, 2003, 2019) have developed the DMP to fill the void in the psychological literature on this construct and to address the issues of the nature, determinants, and outcomes of passion. In line with Self-Determination Theory (Ryan & Deci, 2017; see Chapter 3 this volume), the DMP (see Vallerand, 2015, Chapter 3) proposes that people engage in various activities throughout life in hope of growing psychologically and satisfying the basic psychological needs of autonomy (a desire to feel a sense of personal initiative), competence (a desire to interact effectively with the environment), and relatedness (a desire to feel connected to significant others). Eventually, after a period of trial and error, most people will start to show preference for some activities, especially those that are

enjoyable and allow the satisfaction of the above needs. Of these activities, a limited few will be perceived as particularly enjoyable and important, and to have some resonance with how people see themselves. These activities become passionate activities.

We have seen above that the DMP defines passion as a strong inclination toward a self-defining activity that one loves, finds important (or highly value), and in which one invests time and energy. Activities that we are passionate about come to be so self-defining that they represent central features of our identity. Thus, a passion is much more than experiencing “love” for an activity. It *also* entails making it one of the central aspects of one’s identity, as well as valuing the activity to a high degree and being committed by devoting ample time to it.

Research conducted in self-determination theory has shown that values and regulations concerning *uninteresting* activities can be internalized in either a controlled or an autonomous fashion (Deci, Egharri, Patrick, & Leone, 1994; Sheldon, 2002; Vallerand, 1997; Vallerand & Ratelle, 2002). Similarly, the DMP posits that activities that people like, or even love, will also be internalized in the person’s identity to the extent that these are highly valued and meaningful for the person. Indeed, much research in social psychology has shown that we internalize various objects from the environment that we love, such as groups that we belong to (Tajfel & Turner, 1986; Wright, Aron, & Tropp, 2002) and romantic partners that we love (e.g., Aron, Aron, & Smollan, 1992). Furthermore, the DMP proposes that there are two types of passion, obsessive and harmonious, that can be distinguished in terms of how the activity that we love has been internalized into one’s identity.

Harmonious passion results from an autonomous internalization of the activity into the person’s identity. An autonomous internalization occurs when individuals have freely accepted the activity as important for them without any contingencies attached to it. This type of internalization emanates from the intrinsic and integrative tendencies of the self (Ryan & Deci, 2003, 2017) and produces a motivational force to engage in the activity willingly and engenders a sense of volition and personal endorsement about pursuing the activity. When harmonious passion is at play, individuals do not experience an uncontrollable urge to engage in the passionate activity, but rather freely choose to do so.

Harmonious passion is reminiscent of the second, more positive, philosophical perspective on passion described earlier, where the person remains in control of the passionate activity or object. With this type of passion, the activity is in harmony with other aspects of the person’s identity and life. With harmonious passion the authentic integrative self (Deci & Ryan, 2000) is at play allowing the person to fully access adaptive self-processes. Such processes

thereby allow the person to partake in the activity he or she is passionate about with a secure sense of self-esteem, as well as flexibility and an openness to experience the world in a non-defensive manner (Hodgins & Knee, 2002) and to be fully in the moment (i.e., being mindful; Brown & Ryan, 2003; St-Louis, Verner-Filion, Bergeron, & Vallerand, 2018). Consequently, people with a harmonious passion should be able to fully focus on the task at hand and experience positive outcomes both during task engagement (e.g., situational positive affect, concentration, flow) and after task engagement (general positive affect, life satisfaction etc.). Thus, there should be little or no conflict between the person’s passionate activity and his/her other life activities. Furthermore, when prevented from engaging in their passionate activity, people with a harmonious passion should be able to adapt well to the situation and focus their attention and energy on other life tasks.

Finally, with harmonious passion, the person is in control of the activity and experiences some flexible persistence toward it. He or she can then decide when to and when not to engage in the activity. Thus, when confronted with the possibility of engaging in additional but non-compulsory football with his friends or preparing tomorrow’s exam, a football player with a harmonious passion toward football can readily tell his friends that he’ll take the night off and proceed to be fully immersed in the preparation of the exam without thinking about playing football scrimmage. People with a harmonious passion are able to decide not to play on a given day if needed or even to eventually disengage from the activity permanently if they determine that it has become a permanent negative factor in their life. Thus, behavioral engagement in the passionate activity can be seen as flexible when harmonious passion is at play.

Conversely, obsessive passion, results from a controlled internalization of the activity into one’s identity. Such an internalization process leads not only the activity representation to be part of the person’s identity, but also to values and regulations associated with the activity, to be at best partially internalized and at worst to be internalized completely outside the integrating self (Deci & Ryan, 2000; Ryan & Deci, 2017) leading to a phenomenological experience of relative lack of control over the activity. Thus, internally controlling, rather than integrative and adaptive, self-processes (Hodgins & Knee, 2002) are at play. A controlled internalization originates from intra and/or interpersonal pressure typically because certain contingencies (Crocker, 2002; Mageau, Carpentier, & Vallerand, 2011) are attached to the activity such as feelings of social acceptance or self-esteem (Kernis, 2003; Lafrenière, Bélanger, Sedikides, & Vallerand, 2011; Mageau, Carpentier & Vallerand, 2011) or because the sense of excitement derived from activity engagement is uncontrollable.

People with an obsessive passion can thus find themselves in the position of experiencing an uncontrollable urge to partake in the activity that they view as important and enjoyable. They cannot help but to engage in the passionate activity. The passion must run its course as it controls the person. Consequently, people risk experiencing conflict between the passionate activity and other aspects of their life thereby leading to other negative affective, cognitive, and behavioral consequences during and after activity engagement. For instance, to return to our example of the football player, if his predominant passion is obsessive in nature, he may not be able to resist the invitation to play with his friends the night before the exam that still needs to be studied. During the scrimmage, the athlete might feel upset with himself for playing instead of studying for his exam. The athlete might therefore have difficulties focusing on the task at hand (playing football) and may not experience as much positive affect and flow as he should while playing, not to mention the experience of anxiety for not being ready for the exam and the lower grades that may be obtained for the exam.

As seen above, obsessive passion leads individuals to display a rigid persistence toward the activity, as often-times they cannot help but to engage in the passionate activity (as was the case for the student/football player). Although the dependence and rigid persistence that obsessive passion creates may lead to some benefits (e.g., improved health and performance at the activity), it may also come at a cost for the individual. Indeed, depending on the situation and the type of task at hand, the lack of flexibility that obsessive passion entails may potentially lead to less than optimal functioning within the confines of the passionate activity, such as less creativity. Furthermore, such a rigid persistence toward the passionate activity may lead the person to experience conflict with other aspects of his or her life when engaging in the activity, as well as to frustration and rumination about the activity when prevented from engaging in it. Thus, to return to our example, if the obsessively passionate athlete manages to say no to his friends and the football scrimmage, he or she still may end up experiencing difficulties concentrating on preparing for the exam because of ruminations about the lost opportunity to play football.

Initial Research on the Concept of Passion

The first contemporary study using a theoretical perspective on passion was conducted by Vallerand et al. (2003, Study 1). This study opened up the field of passion research. Of interest is that roughly 60% of participants in this study reported that they were passionate about an activity that pertained to sport or physical activity. Thus,

the results from this initial study are highly relevant to our present discussion on passion for sport and exercise. In this study, over 500 university students completed the Passion Scale with respect to an activity that they loved, that they valued, and in which they invested time and energy (i.e., the passion definition), as well as other scales allowing the authors to test predictions derived from the DMP. Several activities were reported as being passionate ranging from physical activity and sports to watching movies and reading.

There were three major purposes to the Vallerand et al. (2003) study. A first was to determine the prevalence of people who were passionate for a given activity. One of the main premises of the DMP is that individuals seek self-growth and that passion represents a crucial means to reach it. Eighty-four percent of participants indicated that they had at least a moderate level of passion for a given activity in their lives (i.e., they scored at least 4 out of 7 on a question asking them if their favorite activity was a passion for them). These findings were replicated in a subsequent study (Philippe, Vallerand, & Lavigne, 2009, Study 1) with over 750 members of the general population of the Province of Quebec ranging from 18 to 90 years of age using a more stringent criterion cut-off point of 5 out of 7 on the passion criteria (i.e., time invested in activity, liking the activity, importance of the activity, activity is a part of identity, and the activity is seen as a passion) and revealed that 75% were found to be passionate. Further, participants in the Vallerand et al. (2003, Study 1) study engaged in the activity on average more than 8 hours per week and had been doing so for more than 6 years at the time of the study. Thus, passionate activities are meaningful to people and do not simply reflect a fleeting interest. It would appear that the prevalence of passion is rather high, at least in the Province of Quebec (see also Stenseng, 2008 for similar results in Norway). It should also be noted that passion seems highly prevalent in sport and exercise. Indeed, although scores on the passion criteria have yet to be used or reported as above, the means for the harmonious and obsessive passion subscales are typically high (typically above 5 and 3.5 on a 7-pt scale, respectively) across studies both in sports and exercise (see Vallerand, 2015, Chapter 5 for a discussion on this issue).

A second purpose of the Vallerand et al. (2003, Study 1) research was to test the validity and reliability of the Passion Scale. Results of exploratory and confirmatory factor analyses supported the presence of two factors corresponding to the two types of passion with the first sample. These findings on the factor validity of the Passion Scale have been subsequently replicated in over 20 studies in various areas, including several in the realm of sport/physical activity (e.g., Lafrenière, Jowett,

Vallerand, Donahue, & Lorimer, 2008, Studies 1 and 2; Philippe, Vallerand, Andrianarisoa, & Brunel, 2009, Studies 1 and 2; Rousseau & Vallerand, 2008; Vallerand et al., 2006, Studies 1 to 3; Vallerand, Mageau, et al., 2008, Studies 1 and 2; Vallerand, Ntoumanis, et al., 2008, Studies 1 to 3). The Passion Scale has been slightly revised over the years and now consists of 2 subscales of 6 items each (see Marsh et al., 2013; Vallerand, 2015, Chapter 4), assessing the Obsessive (e.g., “I almost have an obsessive feeling toward this activity”) and Harmonious Passion constructs (e.g., “This activity is in harmony with other activities in my life”). Both subscales are reliable (typically the Cronbach alphas are above .80). Further, test-retest correlations over periods ranging from four to six weeks revealed moderately high stability values (in the .80s Rousseau, Vallerand, Ratelle, Mageau, & Provencher, 2002), thereby supporting the hypothesis that although the two subscales are relatively stable (and thus, that there seems to be a predominant form of passion for each individual), there is still room for temporary fluctuations. Subsequent research by Marsh et al. (2013) with over 3,500 participants involved in a variety of activities has also shown that the scale is strongly invariant as a function of language, gender, and types of activities (e.g., leisure, sports, work, education, and social). Schellenberg, Gunnell, Mosewich, and Bailis (2014) went one step further and through the use of exploratory structural equation modeling analyses showed that the Passion Scale is largely invariant in sports across large groups of recreational athletes/exercisers, competitive athletes, and sports fans. Thus, the Passion Scale can be readily used with all types of sport participants and exercisers.

Finally, the third and final goal of the Vallerand et al. (2003, Study 1) initial research was to test the construct validity of the two types of passion. The results from partial correlations (controlling for the correlation between the two types of passion) show that both harmonious and obsessive passions are positively associated with the passion criteria. These results reveal that both types of passion are indeed a “passion” (e.g., see also Marsh et al., 2013; Vallerand, 2010, 2015). At the same time, results from the Vallerand et al. (2003 Study 1) study also showed that while both constructs reflect a passion, the harmonious and obsessive passions are nevertheless different as they are associated with different outcomes as predicted by the DMP. Furthermore, additional research has also shown that obsessive (but not harmonious) passion leads to rigid persistence in ill-advised activities such as cycling over ice and snow in winter (Vallerand et al., 2003, Study 3) and pursuing one’s engagement in activities that have become negative for the person such as pathological gambling (Vallerand et al., 2003, Study 4). As will be shown below, other studies reviewed in this

chapter provide additional support for the construct validity of the two types of passion within the context of sport and exercise. In sum, initial research provided support for the concept of the harmonious and obsessive passions. We now turn to research that has explored some of the outcomes associated with the passion construct.

Research in Passion for Sport and Exercise

Following the initial Vallerand et al. (2003) publication, well over 200 studies have been conducted on passion, including several in sport and exercise. In the present chapter, we focus on research carried out in this latter context. It is interesting to note that research in sport has been conducted with most types of sport participants, including athletes (e.g., Vallerand et al., 2006), coaches (e.g., Lafrenière et al., 2008), referees (e.g., Philippe, Vallerand, Andrianarisoa, et al., 2009), and fans (e.g., Vallerand, Ntoumanis, et al., 2008), as well as exercisers (e.g., Stephan, Deroche, Brewer, Caudroit, & Le Scanff, 2009). The results are remarkably similar across the different types of participants. Thus, unless warranted, we will not focus on the different roles. We begin our review by looking at research on the intrapersonal consequences of passion, followed by interpersonal consequences. We then present research on the development of passion.

Passion and Intrapersonal Outcomes

Passion and Emotional Outcomes

As mentioned previously, the DMP postulates that harmonious passion should be conducive to positive emotional outcomes experienced both during and after activity engagement, as well as when prevented from engaging in the passionate activity. In contrast, the DMP posits that obsessive passion should be detrimental to such emotional outcomes. Support for these hypotheses was first obtained in the initial validation study by Vallerand and colleagues (2003, Study 1). Participants completed the Passion Scale for the activity they were passionate about and scales assessing positive and negative emotions under various situations. Results showed that harmonious passion was positively related to positive affect during task engagement, but was negatively related to negative affect, especially shame. Conversely, obsessive passion was unrelated to positive affect, but was positively related to negative affect, such as shame and anxiety. Moreover, when people are prevented from engaging in their passionate activity (playing basketball), obsessive passion is positively related to negative affect (e.g., guilt, anxiety) while harmonious passion is not

(Vallerand et al., 2003, Study 1). Similar results have been obtained with athletes (Vallerand et al., 2006, Studies 2 and 3), referees (Philippe, Vallerand, Andrianarisoa, et al., 2009, Study 1), and fans (Vallerand et al., 2008, Studies 1 and 2), and in a variety of settings in over 20 different studies (see Curran, Hill, Appleton, Vallerand, & Standage, 2015, for a meta-analysis).

Passionate activities also come to influence one's affect in life in general, as they are central part of one's identity (Bouizegarene et al., 2018; Vallerand et al., 2003). Results of a study following intercollegiate (American) football players over the course of an entire season (Vallerand et al., 2003, Study 2) showed that harmonious passion predicted increases in positive affect in life in general but was unrelated to negative affect. In contrast, obsessive passion was associated with increases in negative affect over the season but was unrelated to positive affect. Finally, Guérin, Fortier, and Williams (2013) largely replicated these findings with respect to exercise using a short-term diary study. Of interest is that the Vallerand et al. (2003) findings were obtained while statistically controlling for intrinsic and extrinsic motivation. Thus, in addition to showing the role of passion in emotions over the course of an entire football season, these findings also show that passion and intrinsic/extrinsic motivation are different constructs.

Passion research has also looked at the ability of passionate individuals to predict their future affective states (i.e., affective forecasting) following success and failure events in sports. Because it is more closely connected to self-processes than obsessive passion, harmonious passion should be able to make more accurate predictions of their future emotional states. This hypothesis was supported in a study with sport fans (Verner-Filion, Lafrenière, & Vallerand, 2012). In this study, it was found that harmonious passion was associated with better affective forecasting accuracy when predicting the emotional consequences following a win or a defeat of their favorite soccer team in the 2010 World Cup. In contrast, obsessive passion was unrelated to affective forecasting accuracy.

Passion and Psychological Well-Being

Psychological well-being entails being satisfied with one's life, perceiving that one's life is worth living, and also that one is living up to his or her potential (i.e., high levels of self-realization, Vallerand, 2001). Because it allows one to experience positive affective states on a regular basis, it was hypothesized that harmonious passion for a given activity should be positively associated with psychological well-being, whereas obsessive passion should not. These hypotheses have been confirmed repeatedly as pertains to a variety of passionate activities (see Curran et al., 2015 for a meta-analysis; Vallerand,

2015 for a review), including sport and exercise participants. For instance, harmonious passion has been found to be positively related to psychological well-being, while obsessive passion was unrelated to these indices with water polo players and synchronized swimmers from their junior men and women national teams (Vallerand, Mageau, et al., 2008, Study 2), basketball players (Vallerand et al., 2006, Study 2), dancers (Padham & Aujla, 2014), physically active senior individuals (Rousseau & Vallerand, 2008), as well as other types of elite athletes (e.g., Vallerand et al., 2006, Study 3; Verner-Filion, Vallerand, Amiot, & Mocanu, 2017).

Some research has looked at the psychological factors mediating the harmonious passion-psychological well-being relationship. In line with Fredrickson's (2001) Broaden-and-Build theory that suggests that positive emotions foster psychological well-being and research on the facilitative role of harmonious passion in experiencing positive emotions, Rousseau and Vallerand (2008) tested the "Harmonious Passion → Positive Emotions → Psychological Well-being" sequence with senior individuals who had a passion for exercise. Using a prospective design with three time points, the authors showed that harmonious passion at Time 1 predicted the experience of positive emotions assessed five weeks later, at Time 2, immediately following an exercise session. In turn, positive emotions led to *increases* in psychological well-being at Time 3 weeks later, over the baseline level of Time 1. Thus, the emotions triggered by harmonious passion led to increases in psychological well-being over time. On the other hand, obsessive passion was unrelated to positive affect but positively predicted negative affect (also assessed at Time 2). In turn, negative affect did not predict psychological well-being at Time 3. Other research (Carpentier, Mageau, & Vallerand, 2012) has shown that flow also can serve as a positive mediator between harmonious passion and well-being whereas ruminations serve as a (negative) mediator of the negative obsessive passion-psychological well-being relationship.

Moreover, the influence of passion on well-being can go beyond the passionate activity as it may also affect satisfaction in other life domains. In a recent study, Luth and colleagues (2017) demonstrated that obsessive passion for cycling was not associated with cycling satisfaction but had negative effects on work satisfaction through the effects it had on a prevention regulatory focus (i.e., a concern with protection, safety, and responsibility; Higgins, 1997). Thus, by engaging in their passionate activity (cycling) in an avoidance-oriented way, obsessively passionate cyclists were not experiencing satisfaction when cycling and furthermore became unsatisfied with work. In contrast, harmonious passion was related to a promotion regulatory focus (i.e., a concern with advancement, growth, and accomplishment; Higgins,

1997), which consequently led to higher levels of satisfaction with respect to both cycling and work.

Passionate individuals—whether harmoniously or obsessively—are highly engaged in their passionate activity, spending an average of 8 hours per week on their activity (Vallerand et al., 2003, Study 1). Even though sport and exercise generally have benefits for individuals (especially when harmonious), a sense of fatigue may come from such an intense engagement over time. Consequently, one may wonder whether one's passion for sport and exercise protects or contributes to burnout in sport and exercise?

Burnout in athletes is considered as an experiential syndrome consisting of three central symptoms: perceived physical and emotional exhaustion, a reduced sense of athletic accomplishment, and sport devaluation (Raedeke & Smith, 2001). Research supports the role of passion in burnout. For instance, the results from one study with female high school athletes showed that obsessive passion was positively related to exhaustion, but not to the other symptoms of burnout (Martin & Horn, 2013). Further, research with volleyball players has shown that obsessive passion was related to increases, while harmonious passion was associated with decreases, in burnout over a three-month period (see also Gustafsson, Hassmén, & Hassmén, 2011 for similar results with a cross-sectional design; Schellenberg, Gaudreau, & Crocker, 2013).

Further, one important characteristic of athlete burnout symptoms is the relative lack of motivation displayed for one's sport (Cresswell & Eklund, 2007). Research has shown that for athletes with a harmonious passion, participation in sport offers the opportunity to satisfy one's basic psychological needs (Curran, Appleton, Hill, & Hall, 2013) and to bolster self-determined motivation (Curran, Appleton, Hill, & Hall, 2011), tempering the likelihood of burnout in athletes. However, contrary to past results in other domains (Carbonneau, Vallerand, Fernet, & Guay, 2008; Vallerand, Paquet, Philippe, & Charest, 2010), the direct relation between obsessive passion and burnout in sport was not significant in these two studies by Curran and colleagues. Thus, additional research is necessary to better understand the processes through which obsessive passion leads to burnout. The contribution of obsessive passion to conflict between one's passionate activity and other life dimensions (see Vallerand et al., 2010) merits attention in sport.

The studies reviewed so far in this section revealed that harmonious passion is conducive, while obsessive passion is mostly detrimental, to psychological well-being. But are there situations in which obsessive passion is related to higher levels of well-being than harmonious passion? The conditions of person-environment (P-E) fit may be one such situation. A P-E occurs when the

characteristics of the individual and those of the environment match. A P-E fit has been positively related to various indices of psychological well-being, including life and work satisfaction and personal accomplishment, while also being negatively associated with negative indices such as emotional exhaustion, depersonalization, and somatic complaints (Harackiewicz, Sansone, Blair, Epstein, & Manderlink, 1987; O'Connor & Vallerand, 1994; Tauer & Harackiewicz, 1999). In line with the P-E fit perspective, Amiot, Vallerand, and Blanchard (2006) conducted a study with elite teenage hockey players who were partaking in selection camps of highly competitive teams (i.e., Midget and Junior levels). It was hypothesized that obsessively passionate athletes would thrive in highly competitive environments that basically demand a rigid and inflexible type of persistence and an engagement in sport that require individuals to be overly involved in the activity at the expense of other life domains. Conversely, harmoniously passionate athletes should especially thrive in environments that are less competitive and demanding because they do not require an overwhelming investment of time and energy in hockey that would infringe on other life domains. Thus, obsessively and harmoniously passionate hockey players were expected to experience higher levels of psychological well-being in highly competitive and less competitive environments, respectively.

After completing an initial survey during the selection camps (which assessed athletes' passion and psychological well-being), athletes were either selected to play in highly competitive teams or they were cut from those teams and ended up playing in less competitive leagues. Two months after the team selection were announced, participants completed a follow-up questionnaire assessing their psychological well-being. This period of time allowed players ample time to get used to their new environment. The results showed that obsessively passionate individuals who were playing in the most competitive league displayed higher levels of well-being compared to harmoniously passionate athletes who did. In contrast, harmoniously passionate athletes who ended up playing in the less competitive leagues reported higher levels of well-being than obsessively passionate athletes in such leagues.

These results of the Amiot et al. (2006) study provide preliminary support for the importance of the P-E fit in the context of sport. Athletes would appear to adapt positively and experience high well-being to the extent that their predominant type of passion is consonant with the environment in which they are involved on a regular basis. However, athletes' adaptation may not be as positive if there is a mismatch between their predominant type of passion and the environment in which they operate. It should be noted that long-term adaptation to

new environmental conditions was not assessed in the Amiot et al. study. Thus, it may very well be that obsessive passion leads athletes to focus on sport performance in the long run at the expense of their sense of well-being. Furthermore, it is possible that athletes with a predominant harmonious passion eventually come to adjust over time in demanding competitive environments. Therefore, future research on these issues is warranted before concluding that obsessive (but not harmonious) passion is conducive to long-term benefits in competitive environments.

Passion and Cognitive Processes

Based on the DMP, it would be expected that harmonious passion facilitates, while obsessive hinders, the use of adaptive cognitive processes. To date, research has offered support for this basic hypothesis in a number of contexts and activities. For example, research with soccer referees has shown that harmonious passion correlates more strongly with concentration while refereeing than obsessive passion (Philippe, Vallerand, Andrianarisoa, et al., 2009). Research with soccer fans from England (Vallerand, Ntoumanis, et al., 2008, Study 1) also demonstrated that obsessive passion for soccer prevented full concentration on other life activities on game days. Such effect was not found with harmonious passion. Overall, the above findings suggest that harmonious passion facilitates concentration while obsessive passion is detrimental to it both during activity engagement and while waiting for engagement in the passionate activity.

Flow, which refers to a desirable cognitive state that people experience when they become completely immersed in the activity, is another important cognitive concept of importance for sport and exercise (Csikszentmihalyi, 1978). Research by Vallerand and colleagues (2003, Study 1) with a large component of sport and exercise participants, as well as that conducted with soccer referees (Philippe, Vallerand, Andrianarisoa, et al., 2009), showed a positive association between harmonious passion and the experience of flow during task engagement. Such was not the case with obsessive passion, however. These findings have been replicated in a number of studies in a variety of settings (Curran et al., 2015; Vallerand, 2015, Chapter 6). Moreover, the referees with a predominant harmonious passion in the Philippe et al. (2009) study displayed better decision-making compared to those with an obsessive passion.

Much research has also focused on a negative form of cognition, namely rumination. Rumination is typically defined as conscious thoughts about a particular issue or object that recur in the absence of immediate environmental demands to do so (Martin & Tesser, 1996). Although ruminating about an issue may have some limited advantages (e.g., helping find a solution to a

problem), typically it leads to negative effects as it prevents people from fully concentrating on other issues they need to focus on (Kashdan & Roberts, 2007). Research in a number of areas has shown that obsessive passion is positively associated with rumination, while harmonious is typically not. For instance, in their meta-analysis, Curran et al. (2015) reported that obsessive passion for a given activity including some dealing with sport engagement as an athlete, referee, and fan had a medium-sized positive effect on rumination. In contrast, harmonious passion had no effect on rumination. The two types of passion are thus differentially related to cognitive functioning. On the one hand, harmonious passion leads to the most adaptive processes. On the other hand, obsessive passion relates to less adaptive types of cognitive processes.

Passion and Self-Regulatory Processes

Passion can also influence the quality of the self-regulating processes at play in sport and exercise and their resulting consequences. Overall, the DMP posits that harmonious passion gives access to adaptive self-processes while obsessive passion does not and in fact, may give access to maladaptive self-processes. A first self-regulatory process refers to motivation. In a study dealing with burnout in elite junior soccer players, Curran et al. (2011) showed that harmonious passion positively predicted a self-determined motivation index that, in turn, negatively predicted athletes' burnout. Thus, just as in other research in burnout, harmonious passion may serve so as to protect athletes from burnout. Obsessive passion was not related to the motivation index or to burnout. A recent meta-analysis (see Curran et al., 2015) reveals that the relationship between the two types of passion and each individual type of motivation proposed by self-determination theory may be more nuanced than the findings from the Curran et al. (2011) study. Aggregate correlations from several studies (including some conducted in sport) reveal that harmonious passion is positively correlated with intrinsic motivation and identified regulation and less so with introjected regulation, unrelated to external regulation, and negatively related to amotivation. On the other hand, obsessive passion has been found to be unrelated to intrinsic motivation, weakly but positively related to identified regulation but to be strongly and positively related to introjected and external regulation and weakly but positively related to amotivation. Future research is necessary on the link between passion and motivation, especially situational motivation that takes place at a given point in time in sport and exercise settings.

Other research has looked at how one regulates stress during activity engagement. For instance, a study with marathon runners demonstrated that harmonious

passion was negatively related to stress (Lucidi et al., 2016). In contrast, obsessive passion was positively associated with stress. Interestingly, these results were obtained while controlling for training frequency. These results show that the quality of the engagement in the activity (i.e., type of passion) matters above and beyond the quantity of involvement (i.e., training frequency) to predict stress in runners. These findings were largely replicated with athletes and cognitive anxiety as experienced before competition (see Verner-Filion et al., 2014, Studies 1 and 2).

The above differential relationship between passion and stress may be due to the use of coping strategies. Because harmonious passion entails an open non-defensive and mindful engagement in sports, it should be more likely to be associated with the adoption of adaptive, approach-oriented coping strategies. In contrast, obsessive passion stems from a defensive and ego-involved engagement in the activity. Because so much is at stake with obsessive passion, it is thus more likely to lead to the use of avoidance-oriented coping strategies. These hypotheses recently received empirical support in sport. In a study with volleyball players, Schellenberg, Gaudreau, and Crocker (2013) demonstrated that harmonious passion was positively associated with task-oriented coping, while obsessive passion was related to disengagement coping. In turn, task-oriented coping predicted increases in goal progress and decreases in burnout over a three-month period. The opposite pattern was observed for disengagement coping. Two studies by Verner-Filion and colleagues (2014) with athletes from various sports and using two different coping instruments replicated the findings of Schellenberg et al. study. Finally, the above findings on the approach nature of coping fostered by harmonious passion and the avoidance perspective of obsessive passion were basically replicated in another study this time with hockey fans during the 2012–2013 NHL lockout (Schellenberg, Bailis, & Crocker, 2013). It was even found that the obsessively passionate fans were more likely to engage in maladaptive coping processes such as substance abuse to cope with not being able to watch hockey due to the NHL lockout.

Passion and Performance

It has long been assumed that passion plays a pivotal role in high-level performance in sports. This is because passion is expected to lead athletes to engage in long hours of practice so as to master their skills (or deliberate practice; Ericsson & Charness, 1994). Indeed, athletes must love the activity dearly and have the desire to keep on practicing even when times are rough if they are to improve and achieve excellence. Thus, both types of passion should help participants to engage in deliberate

practice which should in turn lead to improved performance over time. These hypotheses have received support in various activities ranging from academics, music, dramatic arts, and sports and using objective indicators of performance (see Vallerand, 2015 for a review).

In the sports domain, a first study was conducted by Vallerand and colleagues (2008, Study 1) with a sample of basketball players. Results of this study revealed that both types of passion were positively associated with deliberate practice. In turn, deliberate practice predicted higher levels of performance as assessed by their coach. In another study conducted with elite water polo players and synchronized swimmers from their respective Junior National Teams (Vallerand, Mageau, et al., 2008, Study 2), the authors examined the mediating processes through which passion contributes directly to deliberate practice and indirectly to sport performance. It was proposed that harmonious passion leads to deliberate practice and, ultimately, to performance only through the mediating effects of mastery goals (a focus on the development of personal competence and task mastery) while the impact of obsessive passion on deliberate practice takes place through mastery goals and performance-approach goals (a focus on the attainment of personal competence relative to others) but mostly through performance-avoidance goals (a focus on avoiding incompetence relative to others) that negatively and directly influences performance (as assessed by the coach). Results of a full season longitudinal study provided support for the hypotheses (Vallerand, Mageau, et al., 2008, Study 2). In addition, as expected, only harmonious passion was positively related to psychological well-being.

The above research dealt with amateur athletes. As such, there was no way of telling if passion influenced who makes it as a professional athlete. Verner-Filion et al. (2017, Study 2) conducted a study to assess this very issue. Specifically, hockey players were first surveyed during the selection camp of elite hockey teams (players from the Midget and Junior levels of play) in the early 2000s. Then, the players' performance was assessed by measuring the number of games they ended up playing in various professional leagues, such as the National Hockey League, as much as 15 years later. The results replicated those of Vallerand et al. (2008) by showing that achievement goals mediated the relation between both types of passion and high levels of performance. In addition, Verner-Filion and colleagues (2017, Study 2) showed that, along with mastery and performance-approach goals, the satisfaction of the basic psychological needs of autonomy, competence, and relatedness (Deci & Ryan, 2000) also mediated the relation between harmonious passion and athletes' well-being and performance over a 15-year period. In contrast, OP was positively associated with both types of performance goals (i.e., approach and avoidance).

Performance-approach goals mediated the positive relations between OP and both well-being and long-term performance, while performance-avoidance goals were negatively related to these two outcomes. These associations between OP and both performance-approach and performance-avoidance goals provide a better understanding of the ambiguous relationship OP holds with well-being and performance.

The above findings focused on long-term performance. Research in the work domain (e.g., Dubreuil, Forest, & Courcy, 2014; Ho, Wong, & Lee, 2011) has also looked at the role of passion in short-term performance or that takes place at a specific point in time. For instance, the above authors showed that harmonious passion triggers adaptive cognitive processes (e.g., concentration, flow) that lead to high-level performance. Such is not the case with obsessive passion. Research in sport has also started to look at the role of passion in short-term performance, under certain situations. For example, a qualitative study investigated the role of passion on experiences of choking under pressure in the context of team sports (Hill & Shaw, 2013). Using a sample of 8 elite athletes, 50% reported that their susceptibility to choke under pressure might be attributable to their passion for sports. Specifically, these athletes reported that they were more likely to choke when engaging in their passionate sport in a defensive and ego-involved manner (e.g., when they cared too much or when they are desperate to prove their worth), characteristics that typically are associated with an obsessive passion.

Physical Health

Engaging in sport and physical activity on an average of 8 hours per week (Vallerand et al., 2003) may affect passionate athletes and exercisers' health in different ways. However, the type of passion one holds towards the activity is important to understand the quality of the physical outcomes experienced by athletes and exercisers. For example, passion may positively contribute to health by providing the energy to engage regularly in physical activity, to get in better physical shape, and to experience increased physical health over time. However, this is not always the case. Indeed, research with high school basketball players (e.g., Vallerand et al., 2006, Study 2) and senior exercisers (Rousseau & Vallerand, 2008) reveals that harmonious, but not obsessive, passion provides high energy during activity engagement. Of additional interest, harmonious passion has been found to provide the person with an increase in energy following activity engagement while such does not seem to be the case for obsessive passion that may leave athletes emotionally drained following the activity (e.g., Gustafsson et al., 2011; Lalande et al., 2017).

Passion can also put people's health in jeopardy by leading them to engage in risky sport or exercise behavior. For instance, Vallerand and colleagues (2003, Study 3) showed that cyclists who engage in winter cycling in Canada under dangerous conditions display higher levels of obsessive passion than those who do not. No differences were found with respect to harmonious passion. Along the same lines, research with runners (Stephan et al., 2009) revealed that obsessive passion is positively associated with perceived susceptibility to injuries. These results suggest that individuals with obsessive passion are aware of the consequences of their risk-taking attitudes when partaking in their passionate sport and/or activity.

A further problem with obsessive passion is that it may lead people to engage in ill-advised rigid persistence in the activity. Rip, Fortin, and Vallerand (2006) sought to determine if such ill-advised rigid persistence could lead to *chronic* injuries. In a study with seasoned dancers, Rip et al. (2006) found that although both types of passion prevented the experience of *acute* injuries, obsessive passion was found to represent a risk factor for *chronic* injuries. This is because with obsessive passion, dancers experience a rigid persistence to dance; they cannot stop dancing even when injured, thereby leading to increased risks of aggravating an acute injury that can turn into a chronic injury. Harmonious passion was unrelated to chronic injuries.

Because obsessive passion occupies such an overwhelming space in one's identity, athletes can have a hard time in regulating their activity engagement. Other important life domains, such as work, interpersonal relationships or hobbies, are oftentimes neglected or enter in conflicts with one's passion when it is obsessive in nature. Consequently, obsessively passionate athletes and exercisers may end up putting other important domains aside in order to focus exclusively on their passion. Potentially, such an intense engagement—at the expense of other important life domains—may serve as a proxy for dependence toward the activity. In contrast, this should not be the case with harmonious passion, as one's engagement in the activity is well integrated with other important life domains and activities (Vallerand et al., 2003).

Recently, research has explored the role of passion in exercise dependence. Overall, results of these studies offer strong support for the positive relation between obsessive passion and dependence in sport and exercise (e.g., de la Vega, Parastatidou, Ruíz-Barquín, & Szabo, 2016; Paradis, Cooke, Martin, & Hall, 2013; Parastatidou, Doganis, Theodorakis, & Vlachopoulos, 2014; Stenseng, Haugen, Torstveit, & Høigaard, 2015; Stenseng, Rise, & Kraft, 2011). It should be noted that although harmonious passion was also related to exercise dependence in

some studies, such relationship was lower than that involving obsessive passion. Furthermore, the relationship was substantially reduced when obsessive passion was controlled for (Curran et al., 2015).

Of interest is a study with dancers by Akehurst and Oliver (2014) that showed that the relation between obsessive passion and injury-related behavior (Rip et al., 2006) was in fact mediated by dependence toward dance. Thus, one's dependence (or rigid persistence) toward the passionate activity may explain why obsessive passion in athletes and exercisers is positively related to problems with physical health.

Finally, one may ask if there exists one form of physical activity that may lead to adaptive outcomes by simply engaging in it, irrespective of the type of passion. Yoga may represent such an activity. However, in two studies including one with a prospective design, Carbonneau, Vallerand, and Massicotte (2010) showed that not all Yoga exercisers benefited from the activity. Indeed, only those with a harmonious passion were able to derive positive psychological and health benefits from Yoga. In contrast, those with an obsessive passion for Yoga experienced an increase in negative emotions over time while engaged in the Yoga class! These results thus illustrate that the type of passion one holds toward the activity matters over and above the effects of the nature of the activity to predict the quality of the outcomes experienced by athletes and exercisers.

In sum, the overall picture derived from the research described above on intrapersonal outcomes is that harmonious passion is associated with more adaptive outcomes than obsessive passion. This conclusion holds up with respect to a number of outcomes ranging from emotions, psychological well-being, cognitions, performance, and health. Further, these findings are in line with the results of a recent meta-analysis by Curran and colleagues (2015) of close to 100 different studies on similar intrapersonal outcomes.

Passion and Interpersonal Outcomes

Interpersonal Relationship Quality

The coach-athlete relationship plays an important role in sport (Mageau & Vallerand, 2003). To help athletes and exercisers reach their goals a positive and high-quality relationship would appear to be crucial. The type of passion that both athletes and coaches hold toward sport or exercise may represent an important factor that may influence high-quality relationships. Specifically, because harmonious passion leads individuals to experience positive emotions and to open up to others, it should be more likely to foster positive relationships with others than obsessive passion that typically fosters negative emotions and closing down to others. For instance, in

one short-term longitudinal study with basketball players that took place during a 1-week basketball camp (Philippe, Vallerand, Houliort, Lavigne, & Donahue, 2010, Study 3), it was found that harmonious (but not obsessive) passion positively predicted the development of new relationships of high quality during camp using the Quality of Interpersonal Relationship Scale (Senécal, Vallerand, & Vallieres, 1992). Further, these results held up irrespective if friendships were self-reported or assessed by the coach. Finally, Philippe and colleagues (2010) found that the emotions experienced by players during the basketball camp mediated the effects of passion on relationships. Specifically, harmonious passion led to the experience of positive emotions during the basketball camp, which in turn led to high-quality relationships that developed among teammates over the course of the week-long basketball camp. In contrast, obsessive passion was found to be associated with a lower quality of relationships with teammates through the experience of negative affect during the basketball camp. These findings were replicated in other settings such as work and education (see Philippe et al., 2010).

Of interest, other research shows that passion also influences the quality of the coach-athlete relationship (Lafrenière et al., 2008) and that the same processes are at play as those involved with teammates. Specifically, research with coaches addressed the mediating role of emotion in the coach-athlete relationship (Lafrenière et al., 2008, Study 2). Results of the Lafrenière et al. (2008) study confirmed the mediating role of the positive affect experienced by coaches while coaching in the relation between harmonious passion toward coaching and the relationship quality with their players. Obsessive passion was unrelated to positive affect or relationship with the athletes.

Additionally, research has focused on the dyadic relationship between athletes and their coaches using actor-partner models (Jowett, Lafrenière, & Vallerand, 2013). This type of analysis is important to better understand the effects of harmonious and obsessive passion in both athletes and coaches on the perceived quality of the relation, as reported by both parties. Results of this study revealed that harmonious passion in *both* athletes and coaches is key in the actor's perceived quality of the relationship. Obsessive passion in athletes was related to more perceived conflict with their coaches. Coaches' obsessive passion was related to less perceived quality of relationship and more conflicts with their athletes. With regards to the partners' models, obsessive passion in coaches was related to less quality and more conflict within the relationship, as perceived by athletes. In addition, coaches' harmonious passion was positively related to athletes' relationship satisfaction but only in more long-term relationships. Surprisingly however, obsessive

passion in athletes was positively related to the coaches' perceived quality of the relationship. Considering that the main role of coaches is to help improve the athlete's skills and performance (Lyle, 2002), the coach-athlete relationships may be experienced as more satisfying to coaches when their athletes display obsessive passion for their sport.

As mentioned above, coaches are actively striving to improve the motivation and performance of their athletes. To this end, an important part of the coaches' job is to provide feedback aimed at changing, correcting or improving facets of their athletes' game. Recently, researchers have identified autonomy-supportive change-oriented feedback as a highly beneficial coaching behavior for athletes (Carpentier & Mageau, 2013, 2014, 2016; Mouratidis, Lens, & Vansteenkiste, 2010). Considering the effects of passion on other autonomy-supportive behaviors and interpersonal outcomes, Carpentier and Mageau (2014) investigated whether coaches' type of passion influenced the quantity and the quality (i.e., autonomy-supportive change-oriented feedback) of the feedback they provided their athletes. Results of this study demonstrated that obsessive passion in coaches was positively associated with the quantity of feedback provided, but only when athletes were perceived to be highly motivated. However, results pertaining to feedback quantity showed that obsessive passion in coaches was negatively related to autonomy-supportive change-oriented feedback. Thus, even though obsessive passion in coaches is associated with a greater amount of feedback, the quality of the feedback seems to be lacking. This may help explain why obsessive passion in coaches is detrimental to the quality of the coach-athlete relationship.

Finally, we hasten to underscore the fact that passion for sport and exercise can also affect relationships in other areas of one's life. By occupying an overwhelming space in one's identity, we hypothesized that obsessive passion for sport and exercise is likely to be conducive to conflicts with other important life activities and domains. Such should not be the case with harmonious passion, as the passionate activity is well integrated with other activities. In a study conducted with English soccer fans, Vallerand, Ntoumanis et al. (2008, Study 3) provided support for these hypotheses. Results showed that soccer fans' obsessive passion was positively associated with conflicts between soccer and their love life that, in turn, predicted lower quality of the romantic relationship. No ill effects were observed with harmonious passion

Moral/Ethical Behaviors and Attitudes

As mentioned above, both types of passion are conducive to performance in the sport domain. However, the experiential outcomes associated with such performance vastly differ as a function of the type of passion athletes

hold for their sport. With obsessive passion, events occurring within the purview of the passionate activity are directly tied with one's sense of self-worth (Mageau et al., 2011) and are thus approached with a sense of ego-involvement and defensiveness. Along the same lines, any form of competition is likely to be perceived as a threat to goal-attainment and thus, to feelings of self-worth. Because there is so much on the line when engaging in sporting activities with obsessive passion, athletes could be tempted to bend the rules in order to achieve success or avoid failure. In contrast, harmonious passion is associated with a secure sense of self that should help athletes adopt ethical behaviors. Thus, one's passion for sport is likely to influence the likelihood of adopting moral versus immoral behaviors.

Bureau and colleagues (2013) investigated the role of passion in immoral behavior or cheating. Additionally, they were interested in understanding what processes may help understand the differential relation of both types of passion with such behaviors. In two studies with paintball players and athletes, they investigated the mediating role of pride and showed that HP is associated with more self-reported moral behaviors through the effects of authentic pride (i.e., a type of pride reflecting genuine feelings of self-worth; Tracy & Robins, 2007). With obsessive passion however, the picture is less clear. On the one hand and as hypothesized, obsessive passion is related to the adoption of more immoral behavior (such as cheating, antisocial behavior, and lower levels of sportspersonship) through the effects of hubristic pride (a type of pride reflecting distorted and self-aggrandized self-views; Tracy & Robins, 2007). On the other hand, the results of Study 2 replicated the results of Study 1 and also showed that obsessive passion is indirectly related to moral behaviors through authentic pride. It thus appears that obsessive passion is associated with a mixed pattern of moral behaviors. With obsessive passion, one's moral compass may thus fluctuate depending on the prevalent circumstances, such as the importance of the competition, or the presence of direct competitors. Results reveal that it is not the case with harmonious passion.

In subsequent research, Wilson and Potwarka (2015) explored the influence of passion for sports on attitudes toward performance enhancing drugs (PEDs) in a sample of collegiate athletes. Results showed that obsessive passion was related to more permissive attitudes toward the use of PEDs. The opposite relation was observed for harmonious passion. Finally, research has also gone beyond cheating attitudes and also looked at the role of passion in aggression. In two studies with basketball players, Donahue and colleagues (2009) showed that, compared to harmonious passion, obsessive passion was associated with a higher propensity to use aggression against opponents, especially in conditions when the

sense of self was threatened. It seems that it is especially under threat, when one's identity is on the line as in potential failure, that athletes are likely to cheat and aggress others to prevent such an outcome.

In sum, evidence reveals that harmonious passion leads to a number of adaptive interpersonal outcomes while such is not the case for obsessive passion where one can also engage in cheating and aggression. A number of mediating processes have been uncovered, including positive and negative emotions.

On the Development of Passion

The research presented in the previous sections illustrates the role of passion in a variety of outcomes. Considering the importance of passion for athletes and exercisers, it appears relevant to better understand how passion develops. According to the DMP (Vallerand, 2008, 2010, 2012, 2015; Vallerand et al., 2003; Vallerand & Verner-Filion, 2013), most people, especially early on in life, engage in a variety of activities in the hope of finding one that will allow them to enjoy themselves and to resonate with whom they are. At least three processes are at play for understanding how an interesting activity such as sport and exercise can transform into a passionate activity. These processes are: (1) activity selection, (2) activity valuation, and (3) the type of internalization process through which this activity becomes part of one's identity. Activity selection refers to the person's preference for a given activity over some others. When such selection reflects true choice and interests and is consonant with one's identity, the development of passion toward that activity may be promoted. The extent to which the activity is valued (or the subjective importance given to the activity by the person) is also expected to play an important role as it can facilitate the internalization of the activity in identity. Indeed, research in self-determination theory has shown that activities that are not interesting but highly valued can be internalized in the self (Deci et al., 1994). The DMP further suggests that enjoyable activities can also be internalized to the extent that they are valued and deemed meaningful (Aron et al., 1992; Marsh et al., 2013; Vallerand et al., 2003, Study 1). The more the activity is valued (or important), the more this activity it is likely to become part of one person's identity and, thus the more passionate the person will be toward the activity.

Of major importance is the fact that the DMP proposes that the type of internalization that takes place influences the type of passion that will develop. In line with self-determination theory, two types of internalization processes are proposed to occur. A harmonious passion is likely to develop to the extent that the

internalization process takes place in an autonomous fashion. An autonomous internalization occurs when people make their own choice regarding the activity and orient their own values and behaviors according to what they believe is important and enjoyable (Deci & Ryan, 2000; Vallerand, 2015). In contrast, an obsessive passion is more likely to develop if the internalization takes place in a controlled fashion. Such a controlled internalization occurs when people feel pressured to make choices, adopt values, and behave according to contingencies they have learned in the past. The DMP further posits that the internalization process can be influenced by both the social environment and personal factors. More precisely, the development of a harmonious passion will be facilitated by social environment (i.e., parents, coaches, peers, etc.) that supports autonomy and by personal factors (i.e., individual differences and personality processes) that foster autonomous functioning.

Although, no longitudinal study has been conducted on the role of the social environment in the initial development of passion for sport or exercise, Mageau and colleagues (2009, Study 3) have conducted an informative short-term longitudinal study on the development of passion for music. This study took place with high school students who took a compulsory music course and had never played a musical instrument to see who would end up being passionate at the end of the term. Overall, the results supported the perspective of the DMP. First, the minority of students who developed a passion for music by the end of the term (only 36%) had indicated early in the term that they felt that music was important to themselves and their parents and felt that they prioritized music and that it could eventually be part of their identity. Furthermore, students also reported experiencing greater autonomy support from close adults (parents and music teachers) toward their music involvement. Finally, when looking only at students who had developed a passion for music, those who were more harmoniously passionate also reported experiencing higher levels of autonomy support. Conversely, obsessive passion developed when parents highly valued (perhaps overvalued) music and when children perceived a lack of autonomy support (i.e., controlling behavior) from adults. Additional research with children (Mageau et al., 2009, Study 2) and young adults (Mageau et al., 2009, Study 1) who were passionate about one of various activities including sport, also showed the importance of autonomy support in distinguishing between harmonious and obsessive passion. Further, autonomy behavior as assessed with the parents themselves led to the same findings as autonomy support perceived by children (Mageau et al., 2009, Study 2).

Overall, the above findings provide support for the role of the social environment in the development of

passion. The role of personal factors in the development of passion was also investigated in a study conducted with recreational sport participants (Vallerand et al., 2006, Study 1). Results of this study demonstrated that harmonious passion was predicted by strong valuation of the sport activity coupled with an autonomous personality orientation (as assessed by the Global Motivation Scale; Guay, Mageau, & Vallerand, 2003). Obsessive passion was also predicted by strong valuation of the activity, but this time coupled with a controlled personality orientation. These findings were replicated in a second study (Vallerand et al., 2006, Study 3) using a 4-month prospective design with high-level athletes. In addition, in Study 3, harmonious passion also predicted subjective well-being over time, while obsessive passion did not.

Studies outside of sport and exercise have started to investigate the role of individual differences such as the Big 5 (Balon, Lecoq, & Rimé, 2013) and perfectionism (Verner-Filion & Vallerand, 2016). In sport, Curran, Hill, Jowett, and Mallinson (2014) investigated the interplay of perfectionism and passion. They showed that the self-imposed tendency to strive for perfection (i.e., self-oriented perfectionism; Hewitt & Flett, 1991) is positively associated with both harmonious and obsessive passion. In addition, Verner-Filion and Vallerand (2016) have shown that this is because self-oriented perfectionism engenders both a volitional, self-endorsed, striving for achievement (striving for perfection; an antecedent of harmonious passion) as well as a controlling desire to maintain self-worth (importance of being perfect; an antecedent of obsessive passion). In contrast, pursuing perfection in order to satisfy external demands, such as obtaining social approval or maintaining perceptions of self-worth (i.e., socially prescribed perfectionism; Hewitt & Flett, 1991) was shown to be positively related to obsessive passion.

One of the major premises of the DMP (Vallerand, 2015) is that people engage in various activities in the hope to grow psychologically and to experience need satisfaction (Ryan & Deci, 2017). Thus, need satisfaction should play an important role in the development of the two types of passion. However, there is a caveat. Although need satisfaction in the activity one is passionate about is expected to facilitate the development of both harmonious and obsessive passion, the DMP makes the additional prediction that obsessive passion should also result from a lack of need satisfaction in areas other than the passionate activity. Thus, as such, obsessive passion can be seen as compensatory in nature. These hypotheses were recently investigated by Lalande et al. (2017) in four studies using prospective and experimental designs. Overall, the results provided support for the hypotheses. Specifically, need satisfaction *within* the passionate activity was conducive to both harmonious and obsessive

passion (albeit more strongly for harmonious passion). However, the lack of need satisfaction *outside* of the purview of the passionate activity (i.e., in other important life spheres, such as work, or in one's life in general) predicted the development of obsessive, but not harmonious, passion. It thus appears that obsessive passion results in part from a compensatory engagement in a need satisfying activity when other activities fail to provide such opportunities. Thus, considering various sources of need satisfaction appears to be important when examining the determinants of both harmonious and obsessive passion, as well as the quality of outcomes they generate, respectively.

The DMP further posits that a passion for an activity continues to develop after initial development. Variations in activity valuation will subsequently modulate the intensity and/or type of the passion. In addition, the presence or absence (or change) of social and personal factors that pertain to the autonomous versus controlled internalization process will influence the ongoing development of passion in a corresponding fashion. Thus, it is possible to reinforce the predominant passion or to make the other type of passion operative depending on which type of social or personal factors is made salient. Evidence from experimental inductions of passion have supported this hypothesis (Bélanger, Lafrenière, Vallerand, & Kruglanski, 2013b). In sum, results presented in this section provide support for the DMP as it pertains to the development of passion.

Future Research Directions

Research on passion is rapidly maturing. The first published studies in sport were those of Vallerand et al. (2003, Studies 2 and 3) respectively dealing with football players and cyclists and took place just over 15 years ago. So although the research conducted to date has been accumulating at a relatively fast pace (see Curran et al., 2015; Vallerand, 2015), much more research is necessary in order to further understand the role of passion in sport and exercise. Such research could take a number of directions. We suggest below certain directions for future research that would appear particularly fruitful.

On Passion and Performance in Sport and Physical Activity

Although several studies have now looked at the role of passion in performance (e.g., Bonneville-Roussy, Lavigne, & Vallerand, 2011; Vallerand et al., 2007; Vallerand, Mageau, et al., 2008) such research is limited in scope on several counts. First, only a few studies to the best of our knowledge have looked at *sport* performance

(Vallerand, Mageau, et al., 2008, Studies 1 and 2; Verner-Filion et al., 2017). Further, only one study has looked at performance in exercise settings (Bélanger, Lafrenière, Vallerand, & Kruglanski, 2013a, Study 1). Clearly additional research is necessary in order to better understand how passion affects performance in sport and exercise settings. Second, and in line with the first point above, future research should assess the role of passion in *elite* performance. The research of Sheard and Golby (2009) on the role of passion in emotions with professional rugby players represents a nice example that should be followed as pertains to performance.

Third, most passion and performance studies were rather short-term in nature spanning only 6 months at most. Future research should follow the lead of Verner-Filion et al. (2017) and monitor top-level athletes for years, not simply to see who eventually reach the professional leagues as they did, but also to see which type of passion allows athletes to remain in the leagues for years, and to become champions. Is harmonious passion preferable because it fosters flexible persistence and high-level involvement for a whole career? Or, conversely, is obsessive passion better as it fosters rigid persistence that allows the athlete to remain fiercely competitive for several years and perhaps for his or her whole career?

Finally, once more very little research has looked at the role of passion in situational performance (i.e., performance that takes place at a specific point in time). In one study, Bélanger et al. (2013a, Study 1) found that when individuals with high levels of obsessive passion for exercise have their identity as an exerciser threatened, they *increase* their performance from pretest to posttest and also compared to individuals with a harmonious passion. Does this mean that with obsessive passion insecurity always leads to the highest levels of performance? What about harmonious passion? Which conditions lead to the highest performance levels? Future research is necessary to shed light on these findings and clarify the role of the two types of passion in situational performance.

Is Harmonious Always Good and Obsessive Passion Always Bad?

One major take-home message from the present review is that generally, harmonious passion for sport and exercise leads to adaptive outcomes whereas obsessive passion leads to less adaptive and at times clearly maladaptive outcomes. Other reviews (e.g., Curran et al., 2015; Vallerand, 2015) reveal a similar picture. Yet, we wish to underscore that this does not mean that harmonious passion is always “good” and obsessive passion always “bad.” Indeed, there are certain conditions where obsessive passion is more conducive to positive effects than harmonious passion (e.g., situational performance under

threat; Bélanger et al., 2013a). One potential explanation regarding this issue revolves around a differential susceptibility hypothesis (Belsky, 2005; Belsky, Bakermans-Kranenburg, & Ijzendoorn, 2007), which proposes the existence of individual differences with regards to reactions following environmental events, such as success and failure experiences. More specifically, in light of the susceptibility hypothesis one would suggest that the effects of harmonious passion are largely invariant to success and failure. In contrast, with obsessive passion, successes and failures in the activity are likely to be perceived as support of or threat to the self, respectively, thereby augmenting the emotional response to these events. Initial support for these hypotheses has been obtained in previous research showing that, with obsessive passion one needs to do well in order for state self-esteem, life satisfaction, and positive affect to remain high (Lafrenière, St-Louis, Vallerand, & Donahue, 2011; Mageau et al., 2011; Verner-Filion, Schellenberg, Rapaport, Bélanger, & Vallerand, 2018). Clearly, future research is needed to identify which type of psychological processes are more likely to facilitate adaptive outcomes and for which type of passion. Such research is likely to lead to blueprints for better applications. Further, such research on this issue should also lead to increased theoretical insights. In line with the findings of the Amiot et al. (2006) study, it is possible that different processes lead to adaptive outcomes depending on the type of passion at play.

Successful Transition from Sport to Other Life Activities

An increasing amount of research has focused on the psychological effects that retirement from sport may produce (Lavalley, Gordon, & Grove, 1997). Such research has shown that retirement from sport can yield either positive or negative outcomes (see Alfermann, Stambulova, & Zemaityte, 2004). We believe that the DMP may shed light on this issue. Indeed, it may be hypothesized that harmoniously passionate individuals should fare better after retirement, because harmonious passion is characterized by a flexible engagement toward the activity (Vallerand et al., 2003). Thus, it should be easier for these individuals to disengage from sport (see Wrosch, Scheier, Miller, Schulz, & Carver, 2003) and move on to (or reinvest in) something else. On the other hand, because obsessive passion is characterized by a rigid persistence toward the activity and given that contingencies such as self-esteem are attached to the activity, individuals with an obsessive passion should have a difficult time letting go of their passionate activity. Recent research provides support for this analysis (Houliort et al., 2015). In two studies with teachers, it

was found that harmonious passion for teaching led to higher levels of need satisfaction in life in general that, in turn, led to higher levels of psychological well-being following retirement. These findings were also obtained using a prospective design where *active* teachers were followed over a 6-year period until they retired. Similar research with athletes, coaches, and referees could provide additional insights on the processes at play in the adaptive transition from sport engagement to other life ventures.

The Next Generation of Research on Passion and Outcomes

Much of the research conducted to date in sports and exercise has adopted a correlational perspective in which the links between the two types of passion and various outcomes were assessed through correlational, structural equation modeling, and path analyses. Such research is extremely important in providing crucial information on the role of passion in sport and exercise outcomes. At the same time, we suggest that in order to move the field forward, future research should take at least two new directions. First, we need to diversify our methodological arsenal. Thus, future research should make use of experimental designs wherein passion can be *induced* under controlled settings. Research has shown that such methodology exists and that it replicates the findings obtained with the Passion Scale (see Bélanger et al., 2013b; Lafrenière, Vallerand, & Sedikides, 2013; Vallerand, 2015, Chapter 4). Thus, experimental inductions of passion with athletes and exercisers are recommended to complement current findings. Future research may also apply a newly-developed quadripartite approach to study the effects of distinct within-person combinations of harmonious and obsessive passion to the sports and exercise domains (Schellenberg et al., 2018). Such an approach takes the position that individuals can be high or low on both types of passion, leading to new predictions such as the protective effects of harmonious passion against obsessive passion on health and psychological well-being, for instance. At the same time, the use of qualitative procedures such as focus groups and interviews about sport participants' perceptions of their own passion would be valuable. Such research on passion has been conducted in other fields such as work (e.g., Swimberghe, Astakhova, & Wooldridge, 2014, Study 1) and has supported the existence of the harmonious and obsessive passions.

The second avenue where the next generation of research can engage in pertains to using longitudinal and repeated measures research designs to benefit from advanced statistics. Research conducted so far has either used correlational analyses and at times structural

equation modeling and path analyses. Although we encourage pursuing such meditational analyses, we also encourage engaging in research where we can follow people over time and make use of advanced research designs and statistics to tease out the findings. For instance, diary studies that lend themselves to Hierarchical Linear Modeling can inform us of the day-to-day behavior and experiences of passionate athletes and are sorely needed (see Guérin et al., 2013 for an example). So is the prediction of changes in outcomes over time using longitudinal designs with repeated measures and latent growth curve analyses. In addition, further research is necessary to assess the moderating effects of passion on outcomes. For instance, we need additional research on how passion interacts with important factors such as success and failure. Does harmonious passion provide some resilient properties relative to obsessive passion following failure or is it the other way around?

On the Development of Passion

A final direction of research that deserves attention deals with the development of passion. Because little research has focused on this issue, such research could expand in a variety of directions. We only mention a few here. A first area has been mentioned already and it pertains to the development of passion from Time 0 like the Mageau et al. (2009, Study 3) study with young musicians and we will not repeat it our comments here. Second, research on the role of personality as a determinant of passion is important. Such research could assess how personality determines which activity someone selects, becomes passionate about, and the type of passion that develops for the activity. Past research has shown that certain personality dispositions such as those of the Big 5 are only weakly related to harmonious and obsessive passion (e.g., Balon et al., 2013). However, such research has only used the short version of the NEO scale. Future research using the whole scale, including the critical facets, may yield a different picture where some facets predict more precisely who becomes passionate for a given activity and with which type of passion (harmonious or obsessive passion). In addition to perfectionism (Curran et al., 2014; Verner-Filion & Vallerand, 2016), other individual differences may also affect passion. Future research is needed on that issue.

A third line of research could assess how passion is transmitted from an individual to another. For instance, a dynamic and enthusiastic basketball coach should be more likely to transmit his or her passion for basketball to athletes than coach with no passion. The same thing may apply to parents with their children. As shown by the Mageau and colleagues (2009) research, autonomy

support helps in the development of HP, while a lack of autonomy support (or the control of behavior) fosters the development of an OP. However, we propose that a specific form of control (or lack of support), namely conditional acceptance—or conditional regards (Assor, Roth, & Deci, 2004; Campbell & Di Paula, 2002), is likely to foster the conditionalities of self-worth that characterize OP. In such cases, feelings of self-worth, competence, and relatedness are highly contingent with goal-attainment, thus leading to a controlled internalization of the passionate activity in the self, and the development of an OP. With conditional acceptance, individuals must bear the heavy burden of reaching their goals in order to feel accepted by significant others, such as coaches, parents, and peers. Consequently, conditional acceptance has typically been associated with variables such as low levels of self-esteem and life satisfaction, as well as high levels of depressive symptoms and burnout (Stoeber & Childs, 2010). Initial research on this issue has revealed that conditional acceptance was positively related to OP (and negatively associated with HP), leading students to lower levels of academic adjustment (Verner-Filion & Vallerand, 2016). Future research on this issue in the sport domain is needed to better understand the development of OP.

Although common sense suggests that passion can indeed be transmitted, research is nevertheless necessary to empirically test the issue. Further, if passion can be transmitted, what are the processes involved in such transmission? Is emotion the key mediating variable (e.g., Cardon, 2008), or are some other variables at play such as relatedness (Ryan & Deci 2017) and autonomy support (Lafrenière, Jowett, Vallerand, & Carbonneau, 2011)? Research is badly needed on this important issue.

A fourth research issue pertains to the potential changes in passion that may take place over time. For example, an often-asked question deals with how to reduce obsessive passion. Based on the findings of Lalande et al. (2017) that showed that obsessive passion results in large part from a *lack* of need satisfaction outside of the passionate activity, then one would suggest *adding* interesting non-sport activities in the person's life. Developing a passion for an additional activity should help reduce obsessive passion for sport and contribute to well-being, especially if one has a harmonious passion for the second activity (Schellenberg & Bailis, 2015).

A final research thrust on the development of passion focuses on the transformation of passion for sports/physical activity over a lifetime. Such transformation may take one of several trajectories. For instance, one individual may start playing basketball in his early teens until the late twenties, then become a coach, and later on

a referee while another may start in the same sport (basketball) and then move on to a completely different sport (e.g., swimming). The role of the type of passion (harmonious vs obsessive) and life events (e.g., having children; getting injured) in these different trajectories still remains to be explored (see Vallerand, 2015, Chapter 5 for a discussion on this issue). Interviews and other qualitative methodological procedures have the necessary sensitivity and flexibility to help us explore these issues although latent growth curve analyses may also lend itself to identifying trajectories within a more restricted time period (see Schellenberg & Bailis, 2015 for an example in education).

Summary and Conclusions

Sport and exercise play a significant role in many people's lives. People who engage in sport and exercise are typically more than motivated; they are passionate toward their activity. The purpose of the present chapter was to review existing research on passion in sport and exercise using the DMP as a backdrop (Vallerand, 2008, 2010, 2015; Vallerand et al., 2003). Such review yields at least five major conclusions. First, passion is highly prevalent in sport and exercise. The large majority of participants tested in such settings indicate being passionate for their activity. Second, two types of passion can be distinguished, namely harmonious and obsessive passion. Further, passion matters greatly for athletes and exercisers. Indeed, passion has been found to lead to a host of different consequences (affect, cognitions, subjective well-being, performance, physical health, relationships, etc.). Specifically, while harmonious passion typically leads to adaptive outcomes, obsessive passion has been found to mainly lead to less adaptive, and at times maladaptive outcomes, although there are some limited exceptions (i.e., performance). Third, researchers have started to identify the nature of some of the processes through which passion leads to such outcomes. In general, the adaptive effects of harmonious passion take place through authentic self-processes, whereas those that come from obsessive passion are mediated largely through ego-derived processes.

Fourth, there is a paucity of research on the determinants of passion in sport and physical activity. The little research available reveals that social and personal variables that support the person's autonomy foster the development and maintenance of harmonious passion (e.g., Lafrenière et al., 2008; Mageau et al., 2009; Vallerand et al., 2006). Conversely, controlling behaviors and environments that thwart the individual's need for autonomy contribute to the development and maintenance of obsessive passion. Finally, a last

conclusion is that the available research provides strong support for the DMP. This model would appear to represent an appropriate framework to aptly describe the phenomenological experiences, pro-

cesses, and outcomes that sport participants and exercisers go through when engaging in the sport or physical activity that they love and to pave the way to exciting new research.

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