

On the Development of Harmonious and Obsessive Passion: The Role of Autonomy Support, Activity Specialization, and Identification With the Activity

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ABSTRACT Recent research (Vallerand et al., 2003) has supported the existence of two types of passion for activities: a harmonious and an obsessive passion. The purpose of this investigation was to study the processes likely to lead to the development of passion. Three studies using correlational and short-term longitudinal designs with varied populations ranging from beginners to experts reveal that identification with the activity, activity specialization, parents' activity valuation, and autonomy support predict the development of passion. Furthermore, results show that children and teenagers whose environment supports their autonomy are more likely to develop a harmonious passion than an obsessive one. Conversely, children and teenagers who highly value activity specialization, who rely heavily on their activity for self-definition, and whose parents highly value the activity are more likely to develop an obsessive passion.

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In recent years, research in positive psychology (Seligman & Csikszentmihalyi, 2000) has underscored the importance of identifying the factors and processes that make life worth living. As part of this overarching perspective, Vallerand and his colleagues (2003) have proposed that the concept of passion toward activities may contribute to optimal functioning and nurture a joy of living. Yet research on passion has shown the existence of two forms of passion, a harmonious passion that is associated with adaptive outcomes and a more obsessive passion that is associated with less adaptive and at times maladaptive consequences (see Ratelle, Vallerand, Mageau, Rousseau, & Provencher, 2004; Séguin-Lévesque, Laliberté, Pelletier, Blanchard, & Vallerand, 2003; Vallerand et al., 2003). Although emerging research has looked at the consequences of passion, no research to date has dealt with the development of passion. The purpose of the present research was to address this issue.

The Concept of Passion

On Passion Toward Activities

Although the concept of passion has generated much interest in philosophy (see Rony, 1990, for a review), it has received little empirical attention in psychology. Most studies on passion pertain to romantic relationships (e.g., Hatfield & Walster, 1978) or focus on concepts akin to passion such as personal interests (e.g., Krapp, 2002), serious play (e.g., Rathunde & Csikszentmihalyi, 1993), vital engagement (e.g., Nakamura & Csikszentmihalyi, 2003), personal expressiveness (Waterman, 1990, 1993, 2004), or undivided activity (Dewey, 1913). Despite their different names, all those concepts have in common an engagement toward an activity, an emotional component attached to the activity, and some kind of valuing of the activity. However, these constructs are limited in that they only apply to positive types of sustained engagement. Yet philosophers and research on intense involvement (e.g., Bonebright, Clay, & Ankenmann, 2000; Dubé, Kairouz, & Jodoin, 1997; Glasser, 1976; Sacks & Sachs, 1981) suggest that both a proactive and reactive form of passion (or activity engagement) can be observed.

On the one hand, Aristotle (see Feertchak, 1996) and René Descartes (1649) argued that passions are positive as long as reason underlies behaviors. In this perspective, passion is perceived as a necessary ingredient for higher achievements (Hegel, as cited in

Feertchak, 1996) and as generating potentially important adaptive and beneficial outcomes (see Paturet, 2001). On the other hand, others (Lagache, 1936; Spinoza, 1953) have argued that passions can lead to negative outcomes when people lose control over their activity engagement. Empirical research on intense involvement also identifies proactive and reactive forms of activity engagement. For example, Sacks and Sachs (1981) propose that people can become addicted to their exercise to the extent that they neglect other life domains (Rudy & Estock, 1990) and experience signs of deprivation when they do not engage in their activity. Yet Glasser (1976) also proposes a positive form of addiction, where people experience feelings of euphoria and flow when doing their activity (e.g., running). Distinctions between commitment and overcommitment (Dubé et al., 1997) and work enthusiasts and workaholics (Bonebright et al., 2000) are other examples of proactive and reactive forms of activity engagement.

Although important, these different lines of research on intense involvement do not constitute theories on passion. Indeed, this research is largely atheoretical, and, consequently, it does not address the psychological processes underlying activity engagement. Recently, Vallerand and his colleagues (2003) proposed a dualistic model of passion, where two types of passion, harmonious and obsessive, are defined. This model is based on previous definitions of positive forms of sustained engagement (Dewey, 1913; Krapp, 2002; Rathunde & Csikszentmihalyi, 1993; Waterman, 1990, 1993, 2004) but also incorporates a more reactive form of activity engagement. As such, it better reflects previous philosophical work on passion and past research on intense involvement than former models. Vallerand and his colleagues rely on Self-Determination Theory (Deci & Ryan, 1985, 2000) to distinguish between a harmonious and an obsessive type of passion and propose that the type of internalization (i.e., autonomous vs. controlled) associated with people's activity engagement influences the type of passion that will emerge. Vallerand and his colleagues' (2003) model also offers a validated measure to assess the two types of passions. This model was thus chosen as the theoretical framework of choice to study passion.

The Dualistic Model of Passion

Vallerand and his colleagues (2003; Vallerand & Houliort, 2003; Vallerand & Miquelon, 2007) define passion as a strong inclination

toward an activity that individuals like (or even love), that they value, and in which they invest time and energy. The dimension of value is especially important for the concept of passion because it separates passionate activities from other interesting but unimportant activities toward which people are intrinsically motivated. In line with Self-Determination Theory (Deci & Ryan, 1985, 2000), Vallerand and his colleagues (2003) further propose that people can value their activity for autonomous or controlled reasons, which results in two distinct types of passion. Self-Determination Theory (Deci & Ryan, 1985, 2000) posits that people are naturally inclined to assimilate and integrate external behavioral regulations in order to experience self-determination. However, for the internalization process to function optimally, people need to be in social environments that nurture innate needs for autonomy, competence, and relatedness. In controlling, overdemanding, and rejecting environments, the integration process is hindered and defensive or self-protective processes will occur. In line with this dialectical view, Vallerand and his colleagues (2003) propose that, depending on the context in which the internalization of behavioral regulations occurs, people will value their activity for more autonomous reasons (because of the inherent satisfaction it brings) or more controlled reasons (because it serves important compensatory functions), which in turn should generate a more harmonious or obsessive passion, respectively.

Harmonious passion is thus hypothesized to result from an autonomous internalization of behavioral regulations. This type of internalization produces a strong, but controllable, desire to engage in the activity, which engenders a sense of volition and personal endorsement about pursuing the activity. The importance of the activity is thus freely accepted without any contingencies attached to it. The activity is coherent with other aspects of the self and is fully integrated in the person's authentic self (Deci & Ryan, 2000). As Self-Determination Theory (Deci & Ryan, 1985, 2000) suggests, such internalization should occur in environments where individuals feel autonomous, connected, and competent. People with a harmonious passion are autonomous in their regulations, and they partake in their passionate activity as well as in other activities with an openness that is conducive to positive experiences (Hodgins & Knee, 2002). The person can thus engage in the activity in a flexible and mindful manner.

On the other hand, obsessive passion is hypothesized to result from a lack of fulfillment of intrinsic needs that leads to the internalization of intra- or interpersonal pressures or both. These pressures can come from contingencies that are attached to the activity (e.g., feelings of social acceptance or self-esteem), from an uncontrollable sense of excitement derived from activity engagement, or from pressuring social environments. Hodgins and Knee (2002) proposed that, in nonsupportive environments, people will develop an ego-invested or false self (Ryan, 1995) that is based on external contingencies. Such ego-invested self-structures in turn serve to defend and protect the person's self-worth. In line with Hodgins and Knee's propositions, Vallerand and his colleagues (2003) suggest that in the case of an obsessive passion, engaging in the activity becomes a substitute for self-worth. As such, the activity is eagerly and enthusiastically pursued because of the reassurance and ego-affirming moments it provides. However, as Hodgins and Knee suggest, when an activity is ego invested it will be rigidly pursued, resulting in less than optimal functioning. When an activity is valued because it serves defensive and protective functions, it is not easily put aside. People with an obsessive passion thus feel compelled to engage in their activity. Their passion must run its course as it comes to control them.

Research on Passion

Research on passion provides support for the Dualistic Model of Passion as well as for the reliability and validity of the Passion Scale (Vallerand et al., 2003). The Passion Scale has two components: a three-item scale that distinguishes between passionate and nonpassionate individuals and two seven-item subscales that assess the relative importance of harmonious and obsessive passion. The three-item scale forms one factor and measures the three components of the definition of passion, namely, activity valuation, love for the activity, and time spent on the activity. The middle of the response scale can be used as the cutoff point to distinguish between passionate and nonpassionate individuals (Vallerand & Houlfort, 2003). The Dualistic Model of Passion (Vallerand et al., 2003) proposes that if one of these criteria is missing, the person's relationship with the activity should not be considered passionate. For example, if a person likes an activity, invests time in it, but does not value it, the

activity can be considered as being intrinsically motivating, but it is not a passion yet. The second part of the scale assesses the phenomenological experience of the two types of passion. The harmonious passion subscale focuses on the openness to experience that people feel when they engage in their activity, whereas the obsessive passion subscale assesses the feeling of obligation and obsession associated with the activity. Exploratory factor analyses showed that the items of the two passion subscales can be separated in two distinct factors. This two-factor solution was then confirmed using confirmatory factor analyses (Vallerand et al., 2003).

The convergent validity of the passion scale was also confirmed. Although qualitatively different, both the harmonious and obsessive subscales measure a more general concept of passion, because they are both positively and equally correlated with liking of the activity, time spent on the activity, activity valuation, and perception of the activity as being passionate (Vallerand et al., 2003; Vallerand & Houliort, 2003). They are also associated with different regulatory styles (Vallerand et al., 2006). People who have more autonomous behavioral regulations also experience a more harmonious type of passion, whereas people who regulate their behaviors mostly in response to external prompts or introjects tend to have a more obsessive passion. These results support the proposition that harmonious and obsessive passion result from an autonomous and controlled internalization of behavioral regulations, respectively.

Finally, the two types of passion are associated with different affective, cognitive, and behavioral outcomes that are theoretically compatible with their conceptual definition. For example, obsessive passion is related to a more rigid and conflicting form of task participation that prevents the person from fully focusing on the task at hand, interferes with the experience of positive affect and flow, and facilitates negative affect during activity engagement (Vallerand et al., 2003). People with a more obsessive passion experience more conflicts with other life activities (Séguin-Lévesque et al., 2003), and they tend to engage in their activity even when circumstances surrounding activity engagement would suggest otherwise (Rip, Fortin, & Vallerand, 2006; Rousseau, Vallerand, Ratelle, Mageau, & Provencher, 2002; Vallerand et al., 2003, Studies 3 and 4). Obsessive passion is also positively correlated with ruminative thoughts about the activity (Ratelle et al., 2004) and lower levels of positive affect (Mageau & Vallerand, 2007) when people are prevented from engaging in it.

In contrast, the affective, cognitive, and behavioral correlates of harmonious passion reflect the more autonomous behavioral regulations underlying this type of passion. Positive relationships have been found between harmonious passion and measures of flow and positive affect experienced during activity engagement (Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005; Vallerand et al., 2003, Study 1; Vallerand et al., 2006) as well as general subjective well-being (Vallerand et al., 2003, Study 2; Vallerand et al., 2007). In addition, harmonious passion is unrelated to negative outcomes such as rumination (Ratelle et al., 2004), rigid persistence (Rip et al., 2006; Vallerand et al., 2003, Study 3) or conflicts with other life domains (Séguin-Lévesque et al., 2003). Instead, people with a harmonious passion display a flexible form of activity engagement, where they persist in the passionate activity only if positive returns are expected. If conditions become permanently negative, behavioral involvement stops.

Overall, research on passion supports the dualistic model of passion (Vallerand et al., 2003). This research is also coherent with Self-Determination Theory research (Deci & Ryan, 1985, 2000), which shows the importance of autonomous regulations for people's psychological well-being. As is the case for autonomous forms of self-regulations (e.g., self-determined motivation, Deci & Ryan, 1985, 2000; self-concordance, Sheldon & Elliot, 1998, 1999; intrinsic goals, Kasser & Ryan, 2001), harmonious passion is related to heightened levels of well-being and optimal functioning. Although passion is similar to these other motivational constructs in that they all reflect autonomous functioning, harmonious passion differs from them both theoretically and empirically. Indeed, harmonious passion refers to activities that are deeply valued by the individual and as such it should have a more profound impact on people's lives than motivation or goals. Empirical evidence confirms that when self-determined motivation and harmonious passion are assessed toward a given activity (i.e., playing football), harmonious passion predicts positive and negative affects above and beyond what is predicted by motivation (Vallerand et al., 2003, Study 2). In addition, although research has just begun to unravel the differences between motivation, self-concordance, intrinsic goals, and harmonious passion, available findings on passion (Vallerand et al., 2003, Study 1) suggest that passion involves identity processes that are not necessarily present in other motivational constructs. For example, people with

high levels of harmonious or obsessive passion tend to perceive the activity as self-defining, whereas people highly motivated toward an activity do not necessarily identify with the activity. Identity processes will be further addressed when we discuss the development of passion.

Finally, research on passion is important because it generates new and exciting research avenues by encouraging researchers to study people's experiences in more extreme contexts. For example, whereas Self-Determination Theory research shows that autonomous motivations (Deci & Ryan, 2000) and goals (Houser-Marko & Sheldon, 2006) are related to persistence toward an activity when people face challenges or boredom, research on passion shows that when circumstances surrounding activity engagement make it ill advised or counterproductive to pursue the activity, autonomously regulated passion will not be related to persistence. Conversely, it is obsessive passion, which involves a more controlled form of regulation, that will predict hazardous or unhealthy persistence (Rip et al., 2006; Vallerand et al., 2003, Study 3). These results are not contradictory because the context in which persistence is measured greatly differs across these different studies. In fact, Self-Determination Theory would predict that more autonomous people are better equipped to evaluate the circumstances surrounding their activity engagement in more extreme contexts and to interrupt their participation when appropriate. Conversely, people motivated through introjects or external demands should persist in the activity as long as the external contingencies that motivate them are present, regardless of contexts. These results nevertheless show that studying passion can offer a new perspective on a given phenomenon and its relationship with autonomously regulated constructs.

On the Development of Passion

The Dualistic Model of Passion (Vallerand et al., 2003) posits that there are four essential elements to the definition of passion: activity valuation; liking of the activity; time spent on the activity, which are common to both types of passion; and the internalization process (autonomous vs. controlled), which distinguishes between harmonious and obsessive passion. Vallerand and his colleagues (2003) propose that personal and contextual factors that influence these elements should contribute to the development of passion. Whereas

an increasing amount of research has looked at the differential impact of harmonious and obsessive passion on various outcomes, very little research has tested the variables involved in the development of passion. The present paper focuses on three personal and contextual variables (i.e., identification with the activity, participants' and parents' preferences for activity specialization, and parents' valuation of the activity) that should influence participants' passion through their hypothesized impact on activity valuation and time spent on the activity. Furthermore, building on Self-Determination Theory research (Deci & Ryan, 1985, 2000) and more specifically on Grolnick and her colleagues' (Grolnick & Ryan, 1989; Grolnick, Ryan, & Deci, 1991) work on the impact of autonomy support on the internalization process, we examine whether the quality of the interpersonal context (i.e., autonomy-supportive vs. controlling) distinguishes the two types of passion.

Identification with the activity. Vallerand and his colleagues (2003) suggest that a person's identification with the activity, through its impact on activity valuation, is one of the key processes through which an interesting activity becomes a passion. When an activity greatly resonates with a person's sense of self, that person begins to think of himself or herself in terms of this activity (Aron, Aron, & Smollan, 1992). It is hypothesized that individuals who come to see an activity as contributing to their identity (Schlenker, 1985), or as having the potential to do so either in the short or long term, are likely to value the activity, spend time engaging in it, and thus become more passionate toward it. Identity refers to an individual's relevant features, characteristics, and experiences; how these are interrelated; as well as the social and self-regulation functions that such features serve (Schlenker, 1985). Identity images are hypothesized to affect the person's thoughts, affect, and behaviors as a function of their centrality, importance, and salience (e.g., Cantor & Mischel, 1979; Greenwald, 1980; Markus, 1977). Passions are assumed to come from important identity images, and as such they become part of who people are. People with a passion for swimming or for writing do not merely swim or write. They are "swimmers" or "writers."

In his work on personal expressiveness, a concept similar to harmonious passion, Waterman (1990, p. 47) also proposed that personally expressive activities involve "a feeling of special fit or meshing with an activity" and "an impression that this [activity] is

what the person was meant to do.” Waterman further suggests that personally expressive activities are activities that are consistent with a person’s true self. Adding to this line of work, we propose that a person can also strongly identify with an activity for non-self-determined reasons, such as external contingencies or defensive mechanisms (Hodgins & Knee, 2002), resulting in another, more obsessive type of passion. Research on passion conducted with college students confirms that both types of passion are positively correlated with a measure of activity inclusion in the self (e.g., Aron et al., 1992), although this relationship is stronger for obsessive passion (Vallerand et al., 2003). The present paper aims at replicating this relationship with more diverse samples.

Participants’ and parents’ preference for activity specialization and parents’ activity valuation. Another factor that should influence the valuation of the activity is people’s values regarding the importance of specializing in a given activity. Although this hypothesis is more exploratory, it makes sense to think that people who strongly believe in values of dedication and excellence should be more likely to focus on one specific activity. Such focused attention should increase time spent on the activity as well as the activity’s value, thus influencing passion. In addition, the social environment should also play an important role in leading children to value a given activity and spend time engaging in it (Eccles & Wigfield, 2002). According to Bloom (1985a), parents’ involvement in children’s participation is crucial to the development of expert-level performers because parents create a context where children can engage in deliberate practice, which, in interaction with children’s initial talent, leads to higher levels of performance. Other researchers have also underscored the importance of parental involvement at the beginning of children’s participation (Snyder & Spreitzer, 1973; Spreitzer & Snyder, 1976) and in maintaining activity involvement (Brown, Frankel, & Fennell, 1989). In the present paper, we argue that significant others who underscore the value of the activity and encourage specialization in this activity should influence children’s valuation of the activity, increase time spent on the activity, and thus facilitate the development of passion toward the activity.

Autonomy support. Although parental involvement has most often been discussed as a unidimensional construct, parents and adults in

general have been known to create different contexts of activity engagement through the quality of their involvement (Grolnick, Benjet, Kurowski, & Apostoleris, 1997). Whereas some highly involved parents may be perceived by their children as being overinvolved, other equally involved parents are viewed as being involved just enough (Stein, Raedeke, & Glenn, 1999). Parents' overinvolvement has been linked to athletes' stress and burnout (Brustad, 1988; Gould, Tuffey, Udry, & Loehr, 1997; Scanlan, Carpenter, Lobel, & Simons, 1993; Stein et al., 1999). Yet, as Stein and his colleagues (1999) and others (e.g., Weiss & Hayashi, 1995) have suggested, overinvolved parents do not necessarily devote more time to their children than other parents; it is the quality of their involvement that differs. Focusing on the quality of involvement, Grolnick and Ryan (1987, 1989) proposed that highly involved parents (or coaches) differ from overinvolved ones with respect to the amount of autonomy support (vs. control) they convey. Adults can either support or thwart children's perception of autonomy, which in turn enhances or impedes children's internalization process and general psychological functioning.

The autonomy-supportive style refers to adults who consider children to be separate individuals having the right and the need to express their feelings and preferences. Autonomy-supportive adults place value on self-initiation and encourage choice and participation in decision making. They also acknowledge the child's feelings and explain the reasons behind their rules and demands (see Mageau & Vallerand, 2003, for a review of autonomy-supportive behaviors). Conversely, a controlling style refers to adults who place value on control, applying pressures to make children think, feel, and behave in specific ways. Decades of research now support the beneficial influence of autonomy support on children's development. For example, autonomy support from parents, teachers, and coaches has been repeatedly related to enhanced interest (e.g., Grolnick & Ryan, 1987), intrinsic motivation (e.g., Black & Deci, 2000), creativity (Koestner, Ryan, Bernieri, & Holt, 1984), perceived school competence (e.g., Grolnick & Ryan, 1989), and school performance (e.g., Boggiano, Flink, Shields, Seelbach, & Barrett, 1993), whereas controlling behaviors were shown to impede these positive outcomes.

Of particular interest to the present paper, autonomy support has been repeatedly related to more autonomous forms of internalization of behavioral regulations (e.g., Black & Deci, 2000; Grolnick & Ryan,

1989; Grolnick et al., 1991). Because autonomous and controlled regulations are hypothesized to differentiate between the two types of passion, the social context, through its impact on the internalization process, should also influence the type of passion that will develop. Specifically, autonomy-supportive adults should foster harmonious passions by creating a context of exploration and choice, where children can freely endorse the importance of the activity. Conversely, controlling adults are hypothesized to set the stage for the development of obsessive passions by imposing additional pressures and creating self-activity contingencies.

The Present Research

Bloom (1985a, 1985b) suggested that activity engagement can be divided into three phases, the novice, intermediate, and expert phases, and that motivation and persistence in each of these phases are influenced by different variables. We hypothesized that the determinants (or correlates) of passion may also differ across these stages. We thus sought to predict passion in samples representing each of Bloom's (1985b) phases of activity engagement. Bloom's first phase is characterized by the person's introduction to the activity and involves mostly exploration and play. The second phase begins with the start of instruction in the activity and consists of an extended period of deliberate practice. This second level typically takes place after several months of activity involvement. Finally, the third phase starts when the person pursues the activity on a full-time basis and demonstrates expert-level performance. Studies 1 and 2 of the present paper involve expert and intermediate performers, respectively, and Study 3 focuses on children who had never engaged in the activity prior to the study (novice performers). Using the first part of the passion scale, which measures the operational definition of passion (an activity that one loves, finds important, and engages in on a regular basis; Vallerand et al., 2003), we distinguished participants who were passionate from those who were not at each of the three phases. Participants were divided using the middle of the response scale as the cutoff point, such that the number of passionate versus nonpassionate people could be compared across studies. It was hypothesized that most performers at the expert and intermediate levels (Studies 1 and 2) would be passionate because of the high in-

volvement it entails, whereas the reverse trend was expected in the novice sample (Study 3).

More harmoniously passionate and obsessively passionate individuals were identified using their relative standardized scores on the two passion subscales. This strategy was used because most passionate individuals strongly endorse the passionate items from both subscales, making it impossible to distinguish “pure” harmoniously passionate people (those who did not also endorse items from the obsessive subscale) from “pure” obsessively passionate people without losing the majority of the sample to a mixed group. Groups were thus formed by creating two equally large passionate groups in each sample, those who were *relatively* more harmonious and those who were *relatively* more obsessive.¹

Using personal/contextual variables and discriminant function analyses, we then differentiated nonpassionate individuals from passionate ones as well as distinguished between more harmonious and more obsessive passionate people. Specifically, we investigated people’s identification with the activity (Studies 1 and 3), their preference for activity specialization (Studies 2 and 3), and their significant others’ preferences for activity specialization (Studies 2 and 3), valuation of the activity (Study 3), and autonomy support (all three studies) as potential determinants of passion in general and harmonious and obsessive passion in particular.

STUDY 1

The purpose of Study 1 was to test some of the above hypotheses about the determinants (or correlates) of passion in an expert sample. Following Bloom’s (1985b) propositions, people were considered to be in the expert phase if they had been performing their activity for several years, if they devoted a considerable amount of

1. Using a group approach was essential to examine differences between nonpassionate, harmoniously passionate, and obsessively passionate individuals. In the past, research on passion has focused on correlates of the two passion subscales. Although valid, this approach investigates differences between people who have high scores on one type of passion (harmonious or obsessive) and those who do not. More harmoniously passionate people are thus never actually compared to more obsessively passionate ones. By predicting group membership, the present research offers a new way to look at possible differences between nonpassionate, harmoniously passionate, and obsessively passionate individuals.

time to it, and if they displayed high-level performance. Much research suggests that people who reach the expert level have on average of 10 years of deliberate practice in the activity (e.g., Ericsson & Charness, 1994). Such was the case of the participants in the present study. We hypothesized that most if not all participants would be passionate for their activity and that harmoniously passionate experts could be distinguished from obsessively passionate ones on the basis of the level of autonomy support they experienced in their social environment and the sense of identity they derived from their passionate activity. People's social environment included coaches (or music teachers) as well as parents because both sources of influence have been shown to affect people's activity engagement (e.g., Ommundsen & Vaglum, 1991). Because autonomy-supportive context is associated with a more autonomous internalization process, it was predicted that experts with a harmonious passion should have a more autonomy-supportive environment than experts with an obsessive passion. Furthermore, although identification with the activity should influence both types of passion through its impact on people's activity valuation and time spent on the activity, it was hypothesized that identification with the activity may differentiate between harmonious and obsessive passion at the expert level. People who define themselves solely on one activity might be more at risk to be overly dependent on their activity for self-definition, thus developing a more obsessive type of passion. This hypothesis is in line with past research that shows that obsessive passion is more strongly related to identification measures than harmonious passion (Vallerand et al., 2003, Study 1)

Method

Participants and Procedure

The sample was composed of 84 musicians and 145 athletes (i.e., 116 swimmers and 29 skiers) with a mean age of 19.6 years (range = 12 to 38 years old). These 144 women and 85 men displayed full-time commitment toward their activity and an expert-level performance. Most athletes practiced their sport at the national level and most musicians were playing a musical instrument at the bachelor degree level in a highly selective faculty of music. They had been competing or publicly performing for an average of 9 years and 8 months (range = 1 year and 6 months to 26 years) with only 3 participants reporting under 3 years of experience. On average, participants were practicing 20.9 hours a week.

Participants were contacted at summer training camps, where they completed a 20-min survey.² For swimmers, the data collection took place at a national competition during the summer. Musicians were participants at an international summer music camp, and skiers completed the surveys during their training camp. All participants signed an informed consent form and received \$10 (Canadian) upon return of the questionnaire.

Measures

Participants completed measures of passion, sense of identity derived from the activity, and perceived autonomy support from social surroundings. Demographic variables such as age and gender were also measured, along with competitive or public performance experience, weekly practice, and level of activity engagement (e.g., national level). *Harmonious and obsessive passions* were measured using the Passion Scale (Vallerand et al., 2003). Participants were first asked to think about their activity and then to complete the two sections of the Passion Scale according to it. The first component assesses the extent to which people have a passion for the activity. The level of passion is measured with the mean of the three criterion items dealing with the definition of passion. Specifically, participants are asked to report the extent to which they value the activity, devote time and energy to it, and love it. These three items were intercorrelated in the present study ($\alpha = .71$; see Table 1). The second component of the Passion Scale assesses harmonious and obsessive passions with two seven-item subscales. A sample item for harmonious passion is "My activity is in harmony with the other activities in my life," and a sample item for obsessive passion is "I have a tough time controlling my need to do this activity." The Passion Scale has been shown to be structurally sound, theoretically valid, and reliable (Vallerand et al., 2003). In the present study, the two types of passion showed adequate reliability, as indicated by Cronbach's alphas of .77 and .82 for harmonious and obsessive passions, respectively. The *sense of identity derived from the activity* was measured using two items. The first item consisted of presenting participants with seven pairs of overlapping Venn-like diagrams (Aron et al., 1992), where one circle represented the person ("ME") and the other the activity ("ACTIVITY"). Each pair of circles differed in the percentage of overlap they shared. Whereas the first pair did not overlap, the seventh pair represented close to total overlap. Participants were asked to select the diagram that best described the degree to which the activity was a central part of who they were. This item had been successfully used in previous research (Vallerand et al., 2003, Study 1). The sec-

2. All three studies were conducted in French.

Table 1
Study 1: Means and Standard Deviations for the Two Passion Groups and Correlations Between All Variables

Variables	Means (<i>SD</i>)		Total (<i>N</i> = 229)										
	Harmoniously Passionate (<i>n</i> = 114)	Obsessively Passionate (<i>n</i> = 115)	α	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Harmonious passion	5.99 (0.61)	5.37 (0.94)	.77	—	.53***	.54***	.53***	.31***	.05	.08	.04	.32***	.27***
2. Obsessive passion	4.06 (1.13)	5.03 (1.12)	.82	—	.43***	.43***	.39***	.36***	-.03	.14*	-.04	.50***	.06
3. Love for the activity	6.34 (0.94)	6.12 (1.11)	—	—	—	—	.63***	.29***	-.01	.10	.06	.13*	.23***
4. Activity valuation	6.54 (0.82)	6.31 (0.83)	—	—	—	—	—	.41***	-.02	.08	.04	.25***	.12
5. Time investment	6.26 (1.03)	6.34 (1.04)	—	—	—	—	—	—	-.14*	.31***	.05	.12	.09
6. Competitive or public performance experience (years)	10.0 (4.2)	9.3 (3.7)	—	—	—	—	—	—	—	.08	.38***	-.08	.10
7. Practice (hours per week)	20.5 (7.7)	21.3 (7.5)	—	—	—	—	—	—	—	—	.25***	.01	.13
8. Level (3 = national level)	3.2 (0.76)	3.1 (0.81)	—	—	—	—	—	—	—	—	—	-.14*	.14*
9. Sense of identity derived from the activity (standardized)	-.06 (0.89)	0.15 (0.81)	.67	—	—	—	—	—	—	—	—	—	-.04
10. Perceived autonomy support from social network	5.64 (0.79)	5.28 (0.84)	.63	—	—	—	—	—	—	—	—	—	—

p* < .05, **p* < .001.

ond item asked participants to evaluate, in percentage, the degree to which the activity defined who they were. Both the diagram and percentage items were correlated ($r = .51$). They were thus standardized and averaged to create a single score of identification with the activity. *Perceived autonomy support* was measured with a five-item scale. This measure evaluated whether parents and coaches were perceived as supporting participants' autonomy regarding their activity. A sample item is "In my relationship with my parents, I have a say in what happens and can voice my opinions regarding my activity." Participants were asked to rate the extent to which each item was true for them using a 7-point Likert-type scale, which ranged from 1 (*not at all true*) to 7 (*very true*) ($\alpha = .63$).

Results and Discussion

In line with previous research (Vallerand & Houliort, 2003), a two-step procedure was used to create three different groups: nonpassionate, harmoniously passionate, and obsessively passionate. First, the three criteria of passion (i.e., activity valuation, time investment, and love for the activity; Vallerand et al., 2003) were used to differentiate between the nonpassionate and passionate people.³ Individuals whose mean score on the three passion criteria was situated at midpoint or above on the response scale were classified as passionate. As would be expected, results showed that 100% of the present sample of expert performers was passionate about their activity.

Second, harmoniously passionate people were differentiated from the obsessively passionate ones by comparing standardized scores on the two passion subscales. People were classified in the passion group corresponding to their highest standardized score on the two subscales (see Vallerand & Houliort, 2003). The scores were standardized because, although most people scored higher on the harmonious subscale than on the obsessive subscale, some people scored noticeably higher on obsessive passion than other people. Standardizing the scores allowed us to capture these between-subject differences and classify people in their appropriate passion group (see Koestner & Zuckerman, 1994, for a similar procedure).⁴ The harmonious and

3. Correlations confirmed that both harmonious and obsessive passion are strongly and significantly related to the three passion criteria of activity valuation, time investment, and love for the activity in all three studies (see Tables 1, 3, and 5).

4. Dividing participants into four groups using the median on the harmonious and obsessive subscales would yield the following group sizes: relatively nonpas-

obsessive passion groups did not differ as a function of age, gender, competitive or public performance, levels of performance, and number of hours of weekly practice. Means and standard deviations for each group, as well as correlations between all variables, are presented in Table 1.

Finally, a discriminant function analysis was performed in order to distinguish between the harmonious and obsessive passion groups. Results revealed one significant discriminant function, Canonical Correlation = .24, Wilks's $\Lambda = .94$, $\chi^2(2) = 13.16$, $p < .001$, which showed that perceived autonomy support and a sense of identity derived from the activity separated the obsessively passionate from the harmoniously passionate group. These results are presented in Table 2. Correlations between the predictors and the discriminant function showed that the harmoniously passionate individuals were more likely to experience higher levels of autonomy support from their social environment (.87) than those in the obsessive passion group. Conversely, the more people derived a sense of identity from their activity ($-.51$), the more likely they were to have an obsessive passion.

The present results highlight three major points. First, they suggest that adult autonomy support is higher for harmoniously passionate experts than obsessively passionate ones. Social environments that provide autonomy support may thus serve to promote harmonious passion at the expert level. Conversely, controlling adults who directly pressure others to pursue an activity or to engage in it in certain ways may set the stage for a more obsessive form of passion. The second important finding of this study is that

sionate group = 73, harmoniously passionate group = 35, obsessively passionate group = 42, and mixed group = 79. As can be observed, most passionate people strongly endorse the items from both subscales and cannot be differentiated. Comparing the harmoniously passionate group to the obsessively passionate group while ignoring the mixed group would thus result in an important loss of power. Furthermore, if this procedure were used, nonpassionate individuals would no longer be nonpassionate in absolute terms but relative to other participants in the sample. Consequently, the number of passionate versus nonpassionate people would no longer be comparable across samples. For these reasons we chose to distinguish passionate individuals from nonpassionate ones using an *absolute* criteria (the response scale midpoint) and to study the *relative* differences between harmonious and obsessive individuals using standardized scores on the two passion subscales.

Table 2
Results of Discriminant Function Analysis of Passion Groups for the Three Studies

Predictors	Study 1		Study 2		Study 3		
	Correlations of Predictors With Discriminant Functions		Correlations of Predictors With Discriminant Functions		Correlations of Predictors With Discriminant Functions		
	Obsessive Passion (–)	Univariate $F(1, 223)$	Harmonious Passion (+) vs. Obsessive Passion (–)	Discriminant Functions	Function 1	Function 2	
Sense of identity derived from the activity	-.51	3.55, $p < .06$	—	—	.70	-.05	18.53, $p < .001$
Child's preference for activity specialization	—	—	-.41	3.27, $p < .07$	.50	-.21	9.49, $p < .001$
Parent's preference for activity specialization	—	—	-.72	9.98, $p < .01$	.47	-.01	8.22, $p < .001$
Perceived valuation of the activity by parents	—	—	—	—	.82	-.39	26.34, $p < .001$
Autonomy support from significant others	.87	10.22, $p < .01$	.54	5.66, $p < .05$	.36	.88	8.91, $p < .001$
Canonical R	.24		.37		.55	.24	
Eigenvalue	.06		.16		.43	.06	

Note. Correlations lower than .3 were not interpreted.

people with an obsessive passion seem to derive a higher sense of identity from their activity than people with a harmonious passion. It might be that people with an obsessive passion no longer see their activity engagement as a choice but rather as a way to maintain their identity. This finding is consistent with previous results where it has been shown that although both types of passion are related to one's identity, the correlation is stronger for obsessive passion (Vallerand et al., 2003, Study 1). Finally, the present results reveal that 100% of Study 1's sample of expert performers was passionate. This suggests that passion might play an important role in sustaining people's efforts in reaching expert levels, thereby reinforcing the importance of studying the development of passion.

STUDY 2

The results of Study 1 showed that autonomy support was higher for the harmonious than the obsessive passion group. However, it should be noted that autonomy support was assessed through a *perceived* autonomy support scale completed by the participants themselves and not directly by the adults in their social environment. Because of potential response biases in participants' responses, the first purpose of Study 2 was to replicate Study 1's findings using a parental autonomy support scale completed by the parents themselves.

The second purpose of Study 2 was to test the role of autonomy support in harmonious and obsessive passion with participants who corresponded to Bloom's (1985b) intermediate phase of activity engagement. Such performers typically have been involved in their activity for several months (and even a few years), have received formal instruction on their activity, and have started to engage in deliberate practice. In line with Study 1's results, it was hypothesized that these performers would be highly passionate, thus allowing us to further study the distinction between harmonious and obsessive passion. It was predicted that children whose parents engaged in autonomy-supportive behaviors with respect to the passionate activity would be more likely to experience a harmonious than an obsessive passion toward their activity.

The final purpose of Study 2 was to examine preference for activity specialization, which should influence passion through its impact on activity valuation and time spent on the activity. It was

expected that the more children valued activity specialization, the more they should develop a passion toward their activity. However, it was expected that one's preference for activity specialization may also differentiate between harmonious and obsessive passion. Indeed, we hypothesized that children who tend to neglect other areas of their lives in order to specialize in their passionate activity might be more at risk of developing an obsessive type of passion because they might become overly dependent on their activity for self-definition. Adults should also play an important role in guiding children toward activities that they themselves value. It was expected that parents who encourage specialization in a given activity would encourage children to become passionate for the activity. However, as children progress in proficiency in the activity, their parents' encouragement to focus on the activity may be perceived as external pressures to engage in the passionate activity, which should lead to a more obsessive passion by linking social approval to the child's activity engagement. Measures of the activity as being part of one's identity were not included in Study 2 because several participants would have been too young to understand the measure.

Method

Participants and Procedure

The sample was composed of 163 children and teenagers (88 girls and 75 boys) with a mean age of 11 years (range = 6 to 16 years old), who had been involved in a particular activity (e.g., learning sciences, dancing, exploring nature) for some time and who had registered in a summer camp specialized in their activity. When not at camp, children generally engaged in their activity 1.9 times a week and had on average of 3 years and 10 months of experience with their activity. The children and their parents were contacted through the summer camp directors. Parents who agreed to have their child engage in the study received a questionnaire and a consent form by mail. Children were met at their summer camp during a free-time period, where they were asked to complete a questionnaire. Finally, a total of 111 mothers and 38 fathers participated in the study (mean age = 42 years; range = 32 to 58 years old).

The children's questionnaire. The children's questionnaire contained measures of passion, preferences for activity specialization, previous experience with the activity, frequency of activity engagement, age, and gender. The *Passion Scale* (Vallerand et al., 2003) described in Study 1

was adapted for younger children for the purpose of the present study. Subscales and the answer scale were shortened and items were simplified to facilitate comprehension. Children were asked to think about and name the activity they were doing at camp (i.e., learning sciences, dancing, or exploring nature). They were then asked to indicate the extent to which each item was true for them regarding this activity on an answer scale ranging from 1 (*not true at all for me*) to 4 (*very true for me*). As was the case for the adult version of the scale, the presence of passion was measured by asking children to rate the extent to which they devoted time to the activity, found it important, and loved it. These three items correlated with each other ($\alpha = .73$; see Table 3). Harmonious and obsessive passions were measured with four items each. A sample item for harmonious passion is "This activity goes well with the other activities in my life (e.g., school, friends, family, etc.)" ($\alpha = .60$), and a sample item for obsessive passion is "Something inside of me makes me do this activity" ($\alpha = .66$). *Children's preference to specialize* was assessed using a three-item scale that asked children to report the extent to which they believed it was important to fully focus on their favorite activity even if that meant putting some other activities aside. Children indicated how much each item was true for them using the same response scale as the one used with the Passion Scale. A sample item is "In my free time, I'd rather give up some activities in order to have more time to do my favorite activity" ($\alpha = .69$).

The parents' questionnaire. Parents (i.e., one parent per child) completed a questionnaire dealing with their own behaviors and preferences. For each scale, parents were asked to rate the extent to which they agreed with each item using a 7-point Likert-type scale, which ranged from 1 (*do not agree at all*) to 7 (*very strongly agree*). Demographic variables such as age and gender were also measured. *Autonomy-supportive parental behaviors* were assessed using a six-item scale. Autonomy-supportive individuals (1) provide as much choice as possible within specific limits; (2) provide a rationale for tasks, limits, and rules; and (3) inquire about and acknowledge others' feelings (Koestner et al., 1984). In the present study, each of these behaviors was assessed with two items. Sample items are "I offer my child many opportunities to make his (her) own choices regarding this activity" (providing choice), "I sometimes explain to my child the usefulness of this activity" (providing a rationale), and "I sometimes openly consider my child's thoughts and feelings even though they differ from mine" (acknowledging the other person's feelings and perspective; $\alpha = .71$). *Parental preference for activity specialization* was measured using a six-item scale. Specifically, this measure assessed the extent to which parents wished that their child would choose and focus on their passion-

Table 3
Study 2: Means and Standard Deviations for the Two Passion Groups and Correlations Between All Variables

Variables	Means (<i>SD</i>)		Total (<i>N</i> = 163)									
	Harmoniously Passionate (<i>n</i> = 73)	Obsessively Passionate (<i>n</i> = 72)	α	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Harmonious passion	3.56 (0.33)	3.20 (0.44)	.60	—	.30***	.60***	.53***	.45***	.01	-.21**	-.04	.13
2. Obsessive passion	1.42 (0.40)	2.13 (0.58)	.66	—	.29***	.43***	.30***	.14	.07	.18*	-.14	-.14
3. Love for the activity	3.77 (0.43)	3.64 (0.51)	—	—	—	.49***	.42***	.01	-.18*	-.08	.11	.11
4. Activity valuation	3.16 (0.80)	3.25 (0.77)	—	—	—	—	.49***	.18*	-.11	.08	.01	.01
5. Time investment	2.99 (0.87)	2.96 (0.76)	—	—	—	—	—	.14	-.01	.12	.11	.11
6. Frequency of participation (times per week)	1.7 (1.9)	2.3 (2.1)	—	—	—	—	—	—	-.03	.16	.05	.05
7. Child's preference for activity specialization	1.49 (0.63)	1.75 (0.69)	.69	—	—	—	—	—	—	.12	-.02	-.02
8. Parents' preference for activity specialization	2.46 (0.83)	2.91 (0.82)	.71	—	—	—	—	—	—	—	.02	.02
9. Parental autonomy support	5.15 (1.07)	4.73 (0.86)	.71	—	—	—	—	—	—	—	—	—

p* < .05, *p* < .01, ****p* < .001.

ate activity and put aside other less important activities. A sample item is "I believe it is preferable that my child sacrifices some things in order to excel in one activity" ($\alpha = .71$).

Results and Discussion

Using the same two-step procedure as in Study 1, children were classified in one of three different groups: nonpassionate, harmoniously passionate, and obsessively passionate. It was expected that most children would be passionate toward their activity because they had been selected for their sustained engagement in their activity. Results showed that 145 children were considered passionate (i.e., 73 harmoniously and 72 obsessively passionate), and only a few were not ($n = 13$; 5 participants had missing values on the passion criteria).⁵ Subsequent analyses focused on the distinction between harmoniously and obsessively passionate children because nonpassionate people were largely underrepresented (92% of passionate vs. 8% of nonpassionate participants). The data of the nonpassionate children were thus discarded from the analyses. No differences were found between the harmonious and obsessive passion groups in age, gender, and weekly engagement in the passionate activity. Means and standard deviations for each group, as well as correlations between all variables, are presented in Table 3.

Similarly to Study 1, a discriminant function analysis was performed to distinguish between harmoniously and obsessively passionate children using parents' report of autonomy-supportive behaviors and parents' and children's preferences for activity specialization as predictors. Results revealed one significant discriminant function, Canonical Correlation = .37, Wilks's $\Lambda = .86$, $\chi^2(3) = 17.83$, $p < .001$, which showed that the predictors could significantly separate the two passion groups. Results from the discriminant function analysis are presented in Table 2. Correlations between the predictors and the discriminant function showed that children in the harmonious passion group had parents who were more supportive of their autonomy (.54) than those in the obsessive passion group. Conversely, children in the

5. Dividing participants into four groups using the median on the harmonious and obsessive subscales would yield the following group sizes: relatively nonpassionate group = 31, harmoniously passionate group = 11, obsessively passionate group = 31, and mixed group = 29 (61 participants were situated at the median and could not be classified).

obsessive passion group and their parents both valued specializing in one particular activity more than children in the harmonious passion group and their parents (child's preference for activity specialization = $-.41$; parent's = $-.72$).

The present results nicely replicate the findings of Study 1, this time using parents' own report of their autonomy-supportive style. It thus appears that children who engage in an enjoyable activity under parental autonomy-supportive conditions may be more likely to experience a harmonious relative to an obsessive passion toward the activity. In addition, although correlational in nature, the present findings extend those of Study 1 in showing that to engage in activity specialization during the second phase of talent development might also promote obsessive passion. Of particular interest is the finding that both parents and children's measures yielded the same results. It may very well be that parents' beliefs about the importance of specializing in one activity are internalized by the children, which then facilitates a more obsessive passion.

STUDY 3

Taken together, results of Studies 1 and 2 suggest that passion may be implicated in sustaining activity engagement for several years. Indeed, the vast majority of individuals involved in a specific activity for a significant period of time displayed at least a moderate level of passion. Furthermore, identification with the activity (Study 1), preference for activity specialization (Study 2), and autonomy support (Studies 1 and 2) distinguished between harmonious and obsessive passion. The purpose of Study 3 was to replicate these results by assessing all three variables in a short-term longitudinal study. In addition, we wished to study the conditions that facilitate the development of passion (vs. no passion) at the initial phase of activity engagement (Bloom, 1985b). To reach this goal, we asked a sample of junior high school students who had no prior experience with a specific activity (i.e., playing a musical instrument) to participate in a study involving three times of measurement. By following participants who were registered in their first music class over the course of their first semester, we sought to predict who would develop a passion for music at the end of the term and, among those who did, predict those who would develop a harmonious or an obsessive pas-

sion. It was hypothesized that at the novice stage, identification with the activity, parents' and children's preference for activity specialization, and autonomy support from parents and music teachers would be conducive to the development of a passion toward music at the end of the term, 5 months later. We also assessed the extent to which parents value their children's activity as an additional predictor of passion. According to Bloom (1985b), parents channel their children's involvement toward activities that they themselves value, and we wished to test this additional hypothesis.

Furthermore, in line with Studies 1 and 2, it was hypothesized that high autonomy support from close adults (parents and music teachers) would be conducive to the development of a more harmonious passion. We also predicted that variables that focus the child on one particular activity (i.e., activity specialization and parents' activity valuation) should result in more obsessive passion because these variables can become additional pressures to engage in the activity. However, contrary to Study 1, we were not sure whether identification with the activity would predict the occurrence of obsessive passion because it might be too early to witness overidentification toward the activity at the novice level.

Method

Participants and Procedure

The sample was composed of 196 junior high school students (96 girls, 96 boys, and 4 participants who did not specify their gender; $M = 12$ years; range = 11 to 15 years old) who had never played a musical instrument before. Music teachers from different high schools in the Montreal area were contacted and asked permission to meet their first-year students. Students were asked to participate in a three-wave short-term longitudinal study, where their attitudes toward playing a musical instrument would be examined over a 5-month period (late August to late January). The students who agreed to participate obtained a signed consent form from their parents and completed a 20-min questionnaires in class, one at the beginning, one at midpoint, and a final one at the end of the semester.

Measures

The first questionnaire contained measures of personal variables (identification and preference for activity specialization), which were assessed

during the first or second music class of the semester. The second questionnaire comprised measures of interpersonal variables (perceived autonomy support, perceived parental valuation of the activity, and perceived parental preference for specialization, which were measured 2 months later in the semester). This second questionnaire was assessed later in order to allow interactions to occur between children and their social environment (i.e., the music teacher and parents) with respect to the musical activity. The last questionnaire was completed at the end of the semester and assessed students' passion toward playing a musical instrument. For each scale, students were asked to rate the extent to which they agreed with each item using a 7-point Likert-type scale, which ranged from 1 (*do not agree at all*) to 7 (*very strongly agree*).

Time 1 measures. In the first questionnaire, students were asked about the sense of identity derived from the activity and their preference for activity specialization. Measures of age and gender were also included along with one item pertaining to the students' previous experience with a musical instrument. The *sense of identity derived from the activity* was measured using a four-item scale that assessed whether playing a musical instrument could become an integral part of the students' identity (Schlenker, 1985). A sample item is "If I had to describe myself, I would mention that I play a musical instrument" ($\alpha = .90$). The four-item scale used in Study 2 was used to assess the *teenager's preference for activity specialization* ($\alpha = .73$). This scale measures the extent to which teenagers believed it was important to put some activities aside to focus on one particular activity.

Time 2 measures. Two months later, participants were asked to evaluate their parents' preference for activity specialization, the importance of playing a musical instrument in their parents' eyes, and the level of autonomy support provided by adults in their social environment. Participants were also asked about the number of hours they practiced their instrument each week. *Perceived parental preference for specializing in music* was assessed using a six-item measure that evaluated the extent to which participants perceived that their parents valued their specialization in music as opposed to their involvement in many activities. We were interested in knowing whether teenagers believed that their parents preferred to see them focus on and improve in music or if they would rather see them have more diversified leisure, where they would learn from many different activities. A sample item is "My parents encourage me to devote all my free time to my musical instrument" ($\alpha = .61$). *Perceived valuation for music by one's parents* was assessed using a four-item scale that measured teenagers' perception of the importance of the activity in their

parents' eyes. A sample item is "To play a musical instrument is very important for my parents" ($\alpha = .89$). *Perceived autonomy support* was assessed using an adapted version of Pelletier and Vallerand's (1996) six-item scale. Items were slightly modified to target significant others' (i.e., parents, music teacher) autonomy-supportive behaviors regarding the activity. This measure assessed the extent to which participants felt free to organize and manage their musical practices as they wished as opposed to feeling coerced to practice their musical instrument at specific times. Three items targeted behaviors that convey choice, and three other items measured controlling behaviors. These last three items were recoded to obtain a total score of perceived autonomy support. A sample item is "In general, adults in my social surroundings give me the freedom to practice my musical instrument by myself" ($\alpha = .62$).

Time 3 measures. At the end of the semester (i.e., 5 months after the beginning of the study), participants were asked to report their passion toward music. Participants also reported their amount of weekly practice of their instrument. *The Passion Scale* (Vallerand et al., 2003) described in Study 1 was used. Participants were asked to think about their musical instrument and to complete the scale according to it. Both passion scales showed satisfactory reliability (harmonious passion, $\alpha = .92$; obsessive passion, $\alpha = .91$). The three passion criteria (activity valuation, time investment, and love for the activity) were also completed ($\alpha = .84$).

Results and Discussion

Descriptive Statistics

Using the same two-step procedure as in Study 1, people were classified in one of three groups: nonpassionate, harmoniously passionate, and obsessively passionate. Only 36% of participants developed a passion for their musical instrument over the 5-month period. Specifically, results showed that 70 people were considered passionate at the end of the semester (i.e., 40 harmoniously and 30 obsessively passionate people), and a majority was not ($n = 122$).⁶ The three groups did not differ in age and there were an equal number of men and women in each group. Means and standard deviations for

6. Dividing participants into four groups using the median on the harmonious and obsessive subscales would yield the following group sizes: relatively nonpassionate group = 72, harmoniously passionate group = 28, obsessively passionate group = 23, and mixed group = 73.

each group are presented in Table 4, and the correlations between all variables are presented in Table 5.

In the middle of the semester (Time 2), students reported practicing on average of 90 min each week. Although many did not practice at all (37.8%), about half of the students (46.5%) practiced from 1 to 2 hr per week. Toward the end of the term (Time 3), the mean amount of weekly practice had decreased to a mean of 62 min. This drop in practice level was statistically significant, $F(1, 157) = 10.20$, $p < .01$, but was not related to and did not interact with passion. These findings reveal that harmoniously, obsessively, and nonpassionate students experienced a similar and significant

Table 4
Study 3: Means and Standard Deviations for Each Group

Variables	Means (<i>SD</i>)			α
	Nonpassionate (<i>n</i> = 122)	Harmoniously Passionate (<i>n</i> = 40)	Obsessively Passionate (<i>n</i> = 30)	
1. Harmonious passion	2.43 (1.06)	4.87 (1.02)	4.99 (1.29)	.92
2. Obsessive passion	1.57 (0.65)	2.26 (0.87)	4.29 (1.28)	.91
3. Love for the activity	3.16 (1.73)	6.33 (0.86)	6.23 (0.86)	—
4. Activity valuation	1.79 (0.94)	4.13 (1.54)	4.90 (1.86)	—
5. Time investment	1.81 (0.98)	4.25 (1.41)	5.43 (1.46)	—
6. Practice (hours/week) at Time 2	0.91 (1.53)	2.51 (4.03)	2.48 (2.75)	—
7. Practice (hours/week) at Time 3	0.53 (0.79)	1.62 (2.07)	2.35 (2.81)	—
8. Identification with the activity	2.05 (1.31)	3.15 (1.43)	3.77 (1.59)	.90
9. Teenager's preference for specialization	2.30 (1.26)	2.90 (1.29)	3.53 (1.10)	.73
10. Perceived parental preference for specialization	2.61 (1.13)	3.16 (1.06)	3.70 (1.22)	.61
11. Perceived valuation of activity by parents	1.75 (0.94)	2.71 (1.62)	3.81 (1.68)	.89
12. Perceived autonomy support	5.35 (1.07)	6.10 (0.90)	5.52 (0.95)	.62

Table 5
Study 3: Correlations Between All Variables

Variables	Total (<i>N</i> = 196)											
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Harmonious passion	—	.72***	.77***	.78***	.79***	.30***	.42***	.50***	.39***	.34***	.52***	.22**
2. Obsessive passion	—	—	.50***	.75***	.71***	.25***	.36***	.52***	.42***	.37***	.63***	.02
3. Love for the activity	—	—	—	.60***	.60***	.29***	.37***	.36***	.33***	.22**	.36***	.36***
4. Activity valuation	—	—	—	—	.71***	.26***	.35***	.52***	.38***	.35***	.59***	.11
5. Time investment	—	—	—	—	—	.38***	.46***	.42***	.29***	.31***	.46***	.19**
6. Practice (hours/week) at Time 2	—	—	—	—	—	—	.77***	.24**	.20**	.22**	.20**	.18*
7. Practice (hours/week) at Time 3	—	—	—	—	—	—	—	.32***	.28***	.26***	.29***	.22**
8. Identification with the activity	—	—	—	—	—	—	—	—	.56***	.33***	.54***	.06
9. Teenager's preference for specialization	—	—	—	—	—	—	—	—	—	.18*	.36***	.00
10. Perceived parental preference for specialization	—	—	—	—	—	—	—	—	—	—	.42***	.14*
11. Perceived valuation of activity by parents	—	—	—	—	—	—	—	—	—	—	—	.06
12. Perceived autonomy support	—	—	—	—	—	—	—	—	—	—	—	—

p* < .05, *p* < .01, ****p* < .001.

drop in practice from Time 2 to Time 3. This drop in practice time may have been due to a decrease in the novelty of the activity. Passionate people practiced their musical instrument more than non-passionate people both at Time 2, $F(2, 166) = 8.30, p < .001$, and at Time 3, $F(2, 178) = 17.90, p < .001$. At the end of the semester, non-passionate people practiced their instrument 30 min per week on average, whereas passionate people practiced approximately 2 hr per week (see Table 4 for exact numbers). These results are not surprising, given that passionate individuals are identified in part by asking people how much time they spend on their activity. Of interest is that there was no significant difference in practice time between the harmonious and obsessive passion groups, which seems to suggest that harmonious and obsessive passion lead to similar activity engagement. This finding has been consistently found in the present three studies and is concordant with the assertion of Vallerand and his colleagues (2003) to the effect that both types of passion are related to time and energy investment in the passionate activity.

On the Development of a Passion

A discriminant function analysis was performed to test our hypotheses on the development of passion. Results revealed two significant discriminant functions, Canonical Correlation₁ = .55, Wilks's $\Lambda = .66$, $\chi^2(10) = 72.17, p < .001$; Canonical Correlation₂ = .24, Wilks's $\Lambda = .94$, $\chi^2(4) = 10.34, p < .05$. Examination of the discriminant functions at each group's centroids showed that the first discriminant function distinguished between nonpassionate ($-.47$) and passionate groups (obsessively passionate group = 1.18; harmoniously passionate group = .67). The second discriminant function separated the harmoniously passionate group (.40) from the obsessively passionate group ($-.44$), with the nonpassionate group situated in the middle ($-.04$). Results from the discriminant function analysis are presented in Table 2.

Correlations between the predictors and the first discriminant function showed that early on in the term people who eventually became passionate toward their musical instrument at the end of the term differed from nonpassionate people in that they were more likely to see the possibility of deriving a sense of identity from the activity (.70), they valued activity specialization to a greater extent (.50), their parents shared this preference for specialization (.47), adults in their social surroundings were more supportive of their

autonomy regarding their activity (.36), and finally their parents valued music to a larger extent (.82). Thus, children who identified with the activity, preferred to specialize in an activity, and those whose parents supported their autonomy while valuing the activity and activity specialization were found to have developed a passion for music 5 months later.

Distinguishing Harmonious From Obsessive Passion

The second discriminant function separated people who developed an obsessive passion from those who developed a more harmonious type of passion. Correlations between the predictors and this second discriminant function showed that the quality of significant others' involvement influenced the type of passion that was experienced. Children who developed a harmonious passion by the end of the term had interacted with adults who were more autonomy-supportive (.88) and who valued the activity less ($-.39$) than children who developed an obsessive passion. These results suggest that excessive social pressures to engage in an activity may facilitate obsessive passion. Indeed, controlling parents and parents who highly value the activity seem to facilitate a more obsessive type of passion. Contrary to expectations, preferences for activity specialization at this stage of passion development did not differentiate between the two types of passion. It is probable that at early stages of activity engagement, valuing activity specialization helps the child focus on the activity and does not imply that he or she neglects other life aspects, which in turn facilitates passion in general but not obsessive passion in particular. Finally, identification with the activity was not found to predict the type of passion (harmonious vs. obsessive) that developed over the term. This result suggests that overidentification with the activity might only occur at later stages of passion development.

The Development of Passion: A Cross-Sectional Look

To further explore developmental differences, we compared our novice but passionate musicians ($n = 70$) of Study 3 with our expert musicians ($n = 85$) of Study 1. These two groups were chosen because both completed the same version of the Passion Scale, they were passionate toward their activity, and they were involved with the same activity, namely, playing a musical instrument. Separate

ANOVAs showed that, although both groups were passionate, expert musicians were more passionate in general (in terms of the passion criteria) toward their activity ($M = 6.25$) than beginners ($M = 5.17$), $F(1, 153) = 54.51, p < .001$. Specifically, expert musicians valued their activity to a greater extent (Experts, $M = 6.44$; Beginners, $M = 4.46$) and reported spending more time on it (Experts, $M = 6.04$; Beginners, $M = 4.76$) than novice musicians. However, no difference was found between the two groups on how much they loved the activity, $p = .92$. Expert musicians also practiced much more ($M = 21.02$ hr/week) than beginners ($M = 1.91$ hr/week), $F(1, 148) = 284.09, p < .001$. They were obviously older (Experts, $M = 22.2$; Beginners, $M = 12.1$), $F(1, 275) = 1163.09, p < .001$, but did not differ in gender, $p = .19$. These results are presented in Table 6. These last results underscore the fact that as passion develops through years of involvement in the activity, love for the activity may not be the more dynamic factor at play. Rather activity valuation and time and energy expenditure toward the activity seem to be more important to maintain passion over the years.

Finally, differences between the two types of passion were investigated using a 2×2 mixed design ANOVA, where the two types of passion were entered as within-subject measures and people's level of experience as beginners or experts was included as a between-subject

Table 6
Mean Differences Between Beginning (Study 3) and Expert Musicians (Study 1)

Dependent Variables	Study 3, Beginners ($n = 70$)	Study 1, Experts ($n = 85$)	<i>F</i> Tests
Harmonious passion	5.33	5.69	$F(1, 153) = 4.53, p < .05$
Obsessive passion	3.52	4.82	$F(1, 153) = 41.69, p < .001$
Level of passion	5.17	6.25	$F(1, 153) = 54.51, p < .001$
Activity valuation	4.46	6.44	$F(1, 153) = 89.68, p < .001$
Love for the activity	6.29	6.27	$F(1, 153) = 0.01, p < .92$
Time investment	4.76	6.04	$F(1, 153) = 34.55, p < .001$
Practice (hours per week)	1.91	21.02	$F(1, 148) = 284.09, p < .001$

factor. Results revealed an interaction between the type of passion and people's phases (novice vs. expert), $F(1, 153) = 29.97, p < .001$. Specifically, simple effects showed that while experts were more harmonious ($M = 5.69$), $F(1, 279) = 49.89, p < .001$, and more obsessive ($M = 4.82$), $F(1, 279) = 136.43, p < .001$, than their beginning counterparts (HP, $M = 5.33$; OP, $M = 3.52$), the difference between experts and beginners was more pronounced for obsessive than harmonious passion. These results suggest that as people become more heavily involved in their activity, both types of passion increase, and this increase is particularly important for obsessive passion.

GENERAL DISCUSSION

The purpose of the present research was to study the processes leading to the development of passion in general and harmonious and obsessive passions in particular. In three studies involving novice, intermediate, and expert participants, we predicted who became passionate or not (Study 1) and whether such a passion became harmonious or obsessive (all three studies). As hypothesized by the Dualistic Model of Passion (Vallerand et al., 2003), the present findings underscore the relevance of identification with the activity, autonomy support, preferences for activity specialization, and parents' activity valuation for the development of passion. Additional results also show that interacting with autonomy-supportive adults may facilitate the development of harmonious passion in particular. In contrast, identification with the activity, preferences for activity specialization and parents' activity valuation may at times become additional pressures to engage in the activity and facilitate a more obsessive passion. A number of theoretical implications can be drawn from these results.

On the Development of Passion

First, the present research constitutes an important step toward unfolding the processes underlying the development of passion. The Dualistic Model of Passion posits that variables that increase activity valuation and time spent on the activity, identification with the activity, and autonomy-supportive social environments are key variables for the development of passion. Results of

Study 3 supported these hypotheses using a short-term longitudinal design.

Passions are hypothesized to be strong inclinations toward activities that people like but that they also greatly value and invest time and energy in. Past research (Vallerand et al., 2006; Vallerand & Houliort, 2003) has shown that the two passion subscales are positively and equally related to activity valuation and time spent on the activity. This was also the case in the present three studies. Variables that influence activity valuation and time spent on the activity should thus be important in that they should determine which activity will become passionate and which will not. In the present research, parents' and participants' preferences for activity specialization and parents' valuation of the activity were presumed to influence activity valuation and time spent on the activity, and as such they were hypothesized to influence passion. Results confirm that these variables differentiate between passionate and nonpassionate people, thus suggesting their importance for the development of both types of passion.

Another variable that may hold a key role in the development of a passion is the identification with the activity. Eccles and Barber (1999) have suggested that in the teenage years activity choice is likely to both grow out of and reinforce an emerging sense of identity. Waterman (1990) also proposed that personally expressive activities, a concept similar to that of harmonious passions, are activities that resonate with the person's true self. The present findings are consistent with these propositions. Results from Study 3 showed that in the very first steps of activity involvement, deriving a sense of identity from the activity (or seeing that one could do so eventually) leads to the development of passion months later. These findings suggest that people are likely to develop a passion for an activity that extends an aspect of their identity or pertains to how they can see themselves in the future.

The quality of the social environment is one final variable that distinguishes between passionate and nonpassionate people. As past research has shown (Deci & Ryan, 1987; Grolnick & Ryan, 1989; Koestner et al., 1984; Mageau & Vallerand, 2003), adults who support children's autonomy create optimal conditions of activity engagement where children are free to explore the activity, display creativity, and experience positive affective outcomes. Although correlational in nature, results from Study 3 suggest that passion is yet

another positive consequence of an autonomy-supportive environment. We propose that in controlling settings passion is less likely to materialize because a large portion of children's attention is directed toward meeting others' expectations and not on the activity itself. In line with Csikszentmihalyi's (1975, 1982) theory on flow experiences, children who are distracted from their activity would be less likely to experience flow and other positive consequences during activity engagement. If we take into consideration the fact that adults, and especially parents, typically initiate children to the activity, convey that it is to be valued, and suggest that it may represent a desirable aspect of one's identity, one can start appreciating the important role that parents play in the development of passion in children (see Eccles & Wigfield, 2002).

A second theoretical implication pertaining to the development of passion is that passion seems to follow a dynamic movement over time, as it appears to be more prevalent as people spend an increasing amount of time on the activity. When descriptive analyses of all three studies were compared, important differences were found in the percentage of passionate people across the three samples, which corresponded to the three levels of Bloom's talent development phases. Whereas only 36% of beginners (Study 3) were identified as passionate, 92% of children of Study 2 (who had a mean average of 3 years of experience) and 100% of experts (with approximately 10 years of experience) were found to be passionate toward their activity. This increase in the percentage of passionate people in the activity as one moves from the novice to the expert stages might result from two processes. First, the nonpassionate people may be weeded out as time goes on, leaving only passionate people engaging in that specific activity. Because many passionate activities are leisure activities, if some people do not enjoy an activity, presumably, they will try to find another that suits them better. There is support for this first process as the number of participants in sports, for instance, decreases as children get older (Roberts, 1984). The second process may depend on the benefits of activity engagement. As people invest time and effort in a given activity, they are likely to experience positive outcomes that should facilitate passion. Furthermore, through cognitive dissonance (Festinger, 1957), one might become even more involved and passionate after having invested important resources and time in the activity. Longitudinal research is needed in order to test these hypotheses and more clearly chart the development of passion over years of activity involvement.

A final theoretical implication dealing with the development of a passion is that passion entails a unique person–activity interface (Vallerand et al., 2003). Indeed, results of Study 3 showed that only a minority of children eventually became passionate toward playing a musical instrument. Specifically, out of 196 beginners in Study 3, only 70 (36%) became (at least moderately) passionate toward music 4 months later. Thus, being passionate should not be viewed as a personality trait but as a special relationship one develops with a specific activity. In line with others who investigated the development of strong interests (Waterman, 1990, 1993, 2004), we suggest that people cannot be passionate toward all activities but that a match between one's interests and abilities and the task may be necessary for passion to develop. However, such a match was not assessed in the present research and should be the object of future research.

On the Prediction of Harmonious and Obsessive Passion

The present research also shows that it is possible to differentiate between the two types of passion. Four variables appear to predict which type of passion will emerge (i.e., autonomy support, preference for activity specialization, parents' valuation of the activity, and identification with the activity). Autonomy support consistently distinguished between harmoniously and obsessively passionate people. People with a harmonious passion reported interacting with parents and other significant adults who were more autonomy-supportive than those reported by obsessively passionate people. This finding was robust, as it was obtained across all three studies using correlational and short-term longitudinal designs and three different measures of autonomy support, including a scale assessed by the parents themselves (Study 2). It was also observed with novice, intermediate, and expert samples, suggesting that autonomy support might be an important ingredient not only for the development but also for the maintenance of a harmonious passion at all stages of talent development (Bloom, 1985b). In line with Self-Determination Theory (Deci & Ryan, 1985, 2000; Grolnick & Ryan, 1987, 1989), these results support the importance of an autonomy-supportive style in facilitating optimal activity engagement. Future research is needed to better understand how controlling behaviors from significant adults lead to more obsessive behaviors in children. We argue that con-

trolling behaviors lead to obsessive passion by teaching children that to obtain social approval they must engage, or worse, excel, in their activity, thus creating self-activity contingencies. The activity then becomes highly important but for self-protective and defensive reasons that are not necessarily coherent with the child's true desires and sense of self. This in turn sets the stage for experiencing an obsessive passion. Similarly, the present results show that parents who highly value their children's activity seem to foster a more obsessive passion. Although parents help children to focus on their activity by valuing the activity, it seems that it can, at times, put additional pressure on children to engage in their activity and foster obsessive passion.

Preference for activity specialization also distinguished between the two types of passion, although its role changed across Bloom's (1985b) phases of activity involvement. In the novice sample (Study 3), participants' and parents' preferences for activity specialization predicted passion in general. However, these variables distinguished children with an obsessive passion from those with a harmonious passion in the intermediate sample (Study 2). It seems that as children progress in their activity, strong preferences for activity specialization (their own or their parents') may be experienced as coercive because it might imply that children must give up other important activities that are dear to them. These results suggest that what is appropriate to nurture passion at a given stage of development (novice) may no longer be appropriate at a later stage (intermediate). Future research is needed to address this issue more thoroughly.

Similarly, the role of identification with the activity in the development of passion also changed across Bloom's (1985b) phases of activity involvement. Whereas the results from Study 1 with expert performers revealed that identification with the activity seems conducive to the development of an obsessive passion, those of Study 3 with novice participants failed to unveil this relationship. Identification with the activity was instead shown to predict both types of passion. Overall, these results suggest that although identification may represent an influential variable in determining if an activity will become passionate or not, it may be only with time and experience with the activity that it influences the development of an obsessive passion. These results are in line with Vallerand and his colleagues' (2003, Study 1) findings, which showed that for performers with

years of experience in the activity, both types of passion are related to people's identity, but the correlation is stronger for obsessive passion. It would thus appear that to develop a passion for a given activity, one needs to see this activity as being part of one's identity. However, if this activity comes to take too much space in one's identity over time, an obsessive passion may develop at the expense of harmonious passion. Future research is needed in order to shed light on this issue.

Passion and Outcomes

A final implication that can be derived from the present findings is that passion matters with respect to at least two outcomes. First, passionate expert performers who were found to be more passionate than their novice counterparts engaged in their activity 10 times more than the passionate novice musicians. These findings are in line with recent research (Vallerand et al., 2007, 2008) that shows that both types of passion represent important predictors of deliberate practice (Ericsson & Charness, 1994). A second outcome related to passion is performance. Results from the three studies suggest that as one moves from the first to the third stage of activity involvement, the percentage of passionate people increases (only 36% of the novice sample was passionate, whereas 100% of the expert sample was). Furthermore, both harmonious and obsessive passions increase when we compare a novice to an expert sample (see Table 6). Because the progression from the initial to the last stage entails a movement toward excellence in performance, it would appear that passion might be an important ingredient to achieve performance. This hypothesis has been supported in recent correlational research. Specifically, Vallerand and his colleagues (2007) found in two studies that passion leads to sustained involvement in deliberate practice (Ericsson & Charness, 1994) aimed at task mastery, which in turn leads to objective levels of performance. The common belief that obsessive, and not harmonious, passion is necessary to reach excellence has thus not received empirical support either in the present research or in past studies (Vallerand et al., 2007, 2008). Conversely, our expert-level performers with an obsessive passion had performance levels similar to those with a harmonious passion. Other research also found that both passion subscales are equally related to performance indicators (Vallerand et al., 2007, 2008).

Limitations

Despite the contribution of the present research to the understanding of the development of passion, it is important to underscore some limitations. First, all three studies employed a correlational design. It is thus impossible to infer causality from the present data. Second, the participants of the present research were all fairly young (typically in the 10–22 years old range). Although the present cross-sectional studies provide information as to the correlates of passion over a period of about 10 years of activity engagement, our research design was not longitudinal over the 10-year period. Future longitudinal research is needed to replicate the present findings over an extended period of time. In addition, the present samples are not necessarily representative of the entire population, and little demographic information was available. Future research is needed to investigate potential associations with various demographic variables (e.g., socioeconomic status). Third, a few measures yielded reliability coefficients in the .60–.70 range, which could have influenced the stability of our findings. Future research is thus needed to replicate some of the present results. Fourth, the present data are based on self-reports, which may introduce response biases. Our findings would be strengthened if they were replicated using behavioral or observational data. Finally, distinctions between people with a harmonious and an obsessive passion were not investigated using an objective classification system. People were separated in groups according to their *relative* scores on the passion subscales in each sample. Thus, the numbers of harmoniously and obsessively passionate people cannot be compared across different samples. Additional work is needed to develop a clinically valid evaluation and threshold that could help determine more objectively who has a more harmonious passion and who is more obsessive.

In conclusion, the present paper underlines the importance of identification with the activity, preference for activity specialization, parent's activity valuation, and autonomy support in determining who will become passionate or not for a given activity as well as the type of passion (harmonious vs. obsessive) that will develop. Further longitudinal research is still needed, however, in order to better understand the role of these variables and others in the development of passion over the life span.

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