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From Motivation to Passion: In Search of the Motivational Processes Involved in a Meaningful Life

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Abstract

In this address, I present an overview of research on motivational processes that has been conducted by my research team over the past 30 years. Such research subscribes to an organismic view of human motivation wherein people are seen as active agents who strive to fulfill their potential. Four lines of research are briefly presented: (a) the role of social factors in intrinsic motivation; (b) the determinants and outcomes of motivational processes in real-life settings; (c) an integrative perspective on the role of personality, task, and social factors in motivational processes and outcomes (the hierarchical model of intrinsic and extrinsic motivation); and (d) a new perspective on passion for life activities (the dualistic model on passion). Key studies are highlighted and some conclusions are drawn.

Keywords: passion, motivation, self-determination theory, positive psychology

Donald O. Hebb was an outstanding scientist and a visionary on the contribution of psychology to the human condition. It is thus with great honour that I receive the 2011 Donald O. Hebb Award for distinguished contributions to psychology as a science. I accept this award as the captain of my research team. Without the contribution of all team members, the research conducted over the years could not have been done. I also see this award as positive

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feedback on the quality of research in which Canadian motivation researchers engage (to this effect, see the 2008 special issue of *Canadian Psychology* edited by Vallerand, Pelletier, & Koestner, 2008).

For the last 30 years or so, my research and that of my colleagues has focused on the scientific study of motivational processes. This address charts the progress that my own thinking and that of my colleagues have gone through during this period. While I review some of our research conducted over the 1980–2010 period, I also reflect the upon *Zeitgeist* of the time during which such research was conducted. Thus, the present article may also provide a fertile background to reexamine the evolution of human motivation research during this period. In doing so, I focus on four lines of research: (a) the role of social factors in intrinsic and extrinsic motivation; (b) the determinants and outcomes of motivational processes in real-life settings; (c) an integrative perspective on the role of personality, task, and social factors in motivational processes and outcomes; and finally (d) a new perspective on passion for life activities. As we shall see, there is a link across these four research thrusts: the search for the motivational processes involved in living a meaningful life.

The Role of Social Factors in Intrinsic Motivation

Motivation can be defined as: “the hypothetical construct used to describe the internal and/or external forces that produce the initiation, direction, intensity, and persistence of behaviour” (Vallerand & Thill, 1993, p. 18; translated from French). Motivation has been studied from several perspectives. For example, some perspectives have focused on instinctual drives (e.g., Freud, 1962/1923), whereas others have focused on environmental contingencies (Skinner, 1953). While radically different, these two positions nevertheless share a fundamental assumption: people are passive organisms who merely react to internal or external stimuli. I subscribe to a more comprehensive theoretical perspective that considers the individual as an active organism striving for effective interactions with the environment in the hope of growing as an individual (see Deci, 1980; Deci & Ryan, 1985, 2000; Vallerand, 1997) and living a meaningful life (Seligman & Csikszentmihalyi, 2000). This organismic metatheoretical approach has guided much of my conceptual thinking.

Over the years, researchers have come to identify two major classes of motivated behavior. The first deals with behavior performed for itself, in order to experience pleasure and satisfaction inherent in the activity, and has been called *intrinsic motivation* (Deci, 1975). The second, which involves performing behavior in

order to achieve some separable goal such as receiving rewards or avoiding punishment, has been termed *extrinsic motivation* (Deci, 1980, Deci & Ryan 1985). These two types of motivated behavior fits in well with the definition of motivation where factors both inside and outside the individual are hypothesized to affect the person's motivation.

At first, theorists posited that intrinsic and extrinsic motivation had an additive relationship (e.g., Porter & Lawler, 1968). That is, that the two types of motivations combined in leading to the highest level of motivation. However, in a series of studies to examine intrinsic and extrinsic motivation in the laboratory with human subjects, Deci (1971) showed that leading individuals to engage in a new interesting activity in order to receive a monetary reward (and thus out of extrinsic motivation) produced a decrease of subsequent intrinsic motivation in the activity. In Deci's terms, intrinsic motivation was undermined by the controlling nature of the reward.

According to the organismic approach, individuals desire to be effective (White, 1959), autonomous (deCharms, 1968; Deci, 1980), and related to significant others (Deci & Ryan, 1991) in their attempts to explore, grow, and develop. This innate tendency to grow, however, may be facilitated, stalled, or stopped because of the organism's vulnerability to being influenced by the environment. Cognitive evaluation theory (Deci, 1975; Deci, 1980, Deci & Ryan, 1985), a subtheory of self-determination theory (Deci & Ryan, 2000), posits that any event whether a reward, a structure, or a communication, has two main functional aspects: a controlling aspect and an informational aspect. When the controlling aspect is salient, intrinsic motivation is negatively affected by a decrease in perceptions of autonomy triggered by the perceived locus of causality process; when the informational aspect is salient, the perceived competence process triggers changes in intrinsic motivation with increases or decreases in perceptions of competence producing corresponding effects in intrinsic motivation.

Following the initial research by Deci, the interplay between intrinsic and extrinsic motivation has been explored in hundreds of studies, most of them conducted in the laboratory (see Deci, Koestner, & Ryan, 1999). Such research focused on the immediate effects of various situational variables (e.g., rewards, feedback, constraints, deadlines) on intrinsic motivation. Some of the research we have conducted looked at the role of competition and verbal feedback in intrinsic motivation.

Competition Studies

We have tested the validity of the controlling and informational aspects with respect to the structure inherent in competition in laboratory settings. In a first study (Vallerand, Gauvin, & Halliwell, 1986a), we randomly assigned children to conditions of competition or noncompetition on a balancing task (the stabilometer task). In the competition condition, participants were explicitly encouraged to try to "beat" other people's scores, whereas no mention of competition was made in the control condition. Participants were given 8 trials and were not informed of their scores. After the trials, participants were left alone and had the opportunity to play again on the stabilometer for a 5-min free-choice period. The time spent on the task during this free-choice period served as the intrinsic motivation index (see Deci, 1971). In addition, participants completed a question assessing their self-perceptions of

competence on the stabilometer. It was expected that to beat other contestants, participants in the competition condition would thwart the discovery process that is normal when exploring a novel task. Such a self-imposed loss in discovery process should undermine one's feelings of autonomy that, in turn, should lead to a loss of intrinsic motivation relative to the noncompeting participants. Further, this decrease in intrinsic motivation should be independent of perceptions of competence. The results supported the hypothesis. Participants in the competition condition displayed significantly lower levels of intrinsic motivation than those in the noncompeting condition. There were no differences in perceived competence between the two conditions.

In a second study (Vallerand, Gauvin, & Halliwell, 1986b) on competition, we tested the informational aspect (and thus the perceived competence process) of competition. Participants were randomly assigned to either the "win" or "loss" competition condition on the stabilometer task again. The same measures as those used in the previous competition study were collected. Results revealed that participants who had lost the competition felt less competent and less intrinsically motivated than those who had won the competition.

Taken together, these two studies underscore the fact that the structure in which people operate can have a potent effect on their intrinsic motivation through both the locus of causality process (Vallerand et al., 1986a) and the perceived competence process (Vallerand et al., 1986b). Subsequent research with former graduate student Michelle Fortier, now professor at the University of Ottawa, and colleagues (Fortier, Vallerand, Brière, & Provencher, 1995), replicated these findings in real-life competitive settings.

Verbal Feedback Studies

We have also tested the perceived competence process, this time inherent in a communication. For instance, Vallerand, Reid, and Marisi (1980) had male participants engage in a balancing task (the stabilometer) during a pretest and a posttest. During the posttest, participants were randomly assigned to conditions of positive, negative, or no verbal feedback of performance. Following both the pretest and the posttest, participants completed questionnaires assessing self-perceptions of competence and intrinsic motivation toward the stabilometer. Results revealed that positive feedback (e.g., "You are one of the best participants I've had so far") increased intrinsic motivation and perceived competence relative to the pretest scores and the other two conditions. Conversely, negative verbal feedback (e.g., "You're not doing very well on this task") decreased subjects' intrinsic motivation and perceived competence relative to the pretest scores as well as relative to the other two conditions. No change took place in the control condition from pre- to posttest. Of additional importance, results from a path analysis reported in a subsequent article (see Vallerand & Reid, 1984), revealed that the more positive the feedback, the more participants felt competent. In turn, the more participants felt competent, the more they were intrinsically motivated.

Results from the Vallerand and Reid (1984) laboratory study were the first in the field of human motivation to show that positive and negative verbal feedback produce *changes* in intrinsic motivation through their effects on perceptions of competence. These findings were particularly convincing because they relied on both an experimental design and path analysis. These findings on

feedback have been replicated in a number of studies (see Vallerand, 2001, 2007) and were also important from a statistical point of view. Back in the mid 1980s, analyses of variance ruled the social psychologist's world. The Vallerand and Reid (1984) study was the first to use path analysis to test a motivational sequence involving mediating processes. In part based on the procedures and analyses used in that study, nowadays motivation researchers routinely use path analysis to test similar sequences.

Motivation in Real-Life Settings

The Importance of Field Research

Although laboratory research was important initially for control purposes, it was time to move to the field for at least two reasons. First, the tasks we used in the lab were novel tasks. We did not know if our findings in the lab would generalise to other tasks used in the field. Second, from a psychological standpoint, content may interact with psychological process (Zajonc, 1980). In other words, the very motivational processes that take place in people's lives may differ as a function of task meaningfulness, and such meaningfulness exists in real-life settings. Thus, the search for a more complete understanding of motivational processes involved in a meaningful life led my colleagues and me to focus on field research, in people's lives with tasks that mattered to them.

Beyond the Intrinsic–Extrinsic Motivation Dichotomy

At the same time that we were embarking on our field research journey, important theoretical changes were taking place in motivation theory. Edward Deci and Richard Ryan (1985) proposed that the usual intrinsic–extrinsic dichotomy was insufficient to account for the types of motivation that operate in people's lives. They proposed a more complex typology of extrinsic motivation where some types of extrinsic motivation involve self-determination and choice. In other words, people could be extrinsically motivated and still experience high levels of autonomy in their behaviour. What Deci and Ryan proposed, among other things, is that in addition to the inside–outside distinction, what is inside the person also varies qualitatively depending how it has been internalized. This conceptual contribution produced a shock wave that still has ripple effects on the field of human motivation today.

Deci and Ryan identified four types of extrinsic motivation that vary in their degree of self-determination. The four types of extrinsic motivation are: *external regulation* (to act to obtain rewards or avoid punishment), *introjected regulation* (to act in order to avoid feelings of guilt and internal pressure), *identified regulation* (to act out of choice and volition), and *integrated regulation* (behaving out of choice with coherence with other elements of the self). These four types of extrinsic motivation are hypothesised to entail a linear progression in self-determination from external to integrated regulation. Deci and Ryan (1985) also proposed the existence of a third type of motivational construct, namely, *amotivation*. Amotivation is at work when individuals display a relative absence of motivation (see Vallerand, 1997). It implies the lowest level of self-determination.

In addition to these different types of extrinsic motivation, we also proposed that different types of intrinsic motivation existed

in people's lives (Vallerand, Blais, Brière, & Pelletier, 1989; Vallerand & Bissonnette, 1992). First, *intrinsic motivation to know* implies engaging in activities because of the pleasure and satisfaction derived from learning, exploring, and understanding new things. Second, *intrinsic motivation to accomplish* things refers to engaging in activities because of the pleasure and satisfaction derived from trying to surpass oneself, creating, or accomplishing something. Third, *intrinsic motivation to experience stimulation* operates when one is engaged in an activity because of the stimulating sensations associated with it. This taxonomy of intrinsic motivation has received much empirical support over the years (see Carbonneau & Vallerand, in press).

Validating Motivation Scales for Important Life Activities

Very little intrinsic motivation research had been done at the time (mid 1980s) in field settings. In an early field study (Blais, Vallerand, Brière, Gagnon, & Pelletier, 1990b), we had empirically determined that the three major life tasks (or domains) for male and female college students were their studies, leisure activities, and relationships. These were the types of activities on which we needed to focus. No scale existed to assess the different types of intrinsic and extrinsic motivation presented above. Thus, this move from the lab to the field meant that we had to develop instruments to measure the different types of intrinsic and extrinsic motivation in these various settings. Further, because our participants included both French and English Canadians, we had to validate these scales in both French and English. In so doing, we developed methodological procedures to validate scales in another language (Vallerand, 1989).

Some of the scales that we validated include l'Échelle de Motivation en Éducation (Vallerand et al., 1989) and its translation, the Academic Motivation Scale (Vallerand et al., 1992, 1993); l'Échelle de Motivation en Loisirs (Pelletier, Vallerand, Green-Demers, Brière, & Blais, 1996) and its translation, the Leisure Motivation Scale (Pelletier et al., 1995); l'Échelle de Motivation au Travail de Blais (Blais, Brière, Lachance, Riddle, & Vallerand, 1993); l'Échelle des Motivations pour les Personnes Âgées (Vallerand & O'Connor, 1991) and its translation, the Elderly Motivation Scale (Vallerand, O'Connor, & Hamel, 1995); The political Motivation Scale (Koestner, Losier, Vallerand, & Carducci, 1996); and the Motivation for Couple Relationship Scale (Blais et al., 1990a). Because sports represents a major form of leisure activities, we also developed l'Échelle de Motivation en sports (Brière, Vallerand, Blais, & Pelletier, 1995) and its translation, the Sport Motivation Scale (Pelletier, Fortier, Vallerand, Tuson, Brière, & Blais, 1995). The contribution of former graduate student Luc Pelletier in the construction and validation of several of those scales should be underscored. Now professor at the University of Ottawa, Dr. Pelletier has also developed a motivation scale for preserving the environment and much of his research has focused on this topic (see Pelletier, Tuson, Green-Demers, Noels, & Beaton, 1998).

In line with the notion that motivation refers to the why of behaviour (McClelland, 1985), such scales ask participants to respond to the question "Why do you engage in your (leisure) activities (or go to school or play sports)?" using items that represent answers to that question (e.g., "Because I enjoy learning

new things”). Validation procedures included exploratory and confirmatory factor analyses and correlations with a number of determinants and outcomes to test the construct validity of the scale. All scales have shown high levels of validity and reliability.

Perhaps a further word on measurement is in order. When we initially developed our motivation measures in the late 1980s, we did it in order to conduct our field research. We did not know at the time that a whole field would follow suit and design instruments to assess intrinsic and extrinsic motivation in line with our methodology. Although Ryan and Connell (1989) had also designed a scale to assess school motivation in elementary and high school students, their scale did not go through full psychometric evaluation and did not assess the three types of intrinsic motivation or amotivation. Now, some 20 years later, most intrinsic and extrinsic motivation scientists who conduct field research do so either with one of the scales that we have developed or with a scale based on our methodological and statistical procedures; a very rewarding situation indeed.

Consequences and Determinants of Intrinsic and Extrinsic Motivation, and Amotivation

Now that scales were validated, we could embark on our quest to look at the motivation–outcomes relationship in the field. Given that behaviour can be intrinsically and extrinsically motivated, or amotivated, what are the consequences of these kinds of motivation in people’s lives? Because the different kinds of motivation are hypothesised to be on a continuum from high to low self-determination (Deci & Ryan, 1985), and because self-determination is associated with enhanced psychological functioning (Deci, 1980), one would expect a corresponding pattern of consequences. That is, one might expect intrinsic motivation to have the most positive consequences, followed by the self-determined forms of extrinsic motivation (integrated and identified regulations), non-self-determined types of extrinsic motivation (introjected and external regulations), and finally amotivation. External regulation and especially amotivation should lead to the most negative consequences.

We tested these hypotheses in the first study to look at the role of intrinsic and extrinsic motivation in intimate relationships (Blais, Sabourin, Boucher, & Vallerand, 1990a). In this study, middle-age adults completed a scale assessing their intrinsic and extrinsic motivation for being involved in an intimate relationship with their partner or spouse as well as scales assessing various outcomes such as couple happiness and couple adaptive and maladaptive behaviours. The results of the correlations between the different types of motivation and outcomes revealed that the positive outcomes were increasingly positive as one’s motivations for the relationship were more self-determined (e.g., intrinsic motivation and identified regulation), while the negative outcomes were increasingly negative as one’s motivations moved toward the non-self-determined end of the continuum (i.e., introjected and external regulations and amotivation). These findings have been supported in dozens of studies dealing with a variety of activities and life domains, including those that initially interested us, namely, education, relationships, and leisure (see Vallerand, 1997, 2007; Vallerand & Miquelon, 2008), but also in other fields such as successful aging (O’Connor & Vallerand, 1994; Vallerand & O’Connor, 1989; Vallerand, O’Connor, & Hamel, 1995).

In subsequent research, we started looking at an integrating sequence involving social factors, psychological mediators, and self-determined motivation, in order to predict outcomes. One outcome of interest was school dropout. Initial research (Vallerand & Bissonnette, 1992) had shown that college students who had the least self-determined motivational profile toward a compulsory course early on in the term dropped out significantly more than those with a more self-determined motivational profile. In a research with Michelle Fortier and Frédéric Guay, now Professor of Education at the Université Laval, we (Vallerand, Fortier, & Guay, 1997), we proposed that the lower the autonomy support provided by the social context (and especially the behaviours of teachers, parents, and the school administration), the less positive the students’ self-perceptions of competence and autonomy, and, in turn, the lower students’ levels of self-determined school motivation should be. Finally, low levels of self-determined motivation should lead students to develop intentions to drop out of high school that are later implemented, leading to actual drop-out behaviour. This model was tested with more than 4,000 high school students using a prospective design. In October, students completed the various scales that assessed all aspects of the model. The following year, we contacted the Ministry of Education as well as each of the schools to clearly identify students who had dropped out of school. A structural equation modelling analysis was performed on the data. The results supported the entire sequence from social factors to outcomes.

The basic model from the Vallerand et al. (1997) study was also successfully applied to high school performance in education (see Fortier, Vallerand, & Guay, 1995; Guay & Vallerand, 1997) as well as dropping out of sports with Canadian elite swimmers (Pelletier et al., 2001) and French handball players (Sarrazin, Vallerand, Guillet, Pelletier, & Curry, 2001). With former graduate student Gaëtan Losier, now professor at the Université de Moncton, we later showed that this motivational sequence was able to integrate much of the research on intrinsic and extrinsic motivation in sports (see Vallerand & Losier, 1999).

The research on the motivational sequence outlined by Vallerand et al. (1997) was important in that it showed that people’s perceptions of how other people behave toward them (and especially whether others cater to their psychological needs of competence and autonomy) has a great impact on their motivation and ensuing outcomes that matter greatly for them. Such research, however, relied on students’ *perceptions* of their parents and teachers behaviour and did not actually assess social agents’ actual behaviour. Although, ultimately it is such perceptions that matter as pertains to motivation, it is nevertheless important to determine if the actual social environment influences these perceptions that, in turn, lead to motivation and outcomes. Therefore, with Frédéric Philippe, now a colleague at the Université du Québec à Montréal, we (Philippe & Vallerand, 2008) sought to determine whether the *objective* environment can trigger the motivation sequence in the field, leading to changes in meaningful outcomes. Specifically, using a one-year prospective design, we found that the level of autonomy actually provided by nursing homes (as assessed by trained observers) predicted residents’ perceptions of autonomy that, in turn, predicted self-determined motivation in major life domains. Self-determined motivation, in turn, predicted *increases* in psychological adjustment over the one-year period.

The theoretical importance of such research on the causal sequence is obvious because it charts the sequence of motivational processes involved from one's interaction with the environment to motivation and to outcomes. However, the applied benefits from such research should not be overlooked. Indeed, because we had identified the actual factors that trigger motivational processes and their outcomes, it was now possible for practitioners to engage in meaningful theory-informed interventions (for an example, see Reeve, Jang, Carrell, Jeon, & Barch, 2004).

Finally, it should be underscored that, in addition to the above causal sequence, we also proposed that it is important to look at how different types of motivation *combine* in leading to outcomes (Vallerand, 1997). Subsequent research with former students Catherine Ratelle, now professor at the Université Laval and Nicolas Gillet, now professor at the Université de Tours in France, supported this hypothesis. Through the use of cluster analyses, we showed that a combination of different types of motivation can lead to the meaningful prediction of educational (Ratelle, Guay, Vallerand, Larose, & Sénécal, 2007) and sport outcomes (Gillet, Vallerand, & Rosnet, 2009).

The Hierarchical Model of Intrinsic and Extrinsic Motivation

Our laboratory and field research had empirically supported the validity of a coherent causal sequence involving Social Factors→Psychological Needs→Motivation→Outcomes. Of additional interest, our subsequent field research also showed that motivation varied not only in types (i.e., the different types of intrinsic and extrinsic motivation) but also in levels of generality. Specifically, in addition to situational or state motivation studied mainly in the laboratory (Guay, Vallerand, & Blanchard, 2000), field research revealed that one can hold relatively stable forms of intrinsic and extrinsic motivation for classes of activities such as school (Harter, 1981; Vallerand et al., 1989; Vallerand et al., 1993) and leisure (Pelletier et al., 1995) as well as have broad personality dispositions to be intrinsically or extrinsically motivated (see Deci & Ryan, 1985; Maddi, Hoover, & Kobasa, 1982). To integrate these and other findings from the literature in a rather comprehensive perspective on human motivation, my colleagues and I proposed the *hierarchical model of intrinsic and extrinsic motivation* (Vallerand, 1997, 2001, 2007; Vallerand & Miquelton, 2008; Vallerand & Ratelle, 2002).

The hierarchical model is made up of elements that are organized both vertically and horizontally (see Vallerand & Lalande, 2011). The vertical organisation integrates three different levels of generality that range from stable (on top) to momentary or state elements (at the bottom), namely, the global, contextual, and situational levels. The global level is the most general and refers to a person's personality or usual motivation to interact with the environment. Motivation at this level takes the form of broad dispositions to engage in activities in a typically intrinsic or extrinsic way. It can be considered the trait level of motivation. Next in the hierarchy is the contextual level. This level represents specific life contexts, such as education (for students), leisure, and interpersonal relationships. This level accounts for the fact that some life activities may be more intrinsically motivating than others (e.g., leisure vs. school activities). Furthermore, this intermediate level also seeks to account for the likelihood that individ-

uals may have developed relatively stable intraindividual motivational orientations that may differ in the level of self-determination depending on the contexts. For instance, a given individual may engage in leisure activities in an intrinsic way but partake in work-related activities out of extrinsic motivation. Furthermore, it may be the opposite for another individual. It would therefore appear important to take into consideration the type of activity one engages in to make refined predictions with respect to motivation and outcomes. Finally, the situational level is the most specific and refers to the here and now of motivation. It is the motivational state that an individual experiences when engaging in a specific activity at a given moment in time (playing the guitar on a Saturday afternoon at 3:00 p.m.).

The hierarchical organisation of the three levels of generality implies certain relationships among them. First, top-down effects refer to the influence of higher levels in the hierarchy on lower levels. Specifically, the more stable forms of motivation (e.g., global motivation) can influence the less stable forms of motivation such as contextual motivation and situational motivation. For example, having a contextual motivation to be intrinsically motivated should lead one to be intrinsically motivated in a given situation at the situational level. Research supports this top-down hypothesis. For instance, in a study with former graduate student Céline Blanchard, now a professor at the University of Ottawa, and other colleagues (Blanchard, Mask, Vallerand, de la Sablonnière, & Provencher, 2007), we showed that the more athletes had a self-determined contextual motivation (i.e., engaging in an activity out of pleasure and choice) for their sport (basketball), the more they had a self-determined situational motivation during a subsequent basketball game. Other research has also replicated the top-down effect from contextual to situational motivation in different settings including the classroom (see Lavigne et al., 2009; Lavigne & Vallerand, 2010) and the gymnasium during physical education classes (Ntoumanis & Blaymires, 2003). Finally, the top-down effects from global to contextual motivation were also observed using a longitudinal design over a 5-year period (Guay, Mageau, & Vallerand, 2003).

Second, the bottom-up effect reflects the influence that lower levels in the hierarchy can have on higher levels and serves, among other things, to explain how *changes* in more stable forms of motivation (e.g., contextual and global motivation) come about through repeated motivational experiences at the lower situational level. Research shows that after certain success and failure experiences, changes in situational intrinsic and extrinsic motivation are induced (e.g., Vallerand & Reid, 1984, 1988). When these changes are experienced repeatedly, over time they are internalized at the next level up in the hierarchy and lead to changes in motivation at that level (e.g., the contextual level relevant to the activity one engaged in). Support for the bottom-up process was obtained where situational motivation predicted changes in contextual motivation that took place over time in various fields such as sports (Blanchard et al., 2007) and education (Lavigne & Vallerand, 2010).

The hierarchical model also proposes that the various contextual motivations may influence each other. For instance, two contextual motivations may conflict leading to important influences on people's functioning. For instance, in research with former graduate student Caroline Sénécal, now professor at the Université Laval (Sénécal, Vallerand, & Guay, 2001), we showed that the less

workers' motivations for both work and family activities were self-determined in nature, the more they experienced work-family conflict. Such conflict, in turn, predicted negative psychological outcomes such as burnout. Similar findings were obtained with college students as pertains to conflict between school and leisure motivation (Ratelle, Vallerand, Senécal, & Provencher, 2005).

The hierarchical model also posits a horizontal organisation of some components. Such an arrangement reflects the social psychological processes dimension of the model. It posits a causal sequence of events involving social factors, psychological needs, motivation, and outcomes. Such a Social Factors→Need Satisfaction→Motivation→Outcomes sequence was empirically supported in several studies and was discussed in the previous section. However, what research has also shown is that this causal sequence takes place at every level of generality, including the contextual (e.g., Vallerand et al., 1997), the situational (e.g., Grouzet, Vallerand, Thill, & Provencher, 2004), and the global levels (e.g., Philippe & Vallerand, 2008). Thus, the hierarchical model accounts for these findings by integrating these causal sequences at each level of generality of the model.

In sum, the hierarchical model specifies two sets of sequences that serve to integrate processes involving the personality (the vertical organisation of the model and the top-down and bottom-up effects) and social psychological dimensions (the horizontal sequence and processes involving social factors) of motivation and outcomes. Together, these two mechanisms provide a detailed description of how social and personal factors influence motivation in time and space, as well as how the different types of motivation lead to outcomes. In addition, the intermediate, contextual, level serves to take into consideration the fact that not all activities (or tasks) are created equal and that some (e.g., leisure) may be more intrinsically motivating than others with the ramifications that such a state of affairs entails for outcomes.

On the Psychology of Passion

The 1990s saw an important change take place in psychology. In addition to identifying the factors that undermine people's adaptive functioning, psychologists started to work on identifying some of the factors that lead people to be happy and to function optimally. Positive psychology had arrived (Seligman & Csikszentmihalyi, 2000). We felt that passion was one of these "positive" activities. Indeed, it seemed to us that regularly engaging in passionate activities that provide a recurrent dose of happiness should have a profound impact on people's psychological functioning (Vallerand, 2010).

When we started our research on passion in the late 1990s, we expected to find a lot of research on the subject. Yet, surprisingly, very little if any psychological research had been conducted on this concept (there was research on romantic passion, but not for passion for activities). So we found ourselves in the unique position to open up a new field of psychological inquiry. This has led us to formulate the first, and as of now the only, psychological theory on passion for activities. Thus, with my good friend Professor Richard Koestner at McGill University and graduate students Céline Blanchard and Geneviève Mageau (now professors at the Universities of Ottawa and Montréal, respectively), and other colleagues, we proposed the *dualistic model of passion* (Vallerand et al., 2003).

The Dualistic Model of Passion

As mentioned previously, people interact with their environment in order to grow as individuals. Eventually, after a period of trial and error, most people will eventually start to show preference for some activities, especially those that are enjoyable. Of these activities, a limited few will be perceived as particularly meaningful and to have some resonance with how people see themselves. A special bond then has been created between the person and the activity. This activity becomes passionate for the person (Mageau et al., 2009).

In line with the above, Vallerand et al. (2003) defined passion as a strong inclination toward a self-defining activity (or object) that one likes (or even loves), finds important and meaningful, and in which one invests time and energy. Thus, a passion entails a special relationship with an activity that one loves. However, contrary to intrinsic motivation, it is essential that this activity be meaningful for the person and part of one's identity to be a passion. For instance, a passionate tennis player does not simply play tennis, he or she *is* a tennis player. Tennis is part of who he or she is. The activity is part of one's life and is engaged in on a regular basis. Enjoying playing tennis from time to time may refer to intrinsic motivation but it would not be considered a passion. To become passionate about playing tennis, one would need to greatly enjoy playing tennis regularly (at least once per week) as well as to read about it, to watch it live or on TV, to discuss it with friends, to find it meaningful, and to perceive oneself as a tennis player.

Although there was very little in psychology on passion, there had been much philosophical thinking on the subject (see Rony, 1990). One contribution from philosophers is that two positions have been separately proposed on passion. One where passion is seen as maladaptive for the person because it entails a loss of reason (see Plato, 429–347 BC; Spinoza, 1632–1677) and another that posits that passion can actually have some adaptive functions (see Hegel, 1770–1831). These two positions represent the duality of passion. Something you love can be "good" for you but sometimes it can be "bad". One can have a great time playing poker but if the person loses control over it, it can lead to some problems while playing as well as in his or her life. No motivational theory at the time could explain how your love for a given activity can have either some adaptive or some deleterious effects on your life. We needed to account for the duality of passion.

In line with theory and research in the field of human motivation that show that two types of internalization processes existed, a controlled and an autonomous process (see Deci et al., 1994; Sheldon, 2002; Vallerand et al., 1997), we proposed that the two types of internalization processes lead to two types of passion, obsessive and harmonious. Obsessive passion results from a controlled internalization of the activity into one's identity and self. A controlled internalization originates from intra- and/or interpersonal pressure typically because certain contingencies are attached to the activity such as feelings of social acceptance or self-esteem (see Lafrenière, Bélanger, Vallerand, & Sedikides, in press; Mageau, Carpentier, & Vallerand, in press), or because the sense of excitement derived from activity engagement is uncontrollable. People with an obsessive passion thus experience an uncontrollable urge to partake in the activity they view as enjoyable. They cannot help but engage in the passionate activity, as the passion comes to control them. Consequently, people risk experiencing

conflicts and other negative affective (e.g., guilt, anxiety), cognitive (e.g., lack of concentration), and behavioural (e.g., over engaging in the activity) consequences during and after activity engagement.

Conversely, harmonious passion results from an autonomous internalization of the activity into the person's identity and self. An autonomous internalization occurs when individuals have freely accepted the activity as important for them without any contingencies attached to it and produces a motivational force to engage in the activity willingly and engenders a sense of volition and personal endorsement about pursuing the activity. When harmonious passion is at play, individuals do not experience an uncontrollable urge to engage in the passionate activity, but rather freely choose to do so. Such a state of mind allows the person to fully partake in the passionate activity with an openness that is conducive to positive experiences (Hodgins & Kneer, 2002). Consequently, people with a harmonious passion are likely to experience positive affective, cognitive, and behavioural consequences during and after activity engagement.

Initial Research on the Concept of Passion

Our initial study on passion (Vallerand et al., 2003, Study 1) had over 500 college students complete the Passion Scale with respect to the dearest activity to their heart as well as other scales allowing us to test predictions derived from the dualistic model of passion. There were at least three major conclusions. First, there is a high prevalence of passion in people's lives. Indeed, 84% of participants indicated that they had a passion for at least one activity in their lives (participants also reported engaging in their activity 8.5 hours per week and having done so for 6 years). Second, through exploratory and confirmatory factor analyses a valid scale was developed. These findings on the factor validity of the Passion Scale has been replicated in a number of studies with respect to a variety of activities (e.g., Carbonneau, Vallerand, Fernet, & Guay, 2008; Rousseau, Vallerand, Ratelle, Mageau, & Provencher, 2002; Vallerand & Houliort, 2003; Vallerand, Rousseau, Grouzet, Dumais, & Grenier, 2006). The Passion Scale consists of 2 subscales of 6 items each reflecting Obsessive (e.g., "I almost have an obsessive feeling toward this activity") and Harmonious Passion (e.g., "This activity is in harmony with other activities in my life"). Furthermore, internal consistency analyses have shown that both subscales are reliable (typically $\geq .75$).

Finally, the third conclusion is that both types of passion correlated with the definitional elements of the passion construct (loving the activity, spending regular time on it, valuing it, the activity being part of the person's identity, and perceiving the activity as being a passion for the person). Furthermore, research provided support for the hypotheses dealing with affect, wherein harmonious passion positively predicted positive affect both during and after engagement in the passionate activity, while obsessive passion was unrelated to positive affect but positively related to negative affect, especially after task engagement and while prevented from engaging in the activity. Now that the foundations had been laid, it became possible to pursue our research on the role of passion in leading a meaningful life.

On the Role of Passion in Meaningful Outcomes

Since the initial publication of 2003, over 100 studies have been conducted on the role of passion in a host of cognitive, affective, behavioural, relational, and performance outcomes experienced within the realm of a number of passionate activities carried out in both our own as well as other laboratories (for reviews, see Vallerand, 2008, 2010, in press; Vallerand & Houliort, 2003). Below we briefly present research conducted by our own group that shows that passion can contribute in important ways to a meaningful life. Specifically, it is proposed that to the extent that one's passion for an activity is harmonious, this will set in motion processes that will promote optimal functioning and protect against poor functioning (e.g., Keyes, 2007). However, if one's passion is obsessive, then the positive effects may not be forthcoming and an increase in poor functioning may even take place.

Much research supports the above hypothesis with psychological well-being. For instance, in research with elderly individuals, Rousseau and Vallerand (2003) found that harmonious passion toward one's favourite activity (e.g., playing cards, playing music) positively predicted positive indices of psychological well-being (life satisfaction, vitality, and meaning in life) but negatively predicted indices of ill-being (anxiety and depression). Conversely, obsessive passion positively predicted anxiety and depression, was negatively related to life satisfaction, and was unrelated to vitality and meaning in life. Subsequent research using different measures of psychological well-being has yielded similar findings with people across the life span (e.g., Forest, Mageau, Sarrazin, & Morin, 2011; Philippe, Vallerand, & Lavigne, 2009; Rousseau & Vallerand, 2008; Vallerand et al., 2007, Studies 1 and 2; Vallerand, Mageau et al., 2008, Study 2). Thus, the promoting and protective functions of harmonious passion have been supported while the less than optimal role of obsessive passion was demonstrated. Furthermore, people with a harmonious passion toward one activity in their lives display higher levels of psychological well-being than those with an obsessive passion and those with no passion; these last two groups do not differ in general (Philippe et al., 2009, Study 1).

Passion also matters with respect to one's physical health. Because both forms of passion leads to high-energy involvement and long-term persistence, being passionate for a given sport or physical activity should promote physical conditioning and health (Vallerand, 2010). However, the type of passion should matter. Because obsessive passion entails rigid persistence for the activity, it should lead people to engage in the activity when they should not and to take unnecessary risks that may put one's health in jeopardy. Such should not be the case with harmonious passion because people can show a more flexible form of involvement in the passionate activity. Research supports these hypotheses. For instance, Vallerand et al. (2003, Study 3) showed that regular cyclists with an obsessive passion engage in winter cycling in the Province of Quebec that may prove quite hazardous. Additional research by Rip, Fortin, and Vallerand (2006) with dancers showed that while both types of passion protect against acute injuries, obsessive (but not harmonious) passion leads to chronic injuries. Finally, research by Carbonneau, Vallerand, and Massicotte (2010, Studies 1 and 2) showed that even with a well recognised positive activity such as yoga, the adaptive consequences are only obtained

if it is practiced out of harmonious passion. In fact, obsessive passion can lead to some negative affective outcomes.

Our research has also shown that passion matters with respect to relationships on two counts. First, in a series of studies conducted in a variety of settings, including the sport (Lafrenière, Jowett, Vallerand, Donahue, & Lorimer, 2008) and work domains with my colleagues Frédéric Philippe and Nathalie Houliort (Philippe, Vallerand, Houliort, Lavigne, & Donahue, 2010), we found that the more people have a harmonious passion for the activity, the more they *develop* and *maintain* better relationships with the people with whom they engage in the passionate activity. Self-reports and informant reports of quality of relationships lead to the same results. Obsessive passion has some negative effects on relationships!

Second, passion toward an activity can also influence our relationships in other areas of our lives through the conflict it might create with these other activities. For instance, research conducted with passionate soccer fans from the U.K., with Professor Nikos Ntoumanis at the University of Birmingham and other colleagues (Vallerand, Ntoumanis et al., 2008, Study 3), showed that having an obsessive passion for one's soccer team predicted conflict between soccer and the loved one. Conflict, in turn, negatively predicted satisfaction with the relationship. While harmonious passion negatively related to conflict, the effects only approached statistical significance. Similar findings were obtained with respect to having an obsessive passion for the Internet (Séguin-Lévesque, Laliberté, Pelletier, Blanchard, & Vallerand, 2003). Clearly, passion has an important effect on the quality of our relationships.

Research on passion has also showed that it mattered with respect to performance. For instance, we found that expert musicians display significantly higher levels of both harmonious and obsessive passion than the younger musicians (Mageau et al., 2009, Study 3). So, if passion is involved in expert performance, what is the process through which it affects performance? Research conducted in sports (Vallerand et al., 2008, Study 1), dramatic arts (Vallerand et al., 2007, Study 1), and music (Bonneville-Roussy, Lavigne, & Vallerand, 2011) reveals that passion represents the fuel that allows people to engage in deliberate practice repeatedly and relentlessly, so that over time they improve their skills in the activity. Furthermore, additional research conducted with Professor Andy Elliot at the University of Rochester and colleagues also showed that harmonious passion leads to the use of adaptive goals such as mastery goals during the performance process, while obsessive passion leads to the use of mastery, but mainly the less adaptive avoidance goals (avoiding failure relative to others) (see Vallerand et al., 2008, Study 2; Vallerand et al., 2007, Study 2). Finally, it is important to note that in all of our studies on performance, the performance variable was not a subjective perception offered by participants, but rather a more objective performance assessment provided by coaches and teachers and even actual objective performance.

In sum, research reveals that harmonious passion positively predicts psychological well-being, physical health, positive relationships, and high-level performance. On the other hand, the contribution of obsessive passion would appear much less positive and at times negative. Thus, having a harmonious passion toward one activity can contribute immensely to living a meaningful life. The fact that passion is a hot construct and that our passion model is the only theory on passion for activities in psychology suggest

that the dualistic model of passion may play an important role in generating much future research in the search for the psychological processes involved in leading a meaningful life.

Conclusion

Our 30-year journey on the study of motivational processes leads at least to three conclusions. A first conclusion is that motivational processes matter greatly with respect to living a meaningful life. Our research as well as that of others has clearly shown that both passion and motivation influences a number of outcomes that permeates people's existence. What we need to know more about is the relative contribution of each type of motivational processes (i.e., motivation vs. passion) to a more meaningful life. Both passion and motivation are important. Motivation may matter more for nonpassionate activities that we still need to perform in our lives (e.g., to go to school, clean up our room or office!), while passion may be especially important for the relatively few activities that make us thrive in our lives (e.g., play basketball; although some may be lucky enough to be passionate about their work). Future research is needed in order to know more about the types of tasks and conditions under which passion and motivation are more relevant. Such research could also lead to a more complete integration of motivation and passion processes.

Second, the quality of the motivational processes matters. Specifically, the more self-determined the motivational processes (and the more harmonious the passion), the more the outcomes are positive. This is an important lesson from our research: it is not sufficient to speak of motivation quantity (high vs. low amount of motivation). Given the same amount (or quantity) of motivation, the quality of motivation makes a drastic difference in terms of the outcomes that will be experienced. The research is clear on this issue: the highest quality of motivational processes is inherent in intrinsic motivation and identified regulation (see Deci & Ryan, 2000; Vallerand, 2007) and in harmonious passion (see Vallerand, 2010).

A third and final conclusion that stems from our research is that we now know that motivational processes are multidetermined. Indeed, as highlighted by the hierarchical model, motivation responds to the influence of the task, the person, and the social environment. We need to determine how these three types of determinants combine in influencing motivational processes. Furthermore, although we have learned quite a bit about how the social environment affects motivational processes over the past 30 years, we know very little about how motivated people influence their environment. If we take the dialectical person-environment interaction seriously, such research is necessary (see Pelletier & Vallerand, 1996).

In sum, the past 30 years have been particularly exciting (if not passionate) in the field of human motivation. I would like to sincerely thank both close collaborators and scientists at other labs for their important contribution to the field as well as the social and personality psychology community for consistently supporting our work. To give but two examples, without the continued theoretical exchanges with Ed Deci or the support from Mark Zanna and the *Advances in Experimental Social Psychology* series where we have published two key chapters, our work would not have had the same content or impact on the field, and I am deeply grateful. Continued interactions with friends, colleagues, and students represent a part

of academia that I particularly cherish. When I started my personal scientific journey, I initially had three major goals: to propose and test solid theoretical frameworks leading to a better understanding of motivational processes; to conduct motivation research on meaningful phenomena (at least in part) in real-life settings; and finally to train future scientists in this area. A look back on the past 30 years reveals that although we have not reached the destination just yet, some progress has been made. With increased knowledge, a refined methodological arsenal, and an increasing number of outstanding young and motivated researchers in the field, I personally feel that we are on the right path to gain further insights into those processes that contribute to a meaningful life. I just can't wait for the next 30 years!

Résumé

Dans la présente allocution, je propose un aperçu de la recherche sur les processus motivationnels qu'a effectuée mon équipe de chercheurs au cours des 30 dernières années. Cette recherche souscrit à une perspective organismique de la motivation chez l'être humain, selon laquelle l'individu est un agent actif cherchant à réaliser son potentiel. Quatre approches de recherche sont présentées brièvement : a) le rôle des facteurs sociaux dans la motivation intrinsèque; b) les facteurs déterminants et les résultats des processus motivationnels dans des situations réelles; c) une perspective intégrative sur le rôle de la personnalité, de la tâche et des facteurs sociaux dans les processus motivationnels et les résultats (le modèle hiérarchique de la motivation intrinsèque et extrinsèque); d) une nouvelle perspective sur la passion pour les activités de la vie (le modèle dualiste de la passion). Les principales études sont mises en relief et des conclusions sont présentées.

Mots-clés : passion, motivation, théorie de l'autodétermination, psychologie positive.

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