The two roads of passionate goal pursuit: links with appraisal, coping, and academic achievement

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Abstract

Background and Objectives: In this research, we testing the role of cognitive appraisals in explaining why harmonious and obsessive passion dimensions are related to distinct forms of coping, and explored if performance was impacted by these appraisal and coping processes.

Design: Undergraduate students ($N = 489$) participated in a longitudinal study and completed three surveys throughout the course of an academic year.

Methods: Participants completed assessments of both passion dimensions (Time 1), reported how they were appraising and coping with the mid-year exam period (Time 2), and provided consent to obtain their final grade in Introductory Psychology (Time 3). The hypothesised model was tested using structural equation modeling.

Results: Harmonious and obsessive passion dimensions were linked with approach and avoidant coping responses, respectively. Cognitive appraisals, particularly appraisals of challenge and uncontrollability, played an indirect role in these relationships. In addition, both appraisals and coping responses had an indirect effect in the relationship between passion dimensions and final grade.

Conclusions: These results identify cognitive appraisal as a reason why passion dimensions are linked with distinct coping tendencies, and demonstrate the role appraisal and coping processes in the journey toward passionate goal attainment.

Keywords: motivation; performance; stress; dualistic model of passion; structural equation modeling; longitudinal

The two roads of passionate goal pursuit: links with appraisal, coping, and academic achievement

Research relying on the dualistic model of passion (Vallerand et al., 2003) outlines that engaging in passionate pursuits can take people down one of two roads (Vallerand, 2010). The first road involves having a harmonious relationship with a passion, which leads to positive psychological experiences during activity engagement including positive emotions, achieving states of flow, and maintaining positive relationships within the passionate activity (Philippe, Vallerand, Andrianarisoa, & Brunel, 2009; Philippe, Vallerand, Houliort, Lavigne, & Donahue, 2010; Vallerand, 2010). The second road, however, entails a more obsessive relationship with a passion, leading to less desirable experiences such as negative emotions, rigid persistence in the activity, and conflict with other parts of one's life (Philippe et al., 2009; Vallerand et al., 2003; Vallerand, Paquet, Philippe, & Charest, 2010).

No matter which road one is on while pursuing a passion, obstacles and speed bumps often emerge that can impede goal progress. The ways passionate people cope with these environmental demands also depends on the road they take towards pursuing their goals. Research has linked harmonious passion with coping efforts that aim to manage the problem and deal with the task at hand, while obsessive passion has been linked with coping aimed at ignoring or avoiding demands (Rip, Fortin, & Vallerand, 2006; Schellenberg, Bailis, & Crocker, 2013; Schellenberg, Gaudreau, & Crocker, 2013). These distinct coping tendencies might be a result of different appraisals of demanding transactions (Lazarus, 1999): the problem-focused coping tendencies linked with harmonious passion suggests that harmonious people appraise passion-related obstacles as challenges that can be overcome, while the avoidant tendencies characteristic of obsessive passion suggests that obsessive people appraise obstacles as threats

that are beyond their control. These appraisal and coping responses, in turn, likely impact the extent to which passionate people reach their goals. The purpose of this research was to build on research exploring the distinct coping tendencies linked with harmonious and obsessive passions by (a) testing the role of cognitive appraisals in explaining why passion types are related to distinct forms of coping, and (b) exploring if performance in one's passion is impacted by these appraisal and coping responses, and if they can facilitate or hinder the journey towards performance attainment.

Passion and the Stress Process

The dualistic model of passion defines passions as activities that people enjoy and engage in on a regular basis, that are near and dear to their hearts, and that they have incorporated into their self-concepts (Vallerand et al., 2003). The model further differentiates between two varieties of passion based on the internalization process of activities into the self (Ryan & Deci, 2002). A harmonious passion develops when an important and meaningful activity has been internalized into the self through autonomous forms of regulation, meaning that the activity is congruent with one's personal values and is performed without any contingencies attached to it (Ryan & Deci, 2002). With high levels of harmonious passion, an activity is freely integrated into the self, allowing it to become an important component of one's identity that is in harmony with other aspects of the person's life (Vallerand, 2010). An obsessive passion emerges when an activity has been internalized in a more controlled and less self-determined way, meaning that the activity is performed because of internal contingencies that are connected to the activity (Ryan & Deci, 2002). In this case, people do not freely choose to engage in passions but feel compelled in order to avoid feeling shame and guilt. Because of the controlling nature of an obsessive passion, it can occupy a disproportionate space in a person's identity and conflict with

other areas of the person's life (Vallerand et al., 2003). An important feature of both harmonious and obsessive passion that distinguishes them from other motivational constructs (e.g., intrinsic and extrinsic motivation) is that they both entail a feeling of love for an activity that has been incorporated into one's self-concept (Vallerand, 2010).

The pursuit of passion-related goals requires people to self-regulate their thoughts, feelings, and behaviors in order to reach desired goal states (Carver & Scheier, 2002). Coping, a process that has been broadly defined as self-regulation under conditions of stress (Compas, Conner-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Skinner & Zimmer-Gembeck, 2007), is a crucial self-regulatory mechanism in the journey from goal inception to attainment (Gaudreau, Carraro, & Miranda, 2012). Specifically, of the various ways people can cope with stress (Skinner, Edge, Altman, & Sherwood, 2003), strategies that aim to manage the stressful situation directly (e.g., approach, problem-focused, or task-oriented coping) have been shown to predict higher levels of objective and subjective goal attainment compared to coping strategies oriented towards avoidance or withdrawal from the stressful transaction (e.g., avoidance or disengagement-oriented coping; Gaudreau & Antl, 2008; Gaudreau, Blondin, & Lapierre, 2002; Gaudreau et al., 2012; Smith, Ntoumanis, Duda, & Vansteenkiste, 2011). By confronting stressful situations directly instead of ignoring or avoiding them, people maintain the goal-directed effort and commitment that is necessary for successful goal striving (Locke & Latham, 2002; Smith et al., 2011).

Harmonious and obsessive passion types have been linked with distinct self-regulatory tendencies, including coping behaviors. Theoretically, harmonious passions are pursued with a sense of volition and personal endorsement (Vallerand, 2010), allowing new experiences to be approached with openness and with a readiness to perceive ongoing experiences accurately and

without distortion (Hodgins & Knee, 2002). This tendency should empower harmonious people to cope with stressful situations by managing problems directly and striving to alleviate environmental demands. On the other hand, an obsessive passion involves a feeling of internal or external pressure to engage in an activity and a sense that the passion is disconnected from one's core self (Vallerand, 2010). Because obsessive passion is characterised by this controlled orientation and by an ambivalence between approaching desired states and avoiding failure (Vallerand et al., 2007), volitional strength is likely to decline in the face of passion-related obstacles (Sheldon & Elliot, 1999), resulting in coping efforts aimed at avoiding or withdrawing from the stressful transaction. Research studying the relationship between passion types and coping responses has supported these theoretical underpinnings by finding that harmonious passion predicts more approach-oriented coping behavior, while obsessive passion predicts coping behavior oriented towards avoidance (Rip et al., 2006; Schellenberg, Bailis, et al., 2013; Schellenberg, Gaudreau, et al., 2013).

An important component of the stress process that likely impacts the way passionate people cope is cognitive appraisal. Appraisals, a prominent feature of the transactional model of stress and emotion (Lazarus, 1999), represent evaluations of the personal significance of demanding transactions (primary appraisal), and the ways situations can be managed (secondary appraisal; Lazarus, 1999). Cognitive appraisal therefore signifies an assessment of what is at stake for the individual and what can be done to manage a demanding situation. In line with this model, people's emotional, behavioral, and physiological reactions to demanding situations are impacted by their appraisals of potentially stressful episodes (e.g., Tomaka, Blascovich, Kelsey, & Leitten, 1993).

An appraisal type that is central in the transactional framework is threat appraisal, a primary appraisal that is made when a demanding transaction has the potential to cause harm or loss in the future (Lazarus, 1999). It is likely that people with obsessive passions are prone to making threat appraisals in response to demands and obstacles, as passion activities play a dominant role in their identities, which results in self-esteem and life satisfaction becoming contingent on performance in a passion (Lafrenière, St-Louis, Vallerand, & Donahue, 2012; Mageau, Carpentier, & Vallerand, 2011; Vallerand, 2010). Support for this was obtained by Schellenberg, Bailis, et al. (2013), who found that levels of obsessive passion in a group of sports fans predicted appraising a work stoppage in their favorite sport as a threat, which in turn predicted disengagement-oriented coping behavior. Therefore, to the extent that people are obsessive towards their passion, situations that could potentially obstruct the pursuit of important passion-related goals are likely to be appraised as posing a threat to the self, leading them to withdraw from or avoid the stressful situation.

Research has yet to study relationships between passion types and other forms of appraisal that are central in the stress and coping process. One form of stress appraisal that is likely relevant for passionate people is challenge appraisal, which occurs when a stressful situation is appraised as providing an opportunity for gain or growth (Lazarus, 1999). Challenge appraisal is closely linked to Selye's (1976) concept of eustress, and entails a sense of confidence in one's ability to confront obstacles, and even excitement at the thought of overcoming adversity. Those who engage in an activity with a harmonious passion do so with an inner confidence that emerges when activities are connected with one's core self (Hodgins & Knee, 2002), and accrue personal resources such as positive affect (Vallerand, 2012) and high quality interpersonal relationships (Philippe et al., 2010) during activity engagement. It therefore

appears likely that the inner confidence and personal resources associated with harmonious passion increases one's self-efficacy and ability to cope with adversity (Tice, Baumeister, Shmueli, & Muraven, 2007), which can promote challenge appraisals (Lazarus, 1999). A second form of stress appraisal that is likely linked with passion types is appraisal of control, a form secondary appraisal that refers to one's perceived ability to control an encounter (Skinner, 1996; Folkman, 1984). Control is a key feature that distinguishes both passions types. With a harmonious passion, a person is in control of the activity and can decide when to and when not to engage in a passion, but with an obsessive passion, inter- or intra-personal pressure guides activity engagement, producing "a phenomenological experience of a relative lack of control over the activity" (Vallerand, 2010, p. 102). The extent to which passionate people feel in control of their passion in general could extend to the way they appraise specific stressful situations while pursuing their passion, leading to differences in approach and avoidance coping responses (Folkman, 1984).

Passion and Performance

Despite harmonious and obsessive passions showing the general tendency to predict more positive and less positive experiences during activity engagement, respectively, both have been shown to uniquely predict performance attainment (Vallerand, 2010). The processes through which performance is achieved, however, differ for each passion type. Both harmonious and obsessive passions predict processes that promote performance such as deliberate practice and mastery-oriented goals, but obsessive passion also predicts self-regulatory behavior that impedes goal attainment, such as the adoption of goals oriented towards avoiding failure (Bonneville-Roussy, Lavigne, & Vallerand, 2010; Vallerand et al., 2008; Vallerand et al., 2007). Research studying the relationship between passion types and coping has shown that coping plays an

indirect role in the relationship between passion types and subjective goal attainment.

Specifically, research linking obsessive passion with disengagement-oriented coping has found that this coping response predicted decreases in subjective goal attainment; harmonious passion, however, predicted task-oriented coping, which in turn predicted increased goal attainment (Schellenberg, Gaudreau, et al., 2013). It is unclear, however, if the distinct coping behavior characteristic of both passion types can predict objective indices of performance, or if appraisals of threat, challenge, and control influence these coping responses.

The Present Research

There were two objectives of this research. The first purpose was to examine the intervening role of appraisals of threat, challenge, and control in the relationship between passion types and coping responses. The second purpose was to determine if appraisal and coping responses played a role in the relationship between passion types and performance. These objectives were studied in a group of undergraduate students at three time-points throughout an academic year: at the start of the year, one week prior to mid-term exams, and at the end of the year. This sample was studied because (a) undergraduate students are highly motivated to achieve high grades in their studies, (b) all the students were required to appraise and cope with mid-term exams mid-way through the year, and (c) it allowed objective measures of academic performance to be obtained directly from course instructors. We expected that harmonious passion would predict appraising mid-term exams as being a challenge and controllable, which in turn would predict approach-oriented coping. We also expected that obsessive passion would predict appraisals of threat and uncontrollability, which would in turn promote avoidance-oriented coping. Finally, approach and avoidance coping were expected to positively and inversely predict academic performance, respectively.

Method

Participants and Procedure

Participants were 489 ($n_{\text{female}} = 383$, $n_{\text{male}} = 105$, 1 participant not specified) university students enrolled in Introductory Psychology at the University of Manitoba ($M_{\text{age}} = 19.08$, $SD_{\text{age}} = 3.30$). Most participants identified as having a White/European ethnic background (50.01%) followed by Filipino (19.60%). Participants completed three online surveys throughout the course of the academic year: at the start of October (Time 1, one month into the academic year), at the end of November (Time 2, before the mid-year exam period), and in March (Time 3, before the final exam period). Participants received course credit in exchange for participation. Informed consent was provided as part of each phase of the study and ethics approval was obtained from the University of Manitoba Psychology/Sociology Research Ethics Board before the study began.

Measures

Passion (Time 1). At the first time point, participants completed items from the Passion Scale to assess levels of harmonious and obsessive passion for academics (Vallerand et al., 2003). The Passion Scale consists of two 6-item subscales assessing harmonious passion (e.g., “This activity is in harmony with the other activities in my life”; $\alpha = .86$), and obsessive passion (e.g., “I have difficulties controlling my urge to do my activity”; $\alpha = .81$). To make the items of the Passion Scale relevant for academics, the words “my activity” from the original version were changed to read “studying”. Participants were instructed to answer the items while thinking of their experiences studying in university, including experiences preparing for exams, attending classes, and completing assignments. Items were presented in a Likert format, ranging from 1 (*not agree at all*) to 7 (*very strongly agree*).

Appraisals (Time 2). Appraisals of threat, challenge, and uncontrollability were assessed using the Stress Appraisal Measure (Peacock & Wong, 1990). Participants were instructed to answer the items while thinking of their thoughts about the upcoming mid-year exam period, which began approximately one week after participants completed the second phase of the study. Participants reported their agreement with items measuring threat (4 items; e.g., “Does this situation make me feel anxious?”; $\alpha = .77$), challenge (4 items; e.g., “Is this going to have a positive impact on me?”; $\alpha = .67$), and uncontrollability (4 items; e.g., “Is the outcome of this situation uncontrollable by anyone?”; $\alpha = .76$) on a scale from 1 (*not at all*) to 5 (*extremely*).

Coping (Time 2). Coping with the impending exams was assessed with items from the revised COPE scale (R-COPE; Zuckerman & Gagne, 2003). The R-COPE asks respondents to rate their agreement with items on a scale from 1 (*I haven't been doing this at all*) to 4 (*I've been doing this a lot*). Participants were instructed to answer the items while thinking of the ways they had been coping with the upcoming mid-year exams. This research analyzed items from the approach (8 items; e.g., “I concentrate my efforts on doing something about it”; $\alpha = .88$) and avoidance (8 items; e.g., “I try to forget the whole thing”; $\alpha = .89$) subscales.

Academic performance (Time 3). At the end of the academic year, we asked participants for their permission to access their final grade from their Introductory Psychology course. Students who gave their consent provided their university student numbers and details of the Introductory Psychology course (instructor name, section number, class time), which was used to access their final grades directly from their course instructors. Letter grades were obtained from the instructors (e.g., A+), which were converted into grade point averages (GPAs)

using the following guidelines (as stipulated by the university registrar's office): F = 0.0, D = 1.0, C = 2.0, C+ = 2.5, B = 3.0, B+ = 3.5, A = 4.0, A+ = 4.5 ($M_{\text{GPA}} = 3.39$, $SD_{\text{GPA}} = 0.96$).

Statistical Analyses

Data were exported to SPSS Version 22 to investigate missing data and evaluate participant demographics. In total, 488 students participated at Time 1, 443 students participated at Time 2 (9.41% attrition), and 345 students participated in Time 3 (29.45% attrition). One student participated in Time 2 only, meaning the total number of participants in the study was 489. Among those who completed Time 3, 128 (37.10% of Time 3 respondents) provided consent and information that was used to obtain Introductory Psychology final grades. At each time point, the online survey alerted participants to any missing responses at the end of each survey page; although participants were not required to respond to any unanswered question, this prompt resulted in very few missing responses within each time point (< 0.24% within each time point).

Structural equation modeling (SEM) was used to analyze the proposed model. Analyses were conducted with Mplus Version 7.0 (Muthén & Muthén, 1998-2012) using full information maximum likelihood (FIML) to manage missing data.¹ Robust maximum likelihood estimation (MLR) was used because this method is robust to potential deviations in normality. Bias-corrected bootstrapped confidence intervals were computed using maximum likelihood because bootstrapping is unavailable in Mplus using MLR estimation. Evidence of model fit was

¹ The FIML approach to managing missing data has been shown to outperform other approaches (e.g., listwise and pairwise deletion) by producing unbiased parameter estimates and standard errors while retaining statistical power (Enders, 2006; Graham, 2009). This approach relies on the assumption that missingness does not depend on unobserved variables; that is, the data are either missing at random (MAR) or missing completely at random (MCAR; Graham, 2009). To test the pattern of missingness in the dataset, we conducted attrition analyses which revealed that observed harmonious [$t(486) = 1.211$, $p = .227$] and obsessive passion [$t(486) = 0.753$, $p = .452$] scores at Time 1 did not differ between those who did or did not complete all three time points. In addition, Little's MCAR test, which tests the null hypothesis that the missing data are MCAR, was not statistically significant, $\chi^2(512) = 528.734$, $p = .295$. We therefore concluded that the missing data followed an MCAR pattern.

obtained through multiple sources: the MLR chi-square statistic (MLR χ^2), root mean square error of approximation (RMSEA), the Tucker-Lewis index (TLI), and comparative fit index (CFI). Values of less than .05 for the RMSEA statistic are typically interpreted as representing close model fit, while values less than .08 are interpreted as representing reasonable fit. Values greater than .90 and .95 for the TLI and CFI are typically interpreted as representing acceptable and excellent fit, respectively (Marsh, Martin, & Jackson, 2010). A non-significant MLR χ^2 indicates an acceptable model, but this statistic is likely to be significant in large samples.

A parceling approach was used to create indicators of passion types and coping responses, given that these dimensions were assessed with many items. Parceling can be an effective tool in SEM that has advantages including fewer parameter estimates, lower indicator-to-sample ratios, and reduced sources of sampling error (Little, Rhemtulla, Gibson, & Schoemann, 2013). Indicators of harmonious and obsessive passion latent variables were created using a balancing approach with the goal of creating three indicators per variable (Little et al., 2007). For harmonious and obsessive passion, indicators were parceled by averaging the item with the highest loading with the item with the lowest loading, the item with the second highest loading with the item with the second lowest loading, and the item with the third highest loading with the item with the third lowest loading. The same approach was used to create item parcels for approach and avoidance coping latent variables. Because each coping dimensions was represented by eight items, parcels were created by progressing in a serpentine sequence in which the first parcel was formed by averaging the items with the highest, sixth highest, and seventh highest item loadings, the second parcel by averaging the items with the second highest, fifth highest, and eighth highest loadings, and the third parcel by averaging the items with the third highest and fourth highest loadings. Scale items were used as indicators of threat,

challenge, and uncontrollability appraisals because each dimension was assessed with only four items. The items comprising each parcel and the loadings of each indicator variable are outlined in Table 1.

Results

Measurement model. First, we tested a measurement model in which all latent variables and GPA (the observed variable) were allowed to correlate with one another. Modification indices reported that the expected parameter value of one item assessing uncontrollability (item 1; “Is this a totally hopeless situation”) loaded more strongly onto the threat dimension (.680) compared to the loading on uncontrollability (.591). This item was excluded from the analysis for this statistical reason and because the content of the item did not directly address the extent to which the situation was beyond one’s control. The resulting model showed acceptable fit: $MLR\chi^2 = 502.572$, $df = 225$, $p < .001$, CFI = .937, TLI = .923, RMSEA = .050, 90% CI [.044, .056]. Correlations from the measurement model are displayed in Table 2.

Structural model. Next, the hypothesised structural model was tested that specified paths between passion types, stress appraisals, coping dimensions, and GPA, along with direct paths between passion types, coping, and GPA, and between appraisals and GPA. These specifications allowed total relationships between independent and dependent variables to be partitioned into direct and indirect effects. Specifying these relationships also allowed us to assess the distinct intervening roles of appraisal and coping in the relationship between passion types and GPA (e.g., harmonious passion → challenge appraisal → GPA), and also the serial progression of passion types to GPA through both appraisal and coping (e.g., harmonious passion → challenge appraisal → approach-oriented coping → GPA). Both harmonious and obsessive passion were specified to predict GPA and each appraisal and coping dimension.

Specifying these paths, even those for which there were no hypothesised relationship, was necessary in order to partial out the effect of one passion type from the other (similar to partial correlations often reported in passion research). Residual variances of the coping dimensions and of the appraisal dimensions were allowed to covary, given that they were assessed using shared self-report measures (Cole, Ciesla, & Steiger, 2007). As a result, the structural model specified the same number of paths as the measurement model, yielding identical fit indices (Kline, 2011). This structural model is displayed in Figure 1.

The first objective of this research was to test the role of appraisals in the relationship between passion types and coping. The total relationship between passion types and both coping dimensions, along with the indirect effect of all three stress appraisals, are displayed in Table 3. The hypothesised relationships between passion and coping were supported. Harmonious passion positively predicted approach-oriented coping ($\beta = .440, p < .001$) and inversely predicted avoidance-oriented coping ($\beta = -.400, p < .001$), whereas obsessive passion positively predicted coping with avoidance ($\beta = .680, p < .001$). The results revealed that these relationships were influenced by differences in appraisals. Harmonious passion positively predicted appraising the upcoming exams as a challenge ($\beta = .440, p < .001$), which had an indirect effect on the relationship with approach-oriented coping ($\beta = .218, p < .001$), and negatively predicted appraising the exams as uncontrollable ($\beta = -.360, p < .001$), which indirectly influenced the relationship with avoidance-oriented coping ($\beta = -.196, p = .002$). Harmonious passion also negatively predicted appraising the exams as threatening ($\beta = -.625, p < .001$), but this did not influence the relationship with any coping dimension. On the other hand, obsessive passion predicted appraisals of uncontrollability ($\beta = .729, p < .001$), which indirectly influenced the relationship with avoidance-oriented coping ($\beta = .397, p < .001$).

Obsessive passion also predicted appraising the exams as threatening ($\beta = .723, p < .001$), but this did not play an intervening role in the relationship with coping.

The second objective of the research was to test the intervening role of appraisals and coping in the relationship between passion and academic achievement. The total effect of passion types and GPA (ignoring appraisal and coping types) was marginally significant for harmonious passion ($\beta = .214, p = .093$) but unrelated for obsessive passion ($\beta = -.236, p = .186$). Using a multiple-step multiple mediator approach (Hayes, Preacher, & Meyers, 2011), the total relationship between passion types and GPA were dissected into three classes of indirect effects: through appraisals only, through coping only, and through the progression of appraisals to coping. Each class of indirect effects is reported in Table 3. In the relationship between harmonious passion and GPA, indirect effects were found with uncontrollability appraisals ($\beta = .235, p = .035$), approach coping ($\beta = .073, p = .066$), and through the progression of challenge appraisals to approach coping ($\beta = .066, p = .019$). Uncontrollability appraisals also had an indirect influence on the relationship between obsessive passion and GPA ($\beta = -.476, p = .018$). In total, the model accounted for 35.9% of GPA variance.

Alternate models. We tested an alternate model that excluded direct paths between passion types and coping and GPA, and also paths between appraisals and GPA. This alternate model therefore represented full mediation between independent and dependent variables. This model showed acceptable fit: $MLR\chi^2 = 528.05, df = 234, p < .001$, CFI = .933, TLI = .921, RMSEA = .051, 90% CI [.045, .056]. However, the scaled difference $MLR\chi^2$ between both models indicated that the alternate model provided a significantly worse fit compared to the

hypothesised model, $\Delta MLR\chi^2 = 24.85$, $df = 9$, $p = .003$. We therefore rejected this alternate full mediation model and retained the original hypothesised model.²

Discussion

This research found support for a model in which passion types predicted distinct appraisals and coping responses, which in turn predicted academic performance. Specifically, harmonious passion was associated with appraising mid-year exams as being nonthreatening, challenging, and controllable, whereas obsessive passion was associated with appraising the exams as posing a threat and being beyond one's control. These differences in appraisals influenced the relationship between passion types and the extent to which students engaged in approach or avoidance coping strategies. Approach-oriented coping, in turn, was positively related to final Introductory Psychology grade. These relationships reveal that harmonious and obsessive passion are related to distinct components of the stress process, namely cognitive appraisal and coping, and that these appraisal and coping responses play an important role in the progression from academic passion to performance.

Passion, Appraisal, and Coping

The first objective of this research was to test the role of cognitive appraisal in the relationship between passion types and coping. Overall, the results were clear in demonstrating that harmonious and obsessive passion varieties were related to distinct appraisals of an impending passion-related demand (i.e., exams). In support of previous research (Schellenberg, Bailis, et al., 2013), obsessive passion was a positive predictor of threat appraisals. With obsessive passion, important outcomes such as life satisfaction and self-esteem are contingent on

² Including sex as a covariate in the final model (i.e., as an additional predictor variable) did not improve model fit ($MLR\chi^2 = 533.924$, $df = 243$, $p < .001$, CFI = .935, TLI = .919, RMSEA = .050, 90% CI [.044, .055]) and yielded relationships between latent variables that did not differ in any meaningful way from the final hypothesised model.

whether one succeeds or fails in a passion (Lafrenière et al., 2012; Mageau, et al., 2011). When confronted with obstacles or situations that can impede goal attainment in one's passion, such as important competitions for athletes, performances for musicians, or exams for students, these demands are likely to pose a greater threat to the extent that one is obsessive towards a passion. But in addition to appraisals of threat, this study revealed that obsessive passion predicted appraising mid-year exams as being beyond one's control. It is likely that this relationship is due to a general lack of control that is characteristic of obsessive passion; people with obsessive passion feel an uncontrollable desire to pursue a meaningful activity in their lives, with activity engagement originating from internal and/or external pressures such as a desire for acceptance from others, social status, or a sense of excitement attained from a passion (Vallerand, 2010). Perceptions of control in general (Chipperfield, Perry, & Stewart, 2012), over important life domains (Krause & Shaw, 2000), and in academics specifically (You, Hong, & Ho, 2011) are crucial for promoting physical and psychological well-being and academic achievement. Perceiving lack of control in important passion-related situations, particularly those that are reoccurring such as exams, likely has an impact on broader life outcomes such as health and life satisfaction (Vallerand, 2012). Understanding the impact of having low perceptions of control for those with predominant obsessive passions is an important area for future research.

The study found that control appraisals had an impact on the relationship between obsessive passion and coping responses. Specifically, obsessive passion predicted coping with exams by using strategies oriented towards avoidance, a response that was mediated by appraisals of control: obsessive passion predicted appraising the exams as uncontrollable, which in turn positively predicted the use of avoidance coping. Previous research has found support for the link between obsessive passion and avoidance (Rip et al., 2006; Schellenberg, Bailis, et al.,

2013; Schellenberg, Gaudreau, et al., 2013), and this study adds to this literature by identifying control appraisals as reason for this relationship. By appraising low levels of control, people with obsessive passion may gravitate towards avoidant tendencies because engaging in problem- or task-oriented coping in situations that are appraised in this way would likely be anticipated to be futile. In the context of academics, obsessively passionate students may therefore benefit from interventions such as attributional retraining in which students are encouraged to make controllable attributions for academic outcomes (Haynes, Perry, Stupnisky, & Daniels, 2009). This might deter obsessive students from coping with exam stress with avoidance and promote approach forms of coping, which could lead to higher academic performance.

Harmonious passion was linked with a different pattern of relationships with appraisal and coping. Harmonious passion for academics predicted appraising the mid-year exams as nonthreatening, challenging, and controllable. In turn, challenge appraisals mediated the positive relationship between harmonious passion and approach coping, while uncontrollability appraisals mediated the inverse relationship between harmonious passion and avoidance coping. By confronting passion-related demands with non-defensiveness and a secure self-esteem (Vallerand, 2010), harmonious students do not perceive upcoming exams as posing a threat, but instead as offering a challenge to overcome that is under their control. In addition to enhanced academic performance, this proactive orientation towards academics might also allow harmonious students to experience more positive emotions (optimism, excitement) and a broadened thought-action repertoire while pursuing their studies (Frederickson, 2001), contributing to even more resource accumulation and subsequent positive emotions. Emotion is a key component of the stress process (Lazarus, 1999), and future research is needed to test if the

appraisals and coping responses characteristic of both passion types impact emotional experiences during academic goal pursuit.

The Road to Performance Attainment

Vallerand et al. (2007) emphasised that research was needed to “more completely understand the intricacies of the psychological processes through which passion contributes to performance attainment” (p. 530). The second objective of this study was to pursue this line of inquiry and study components of the stress process, cognitive appraisal and coping, in the progression from academic passion to performance. Although past research has identified that both harmonious and obsessive passions predict behaviors, such as deliberate practice, that can facilitate performance, this research has identified that obsessive passion also predicts processes that impede performance, such as the adoption of performance-avoidance goals (Bonneville-Roussy et al., 2010; Vallerand et al., 2008; Vallerand et al., 2007). In line with these findings, the current research identified that, in the face of an approaching exam period, both passion types predict distinct appraisal and coping processes that impact ultimate academic performance. A harmonious passion for academics predicted appraising the exams as a challenge, which in turn predicted coping with the exams with approach-oriented responses, a coping response that positively predicted final Introductory Psychology grades. Obsessive passion for academics, on the other hand, predicted appraising the exams as outside of one’s control, which in turn inversely predicted final grades. Adding to the list psychological process, including deliberate practice and achievement goals, linking passion to performance attainment, this study revealed that the distinct appraisal and self-regulatory responses that are characteristic of harmonious and obsessive passions impact the extent to which individuals perform at a high level in their passion.

An important feature of this study was that it predicted academic performance using an objective index of performance (Introductory Psychology final grades that were obtained directly

from the course instructors) using a longitudinal design. To build on these results, the role of appraisals and coping in the road from passion to performance can be studied with other forms of academic-related stressors (e.g., standardized tests, admissions interviews) or in other achievement domains such as sport (e.g., Gaudreau et al., 2002) and music (e.g., Bonneville-Roussey et al., 2010). We should also note that several hypothesised effects were not obtained in this study, including connections between control appraisals and approach coping, threat appraisals and avoidance coping, and avoidance coping and academic performance (although correlations supported these last two relationships, they were not supported in the final structural model, which statistically controlled for covariation with other appraisal and coping dimensions). These null effects may have been a results of the passion (studying) or context (university) under investigation. For instance, university students are usually obligated to achieve a minimum exam grade to pass a course, which may have restricted the impact that threat appraisals had on avoidance coping. Future research is needed to test if the context in which a passion is pursued moderates the relationships explored in this study.

Conclusion

As passionate people progress on the journey towards performance attainment, the emotions they experience and types of goals they pursue are influenced by the extent to which their passions are harmonious or obsessive (Vallerand, 2010). This research contributed to this literature by identifying that the ways passionate people appraise and cope with a demanding event while pursuing their passion is also distinct for harmonious and obsessive passion varieties, ultimately impacting performance. Research is needed to further investigate the role of passion in the stress process by incorporating assessments of emotional experiences and assessing these relationships for different types of environmental stressors in different populations.

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Table 1
Standardized factor loadings and parcel items

Latent Factor	Indicator	Standardized Loading	Parcel Items
Harmonious Passion	Parcel 1	.779	Item 10 Item 1
	Parcel 2	.800	Item 6 Item 3
	Parcel 3	.875	Item 5 Item 8
Obsessive Passion	Parcel 1	.730	Item 11 Item 12
	Parcel 2	.816	Item 7 Item 2
	Parcel 3	.838	Item 9 Item 4
Threat	Item 5	.485	---
	Item 11	.771	---
	Item 20	.550	---
	Item 28	.849	---
Challenge	Item 7	.599	---
	Item 8	.720	---
	Item 10	.527	---
	Item 19	.505	---
Uncontrollability	Item 3	.690	---
	Item 18	.647	---
	Item 21	.784	---
Approach	Parcel 1	.878	Item 14 Item 11 Item 15
	Parcel 2	.904	Item 13 Item 9 Item 16
	Parcel 3	.815	Item 10 Item 12
Avoidance	Parcel 1	.921	Item 26 Item 32 Item 29
	Parcel 2	.824	Item 27 Item 31 Item 30
	Parcel 3	.827	Item 25 Item 28

Note. All loading $ps < .001$

Table 2
Error-free correlations

	1	2	3	4	5	6	7
1 Harmonious Passion (T1)							
2 Obsessive Passion (T1)	.712**						
3 Threat (T2)	-.110*	.277**					
4 Challenge (T2)	.525**	.432**	-.101				
5 Uncontrollability (T2)	.159**	.472**	.603**	.269**			
6 Approach Coping (T2)	.408**	.269**	-.073	.540**	.064		
7 Avoidance Coping (T2)	.084	.395**	.444**	.087	.634**	-.016	
8 GPA (T3)	.045	-.084	.144	-.035	-.472**	.251**	-.325**

Note. * $p < .05$. ** $p < .01$

Table 3

Standardized estimates of total, direct, and indirect effects with 95% bootstrapped confidence intervals (bias-corrected)

	<u>Total effect</u>		<u>Direct effect</u>		<u>Indirect effect</u>	
	β	95% CI	β	95% CI	β	95% CI
<u>Passion Types $\rightarrow$ Coping</u>						
HP $\rightarrow$ Approach	.440**	[.255, .626]	.241*	[.028, .455]	.199**	[.058, .340]
via threat					-.067	[-.196, .061]
via challenge					.218**	[.106, .330]
via uncontrollability					.048	[-.039, .135]
HP $\rightarrow$ Avoid	-.400**	[-.560, -.240]	-.154	[-.347, .040]	-.246**	[-.396, -.097]
via threat					-.005	[-.118, .108]
via challenge					-.045	[-.121, .030]
via uncontrollability					-.196**	[-.329, -.064]
OP $\rightarrow$ Approach	-.045	[-.230, .139]	-.085	[-.302, .132]	.040	[-.129, .209]
via threat					.078	[-.068, .224]
via challenge					.059	[-.051, .169]
via uncontrollability					-.097	[-.261, .067]
OP $\rightarrow$ Avoid	.680**	[.505, .854]	.289**	[.061, .518]	.390**	[.223, .557]
via threat					.005	[-.125, .135]
via challenge					-.012	[-.045, .020]
via uncontrollability					.397**	[.202, .592]
<u>Passion Types $\rightarrow$ GPA</u>						
HP $\rightarrow$ GPA	.214 [†]	[-.053, .480]	.004	[-.391, .398]	.210	[-.115, .535]
via appraisals only						
via threat					-.166	[-.531, .198]
via challenge					-.017	[-.173, .139]
via uncontrollability					.235*	[-.010, .481]
via coping only						
via approach					.073 [†]	[-.018, .163]
via avoidance					.010	[-.062, .082]
via appraisals and coping						
via threat $\rightarrow$ approach					-.020	[-.065, .024]
via threat $\rightarrow$ avoidance					.000	[-.025, .026]
via challenge $\rightarrow$ approach					.066*	[.002, .129]
via challenge $\rightarrow$ avoidance					.003	[-.022, .028]
via uncontrollability $\rightarrow$ approach					.014	[-.015, .044]
via uncontrollability $\rightarrow$ avoidance					.013	[-.069, .094]
OP $\rightarrow$ GPA	-.236	[-.604, .131]	.109	[-.481, .700]	-.346*	[-.722, .031]
via appraisals only						
via threat					.192	[-.223, .608]
via challenge					-.005	[-.062, .053]
via uncontrollability					-.476*	[-.920, -.032]
via coping only						
via approach					-.026	[-.100, .049]
via avoidance					-.019	[-.140, .103]
via appraisals and coping						
via threat $\rightarrow$ approach					.023	[-.027, .074]
via threat $\rightarrow$ avoidance					.000	[-.030, .029]
via challenge $\rightarrow$ approach					.018	[-.021, .057]
via challenge $\rightarrow$ avoidance					.001	[-.008, .009]
via uncontrollability $\rightarrow$ approach					-.029	[-.085, .027]
via uncontrollability $\rightarrow$ avoidance					-.026	[-.186, .135]

Note. Bias-corrected bootstrapped confidence intervals (based on 10,000 samples) were estimated using maximum likelihood. HP = Harmonious passion; OP = Obsessive passion; GPA = Grade point average from Introductory Psychology. [†] $p < .10$. * $p < .05$. ** $p < .01$.

Figure Caption

Figure 1. Relationships between passion types, cognitive appraisal, coping dimensions, and academic performance. All parameters are standardized and estimated using robust maximum likelihood estimation. Not displayed for clarity are correlations between the residual terms for appraisals and between the residual terms for both coping dimensions. Also not displayed are direct relationships between harmonious passion and approach coping ($\beta = .241, p = .020$), avoidance coping ($\beta = -.154, p = .105$), and GPA ($\beta = .004, p = .984$), and between obsessive passion and approach coping ($\beta = -.085, p = .418$), avoidance coping ($\beta = .289, p = .010$), and GPA ($\beta = .109, p = .697$). * $p < .05$. ** $p < .01$

Figure 1