

The Role of Passion in Education

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Chapter to appear in K. Muis & P. Schutz (Eds.), *Handbook of Educational Psychology* (4th Ed.).

Routledge.

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“I have no special talents.

I am only passionately curious.”

(Einstein, 1952)

The above quote from Einstein underscores the fact that passion represents one of the key factors leading to a lifelong journey of learning and discovery. With passion, learning is viewed as a life-long pursuit. Passion is generally defined as a strong inclination toward an activity that one’s loves, finds important and meaningful, and to which one commits time and energy (Vallerand, 2015). Thus, passion for learning should be nurtured and promoted in educational settings to foster long-term engagement in learning. To this end, teachers and administrators are key in creating conditions that are conducive to the blossoming of passion in the school system, the classroom, and beyond. It is passionate teachers and administrators who plant the seeds of their passion in students, and not only for academic subjects, but also for learning in general. Therefore, the role of passion is imperative in education and other learning environments.

This chapter begins with a very brief review of theories underlying current research on passion in education, with a particular emphasis placed on the Dualistic Model of Passion (DMP; Vallerand, 2015). We then present research on a variety of outcomes, showing that passion matters greatly not only for students and teachers, but also for administrators. Having established that passion matters with respect to educational outcomes, we then proceed to have a look at the personal and social factors influencing the development of passion. The final section of this chapter highlights recommendations for future research in the area of passion in education.

Theories of Passion

The construct of passion has a long history. Philosophers from Plato (429-347 B.C.E./Peters, 1989) to Descartes (1649) to Kierkegaard (1843/2006) have all written and debated about the nature of passion (see Vallerand, 2015 for a review). But within mainstream psychology, passion has been largely neglected (Vallerand, 2015). Most research on passion until recently has focused on passion within romantic relationships (e.g., passionate love; see Hatfield & Walster, 1978). Nevertheless, over the past two decades researchers' interest in passion as a psychological construct has increased. There are now several psychological models and theories that aim to explain the nature of passion in various contexts, including in education (see Vallerand, 2015, 2016).

Research on passion in education has mainly focused on teaching. Some of the first studies in this regard were conducted by Christopher Day who highlighted that passionate teachers are those who care and who facilitate student outcomes (Day, 2004, 2009). Day defined passionate teachers as: 1. Experts in their field; 2. Caring for students; 3. Deriving a sense of identity as teachers; 4. Having high levels of emotional intelligence; and 5. Resilient. Although in this model passion for teachers invariably leads to positive outcomes in students and in teachers themselves, it remains atheoretical in nature because it is not clear as to what are the antecedents and consequences of being a passionate teacher. At least three other models defining passion mostly as affective in nature (i.e., loving an activity associated with one's identity) have appeared recently (Cardon et al., 2009; Chen et al., 2020; Zigarmi et al., 2019); however, they are limited to the work domain, do not address the potential duality of passion, and do not provide as comprehensive a treatment of passion as does the DMP (on this issue, see Pollack et al., 2020).

The Dualistic Model of Passion

In order to more fully capture the construct of passion, Vallerand et al. (2003) proposed the DMP. This model seeks to explain the nature, determinants, and consequences of passion. The DMP (Vallerand, 2010, 2015, 2016; Vallerand & Houlfort, 2019) rests on the firm assumption that people

have a natural tendency toward self-growth that is experienced throughout life. It is posited that one of the key variables that contributes to self-growth is engaging in activities that we are passionate about (Vallerand, 2015). In life, we engage in a number of activities. Typically, we are motivated for most of them, but passionate only for a few. We suggest that those activities that people are passionate about should contribute the most to learning, achievement, and self-growth. This is because, when passionate, people love the activity, find it important, and spend considerable amount of time in it. Thus, they are highly motivated to master the task they engage in, to go through adaptive task experiences, and to internalize the knowledge they acquire in identity and self (see Vallerand, 2015).

As we will see shortly, a lot of research has focused on passion in education. Such passion can be experienced toward education in general (e.g., toward one's studies; Bélanger et al., 2013; Stoeber et al., 2011) or even toward specific subjects such as science (e.g., Chichekian et al., 2022; Mageau et al., 2009), music (e.g., Bonneville-Roussy et al., 2011, 2013), dance (Rip et al., 2006), and dramatic arts (Vallerand et al., 2007). Of additional interest, passion is not seen as a trait by the DMP. Indeed, one is not hypothesized to be passionate for everything or anything. Thus, one may be passionate for education but not for sports and vice versa. This is due to the activity-identity interface that is highly unique to each individual (see Vallerand, 2015).

The DMP further postulates that there are two types of passion, obsessive and harmonious, that can be distinguished in terms of how the passionate activity has been internalized. Harmonious passion (HP) results from an autonomous internalization of the activity into the person's identity and self, which means that the individual has freely accepted the activity as important without any contingencies attached to it (Deci & Ryan, 2000). The activity occupies a significant, but not overpowering space, in the person's identity and is in harmony with other aspects of the person's life. The person fully partakes in the passionate activity with mindfulness (St-Louis et al., 2018), is able to fully focus on the task at hand, and experience positive outcomes both during task engagement (e.g., positive affect,

concentration, flow) and after task engagement (e.g., general positive affect, satisfaction; Stenseng et al., 2011). Furthermore, when prevented from engaging in their passionate activity, people with a HP should be able to adapt well to the situation and focus their attention and energy on other tasks that need to be done. Finally, people with HP persist flexibly and are in control of the activity. They are able to decide to forego activity engagement on a given day if needed or even to terminate the relationship with the activity if it has become a permanent negative factor in their life. Thus, student with a predominant HP for science could work hard in science classes, but would also make sure to focus on other life activities as well. This would allow the student to enjoy both science activities as well as life outside of school and to develop and maintain friendships and romantic relationships.

Conversely, obsessive passion (OP) results from a controlled internalization of the activity that one loves into one's identity, which means that values and regulations associated with the activity are internalized partially in the self or completely outside the integrating self (Deci & Ryan, 2000; Ryan & Deci, 2017). The individual feels an uncontrollable urge to partake in the activity because the beloved activity is attached to contingencies (e.g., feeling of social acceptance, self-esteem; Lafrenière et al., 2011). This ego-investment in the activity can be shown by a rigid persistence toward the activity (Vallerand, 2015). While such persistence may lead to some benefits in the long term (e.g., improved performance), it may also lead the person to experience conflict with other aspects of their life when engaging in the passionate activity, and to experience negative consequences during and after activity engagement. Thus, the student with a predominant OP for science would almost exclusively focus on science classes and neglect other life activities, leading to narrow success in school but also to obstacles with respect to friendships, romantic relationships, leisure activities, and a lower positive emotional tone when engaging in science activities. As we'll see below, much research supports this perspective.

Finally, we must discuss a key self-report assessment that has been developed for research in this area: The Passion Scale (Vallerand et al. 2003). The Passion Scale consists of three subscales of six

items each reflecting OP (e.g., "I almost have an obsessive feeling toward this activity") and HP (e.g., "This activity is in harmony with other activities in my life") and five items referring to criteria for general passion (e.g., "I love this activity"). This scale has gone through extensive development and validation procedures and has been used in hundreds of studies in various fields, including education. Much support has been found for the reliability and validity for this scale (e.g., Marsh et al., 2013; see Vallerand, 2015; Vallerand & Rahimi, 2023). The Passion Scale has been used in most of the studies conducted on passion.

In closing this section, it is important to underscore the distinctions between passion and other constructs used in education such as those of intrinsic and extrinsic motivation (Deci & Ryan, 2000) and flow (Csikszentmihalyi, 1990). The apparent similarity between passion and intrinsic motivation is obvious as both involve liking (or loving) toward the activity. However, whereas passion entails finding the activity important and engaging in it on a regular basis, these are not characteristics of intrinsic motivation. Further, as posited by Self-Determination Theory (SDT), intrinsically motivated activities are typically not seen as being internalized in the person's identity (Ryan & Deci, 2017) and are best seen as emerging from the person-task interaction at the short-term level (Koestner & Losier, 2002). Furthermore, no theory or research has hypothesized or found that intrinsic motivation can lead to maladaptive outcomes, whereas the DMP posits that OP can lead to such outcomes. Thus, the DMP proposes that loving something can sometimes be "bad" for the person. On the other hand, extrinsic motivation entails performing an activity not out of enjoyment, but for reasons that lie outside of the activity. Thus, although some types of extrinsic motivation are posited by SDT to be internalized in the self (e.g., integrated and identified regulation) and thus are relatively self-determined in nature (see Miele et al., this volume), a fundamental difference between passion and these two forms of *extrinsic* motivation is the *lack* of loving for the activity that the latter constructs entail. Research empirically

supports these distinctions between passion and intrinsic and extrinsic motivation (see Bélanger et al., 2013, Study 4; Vallerand et al., 2003, Study 2).

Finally, flow is another construct of interest. It is generally defined as being fully immersed in an activity. Because passion can contribute to how one experiences activity engagement, it has been hypothesized and empirically demonstrated that flow is a *consequence* of passion (see Lavigne et al., 2012; Vallerand et al., 2003, Study 1) that derives mainly from the more adaptive form of passion (harmonious). Further, flow theory does not make a distinction between two types of flow that would reflect the duality of outcomes proposed by the DMP. In sum, while the passion construct as defined by the DMP does share some conceptual similarities with other motivational constructs, it also differs from them in significant ways, including the focus on both the adaptive and maladaptive effects of passion.

Passion and Educational Outcomes

Research relying on the DMP has investigated the outcomes associated with having passion in educational settings, including people's affective experiences, academic behaviors, engagement in academics, cognitions, connections with others, performance, and study habits (Ruiz-Alfonso & León, 2016, Ruiz-Alfonso et al., 2023). As will be seen below, such research has used a variety of research designs, including those experimental and longitudinal in nature. Where appropriate, we highlight some of these designs. Research has also examined if passion in one domain can cross-over into other areas of one's life. Although most findings have been obtained with students at either the secondary or post-secondary level, some key studies have also looked at passion among teachers and administrators.

Affective Outcomes

The DMP posits that people's affective experiences in education should depend on the extent to which their passion is harmonious or obsessive. With HP, people engage in a meaningful activity with a sense of personal volition, control, flexibility, mindfulness (Vallerand, 2015). This means that people with high HP toward academics should be able to be fully engaged in their educational pursuits and thus

experience higher levels of positive affect. In contrast, OP should be associated with greater negative affect because it involves adopting a defensive orientation and experiencing conflict with other non-academic pursuits. Research with university students has supported these predictions by finding that HP toward one's studies is associated with greater positive affect, self-esteem, and academic enjoyment, whereas OP toward one's studies is linked with greater negative, and at times lower positive, affect, anxiety, burnout, and psychological distress (Curran et al., 2015; Peixoto et al., 2021; Philippe et al., 2010; Rahimi & Vallerand, 2021; Verner-Filion & Vallerand, 2016). Moreover, a study conducted by Philippe et al. (2010, Study 1) showed that the connection between passion and affective experiences is not limited to students. They conducted a study with a sample of employees, many of whom were teachers, and found that HP predicted greater affective experiences, including the extent to which employees generally felt "happy" and "in a good mood" at work. These findings are in line with research conducted in other domains that has shown that HP predicts greater positive affect, and that OP predicts greater negative affect (see Curran et al., 2015; Vallerand, 2015; Vallerand & Houliort, 2019).

For most students, teachers, and administrators, education is a full time pursuit. This means that habitual affective experiences in education should not only contribute to how one feels in academics, but also to how one feels about one's life in general (see Frenzel et al., this volume). By facilitating greater positive affect in education, HP should thus be associated with greater levels of psychological well-being. Conversely, OP is associated with greater negative affect in education, which should not contribute to one's wellness in life. These predictions have been tested with university students, and the results have consistently shown positive associations between HP toward university studies and psychological well-being, including students' feelings of satisfaction in life (Bouizegarène et al., 2018, Study 2; Peixoto et al., 2021), subjective well-being (Vallerand et al., 2007), and flourishing (Chen et al., 2021). The positive link between HP and psychological well-being has also been supported with faculty members (Yukhymenko-Lescroart & Sharma, 2019) and high school teachers (Moè, 2016).

A key proposition of the DMP is that the positive effects of having high levels of HP toward a meaningful pursuit should endure even after that pursuit has ended. HP involves an activity being an important, but not overwhelming, part of one's life and identity. This means that HP for one's full-time career should not only lead to greater feelings of well-being while one is still employed, but also to better psychological adjustment after one retires. This premise was tested by Houliort et al. (2015), who assessed passion and indices of well-being in a sample of teachers over a six-year period, a design that allowed outcomes to be assessed after some of the teachers had retired. They found that HP for being a teacher, assessed pre-retirement, predicted less psychological distress and greater life satisfaction, assessed post-retirement. OP did not predict either of these outcomes. These results indicate that the positive effects of HP can last even after engagement in a passionate activity has ended.

A specific form of ill-being that has been studied extensively in the passion literature is burnout, a syndrome involving feelings of exhaustion, cynicism, and inefficacy (Schaufeli & Buunk, 2003). Researchers in various domains have been fascinated by the question of whether highly engaged individuals can burn out from passion (e.g., Gustafsson et al., 2011). In line with the DMP, this research has shown that the answer depends on the extent to which passion is harmonious or obsessive. Cross-sectional studies with students (Stoeber et al., 2011) and teachers (Fernet et al., 2014, Study 1) have found strong, negative associations between HP and all three burnout dimensions. Less consistent relationships have been reported with OP, which was found to be negatively associated with inefficacy (Stoeber et al., 2011) and positively associated with exhaustion and cynicism (Fernet et al., 2014, Study 1). Others have studied if certain combinations of *both* HP and OP associate with different levels of burnout. For instance, Schellenberg et al. (2019) examined the associations between burnout and different combinations of HP and OP in a sample of undergraduates. They found that having high OP combined with low HP (i.e., pure OP) was associated with the highest levels of burnout, whereas having low OP combined with high HP (i.e., pure HP) was associated with the lowest levels of burnout. Using

latent profile analysis with a sample of university students, Bélanger and Ratelle (2021) found that the highest levels of burnout were associated with students with low levels of both HP and OP (the *low* profile), whereas the lowest levels of burnout were associated with high HP and low OP (the *optimal* profile).

Researchers have conducted longitudinal studies to test for the directionality of the relationships between passion and burnout. Carbonneau et al. (2008) conducted such a study with teachers using a longitudinal design over a 3-month period, and found that HP predicted decreases in burnout over time. Similar findings were obtained with Spanish physical education teachers (Castillo et al., 2017). To look at the specific dimensions of burnout, Fernet et al. (2014, Study 2) conducted a longitudinal study with novice teachers over a one-year period, and found that HP predicted decreases in inefficacy, whereas OP predicted increases in exhaustion. More recently, Horwood et al. (2021) sampled almost 4,000 school leaders, the majority of whom were school principals, over a one-year period. This study was the first to test if the effects of HP and OP interacted with levels of general passion (GP) – that is, the extent to which the school leaders satisfied the passion criteria of liking, valuing, and incorporating their work into their identity. They found that HP predicted decreases in burnout over time, whereas OP was unrelated with changes in burnout. However, the results depended on GP: when GP was high, OP predicted increases in burnout and HP no longer protected against burnout. Although these findings await replication, this study suggests that it may be useful to take levels of GP into consideration when studying the effects of both HP and OP on burnout.

Very few studies have looked at the passion of students with special needs. In one such study, Meilleur et al. (2022) assessed the role of passion for a given activity (including but not limited to school) in the affective outcomes of autistic emerging adults, including several who were students. The results revealed that having a HP for an activity in one's life had a positive relationship with positive emotions and psychological wellbeing, whereas OP had a *negative* relationship with these variables.

Thus, engaging in extra-curricular activities does not invariably lead to benefits. Future research should identify other mediators besides emotions (i.e., intrinsic and extrinsic regulations; see Vallerand, 2015 on this issue). Additional research is also needed to determine if passion (HP and OP) for academics or for a given extra-curricular activity performed at school allows students with special needs to thrive in the school system.

Behavioral Outcomes

Passion has been studied not only in connection with how people feel in educational settings, but also with what they do. One behavior that can be beneficial in education, particularly for students, is persistence. For example, students can remain committed to a specific program or field, or can persevere in learning something new. Research relying on the DMP has shown that persistent behaviors among students are positively associated with HP, and not OP. For example, Bonneville-Roussy et al. (2013) conducted a study with music students who were attending a summer music academy. In addition to assessing HP and OP, they asked the students to report their intentions of becoming a professional musician. The results showed that intentions of becoming a professional were positively associated with HP and unrelated with OP. In a follow-up study with college music students, they found that HP at the start of the semester predicted a greater likelihood of remaining in the music program at the end of the semester. Similar results were found in other research examining dropout intentions among university students (Bélanger & Ratelle, 2021; Verner-Filion & Vallerand, 2016) and the willingness of second-language students to communicate in the language they were learning (Chen et al., 2021). More recently, Chichekian and Vallerand (2022) took a more nuanced approach by differentiating between two types of persistence in education: flexible persistence (pursuing academic goals without sacrificing other goals) and rigid persistence (exclusively focusing on academic goals). In two studies with postsecondary science students, they found that HP predicted greater flexible persistence, whereas OP predicted lower flexible persistence but greater rigid persistence toward engaging in science activities.

Overall, the results in this research area show that persistence, and especially flexible forms of persistence, are positively associated with HP rather than OP (Verner-Filion et al., 2020).

Another common, but more maladaptive behavior in education, is procrastination. Two recent studies examined the links between procrastination and passion in students. Peixoto et al. (2021) measured HP, OP, and procrastination in a sample of university students and found that procrastination was positively associated with OP and negatively associated with HP. In a series of studies by Rahimi and Vallerand (2021), the authors examined the role that emotions play in the link between passion and procrastination. They found that OP was associated with greater negative emotions in one's studies, which in turn was associated with greater procrastination. HP, in contrast, was associated with a more positive emotional tone, which was, in turn, associated with lower procrastination. These findings suggest that students high in OP or low in HP engage in more procrastination behavior, and that one reason for this relationship is differences in emotional experiences at school. Future research is necessary to ascertain if OP for teaching also triggers procrastination in teachers.

Academic Engagement

A central outcome for students that encompasses both affective and behavioral components is engagement (Stoeber et al., 2011). Academic engagement has been conceptualized as a positive state of mind that involves approaching one's studies with a great deal of energy (i.e., vigor), a sense of pride and enthusiasm (i.e., dedication), and with a tendency to get immersed and engrossed while studying (i.e., absorption; Schaufeli et al., 2002). Academic engagement is thus an indicator of optimal functioning among students. Because both HP and OP in academics involve liking, valuing, and devoting a great deal of time and energy toward one's studies, having high levels of passion toward academics, regardless of whether that passion is more harmonious or obsessive, should be associated with greater academic engagement. One of the first studies to test this was conducted by Stoeber et al. (2011) with university students. They found that both HP and OP predicted greater levels of all three

components of engagement (i.e., vigor, dedication, and absorption), although the associations between OP and dedication and HP and absorption were weaker and not significant after controlling for autonomous (engaging in the activity out of choice and/or pleasure) and controlled motivation (doing something out of internal or external pressure). Similar results were obtained by Bélanger and Ratelle (2021), who found that the highest levels of academic engagement were found among students who reported high levels of both HP and OP. These findings were extended by Ariani (2021) with Indonesian students. They found that both HP and OP contributed to learning engagement that, in turn led to academic performance. Overall, it appears that students with high levels of both HP and OP passion for their studies, are more engaged in their studies. These findings with students are interesting but await replication with other student samples such as those involved in graduate school, as well as with teachers and school principals.

Cognitive Outcomes

In academics, people need to think, concentrate, remember, problem solve, communicate, reason, and of course learn. Cognition thus takes center stage in education. Research in both academic and non-educational contexts has shown that HP predicts more adaptive cognitive processes including enhanced concentration, attention, mindfulness, and executive functioning whereas OP predicts more maladaptive cognitive processes such as rumination (e.g., Briderick et al., 2016; Curran et al., 2015; St-Louis et al., 2018). Research within educational settings has focused on the concept of flow. Flow entails a sense of total involvement in an activity and can result in a loss of self-consciousness and a transformation of time (Csikszentmihalyi, 1990). Flow is therefore a very positive state that involves a sense of being “in the zone”. In line with research conducted in non-educational contexts (Curran et al., 2015), research with students has found that flow is more characteristic of HP than OP. For example, Zhao et al. (2015) sampled university students in China and found that experiences of flow while studying were positively linked with HP but not OP. In their research with Chinese high school students

learning a second language, Chen et al. (2021) reported that both HP and OP predicted higher levels of flow, but associations were much stronger with HP than OP. These findings obtained with Chinese students replicate those secured with North-American students and underscore that students who pursue their studies with high HP are more likely to feel “in the zone” (Sverdlik et al., 2021) and experience higher flow states than those with OP.

Connections with Others

People love to form strong social connections with others, and having warm interpersonal relationships may be especially valuable in educational settings (e.g., Buote et al., 2007; see Lin et al., this volume). Indeed, other students represent a rich source of information and emotional support that may help adapting to difficult situations such as going through that rough first semester in college (Wilcox et al., 2005). Researchers have thus been interested in understanding if passion can help facilitate such social connections. Based on the features of both HP and OP outlined by the DMP, there is reason to suspect that passion types do indeed matter. As we have already seen, HP facilitates greater positive emotional experiences, whereas OP does not predict positive emotions to the same extent and even predicts more negative emotions. And based on the broaden-and-build theory (Fredrickson, 2001), emotions play a key role in one’s interpersonal relationships. Positive emotions are posited to facilitate greater interpersonal relationship quality because they broaden one’s thought-action repertoire and help enhance feelings of closeness and overlap with others. Conversely, negative emotions are posited to lead to worse interpersonal relationship outcomes because they narrow one’s thought-action repertoire and thus limit one’s ability to form meaningful connections (Waugh & Fredrickson, 2006). This means that HP should facilitate better interpersonal relationships because it involves experiencing greater positive emotions, whereas OP should lead to less adaptive interpersonal relationships because it involves greater negative emotions. Evidence in support of these predictions was reported by Philippe et al. (2010) in a series of studies, two of which took place in educational settings with teachers and university

students in a management program. Their results showed that HP was associated with greater positive emotions, which in turn predicted higher quality relationships with teachers at work and with students in their program. OP did not predict positive emotions, but instead positively predicted more negative emotions, which in turn predicted lower feelings of connectedness with others and even greater feelings of seclusion. These findings were also upheld in a semester-long longitudinal study where students in work-study groups assessed the quality of relationships displayed by the other students in their group. Thus, the role of passion and emotions in relationships is not limited to self-report of relationship quality but is also an observable indicator to others. These findings were supported in another study conducted by Bouizegarène et al. (2018) who found that HP among university students was associated with greater interpersonal relationship quality and with greater levels of contribution to society as a whole. OP, in contrast, predicted lower interpersonal relationship quality and was unrelated to society contribution. Research continues to explore additional processes (e.g., apologizing behaviour; Lyimo & Schellenberg, 2022) that explain why HP, and not OP, facilitates higher quality relationships in education settings.

Academic Performance

So far we have reviewed research on the connection between passion and people's feelings, behaviors, engagement, and relationships with others in academics. But a key outcome that is at the top of most students' minds while they are pursuing their studies is academic performance. Does passion matter in predicting students' academic achievement? On the one hand, both HP and OP, as we have reviewed, are associated with higher academic engagement (i.e., vigor, dedication, absorption). This intense devotion and engagement toward academics should lead to better performance. On the other hand, OP also entails experiencing greater negative emotions and providing less access to adaptive self-regulatory processes (Vallerand, 2015). This means that OP should be associated with processes that also hinder academic performance. Researchers studying the connection between passion and academic

performance have thus done so with an emphasis on assessing the underlying processes that explain this connection.

For example, Schellenberg and Bailis (2016) studied the relationships between passion types, appraisal and coping behaviors, and final grades among university students over the course of an entire academic year. They found that HP predicted greater challenge appraisals and fewer appraisals of threat and uncontrollability. Challenge appraisals were, in turn, associated with greater use of approach forms of coping and led to higher grades. OP, in contrast, predicted greater uncontrollability appraisals which were, in turn, associated with lower grades. More recent laboratory-based research has supported the idea that HP also facilitates appraising difficult academic situations as challenges and OP as threats (Vallerand et al., 2022).

HP has been associated with other processes that have been linked with greater performance in academics, including deliberate practice (Vallerand et al., 2007, Study 2), intrinsic motivation to learn (Ruiz-Alfonso & León, 2017), flexible persistence (Chichekian & Vallerand, 2022), and positive affect (Verner-Filion & Vallerand, 2016). OP, in contrast, represents a more conflicted process because, in addition to predicting processes that are associated with poor academic performance such as uncontrollability appraisals (Schellenberg & Bailis, 2016) and negative emotions (Verner-Filion & Vallerand, 2016), it has also been linked with processes that predict better performance such as deliberate practice, pursuing different types of achievement goals (Vallerand et al., 2007, Study 2), and rigid persistence (Chichekian & Vallerand, 2022). It thus appears that both types of passion can facilitate processes that lead to better performance, but OP is also linked to processes that can hinder performance. This conclusion has been supported by research showing that academic performance is lowest among those with low levels of passion (Bélanger & Ratelle, 2021), especially low levels of HP (Bouizegarène et al., 2018). It should be noted that a strength of research on this topic is that performance has been assessed in different ways, including self-report (e.g., Verner-Filion & Vallerand,

2016), instructor ratings (Vallerand et al., 2007), and grades attained in specific courses or programs (e.g., Ruiz-Alfonso & León, 2017).

We have seen previously that HP facilitates general positive emotions and protects against general negative emotions, whereas OP fosters both negative emotions and positive emotions (although less so than HP). Using a longitudinal design, Sverdlik et al. (2021) focused on the role of passion in the experience of *specific* emotions proposed by Pekrun's Control-Value Theory to influence academic outcomes such as learning. According to Pekrun's theory (2016), emotions vary in terms of both valence (positive and negative) and activation (activation or deactivation). Both dimensions can positively or negatively affect outcomes such as learning. For instance, enjoyment is positive and activating. As such, it should positively affect learning. Conversely, boredom is negatively valenced and deactivating and should minimize effort and thus learning. On the other hand, anxiety is negative and activating and should lead to worrying and rumination that should undermine learning. In their study, Sverdlik et al. (2021, Study 2) followed undergraduate students over a 6-month period. As predicted, they found that HP positively predicted academic enjoyment but negatively predicted boredom and anxiety, whereas OP slightly predicted enjoyment but was strongly and positively associated with both boredom and anxiety. In turn, as predicted by Pekrun, enjoyment positively predicted *increases* in learning strategies over time, whereas boredom and anxiety decreased learning. Of additional interest, Sverdlik et al. also showed that academic enjoyment led to an increase of psychological wellbeing over time, whereas boredom and anxiety undermined it.

These findings provide some key insights into the functioning of passionate students in the classroom. When displaying HP, students experience enjoyment in the classroom and little anxiety and boredom, and their learning strategy repertoire increases progressively over time. But there is a bonus effect as with HP one also experiences happiness and wellbeing in the process. Such is not the case with OP, largely because it promotes anxiety and boredom. These findings thus show that the DMP and

Pekrun's models can work hand in hand in providing an understanding of the determinants and consequences of affect in classroom settings.

Finally, in a large-scale international study with over 1 Million teenagers worldwide, Li et al. (2021) found that passion was a major predictor of objective standardized academic performance (PISA scores). Although present in all countries, the passion-performance relationship was stronger in individualistic than collectivistic countries. Future research is necessary to determine if the distinction between HP and OP (not assessed in the Lie et al. study) represents a key variable in this cultural difference.

Cross-Over Effects

Do levels of passion in one domain cross-over and have effects on outcomes in other life domains? The DMP posits that the effects of both HP and OP are not limited to the specific passionate activity; effects can spillover and either contribute to or conflict with other life domains (Vallerand, 2015). In fact, we have already reviewed evidence showing that passion in academics can cross-over to affect people's general levels of psychological well-being. Other research has found evidence for more specific instances of cross-over effects of passion in academics. Naydanova and Beal (2016) assessed levels of HP and OP in samples of high school students from both the U.S. and Russia. HP and OP were assessed in relation to using the internet – an activity that is quite often used for non-academic purposes, especially among adolescents. They found that levels of cognitive competence, an indicator of one's perceived effectiveness in learning, was positively associated with HP and negatively associated with OP. Similarly, Yukhymenko-Lescroart (2022) found that HP and OP for sport in student-athletes had adaptive and maladaptive academic outcomes, respectively.

Rahimi and Vallerand (2021) studied the effects of having passion for a non-academic favorite activity on procrastination in one's studies. In addition to the associations between passion for one's studies and procrastination that were reviewed earlier, the authors found that levels of OP for a second,

non-academically related activity both directly predicted greater procrastination and indirectly predicted greater procrastination via higher negative emotions. Another interesting cross-over effect was observed by Carbonneau et al. (2008). However, rather than study cross-over effects between academic and non-academic domains, they tested cross-over effects between people. More specifically, they tested if passion among teachers affected outcomes in their students. They found that both HP and OP among teachers predicted increases in positive student behaviors, including behaviors such as being cooperative and enthusiastic. This result suggests that students may be able to perceive the extent to which their teachers are passionate about teaching, but they may have more difficulty distinguishing between HP and OP varieties of passion in their teachers.

In sum, the above reviews supports the claims from the DMP to the effect that HP leads to more adaptive outcomes than OP. Thus passion matters with respect to a variety of educational outcomes and not only for students, but also for teachers and school principals. It thus becomes important to focus on the determinants of passion.

Determinants of Passion in Education

Initial and Ongoing Development of Passion in Education

Within educational settings, scholars have primarily studied the concept of passion from two perspectives: (1) the passion that students may feel toward a particular topic (i.e. passion for one's field of study) and (2) the passion that teachers have for their profession (i.e. passion for teaching), the subject they teach (i.e. passion for my discipline), or various aspects of teaching and learning (Bélanger & Ratelle, 2021). The DMP proposes that to the extent that activities contain at least some interesting elements, there is potential for it to initially develop into a passion. Furthermore, the DMP posits that there are at least three processes involved in how an interest for a specific activity transforms into a passion: activity selection, activity valuation, and internalization of the activity in one's identity (Vallerand, 2015).

Passion begins with the **selection** of a particular activity in which individuals spend a great deal of time, reflects the person's true choice and interests, and is consonant with one's identity. In education, activity selection would translate to a student's preference for a course or field of study over another. It then develops as they increasingly perceive the value of the activity and the importance of it in their life. Activity **valuation** (or the subjective importance given to the activity by the person) can be seen as the intensity with which students will value and find a course or a field of study meaningful. Therefore, teachers play an important role in students' valuation of a given activity either by being themselves passionate about it, by positively engaging with students in the context of the activity, or by encouraging activity specialization (e.g., Fredricks et al., 2010). Moreover, students are more likely to become passionate when an enjoyable activity, like sciences, becomes so central that it contributes to their **identity** such that they have the perception of potentially becoming scientists later on (a possible self; Markus & Nurius, 1986). It is further proposed that once an interesting activity becomes highly valued, the type of passion that will ensue is determined by the type of internalization that takes place. Therefore, the type of passion that will initially develop (HP or OP) for an activity, depends on the quality of how it is internalized; activities that are internalized autonomously will lead to a predominant HP, whereas those that are internalized in a more controlled manner will lead to a predominant OP.

The DMP further posits that once a predominant type of passion for a given activity has initially developed, it is an ongoing process (Vallerand, 2015). This is because both types of internalization processes (autonomous and controlled) initially do take place to different degrees. Additionally, according to the DMP, a passion for an activity develops when the activity is integrated in identity. Thus the role of identity in passion development in education is key to a better understanding regarding its antecedents (Bouizegarène et al., 2018; see Hong & Perez, this volume). Consequently, while the internalization process leads to the initial development of a predominant type of passion, both types of passion are nevertheless present within the individual, thus making it possible to trigger either one or the

other through the impact of various determinants. Research into the determinants of passion is critical, especially the investigation of motivational processes that reside largely in three groups of variables: the person (P), the environment (E), and the task (T). Moeller et al. (2017) found that only about 20% of the variance in passion came from the person and the rest came from environmental factors. This implies that it is possible to further reinforce the predominant passion (e.g., OP) or to make the non-predominant passion (e.g., HP) operative depending on the extent to which social and personal factors (e.g., teacher's autonomy support or controlling behavior) residing in the PET structure are present or absent. We now turn to some of these variables.

Social Factors

Parental and Teacher Autonomy Support. Autonomy support in a social environment refers to the recognition of people's feelings and preferences, as well as encouraging and allowing individuals to make choices and participate in decision-making (Ryan & Deci, 2017; Vallerand, 2015), as opposed to authoritarian approaches that use pressure and control to make individuals behave in a specific way. The DMP posits that autonomy support facilitates the on-going development of HP once it has been initially developed, compared to more controlling behavior that would be more prone to further the development of OP (see Mageau et al., 2009).

An autonomy-supportive approach to teaching is particularly well-suited in education because it provides teachers with need-satisfying experiences. Nestled in the adoption of a student-focused attitude, this approach enables the skillful enactment of autonomy-supportive instructional behaviors. Past findings suggest that one of the ways a student's passion can be developed is through the provision of autonomy support. Specifically, teacher autonomy support has been found to promote students' engagement (Patall et al., 2018) and daily interest in a specific subject (Patall et al., 2016), whereas parental autonomy seems to promote the satisfaction of students' psychological needs and persistence in educational settings (Jungert & Koestner, 2015). Generally, an autonomous internalization leading to the

development of a HP is likely to take place depending on the extent to which one's social environment (e.g., parents, teachers, coaches, principals) is autonomy-supportive (supporting the student's right to make some choices). The reverse is also true, whereby when the social environment is controlling (i.e., pressuring one to behave in a certain way), a controlled internalization takes place, thereby leading to the development of an OP.

Research by Mageau et al. (2009) high school students' passion for music had provided the first clues about an initial development of passion from time zero by testing the social environment using autonomy support from parents and music teachers as the key variable (Mageau et al., 2009, Study 3). Overall, some high school students who had *never* played a musical instrument eventually became passionate for music over the course of their first term. Students who reported higher levels of valuation and specialization toward music, as well as higher levels of parental and teacher autonomy support earlier in the term, were more likely to develop a passion toward music by the end of the term. This study, however, pertained more to the *initial* development of passion with students engaging in an activity for only a few months or years.

Once developed, passion can further develop leading to some *ongoing* development (Vallerand, 2015). For instance, in a study with students with an average of over 7 years of musical experience and enrolled in a university music program, Bonneville-Roussy et al. (2013) found that a musical identity coupled with teacher autonomy support predicted HP toward music, whereas OP was predicted by a musical identity coupled with controlling behavior from teachers. Thus, to the extent that an activity is already internalized in one's identity, autonomy support from teachers facilitates the development of HP, whereas controlling behavior leads to OP. Since an autonomy-supportive instructional style allows students to have some autonomy when making choices regarding their academic activities, it is much more likely that students will fully integrate a given academic activity into their identities because of willful engagement and begin developing a certain passion (Ruiz-Alfonso et al., 2018).

In more recent research extending past writings about teachers supporting students' perspectives and initiatives, Patall et al. (2018) examined students' perceptions of high and low levels of both teacher and parental autonomy support and how they differentially influenced their passion for a discipline. Specifically, students' perceptions of dual support rendered the highest levels for HP and low support from both sources produced the lowest levels of HP. Moreover, high levels of *parental* autonomy support seemed to play an especially important role in taming students' OP in the absence of *teacher* autonomy support (Chichekian et al., 2023).

Learning Environments. In addition to autonomy support, another variable of importance in the development of passion is that of positive learning environments. A recent study by Moeller et al. (2017) found that about 80% of students' passion from middle and high schools was related to the situational context. As such, teachers play an important role in being able to influence such context and thus development of students' passion (Haerens et al., 2016). For example, Ruiz-Alfonso and León (2019) showed that math teachers who try to explain the usefulness of the contents they are teaching in class, as well as the usefulness of the activities they propose, are more likely to promote passion in their high school students. Similarly, in another study with over 1,000 Spanish high school students, Ruiz-Alfonso and León (2019) found that students who had teachers who provided specific, responsive, and positive feedback, who assigned tasks that were aligned with an appropriate challenge level, and who emphasized the value of learning to master concepts rather than just focusing on passing and getting good marks, were more likely to develop HP.

Task Demands, Resources, and Autonomy. Other important social determinants of passion are task demands and resources while performing a given task (Trépanier et al., 2014). Task resources provide support to people enabling them to carry out a task and should, therefore, promote HP. On the other hand, task demands refer to imposed pressure or restrictions that one must cope with while engaging in the activity. Because task demands tend to elicit a more controlling experience in nature,

they should concord with elements that have also been internalized in a controlled fashion and, therefore, lead to OP. This implies that pressure to perform a challenging activity provides fertile grounds on which one would be likely to retrieve and mobilize an OP to properly complete the task at hand. In addition, experiencing such pressure may even undermine HP as it tends to disrupt the harmony that exists within one's various life domains. Trépanier et al. (2014) obtained these very same relationships in a study using a cross-sectional design with 745 teachers. In addition, they also found that HP facilitated teachers's work engagement and protected against teacher burnout whereas OP was positively associated with burnout. Also of note, Schellenberg and Bailis (2015) found that levels of OP increased dramatically over the course of the academic year for a group of students who perceived high levels of pressure in university. This evidence supports the idea that OP can grow in educational environments that are perceived as being excessively demanding. Finally, in two studies with teachers, Fernet et al. (2014, Studies 1 and 2) showed that providing teachers with autonomy regarding how to go about structuring and delivering one's teaching promoted HP and diminished OP for teaching.

Overall, the above leads to some important applications for administrators with teachers. Specifically, providing teachers with autonomy and resources may represent a valuable tool to be used by school principals with novice teachers to maintain or even increase their HP. In addition, these practices can also be used by teachers with students thereby providing the blueprints as to how best to increase students' HP.

Personal Factors

As indicated in the previous section, the DMP posits that the development of a passion is a function of the interaction between the activity or task, the environment, and the person (Vallerand, 2015). This section explores the role of personal factors that have been shown to play a role in the development of passion.

Personality: Autonomous Orientations and the Big 5. As far as traits are involved, we know that individuals with an autonomous personality orientation (a general tendency to engage in a task out of mere pleasure and/or choice) are more likely to develop a HP compared to those who have a controlled personality orientation (a tendency to engage in a task out of external and/or inner pressure) who are more likely to experience an emergence of OP (Vallerand et al., 2006). To this end, broad personality factors such as those in the Big Five model (Costa & MacCrae, 2008) describing most human behaviors have also started to be examined in relation to passion. An earlier study by Balon et al. (2013) found that HP was positively associated with conscientiousness, agreeableness, openness to experience, and extraversion. In contrast, OP was only negatively associated with agreeableness. A more recent study by Dalpé et al. (2019) revealed findings consistent with those of Balon et al. (2013), especially those involving HP. All the facets of conscientiousness and extraversion, and most of the facets of agreeableness and openness to experience were positively correlated with HP. A mirror image was obtained with OP where all traits (and most of their facets) were *negatively* related except for extraversion (unrelated) and neuroticism (which was positively related). Recent research by Schellenberg and Bailis (2021) also found that openness to experience predicted being passionate for a greater number of activities. Although these few studies indicate a relationship between personality and passion, thus merging the Big Five Model of Personality and the DMP, they are not contextualized in the field of education. There is thus much to learn about the effects of broad personality factors on the emergence and development of HP and OP in education.

Perfectionism. Another relevant personal determinant of passion is perfectionism. Flett and Hewitt (2002) posit that perfectionism for self, the holding of excessively high self-standards of achievement, can be classified in two major categories. The first type, self-oriented perfectionism, describes expectations of excessively high standards individuals have for themselves which remains under their control and involves standards that may be changed by the person in a proactive manner.

Self-oriented perfectionists typically experience positive outcomes in tasks or activities they engage in (Miquelon et al., 2005). The second type, socially prescribed perfectionism, describes self-expectations of excessively high standards that are perceived as imposed by others, generally leading one to experience negative outcomes. Because self-oriented perfectionism is more adaptive and integrated in oneself, it should be positively associated with HP. Conversely, because socially prescribed perfectionism is less adaptive and more rooted in self-invested ego structures, one would expect a positive association with OP. These predictions were tested and supported in two studies by Verner-Filion and Vallerand (2016) with university students. Thus, seeking to reach excessively high standards can direct one toward either form of passion depending on if such a question is guided in an autonomous fashion or as a response to the demands of a social pressure.

Signature strengths. Another personal factor that tends to have a positive impact on the development of passion, and more generally in various outcomes in education, is signature strengths (Peterson & Seligman, 2004). The concept of character or signature strengths is highly regarded and widely used in the field of positive psychology (Seligman, 1999) and frequently reported by educators and students as memorable and impactful within schools implementing positive education programs (Huffman et al., 2016). Research has shown that focusing on what we do best (our signature strengths) such as using our social skills or our sense of humor has a positive impact on students' academic learning experiences (Calkins, 2015). In the same vein, Forest et al. (2012) and Dubreuil et al. (2014) provided evidence that a strength-based intervention program (e.g., focusing on one's strengths such as connecting with others, using humor, being creative) within the context of a passionate activity nurtured a HP and facilitated the experience of positive outcomes. The field of positive education is a young one but holds great promise for future research integrating tenets of signature strengths and passion which have thus far proven to be a worthwhile pursuit in the field of education (White & Waters, 2015).

In sum, the research reviewed in this section shows that both the social environment and personal orientations are important factors in the initial and ongoing development of passion. We now turn our attention to key future research questions for the next ten years.

Future Key Research Areas

From an educational psychology perspective, the study of passion is very recent, and the analysis of its role in the educational context, although promising, is still scarce. In the present chapter we sought to present current research about passion and its prevalence in education. Indeed, over 25 studies with *students* from different countries and various age groups and over 15 additional studies with *teachers* at different levels (e.g., elementary, high school, college), and at least one with school principals (Horwood et al., 2021) using the DMP (Vallerand, 2015) as a theoretical foundation have provided evidence that passion matters in education. Further, all studies point in the same direction: the distinction between HP and OP is important as HP in education is generally associated with more adaptive outcomes, whereas OP in education leans more toward less adaptive and at times maladaptive outcomes.

Passionate teachers not only display enthusiasm for teaching and for their subject matter, but they also invest countless hours and energy into their instruction. Unfortunately, not much research has taken into consideration the role of classroom teachers in instilling a sense of passion among their students, an important topic to consider especially with novice teachers who are often assigned the least-desirable and challenging classes to teach due to their lower ranking in the status hierarchy (Chichekian & Shore, 2016; Chichekian et al., 2016). In organizational settings, HP among employees has shown to flourish when positive relationships and caring facilitated autonomy at the group and company levels (e.g., Liu et al., 2011). Similarly, in sports contexts, coaches' harmonious passion matters with respect to the quality of the coach-athlete relationship, especially when considering autonomy-supportive behaviors (e.g., Lafrenière et al., 2011). Given that teachers have a significant impact on students'

learning environments and that autonomy support plays an influential role in the development of learners' passion, it seems imperative for future research to consider the impact of teachers, principals, and other school administrators when examining students' development of passion. Consequently, such processes need to also be examined in light of other potentially mediating variables (see Chichekian et al., 2023, for an example with emotions).

Recent research using the DMP has shown that it may be critical to explore how both passion dimensions coexist within each individual (Schellenberg et al., 2021). Because individuals tend to experience varying levels of both OP and HP toward an activity (Vallerand, 2015), recent calls for action have encouraged researchers to start examining the effects of different within-person combinations of both HP and OP. As a result, a quadripartite approach to passion (Schellenberg et al., 2019) has recently been introduced where the within-person combination of the presence (low-high) of both HP and OP is associated with educational outcomes. For instance, one such study with students (Schellenberg et al., 2019, Study 4), showed that pure OP (High OP-Low HP) for one's studies predicted increases in burnout whereas pure HP (High HP-Low OP) led to decreases in burnout over an academic semester. Of additional interest, however, mixed passion (High HP-High OP) was found to be associated with *lower* levels of burnout than pure OP. These findings suggest that HP may serve some protective function with respect to OP. Future research using both the within- (Schellenberg et al., 2019) and between-person perspectives (e.g., Bélanger & Ratelle, 2021) are encouraged to address the quadripartite issue. Such research could provide key insights regarding the interplay between both HP and OP in students, teachers, and administrators outcomes.

It is important to remember that students, teachers, and administrators have lives outside of school. Given the known cross-over effects of passion, future research should investigate how HP and OP for educational pursuits influence outcomes outside of academics. One group that could be greatly impacted by these cross-over effects is student-athletes. For example, to what extent can HP and OP for

sport and education determine how student-athletes will adapt to a situation when confronted with two choices (e.g., preparing for an exam the next day or feeling an uncontrollable urge to remain engaged in their sport)? A promising line of research was developed by Vallerand et al. (Lavoie et al., 2021) who showed that when students engage in an educational task under stress, HP promotes a challenge appraisal that leads to a more adaptive *cardiophysiological* response both on the academic task and also on a subsequent leisure task. OP triggered a threat response that was unrelated to the physiological response. Thus, what happens in education seems to have some carry over *physiological* effects in other areas of one's life! Research on these issues within the dual perspective of school and other life domains would thus represent an intriguing future avenue.

Thus far, research on the determinants and outcomes of passion have shown the significant impact that social factors can have on the vitality of students' learning environments. This landscape provides us with a possible avenue for future applied research in the field of education, with potential applications that can be used to promote HP. Indeed, creating a positive learning environment is closely tied to the ways in which both teachers and parents provide autonomy support to students, not only by providing choice, but also by encouraging them to identify their strengths and using them at school (e.g., Cheon et al., 2020). Doing so is expected to facilitate students' development of HP and lead them to flourish at school. Similarly, nurturing learner identity at school tends to facilitate the development of passion (Isabirye, 2021). However, whereas informational identity (a personal search of identity) fosters HP, normative identity (seeking an identity supported by others) facilitates OP (Bouizegarène et al., 2018). Thus, facilitating the former type of identity may represent an important inroad to the development of HP in students.

In a similar vein, evaluating student outcomes from varying classroom structures is one way of testing the development of passion in education. For instance, the promotion of HP for a given subject can be tested in classrooms where cooperation is encouraged and pressure to perform is minimized.

Moreover, learning environments in which students feel that going to school means much more than just going to the classroom, such as in specialized schools that offer sports-study programs (Chichekian & Vallerand, 2018) or other streamed programs (e.g., arts, dance, music, robotics) are exemplary in nurturing passion, and especially HP (Fredricks et al., 2010). In this vein, intervention-based studies that encourage students to engage in extracurricular activities that they are passionate about either at recess, lunchtime, and even after school have the potential to assess if such passion can not only facilitate friendships (Philippe et al., 2010) and autonomous motivation, but also if it is transferable to some of their preferred academic subjects or other classroom-based activities. Although students do not normally exhibit passion for all subjects, it is not impossible that passion in one context (e.g., an extracurricular activity engaged in at school) may generalize to another context (e.g., the classroom) given past findings regarding cross-over effects. Such a school setting where passion is fostered both inside and outside the classroom may contribute in preventing high-school dropout and fostering academic success that may generalize later on to life in general.

Additionally, because autonomy-supportive teachers' instructional practices are quite malleable (Reeve & Cheon, 2021), their learning environments should be optimal for intervention-based and longitudinal research thereby leading to numerous students and teacher benefits, including passion for teaching (Cheon et al., 2020). Future research should consider intervention studies with the goal of increasing HP for academics (especially those in their early-career years), which in turn, would lead to some adaptive outcomes such as psychological well-being and work-based performance. Although interventions on strengths have been implemented and found to be effective in education (White & Waters, 2015), future research should replicate study designs using strength-based approaches from the work domain (Forest et al., 2012; Dubreuil et al., 2014, 2016) with teachers to assess the extent to which positive ripple effects are passed on to students as well.

We now know through years of research that passion matters greatly in education (Vallerand et al., 2020), but one important question remains: To what extent are passion-based outcomes generalizable? Thus far, theoretically and methodologically, the Passion Scale as designed based on the DMP framework has been successfully translated and validated in a number of languages including French, English, Chinese, Russian, Japanese, Spanish, Portuguese, Hungarian, Arabic and others (Burke et al., 2015; Ruiz-Alfonso & León, 2017; Vallerand & Rahimi, 2023). Furthermore, the correlations between HP and OP and outcomes have replicated those obtained in the North American culture across gender, age groups, populations, cultures, and a variety of different tasks (e.g., Marsh et al., 2013). For example, Chinese university students completing the Passion Scale toward their studies, as well as measures of flow and affect (Zhao et al., 2015) produced the same results as in the Western culture, namely showing that HP was more strongly associated with flow and positive emotions compared to OP, whereas OP was more strongly and positively related to negative emotions, while HP was not.

In light of the above, it can be safely concluded that the DMP theoretical framework generalizes and performs quite well across age, gender, and other cultures, and with a number of other socio-demographical variables, thereby providing cross-cultural validity of the passion construct and the developing literature in education. These findings are encouraging with respect to the study of passion in education at an international level. As for teachers' passion, some nations might vary in the extent to which they perceive opportunities to develop professionally (Reeve & Cheon, 2021). Future research should consider such enthusiastic attitude as a potential moderating variable in intervention-based studies, especially those oriented toward developing autonomy-supportive teaching behaviors.

Conclusion

In this chapter we introduced the concept of passion and showed its relevance to the field of education. Using the DMP (Vallerand, 2015) as a theoretical foundation, we have provided significant empirical evidence for the existence and importance of HP and OP in educational settings. Based on our

review of the passion literature, we can conclude that Einstein was right: having passion, especially HP, is a key factor to lifelong thriving in education. We have seen how certain determinants of passion lead to important outcomes for both teachers and students. Beyond these effects, the role of teachers is of utmost importance as they can influence greatly whether their students find certain school subjects passionate. Accompanying students on their quest to find a passion for an academic subject that is tied to their identity is essential for lifelong learning, the pursuit of knowledge, and, ultimately, for a future career. To this end, school principals also play a crucial role in supporting their teachers to maintain a harmonious passion, experience more adaptive outcomes both at work and outside of it, and remain in the profession, especially knowing that 50% of novice teachers tend to leave the profession in the first few years (Chichekian & Shore, 2016). In light of the importance of passion for a number of outcomes and school-based experiences from both teachers and students, future research on passion in education appears to be not only promising, but also imperative.

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