

UNIVERSITÉ DU QUÉBEC À MONTRÉAL

LE RÔLE DE LA PASSION DANS L'ACCÈS AUX PROCESSUS DE  
RÉGULATION DU SOI  
ET LES EFFETS DE CEUX-CI SUR LE BIEN-ÊTRE DES GENS.

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## RÉSUMÉ

Certains individus parviennent à utiliser des processus d'auto-régulation qui sont adaptatifs pour le bien-être alors que d'autres n'y parviennent pas. En prenant appui sur la Modèle Dualiste de la Passion (MDP; Vallerand et al., 2003; Vallerand, 2015), la présente thèse s'est intéressée à ce phénomène et avait pour objectif général d'explorer la passion comme déterminant de processus importants de régulation du soi et d'examiner l'impact de ces derniers sur le bien-être des individus. Le MDP propose l'existence de deux types de passion, c'est-à-dire la passion harmonieuse (PH) et la passion obsessionnelle (PO), menant respectivement à des conséquences adaptatives ou mésadaptatives. De plus, l'un des postulats de base de ce modèle réside dans l'idée que la PH favoriserait l'accès aux processus de régulation du soi adaptatifs pour le bien-être alors que la PO le limiterait. Toutefois, à ce jour, peu d'études soutiennent cette proposition importante. De plus, la littérature existante sur les processus de régulation du soi s'attarde surtout sur les conséquences de ceux-ci, mais peu sur les déterminants. Or, le but de cette thèse était de tester de manière empirique cette prémisse importante du MDP et de contribuer à l'avancement des connaissances scientifiques sur les déterminants des processus de régulation du soi. À cet effet, l'influence de la PH et de la PO sur deux processus de régulation du soi essentiels, soit la pleine conscience (Article 1) et la régulation émotionnelle (Article 2), ainsi que les effets de ceux-ci sur le bien-être des gens, a été investiguée.

L'objectif général du premier article était d'étudier la passion comme déterminant de la pleine conscience et de voir l'influence de cette dernière sur le bien-être des individus. Les résultats d'une série d'études corrélationnelles révèlent que la PH est associée positivement à la pleine conscience, tandis que la PO y est négativement liée. De plus, les résultats ont montré que la pleine conscience est associée positivement à diverses conséquences dont l'affect positif (Études 2 et 3), la vitalité subjective (Étude 3), et est négativement liée à l'affect négatif (Études 2 et 3).

Le second article avait pour objectif général d'examiner la relation entre la passion et les stratégies de régulation émotionnelle, ainsi que les conséquences de celles-ci sur le bien-être individuel. Une série de trois études à devis corrélational montrant que la PH est liée positivement à la ré-évaluation cognitive (Études 1 à 3), alors qu'elle est négativement associée (Étude 1 et 2) ou non-associée (Étude 3) à la suppression de l'expression des émotions. Les résultats concernant la PO dévoilent plutôt qu'elle est associée négativement (Étude 1) ou non-associée (Études 2 et 3) à la ré-évaluation cognitive. Les résultats montrent également que la PO est positivement liée à la suppression de l'expression des émotions (Étude 1 à 3). De plus, les résultats dévoilent

que la ré-évaluation cognitive est positivement liée à divers indices de bien-être, tels que l'épanouissement (Étude 1), la satisfaction de vie (Études 2 et 3), le sens à la vie, le bonheur (Étude 2) et la vitalité subjective (Étude 3). Les résultats indiquent aussi que la ré-évaluation cognitive est négativement liée au mal-être, soit la dépression (Étude 3). Inversement, les résultats révèlent que la suppression de l'expression des émotions est négativement lié (Étude 1) ou non-lié (Études 2 et 3) au bien-être, et positivement associée au mal-être (Étude 3).

En somme, cette thèse apporte une contribution importante en offrant un nouvel éclairage sur le phénomène selon lequel certaines personnes parviennent à utiliser des processus de régulation du soi qui sont adaptatifs pour le bien-être alors que d'autres n'y arrivent pas. De plus, elle offre un soutien empirique pour l'un des postulats fondamentaux du MDP concernant l'influence de la passion dans l'accès aux processus de régulation du soi. Enfin, elle permet un éclairage nouveau sur les déterminants des processus de régulation du soi, en plus d'apporter du soutien additionnel pour la littérature scientifique actuelle sur le rôle important des processus de régulation du soi dans le bien-être des gens.

Mots clés : passion, passion harmonieuse, passion obsessionnelle, processus de régulation du soi, pleine conscience, régulation émotionnelle, bien-être.

# CHAPITRE I

## INTRODUCTION

Cette introduction a pour but de présenter le contexte théorique de cette thèse. En premier lieu sera présenté le Modèle Dualiste de la Passion (Vallerand et al., 2003; Vallerand, 2015). Ensuite, les processus de régulation du soi seront abordés en mettant l'accent sur deux processus importants : la pleine conscience et la régulation émotionnelle. À cet effet, une brève revue de la littérature sera développée pour chaque construit, puis seront traitées leurs conséquences sur le bien-être des gens. Enfin, les deux articles constituant cette thèse seront résumés.

### 1.1 Modèle Dualiste de la Passion

#### 1.1.1 Définition du Concept de Passion

Le Modèle Dualiste de la Passion (MDP; Vallerand et al., 2003; Vallerand, 2015) propose que l'ensemble des individus s'engagent dans diverses activités afin de satisfaire des besoins psychologiques de base d'autonomie, de compétence et d'appartenance sociale (Deci et Ryan, 2000). Parmi ces activités, ce sont celles qui sont plaisantes, importantes et qui permettent de définir la personne qui deviendront des activités passionnantes. La passion est définie comme une vive inclination envers une activité (une personne ou un objet) qu'un individu aime, juge importante et lui accorde temps et énergie (Vallerand et al., 2003; Vallerand, 2015). Ainsi, la passion représente une puissante force motivationnelle. Par ailleurs, le MDP postule qu'étant donnée la place centrale accordée à l'activité passionnante, cette dernière devient intériorisée dans l'identité de l'individu (Amiot, Vallerand, et Blanchard, 2006;

Vallerand et al., 2003). Ainsi, un individu passionné par la musique se définira, du moins en partie, comme un musicien.

### 1.1.2 La Dualité de la Passion : Harmonieuse et Obsessive

Le MDP propose l'existence de deux types de passion, la passion harmonieuse (PH) et la passion obsessive (PO). Ces passions deviennent prédominantes en fonction de deux processus d'intériorisation de l'activité dans l'identité de la personne, soit une intériorisation autonome ou contrôlée (Deci, Eghrari, Patrick, et Leone, 1994; Deci et Ryan, 1985; Sheldon, 2002; Vallerand, 1997). L'intériorisation autonome provient du soi intégré, sans contingence, alors que l'intériorisation contrôlée est davantage liée au soi égo-investi, avec contingences (Hodgins et Knee, 2002; Deci et Ryan, 2000; 2003). La PH est cette passion qui résulte d'une intériorisation autonome de l'activité dans l'identité. Elle est caractérisée par un type d'engagement libre, flexible et sous le contrôle de l'individu. Ainsi, l'activité que la personne aime est bien intégrée avec les autres sphères de sa vie. Inversement, la PO découle d'une intériorisation contrôlée de l'activité dans l'identité et l'engagement se fait de façon rigide et incontrôlable. L'activité passionnante entre alors constamment en conflit avec les autres sphères de vie de l'individu. La littérature offre un support considérable pour cette perspective dualiste de la passion (voir Curran, Hill, Appleton, Vallerand, et Standage, 2015; Vallerand, 2008, 2010, 2015 pour des recensions). Il est important de noter que, bien que le processus d'intériorisation (autonome ou contrôlé) conduise au développement initial d'un type de passion prédominante, la PH et la PO sont toutes deux présentes à l'intérieur de la personne à différents degrés (Vallerand, 2015). Ainsi, certains facteurs personnels ou sociaux peuvent temporairement déclencher l'un ou l'autre type de passion. Par exemple, un étudiant qui habituellement démontre une PH envers ses études pourrait, en période d'examen, s'y engager de manière plus rigide et mettre de côté temporairement d'autres sphères de vie dans le but de mieux performer. Ce type d'engagement correspondrait alors davantage à la PO.

### 1.1.3 L'influence des Deux Types de Passion sur le Bien-Être des Individus

Étant donné que les activités passionnantes sont au cœur de la vie des gens, le concept de passion est fortement lié à la notion de bien-être. Toutefois, les deux types de passion y sont associées de manière différente. En effet, les recherches passées montrent que la PH mène à d'importants bénéfices psychologiques. Par exemple, les résultats dévoilent que la PH prédit positivement plusieurs indices positifs de bien-être comme les émotions positives (Carbonneau, Vallerand, et Massicotte, 2010, Study 1; Lafrenière, Vallerand, Donahue, et Lavigne, 2009; Lee, Back, Hodgins, et Lee, 2013; Mageau, Vallerand, Rousseau, Ratelle, et Provencher 2005; Philippe, Vallerand, Adrianarisoa, et Brunet, 2009; Przybylski, Weinstein, Ryan, et Rigby, 2009; Rousseau et Vallerand, 2008; St-Louis et al., 2018; Vallerand, 2008; Stoeber, Harvey, Ward, et Childs, 2011; Vallerand et al., 2003; Vallerand, Rousseau, Grouzet, Dumais, et Grenier, 2006), la satisfaction de vie (Lafreniere, St-Louis, Vallerand, et Donahue, 2012; Lafrenière, Vallerand, et Sedikides, 2013; Lalande et al., 2017; Rousseau et Vallerand, 2008; Vallerand et al., 2003; Vallerand et al., 2007; Vallerand, Mageau, Elliot, Dumais, et Rousseau, 2008), et la vitalité subjective (Forest, Mageau, Sarrazin, et Morin, 2011; Lalande et al., 2017; Rousseau et Vallerand, 2008). De plus, une recherche par Philippe et al. (2009) suggère que, comparé aux groupes de gens passionnés de façon obsessionnelle ou non-passionnés, les individus passionnés de manière harmonieuse vivent des niveaux plus élevés de satisfaction de vie et de vitalité subjective.

À l'opposé, les résultats sur la PO montrent qu'elle conduit à des conséquences plus négatives. En effet, les conclusions révèlent que la PO mène à l'expérience d'affect négatif (Lafrenière et al., 2009; Lee et al., 2013; Mageau et al., 2005; Philippe et al., 2009; Przybylski et al., 2009; Rousseau et Vallerand, 2008; St-Louis et al., 2018; Stoeber et al., 2011; Vallerand et al., 2003; Vallerand et al., 2006; Young, de Jong, et Medic, 2015), à peu d'émotions positives (voir Curran et al., 2015 pour une méta-

analyse; Vallerand, 2010, 2015 pour des recensions) et est soit non-liée (Vallerand et al., 2007; Vallerand et al., 2008) ou négativement liée (Lalande et al., 2017; Rousseau et Vallerand, 2008) à la satisfaction de vie. Enfin, la PO prédit négativement la vitalité subjective (Forest et al., 2011; Lalande et al., 2017).

En somme, l'ensemble des résultats des recherches présentées ci-haut montre que, outre les bienfaits sur le bien-être liés au fait d'avoir une passion dans sa vie, la PH conduit à de meilleurs bénéfices psychologiques que la PO. En plus de jouer un rôle important dans le bien-être psychologique des gens, il est postulé par le MDP que la passion influence aussi les processus de régulation du soi.

#### 1.1.4 Le Rôle de la Passion dans les Processus de Régulation du Soi

L'un des postulats fondamentaux du MDP est que la passion donne accès aux processus de régulation du soi (Vallerand et al., 2003; Vallerand, 2015). Tel que mentionné avant, être passionné découle d'un engagement important envers une activité (une personne ou un objet) que l'on aime, qui nous définit et dans laquelle on y investit du temps et de l'énergie et ce, de manière significative. La passion implique donc une expérience motivationnelle et émotionnelle intense chez les individus passionnés qui sont en retour amenés, consciemment ou inconsciemment, à réguler leurs pensées, émotions et comportements. Or, les propos ci-haut illustrent que la passion et les processus de régulation du soi sont nettement liés. De plus, puisque la passion fait partie de l'identité, mieux elle y est intégrée, plus elle exerce une influence importante sur ce type de processus. Toutefois, étant donné le type d'engagement distinct, les deux types de passion influencent différemment l'accès aux processus de régulation du soi.

Le MDP propose que, puisque la PH dérive d'une intériorisation autonome de l'activité dans l'identité (Deci et Ryan, 1985; Sheldon, 2002; Vallerand, 1997), la personne s'engage dans son activité passionnante avec un soi sécurisé, avec flexibilité, ouverture à l'expérience, et de manière non-défensive (Hodgins et Knee,

2002). Cette posture d'engagement autodéterminée permettrait à l'individu d'accéder à des processus d'auto-régulation qui soient plus adaptatifs. Inversement, puisque la PO dérive d'une intériorisation contrôlée de l'activité dans l'identité de la personne, le MDP suggère qu'elle limiterait plutôt l'accèsibilité aux processus adaptatifs de régulation du soi. En effet, avec ce type de passion, la personne s'engage avec un sentiment d'insécurité et d'incertitude, de manière défensive, avec rigidité, fermeture à l'expérience, etc. Étant donné que l'engagement est lié à des contingences (Crocker, 2002; Kernis, 2003) et à une fragilité de l'estime de soi, la PO donne plutôt accès à des processus intérieurement contrôlants comme des processus de protection ou de rehaussement du soi.

Jusqu'à aujourd'hui, peu d'études ont testé de manière empirique cette prémisse fondamentale du MDP sur le rôle de la passion dans l'accès aux processus de régulation du soi. Parmi celles-ci, on retrouve une série de trois études sur la passion et le « coping » par Verner-Filion et ses collègues (2014) et les résultats montrent que la PH était positivement associée avec des stratégies de « coping » d'approche et négativement reliée à des stratégies d'évitement, alors que la PO était positivement reliée qu'aux stratégies d'évitement. Des résultats similaires ont été trouvés sur la relation entre la passion et le « coping » par Shellenberg, Gaudreau, et Crocker (2013). Enfin, les résultats de Briki (2017) montrent que la PH mène au trait d'auto-contrôle, qui prédit en retour le bien-être. Aucune relation ne fût trouvée pour la PO. Ainsi, la présente thèse vise à investiguer davantage la relation entre la passion et les processus de régulation du soi en examinant le rôle de deux types de passion, harmonieuse et obsessive dans la pleine conscience et la régulation émotionnelle (deux processus de régulation du soi jamais étudiés auparavant en lien avec la passion), ainsi qu'en vérifiant l'impact de ces processus d'auto-régulation sur le bien-être des individus.

## 1.2 Les Processus de Régulation du Soi

Le soi est un construit psychologique très complexe et, encore aujourd'hui, les auteurs ne s'entendent pas sur une définition bien précise. Leary et Tangney (2012) ont identifié dans la littérature cinq définitions du concept du soi. D'abord, dans un usage plus commun, le soi est présenté comme synonyme de la « personne » et donc, il réfère à l'individu dans son ensemble. Dans une perspective similaire, certains auteurs ont étudié le soi en termes d'équivalent de la « personnalité » et donc, le soi correspondrait à un ensemble d'habiletés, de valeurs, de potentiels, etc. (Maslow, 1954; Tesser, 2002). Un autre auteur influent, William James (1890), a proposé que le soi comprend deux structures importantes. La première se rapporte au soi en tant que sujet et la seconde au soi comme objet. Le soi comme sujet (le « je ») inclut les processus psychologiques responsables de la conscience de soi et de la connaissance de soi, alors que le soi comme objet (le « moi ») se rapporte plutôt aux perceptions, aux émotions et aux pensées que les gens ont à propos d'eux-mêmes. Enfin, plus récemment, des chercheurs ont étudié le soi en tant qu'agent exécutif, c'est-à-dire que le soi serait le moteur qui régule le comportement (Carver et Scheier, 2012; Hamachek, 1992; Vohs et Baumeister, 2016). Ainsi, cette recherche fait référence aux efforts délibérés pour réguler le comportement en étudiant des processus tels que l'auto-régulation ou l'auto-contrôle. En somme, il existe plusieurs significations du soi dans la littérature et une variété de processus liés au soi ont été étudiés (voir Leary et Tangney 2012 pour revue). La présente thèse se penche davantage sur les aspects exécutifs du soi, c'est-à-dire sur les processus de régulation du soi.

Les gens tentent couramment de contrôler ou d'influencer leurs pensées, émotions et comportements. Ces efforts d'auto-régulation fonctionnent parfois mais échouent aussi à l'occasion. Or, les processus de régulation du soi peuvent être plus ou moins adaptatifs pour l'individu. Les processus de régulation adaptatifs du soi réfèrent à un ensemble de processus dérivant du soi intégré (Hodgins et Knee, 2002; Deci et Ryan, 2000; 2003), facilitant des conséquences positives au plan cognitif, affectif, interpersonnel, etc. Voici quelques exemples de processus de régulation du soi



adaptatifs : la pleine conscience (Kabat-Zinn, 2003; Brown et Ryan, 2003), les stratégies de régulation émotionnelle adaptatives comme la ré-évaluation cognitive (Gross, 2015), les stratégies de coping efficaces (Folkman, 2013; Lazarus, 1993) ou d'autres types de régulation autodéterminée (par ex., régulation identifiée; Deci et Ryan, 1985), la compassion pour soi (Neff, 2003), etc. Ces processus adaptatifs de régulation du soi conduisent au bien-être. Les processus moins adaptatifs de régulation du soi se rapportent quant à eux à une variété de processus provenant du soi égo-investi et donc non-intégré (Hodgins et Knee, 2002; Deci et Ryan, 2000; 2003). Quelques exemples de processus de régulation du soi moins adaptatifs sont les stratégies de régulation émotionnelle moins adaptatives comme la suppression de l'expression des émotions (Gross, 2015), le rehaussement de soi et la protection du soi (Sedikides et Alicke, 2018), des formes de régulation non-autodéterminée (par ex., la régulation externe ou l'introjection; Deci et Ryan, 1985), etc. Ces processus de régulation du soi moins adaptatifs conduisent au mal-être.

Jusqu'à ce jour, peu d'études ont investigué ce qui influence les gens dans leur capacité à accéder à des processus de régulation du soi qui sont adaptatifs ou moins adaptatifs pour le bien-être. En effet, les études se sont concentrées surtout sur les conséquences liées à ces processus plutôt que sur leurs déterminants. La présente recherche propose que la passion serait un déterminant motivationnel important de l'accès aux processus de régulation du soi impactant le bien-être individuel. Ainsi, le but de cette thèse est d'étudier comment la passion peut influencer la capacité des gens à utiliser des processus de régulation du soi et voir l'impact de ceux-ci sur le bien-être. L'emphase est mise sur deux processus de régulation du soi importants et jamais étudié auparavant en lien avec la passion, soit la pleine conscience et la régulation émotionnelle.

### 1.2.1 La Pleine Conscience

La pleine conscience prend racine dans le Bouddhisme. Il s'agit en fait de l'une des vertus fondamentales cultivée par cette religion. En effet, la pleine conscience fait partie des cinq facultés de bases à acquérir selon cette approche. Elle fait aussi partie des composantes fondamentales de « l'éveil » et des huit composantes du « chemin en huit parties ». La définition de la pleine conscience de manière explicite est absente des écrits Bouddhistes. Le concept est plutôt compris à travers la description des exercices pratiques liées au développement de celle-ci (par exemple, des méditations). Toutefois, dans certains textes, on peut retrouver les différents éléments de la conceptualisation plus moderne de la pleine conscience tels que l'attention, la prise de conscience, l'intention et l'acceptation (voir Gethin, 2015 pour une recension).

Récemment, la pleine conscience fût étudiée scientifiquement en psychologie. Langer (1989) propose une approche cognitive de la pleine conscience (une approche cognitive aux stimuli externes). Elle propose que la pleine conscience serait un état de l'esprit qui est conscient de la nouveauté constante de chaque moment. Ainsi, elle invite à être conscient que les expériences et perspectives sont toujours en changement. Le focus de la prise de conscience est donc sur les éléments extérieurs. L'auteure propose que la pleine conscience permettrait à l'individu d'en apprendre davantage à propos de situation dans lesquels il se trouve, de développer des perspectives multiples et de se voir de manière plus précise.

Une autre perspective est celle de Kabat-Zinn (1994; 2003) qui définit la pleine conscience comme le fait de porter attention de manière particulière, intentionnelle, au moment présent et sans jugement. Il s'appuie sur l'idée que la vie serait un processus comprenant des hauts et des bas, tous étant temporaires. Or, le fait de s'attacher au passé limiterait l'appropriation du positif lié au moment présent. Ainsi, la prise de conscience de moments par moments (ou pleine conscience) serait essentielle afin s'approprier chacune de nos expériences, qu'elles soient bonnes ou

mauvaises. Kabat-Zinn (2003) a développé un programme d'entraînement à la pleine conscience, soit le Mindfulness-Based Stress Reduction (MBSR). Ce programme d'intervention d'une durée de 8 semaines s'applique aux populations cliniques et focus sur la diminution de la douleur, du stress, des symptômes anxio-dépressifs, etc. en aidant les patients à développer leur trait de pleine conscience.

En somme, les deux perspectives de Langer et Kabat-Zinn incluent les dimensions de la prise de conscience et de l'attention. Leurs différences se trouvent plutôt au niveau du focus de l'attention. Kabat-Zinn met l'emphase sur l'attention et la prise de conscience de processus internes, tandis que Langer met le focus de l'attention sur les événements externes (Weick et Putnam, 2006).

Bishop et ses collègues (2004) sont dans les premiers à proposer une définition opérationnalisée de la pleine conscience. Ils proposent un modèle de la pleine conscience à deux composantes, soit l'auto-régulation de l'attention sur l'expérience immédiate (dans le but d'augmenter la prise de conscience du moment présent) et l'orientation particulière vers l'expérience (orientation caractérisée par la curiosité, l'ouverture et l'acceptation). Or, leur perspective s'inscrit surtout dans celle de Kabat-Zinn au sens où ils mettent l'accent sur la prise de conscience et l'acceptation des processus internes dans l'immédiat. Ils incluent toutefois aussi la perspective de Langer avec leur inclusion de la régulation de l'attention comme composante fondamentale.

Enfin, Brown et Ryan (2003) présentent la pleine conscience comme une capacité d'auto-régulation. Ils la définissent comme une attention réceptive et consciente aux événements présents et expériences. Il s'agit donc d'un état de l'esprit attentif et conscient de ce qui se passe dans le présent tant au niveau interne qu'externe. Les auteurs proposent que tous les gens auraient une capacité à la pleine conscience. Ils considèrent toutefois que les individus diffèrent dans cette propension à être conscient

et à soutenir leur attention du moment présent. Ils suggèrent aussi que cette capacité individuelle peut être améliorée ou diminuée selon plusieurs facteurs.

La perspective de Brown et Ryan (2003) se différencie de celle de Langer étant donné que leur focus est mis à la fois sur les événements internes et externes. Ils se différencient aussi de Kabat-Zinn au sens où leur définition met l'accent sur la conscience et l'attention sans y inclure la dimension de l'acceptation, sans jugement. Aussi, contrairement à Kabat-Zinn dont l'approche propose qu'il est nécessaire d'employer une intervention comme le MBSR afin d'acquérir la pleine conscience, l'approche de Brown et Ryan (2003) suggère que, bien que les techniques et interventions peuvent amener des différences intra-individuelles de pleine conscience, cette dernière peut aussi se présenter de manière naturelle, tant que les individus démontrent de l'autonomie, de la compétence et de l'appartenance sociale. Cette thèse repose sur la perspective de Brown et Ryan (2003), c'est-à-dire qu'elle propose que la pleine conscience est une forme saine d'auto-régulation et que chaque individu possède une capacité à la pleine conscience qui peut être favorisée ou ébranlée selon certains facteurs. La passion semble être un facteur important qui puisse influencer cette capacité à la pleine conscience.

La pleine conscience réfère donc à un état de l'esprit caractérisé par une conscience ouverte et réceptive, qui résulte du fait de porter attention, de manière intentionnelle, au moment présent et en adoptant une attitude d'acceptation et de non-jugement envers l'expérience qui se déploie (Bishop et al., 2004; Brown et Ryan, 2003; Kabat-Zinn, 1994; 2003; Feldman, Hayes, Kumar, Greeson, et Laurenceau, 2007). En d'autres termes, il s'agit d'un état de la conscience où l'attention est dirigée vers le « ici et maintenant » et où l'expérience de soi est acceptée sans jugement. Malgré le fait que les personnes varient dans leur capacité à la pleine conscience, la littérature propose que tous auraient une capacité innée pour la pleine conscience (Brown et Ryan, 2003; Goldstein, 2002; Kabat-Zinn, 2003). La recherche montre que la pleine

conscience est liée à de multiples bénéfices. Par exemple, en lien avec les expériences affectives, Arch et Craske (2010) ont montré qu'un trait élevé de pleine conscience prédit un niveau plus bas d'émotions négatives. Les résultats de Hill et Updegraff (2012) quant à eux ont dévoilé qu'un trait élevé de pleine conscience prédit un niveau plus bas d'instabilité émotionnelle et de dysrégulation dans la vie de tous les jours. Enfin, plusieurs études ont montré que le trait de pleine conscience prédit positivement l'expérience d'émotions positives (Brown et Ryan, 2003; Chang, Huang, et Lin, 2015; Jislin-Goldberg, Tanay, et Bernstein, 2012; Kiken, Lundberg, et Fredrickson, 2017) et négativement celles d'émotions négatives en général et au jour le jour (Brown et Ryan, 2003; Chang, Huang, et Lin, 2015)

Des bénéfices ont aussi été découverts en lien avec le bien-être. En effet, les études antérieures ont montré que le trait de pleine conscience prédit positivement la vitalité (Allen et Kiburz, 2012; Brown et Ryan, 2003), la satisfaction de vie et l'actualisation de soi (Brown et Ryan, 2003), la qualité de vie (Cardaciotto, Herbert, Forman, Moitra, et Farrow, 2008), l'épanouissement (Coffey, Hartman, et Fredrikson, 2010), le bonheur (Cardaciotto, Herbert, Forman, Moitra, et Farrow, 2008) et le bien-être psychologique, c'est-à-dire l'autonomie, la maîtrise de l'environnement, la croissance personnelle, les relations positives avec les autres, les buts dans la vie et l'acceptation de soi (Baer, Lykins, et Peters, 2012; Chang, Huang, et Lin, 2015; Feldman et al., 2007). Inversement, la recherche a montré que le trait de pleine conscience prédit négativement la dépression et l'anxiété (Brown et Ryan, 2003; Cardaciotto et al., 2008; Coffey et al., 2010; Feldman et al., 2007)

Toutefois, peu d'études ont exploré les déterminants de la pleine conscience. Pourtant, puisque les gens varient dans leur capacité à la pleine conscience, c'est qu'il existe des variables dispositionnelles ou de personnalité qui puissent influencer cette capacité. Ce que nous savons jusqu'à ce jour est que le névrotisme prédit positivement le trait de pleine conscience (Feltman, Robinson, et Ode, 2009). De

plus, l'attachement insécure, l'anxiété de trait, ainsi que le contrôle attentionnel prédisent positivement le trait de pleine conscience (Walsh, Balint, Fredericksen, et Madsen, 2009). Finalement, les résultats de Pepping et Duvenage (2016) ont montré que la chaleur parentale prédit positivement le trait de pleine conscience alors que le rejet parental prédit négativement ce trait. Selon le MDP, la passion pourrait être une variable motivationnelle importante contribuant à cette capacité à la pleine conscience. Le premier article de cette thèse s'intéresse à l'influence des deux types de passion dans l'accès à la pleine conscience et les effets de celle-ci sur le bien-être de gens.

### 1.2.2 La Régulation Émotionnelle

Un autre processus de régulation du soi essentiel est celui de la régulation émotionnelle. Bien réguler ses émotions est crucial au bon fonctionnement psychologique et même physique de la personne (Aldao, Nolen-Hoeksema, et Schweizer, 2010; Gross et Munoz, 1995; Gross et Jazaieri, 2014; Gross, 2014). La régulation émotionnelle réfère au processus de régulation du soi par lequel les individus influencent quelles émotions ils ressentent (positives ou négatives), à quel moment elles sont évoquées, et comment ils les expriment et les vivent (Gross, 1998b; 2015). Afin d'augmenter ou de diminuer la magnitude de l'expérience émotionnelle, des stratégies de régulation émotionnelle sont employées.

L'un des modèles les plus reconnus de la régulation émotionnelle est celui développé par James Gross (1998a). L'auteur présente un modèle processuel de la régulation émotionnelle où les stratégies de régulation sont classées tout au long de la réponse émotionnelle. Ainsi, il est proposé que la régulation émotionnelle centrée sur les antécédents implique l'utilisation de stratégies de régulation avant qu'une émotion émerge. À l'opposé, la régulation émotionnelle centrée sur la réponse émotionnelle implique la mise en œuvre de stratégies une fois que l'émotion est ressentie. La recherche sur la régulation émotionnelle a mis l'emphase sur l'étude de

deux stratégies importantes, soit la ré-évaluation cognitive (une stratégie centrée sur les antécédents) et la suppression de l'expression des émotions (une stratégie centrée sur la réponse) (Gross, 1998a, 2015; Gross et John, 2003; Webb et al., 2012).

La ré-évaluation cognitive est une forme de changement cognitif qui implique d'interpréter différemment ou de ré-évaluer une situation dans laquelle des émotions ont été évoquées et ce, dans le but de modifier son impact émotionnel (Lazarus et Alfert, 1964; Speisman, Lazarus, Mordkoff, et Davison, 1964). Par exemple, lorsqu'une personne se sent en colère, elle peut prendre un moment pour repenser la situation qui aurait engendré cette émotion négative afin de mieux comprendre et donner un nouveau sens à ce qui a été vécu. Cette stratégie peut en retour diminuer l'expérience de la colère. Selon le modèle processuel de la régulation émotionnelle développé par Gross (1998a), ce type de stratégie serait employée tôt dans le processus de déploiement de l'émotion et aurait pour fonction de diminuer la perception de l'adversité, permettant en retour de diminuer l'expérience et l'expression de l'émotion (Gross et John, 2003). De son côté, la suppression de l'expression des émotions est une forme de modulation de la réponse émotionnelle qui implique l'inhibition de l'expression comportementale de l'émotion vécue (Gross, 1998a). Par exemple, un individu employant cette stratégie pour gérer sa colère la retiendrait de façon à ne pas la montrer ni l'exprimer à l'extérieur. Ainsi, toujours selon le modèle de Gross, cette stratégie serait utilisée plus tard dans le processus de déploiement de l'émotion, soit au moment de la réponse émotionnelle. Elle permettrait d'éliminer l'expression comportementale de l'émotion, mais la recherche montre que l'expérience émotionnelle vécue serait augmentée (Gross et John, 2003).

La recherche existante sur ces deux types de stratégies révèle que la ré-évaluation cognitive est une stratégie de régulation émotionnelle plus adaptative que la suppression de l'expression des émotions puisque, de façon générale, elle augmente et diminue les composantes expérientielles et comportementales des émotions positives

et négatives, respectivement (Gross, 1998a; 2003; Gross et John, 2003). De plus, la recherche montre que la ré-évaluation cognitive est une stratégie qui est liée positivement au bien-être et négativement au mal-être, alors que la suppression de l'expression des émotions est plutôt une stratégie qui est positivement liée au mal-être et négativement liée au bien-être (Aldao et al, 2010; Gross, 1998a; 2002; 2013; 2015; Gross et John, 2003; Webb et al., 2012). Plus précisément, les résultats des études de Gross et John (2003) montrent que les individus qui utilisent la ré-évaluation cognitive comme stratégie pour gérer leurs émotions sont plus satisfaits de leur vie, plus optimistes, démontrent des niveaux plus élevés de maîtrise environnementale, d'autonomie et de croissance personnelle, ont une meilleure acceptation d'eux-mêmes, ont des relations plus positives avec autrui, ont un sens à la vie plus défini et présentent moins de symptômes liés à la dépression. À l'opposé, les gens qui utilisent la suppression de l'expression des émotions comme stratégie de régulation sont moins satisfaits de leur vie, moins optimistes, démontrent des niveaux plus bas de bien-être psychologique (maîtrise environnementale, d'autonomie et de croissance personnelle) et présentent des symptômes liés à la dépression.

Enfin, la littérature met en lumière certains facteurs influencent l'utilisation de stratégies plus ou moins adaptatives pour le bien-être. Par exemple, l'intensité émotionnelle vécue, la complexité cognitive à générer la stratégie, ainsi que les buts motivationnels et émotionnels de l'individu, impacteraient l'emploi de certaines stratégies plutôt que d'autres (voir Sheppes, 2014 pour une recension). Il est proposé dans le cadre du deuxième article de cette thèse que la passion pourrait également être un déterminant motivationnel important de l'utilisation de stratégies de régulation émotionnelle plus ou moins adaptatives pour le bien-être.

### 1.3 Présentation Des Deux Articles

L'objectif général de cette thèse était d'examiner le rôle des deux types de passion, comme le conceptualise le MDP de Vallerand et ses collègues (2003; 2015), dans



l'accès à deux processus de régulation du soi essentiels (et jamais étudiés auparavant en relation avec la passion), et d'explorer les conséquences de ceux-ci sur le bien-être des individus. L'Article 1 s'est intéressé à la pleine conscience (Brown et Ryan, 2003; Brown et al., 2015; Kabat-Zinn, 2003) comme processus de régulation du soi, tandis que l'Article 2 a mis l'emphase sur la régulation émotionnelle et spécifiquement sur deux stratégies de régulation émotionnelle impactant le bien-être, soit la ré-évaluation cognitive et la suppression de l'expression des émotions (Gross et John, 2003; Gross, 2015).

Cette recherche propose six hypothèses générales concernant les relations entre la passion, les processus de régulation du soi et le bien-être. Tout d'abord, en se basant sur les études antérieures sur les relations entre la passion et les processus de régulation du soi en général (le coping; Verner-Filion et al., 2014; Schellenberg, 2013 et le trait d'auto-contrôle, Briki, 2017), il fût postulé que :

- 1) La PH serait positivement associée aux processus de régulation du soi adaptatifs pour le bien-être (i.e., la pleine conscience et la ré-évaluation cognitive).
- 2) La PO serait positivement liée aux processus de régulation du soi moins adaptatifs pour le bien-être (i.e., la suppression de l'expression des émotions).

De plus, en se basant sur les études passées qui dévoilent le rôle protecteur de la PH face aux conséquences négatives (par ex., St-Louis et al., 2016; Trépanier et al., 2014), il fût suggéré que:

- 3) La PH serait négativement liée aux processus de régulation du soi moins adaptatifs pour le bien-être (i.e., la suppression de l'expression des émotions).

Également, en se basant sur les études antérieures sur les relations entre la PO et les conséquences positives montrant qu'elle est parfois non-liée (lien négatif mais non-significatif; Vallerand et al., 2007; Vallerand et al., 2008; Study 1) ou négativement

liée (Lalande et al., 2017; Rousseau et Vallerand, 2008; Vallerand et al., 2008; Study 2) à celles-ci, il fût proposé que :

- 4) La PO serait soit négativement associée ou non-associée aux processus de régulation du soi adaptatifs pour le bien-être (i.e., la pleine conscience et la ré-évaluation cognitive).

Enfin, en prenant assise sur les études sur les bienfaits de la pleine conscience sur le bien-être (par ex., Brown et Ryan, 2003; Cardaciotto et al., 2008; Coffey et al., 2010; Feldman et al., 2007) et sur les conséquences de l'utilisation de stratégies de régulation émotionnelles de ré-évaluation cognitive et de suppression de l'expression de l'émotion sur le bien-être et le mal-être (voir Aldao et al., 2010; Gross et John, 2004; Webb et al., 2012 pour des recensions), il fût postulé que :

- 5) Les processus de régulation du soi de pleine conscience et de ré-évaluation cognitive seraient positivement liées au bien-être et négativement liée au mal-être.
- 6) Les processus de régulation du soi de suppression de l'expression des émotions seraient négativement liées au bien-être et positivement liés au mal-être.

Le premier article de cette thèse comprend une série de trois études ayant pour objectif d'étudier la passion comme déterminant de la pleine conscience et les conséquences de celle-ci sur le bien-être des individus. À l'aide d'un devis corrélationnel, la première étude avait pour but d'investiguer la relation entre la passion et la pleine conscience. Il a été postulé que la PH serait liée positivement à la pleine conscience, alors que la PO y serait négativement associée.

La seconde étude a employé le même devis pour étudier la relation entre la passion, la pleine conscience et le bien-être. Ainsi, les objectifs de cette étude étaient de reproduire les résultats de l'Étude 1, en plus d'examiner l'impact de la pleine

conscience sur le bien-être des gens. Il a été suggéré que les résultats de la première étude concernant la relation entre les deux types de passion et la pleine conscience seraient reproduits. De plus, il a été proposé que la pleine conscience serait positivement liée à au bien-être.

La troisième étude avait aussi pour but de reproduire les résultats des études précédentes, mais elle visait également à vérifier la direction des effets. Ainsi, un devis prospectif fût employé. De plus, le bien-être fût testé avec une mesure différente d'affect positif et négatif que celle employé dans la seconde étude et une mesure additionnelle de bien-être fût introduite, soit la vitalité subjective. Le but était d'investiguer davantage la validité externe du modèle proposé. Les hypothèses étaient identiques à celles des deux premières études.

Le deuxième article de cette thèse porte sur la passion comme déterminant de l'utilisation de stratégies de régulation émotionnelle et les effets de celles-ci sur le bien-être individuel. Le but de la première étude était d'explorer ces relations à l'aide d'un devis corrélationnel. Il fût postulé que la PH serait positivement liée à la ré-évaluation cognitive et négativement liée à la suppression de l'expression des émotions. Inversement, la PO serait positivement associée à la suppression de l'expression des émotions et négativement liée ou non-liée à la ré-évaluation cognitive. En retour, il a été proposé que la ré-évaluation cognitive serait positivement associée au bien-être, alors que la suppression de l'expression des émotions y serait négativement liée ou non-liée.

La seconde étude avait pour but de reproduire les résultats de la première étude en employant aussi un devis corrélationnel, mais cette fois, en étudiant les relations entre la passion, les stratégies de régulation émotionnelle et le bien-être dans le contexte spécifique des relations amoureuses. L'objectif était de tester la passion et la régulation émotionnelle dans le même contexte. De plus, d'autres indices de bien-être

furent mesurés afin de tester la validité externe du modèle. Les mêmes hypothèses que celles de la première étude furent postulées.

Enfin, la troisième étude visait trois buts. Le premier était de reproduire les résultats des études précédentes en employant un devis prospectif afin d'explorer la direction des effets. Le second but était de tester davantage l'impact de la passion et des stratégies de régulation sur le bien-être, en plus de tester la généralisation du modèle. Ainsi, un même indice de bien-être que dans la deuxième étude fût mesuré et un nouvel indice de bien-être ainsi qu'une mesure de mal-être furent ajoutés. Le dernier but de cette dernière étude était d'examiner le changement dans le bien-être des gens. Ainsi, le modèle proposé fût testé en incluant les mesures de bien-être et de mal-être au temps 1, comme variables de contrôle.

Il fût postulé que, en contrôlant pour l'influence des variables de bien-être et mal-être au temps 1, la PH au temps 1 serait positivement associée à la ré-évaluation cognitive au temps 2 et qui, en retour, seraient positivement liée au bien-être et négativement liée au mal-être (aussi au temps 2). Il fût suggéré que la PH au temps 1 serait négativement liée à la suppression de l'expression des émotions au temps 2. À l'inverse, la PO serait positivement liée à la suppression de l'expression des émotions qui, en retour, serait négativement lié ou non-lié au bien-être et positivement associé au mal-être. Enfin, il fût proposé que la PO au temps 1 serait négativement liée ou non-liée à la ré-évaluation cognitive au temps 2.

## CHAPITRE II

### ARTICLE 1

Passion and Mindfulness: Accessing adaptive self-processes

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## RÉSUMÉ EN FRANÇAIS DE L'ARTICLE 1

L'Article 1 avait pour objectif général d'examiner la passion comme déterminant de la pleine conscience et les conséquences de celle-ci sur le bien-être des individus. À cet effet, trois études empiriques ont été réalisées. La première étude a employé un devis transversal pour explorer les liens entre les deux types de passion, c'est-à-dire la passion harmonieuse (PH) et la passion obsessionnelle (PO), et la pleine conscience. La deuxième étude a utilisé un devis identique et avait pour but de reproduire les résultats de la première étude. Elle avait en plus comme objectif d'explorer les conséquences de la pleine conscience sur le bien-être des individus. Enfin, la dernière étude avait pour objectif de reproduire les résultats des deux études précédentes, mais cette fois-ci, en empruntant un devis prospectif et en ajoutant une mesure additionnelle de bien-être.

L'Étude 1 avait pour objectif d'explorer les liens entre les deux types de passion et la pleine conscience. Il a été proposé que la PH serait positivement liée à la pleine conscience alors que la PO y serait négativement associée. Les participants ( $n = 301$ ) étaient des étudiants adultes américains recrutés via la plateforme internet d'Amazon Mechanical Turk à l'aide d'une annonce ciblant des étudiants. Ils ont été invités à compléter un questionnaire en ligne mesurant la passion pour les études (Passion Scale; Bélanger et al., 2013; Marsh et al., 2013; Vallerand et al., 2003) et la pleine conscience (Cognitive and Affective Mindfulness Scale-Revised; Feldman et al., 2007). Les résultats d'analyses de régression multiple ont montré que la PH était positivement liée à la pleine conscience ( $\beta = .44, p < .001$ ) alors que la PO y était négativement associée ( $\beta = -.25, p < .001$ ).

L'objectif de l'Étude 2 était de reproduire les résultats de l'Étude 1 sur les relations entre les deux types de passion et la pleine conscience et d'observer les effets de cette dernière sur le bien-être des gens. Les mêmes hypothèses que celles de l'Étude 1 concernant les liens entre la passion et la pleine conscience ont été postulées. De plus, il a été suggéré que la pleine conscience serait positivement liée aux mesures de bien-être. Les participants étaient 459 adultes américains à nouveau recrutés via la plateforme internet d'Amazon Mechanical Turk à l'aide d'une annonce ciblant des gens qui aiment écouter de la musique. Ils ont été invités à compléter un questionnaire en ligne mesurant la passion pour la musique (Passion Scale; Marsh et al., 2013; Vallerand et al., 2003), la pleine conscience (Cognitive and Affective Mindfulness Scale-Revised; Feldman et al., 2007) et l'affect positif et négatif (Positive and Negative Affect Scale; Watson et al., 1988). Les résultats d'analyses acheminatoires ont révélé des indices d'adéquation satisfaisants :  $\chi^2$  ( $df = 9, N = 450$ ) = 1.54, ns; CFI = .999, TLI = .984, SRMR = .01, et RMSEA = .04 [.00; .14]. Comme dans l'Étude 1, les résultats ont montré que la PH était positivement liée à la pleine

conscience ( $\beta = .39, p < .001$ ), alors que la PO y était négativement associée ( $\beta = -.17, p < .01$ ). De plus, les résultats ont montré que la pleine conscience était positivement liée à de l'affect positif ( $\beta = .45, p < .001$ ) et négativement liée à de l'affect négatif ( $\beta = -.25, p < .001$ ). Des relations directes entre la PH et l'affect positif ( $\beta = .14, p < .01$ ) et négatif ( $\beta = -.18, p < .001$ ) sont demeurées significatives, tout comme celles entre la PO et l'affect positif ( $\beta = .20, p < .001$ ) et négatif ( $\beta = .30, p < .001$ ). Enfin, les résultats des analyses par « bootstrap » ont indiqué que la pleine conscience est un médiateur significatif partiel des relations entre la PH et l'affect positif ( $\beta = .17; 95\% \text{ CI} = .11 \text{ à } .24, p = .000$ ) et entre la PO et l'affect positif ( $\beta = -.08; 95\% \text{ CI} = -.13 \text{ à } -.03, p = .004$ ). Les résultats ont également démontré que la pleine conscience était aussi un médiateur significatif partiel de la relation entre PH et l'affect négatif ( $\beta = -.10; 95\% \text{ CI} = -.14 \text{ à } -.06, p = .000$ ) et entre PO et l'affect négatif ( $\beta = .04; 95\% \text{ CI} = .01 \text{ à } .07, p = .004$ ).

Le but de l'Étude 3 était de reproduire les résultats des deux études précédentes, mais cette fois, en employant un devis prospectif. Puisque les deux premières études mesuraient la passion et la pleine conscience au même moment, il était difficile de déterminer si la passion mène à la pleine conscience ou si c'est plutôt l'inverse qui se produit. En incluant un intervalle de temps dans l'Étude 3 entre les déterminants et les conséquences, cela permet d'avoir un indicateur de la direction des effets de causalité. Un autre objectif de cette dernière étude était d'examiner davantage la validité externe du modèle proposé en incluant une mesure différente d'affect positif et négatif que celle employé dans l'Étude 2 et en incorporant une mesure additionnelle de bien-être, soit la vitalité subjective. Les mêmes hypothèses que celles des deux études précédentes ont été postulées. Les participants étaient des adultes américains recrutés via la plateforme internet d'Amazon Mechanical Turk à l'aide d'une annonce ciblant des fans de football. Une semaine avant l'évènement du Super Bowl 2014-2015 de la NFL, ils étaient invités à compléter un questionnaire en ligne. Un total de 606 fans ont rempli le premier questionnaire mesurant la passion pour le football (Passion Scale; Marsh et al., 2013; Vallerand et al., 2003). Puis, 406 participants ont complété un deuxième questionnaire après l'évènement, mesurant la pleine conscience (Cognitive and Affective Mindfulness Scale-Revised; Feldman et al., 2007), l'affect positif et négatif (Positive and Negative Affect Scale; Feldman et al., 1998), et la vitalité subjective (Ryan & Frederick, 1997). Suite aux résultats d'analyses préliminaires montrant que la moitié de ces participants n'étaient pas des fans sérieux de football, seuls les participants avec un score plus grand que le point milieu à l'échelle des critères de la passion ont été conservés, pour un échantillon final de 179 fans de football ayant participé aux deux temps de mesure. Les résultats d'analyses acheminatoires ont révélé des indices d'adéquation satisfaisants :  $\chi^2 (df = 3, N = 176) = 4.13, ns, CFI = .998, TLI = .989, SRMR = .02, \text{ et } RMSEA = .05 [.00; .14]$ . Les résultats ont montré que la PH ( $\beta = .37, p < .001$ ) et la PO ( $\beta = -.24, p < .01$ ) au temps 1 étaient respectivement positivement et négativement liées à la pleine conscience au temps 2 qui, en retour, était positivement liée à la vitalité subjective ( $\beta$

= .31,  $p < .001$ ) et l'affect positif ( $\beta = .21$ ,  $p < .01$ ), mais négativement associée à l'affect négatif ( $\beta = -.20$ ,  $p < .01$ ). Des liens directs entre la PH et la vitalité subjective ( $\beta = .12$ ,  $p < .05$ ), ainsi qu'entre la PO et l'affect négatif ( $\beta = .12$ ,  $p < .01$ ) sont demeurés significatifs. La relation entre la PH et l'affect positif est demeuré marginalement significative ( $\beta = .08$ ,  $p = .059$ ). De plus, les résultats d'analyses par « bootstrap » ont indiqué que la pleine conscience était un médiateur significatif partiel de la relation entre la PH et la vitalité subjective ( $\beta = .11$ ; 95% CI = .04 à .19,  $p = .002$ ), ainsi que de la relation entre la PO et la vitalité subjective ( $\beta = -.08$ ; 95% CI = -.13 à -.02,  $p = .010$ ). Les résultats ont aussi soulevé que la pleine conscience était un médiateur significatif partiel de la relation entre la PH et l'affect positif ( $\beta = .08$ ; 95% CI = .02 à .14,  $p = .014$ ) et de la PO et l'affect positif ( $\beta = -.05$ ; 95% CI = -.10 à -.01,  $p = .026$ ). Enfin, les résultats ont montré que la pleine conscience était un médiateur significatif partiel de la relation entre la PH et l'affect négatif ( $\beta = -.08$ ; 95% CI = -.14 to -.01,  $p = .017$ ) et de la PO et l'affect négatif ( $\beta = .05$ ; 95% CI = .00 to .09,  $p = .034$ ).

L'ensemble des résultats de cette série de trois études révèle que la passion est un déterminant important de la pleine conscience et spécifiquement, que la PH favorise l'accès à un tel état de l'esprit alors que la PO la limite. Les résultats dévoilent également que la pleine conscience aide au bien-être des gens. Ainsi, ces résultats offrent de l'appui empirique au MDP en soutenant sa prémisse importante concernant la relation entre la passion et l'accès aux processus de régulation du soi. De plus, les résultats permettent un éclairage nouveau quant aux déterminants des processus de régulation du soi. Finalement, les résultats offrent du support additionnel concernant l'influence positive de la pleine conscience sur le bien-être des individus.

Certaines limites à cette recherche se doivent d'être soulignées. Tout d'abord, les trois études utilisaient un devis corrélationnel et donc, aucune causalité ne peut être inférée concernant les résultats de la présente recherche. Les recherches futures sur la relation entre la passion et la pleine conscience devraient employer des devis expérimentaux (Bélanger et al., 2013; Lafrenière et al., 2013, Étude 2) et longitudinaux (Carbonneau et al., 2008; Lavigne et al., 2014). Ensuite, les participants ont seulement complété des mesures auto-rapportées. Ainsi, les recherches futures devraient inclure des mesures objectives, telles que des instruments physiologiques, afin de mesurer l'affect positif et négatif et la vitalité. Enfin, cette recherche a mis l'accent sur la passion comme déterminant de la pleine conscience, mais elle n'a pas tenu compte de l'effet bidirectionnel possible de cette relation. Or, les prochaines recherches devraient investiguer cette relation récursive potentielle entre la passion et la pleine conscience.



## Abstract

The goal of this research was to examine passion as a determinant of mindfulness. Three studies were conducted based on the premise that harmonious passion (HP) provides access to adaptive self-processes, such as mindfulness, whereas obsessive passion (OP) limits such access (Vallerand, 2015). In Study 1 (n=301) results revealed that HP and OP positively and negatively predicted mindfulness, respectively. Study 2 (n=459) aimed at replicating results from Study 1 and explored the mediating role of mindfulness in the passion-affect relationship. Results uncovered that HP and OP respectively predicted positively and negatively mindfulness that, in turn, positively predicted positive affect and negatively predicted negative affect. These results were replicated in Study 3 (n=176) while incorporating a time lag in the design. Vitality was also included in the model and was positively predicted by mindfulness. Findings underscore the facilitative role of HP in accessing adaptive self-processes, such as mindfulness.

Keywords: harmonious passion, obsessive passion, mindfulness, positive affect, negative affect, vitality

## Passion and Mindfulness: Accessing Adaptive Self-Processes

Mindfulness represents an important concept in the field of positive psychology. It refers to a state of mind that is characterized by open and receptive awareness through focusing attention on the present moment and adopting an attitude of acceptance and non-judgment towards one's experience (Bishop et al., 2004; Brown & Ryan, 2003; Kabat-Zinn, 2003). Empirical evidence provides support for the benefits of mindfulness on one's experience of affect (Jislin-Goldberg, Tanay, & Bernstein, 2012; Nyklíček & Kuijpers, 2008; Orzech, Shapiro, Brown, & McKay, 2009), vitality (Allen & Kiburz, 2012; Brown & Ryan, 2003), and well-being (Baer, Lykins, & Peters, 2012; Brown & Ryan, 2003; Brown, Ryan, & Creswell, 2007; Coffey, Hartman, & Fredrikson, 2010; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007; Garland, Farb, Goldling, & Fredrikson, 2015), amongst others.

### 2.1 The Dualistic Model of Passion

Passion is defined as a strong inclination toward an activity that individuals love, highly value, and in which they invest a significant amount of time regularly (Vallerand et al., 2003; Vallerand, 2015). Furthermore, when people develop a passion, the passionate activity becomes part of who they are and how they see themselves. This centrality of the activity in one's identity occurs because people are naturally inclined to internalize components of the environment into their identity that are meaningful to them (Deci, Eghrari, Patrick, & Leone, 1994). There are two forms of internalization processes, autonomous and controlled (Deci & Ryan, 1985; Sheldon, 2002; Vallerand, 1997). An autonomous form of internalization arises when a person freely accepts the activity as valuable for itself and without any contingencies attached to it. This internalization process originates from the integrated self, meaning that it is in harmony with one's sense of self (Hodgins & Knee, 2002; Ryan & Deci, 2000, 2003). On the other hand, a controlled form of internalization emanates from a forced involvement in an activity with contingencies

attached to it, such as social acceptance and self-esteem. The activity presents discord with one's sense of self and conflict is thus present among the internalized elements. Following autonomous versus controlled internalization of the activity in one's self, two types of passion can surface. Specifically, according to the DMP (Vallerand, 2015), an autonomous internalization of the activity will lead to harmonious passion (HP), whereas a controlled internalization will result in obsessive passion (OP). Importantly, because it results from an autonomous internalization process, HP allows access to adaptive self-processes, such as mindfulness. Conversely, OP limits such access because this type of passion comes from a controlled internalization process.

Both types of passion have the same level of intensity. Where they differ is in their quality of activity involvement. With HP, people engage in the activity freely and they remain in control. The passionate activity occupies a significant place in their identity while still being in accord with other important self-elements and life domains. Importantly, the authentic integrating self (Dedi & Ryan, 2000) is at play with HP. This process allows individuals to engage in the passionate activity with a secure sense of self-esteem and in a flexible, open, non-defensive (Hodgins & Knee, 2002), and mindful way (Brown & Ryan, 2003). Thus, this type of passion allows access to adaptive self-processes and leads to positive benefits. With OP, individuals feel an uncontrollable urge to partake in the activity in which they often lose control over. The passionate activity has an overwhelming place in their identity and conflict is present with other significant self-components and life aspects. Internally controlling and non-authentic self-processes are at play with this type of passion and thus, people engage in the passionate activity with a contingent sense of self-esteem and in a defensive, closed, and unmindful manner. Thus, this type of passion limits access to adaptive self-processes and, even if OP can sometimes lead to positive outcomes (e.g., performance and positive emotions), it is mainly conducive to negative consequences.

Support has been achieved for this dual perspective on passion (see Curran, Hill, Appleton, Vallerand, & Standage, 2015; Vallerand, 2008, 2010, 2015 for reviews). Specifically, HP carries many benefits, such as experiencing greater positive affect (Carbonneau, Massicotte, & Vallerand, 2010; Lafrenière, Vallerand, Donahue, & Lavigne, 2009; St-Louis & Vallerand, 2015; Stoeber, Harvey, Ward & Childs, 2009; Vallerand et al., 2003, Study 1), vitality (Philippe, Vallerand, & Lavigne, 2009; Vallerand et al., 2006; Study 2), flow (Carpentier, Mageau, & Vallerand, 2012; Vallerand et al., 2003, Study 1), and well-being (Lafreniere, St-Louis, Vallerand, & Donahue, 2012; Rousseau & Vallerand, 2008; Vallerand, 2012).

Conversely, OP promotes less desirable outcomes. In fact, OP leads to greater negative affect (Rousseau & Vallerand, 2008; Stoeber et al., 2011; Vallerand et al., 2006; Study 2) and is either unrelated (Vallerand et al., 2007; Study 1; Vallerand, Mageau, et al., 2008; Study 1) or negatively related to measures of vitality and life satisfaction (Stenseng & Phelps, 2013; Vallerand, 2007; Study 2). Finally, OP is positively associated with physical symptoms and PTSD (Carbonneau et al., 2010; St-Louis, Carbonneau, & Vallerand, 2016). Importantly, whereas most studies used a correlational design, such findings have been replicated using an experimental design where HP and OP have been experimentally induced (Bélanger, Lafrenière, Vallerand, & Kruglanski, 2013a; Lafrenière, Vallerand, & Sedikides, 2013; Study 2;). Thus, research offers support for the DMP and the causal role of HP and OP in facilitating well- and ill-being, respectively.

To summarize, the DMP (Vallerand, 2015) posits that HP derives from an autonomous form of internalization of the activity in one's identity, allowing full access to adaptive self-processes and thus, permitting a flexible, open, and mindful form of involvement. Engaging in the activity in such manner leads to positive outcomes. Conversely, OP originates from a controlled form of internalization that blocks full access to adaptive self-processes and thus, the engagement in the activity

is rigid, closed, and unmindful. Such involvement is conducive to negative consequences.

## 2.2 The Present Research

Mindfulness is considered a healthy form of self-regulation. It is a cognitive state of awareness where attention is aligned on the here and now and one's experience is accepted without judgment (Bishop et al., 2004; Brown & Ryan, 2003; Kabat-Zinn, 2003; Feldman et al., 2007). So far, research has supported the many benefits of mindfulness (see Brown, Creswell, & Ryan, 2015 for a review). However, few studies have looked at the determinants of mindfulness (Feltman, Robinson, & Ode, 2009; Walsh, Balint, Fredericksen, & Madsen, 2009). The present research sought to investigate the role of HP and OP as a determinant of mindfulness. As stated by the DMP (Vallerand et al., 2003; Vallerand, 2010, 2015), HP derives from an autonomous internalization of the activity in one's identity, allowing full access to adaptive self-processes, such as mindfulness, that, in turn, should lead to positive outcomes. OP on the other hand, emanates from a controlled internalization, which blocks such access to adaptive self-processes and is conducive to negative outcomes. Thus, the present research addressed the above premise by focusing on three important objectives: (1) exploring the role of passion, and especially HP, as a determinant of mindfulness; (2) examining mindfulness as a mediator between passion and one specific outcome, namely affect; and (3) looking at mindfulness as a mediator of the passion and vitality relationship.

The purpose of Study 1 was to focus on passion as a predictor of mindfulness. Although mindfulness is considered an inherent capacity of the human organism, intrapersonal variations in this capability of mindfulness have been uncovered. Research shows that mindfulness is positively associated with autonomous regulation, self-esteem, as well as self-concordance regarding one's experience of affect (Brown & Ryan, 2003) but negatively related to introjection. In addition, Ryan

& Brown (2003) argue that individuals who are less mindful tend to be under the influence of self-esteem and approval motives. In fact, when people are preoccupied with other concerns, such as performance or self-worth during task engagement, it detracts them from being in the present moment. Based on the above and the open and flexible quality of activity involvement of HP versus the close and rigid form of engagement of OP (Vallerand, 2015), it was hypothesized that HP and OP would be positively and negatively related to mindfulness, respectively. Study 2 aimed at replicating results from Study 1 regarding the relationship between HP and OP, and mindfulness. In addition, Study 2 looked at positive and negative affect as outcomes. Past research on mindfulness and affect shows that mindfulness is associated with greater positive (Jislin-Goldberg et al., 2012; Nyklíček & Kuijpers, 2008; Orzech, et al., 2009) and less negative affect (Goldin & Gross, 2010; Grossman, Niemann, Schmidt, & Walach, 2004). Thus, as in Study 1, it was proposed that HP would positively predict mindfulness that, in turn, would positively and negatively predict positive and negative affect, respectively. OP was expected to negatively predict mindfulness. Finally, the goal of Study 3 was to replicate the results of Studies 1 and 2 using a time lag between passion and outcomes, and with subjective vitality as an additional consequence. Past research reveals that both HP (see Curran et al., 2015; Vallerand, 2015 for reviews) and mindfulness (Allen & Kiburz, 2012; Brown & Ryan, 2003) are positively related to vitality, whereas OP is not. Thus, based on these findings it was hypothesized that HP and OP at Time 1 would, respectively, positively and negatively predict mindfulness at Time 2. Mindfulness, in turn, was expected to positively predict positive affect and vitality, while also negatively predicting negative affect at Time 2.

### 2.3 Study 1

The purpose of Study 1 was to investigate the role of passion in predicting mindfulness. In line with the DMP (Vallerand, 2015), it was hypothesized that HP and OP would be positively and negatively related to mindfulness, respectively.

### 2.3.1 Method

**Participants and procedure.** Participants were 301 North American students (126 men, 174 women and 1 unspecified) who were recruited through the Amazon Mechanical Turk platform. Mean age of participants was 30.97 years old ( $SD = 11.10$  years). They were asked to complete an online survey assessing passion for academics and mindfulness. Participants spent time on their studies on average 31.84 hours per week ( $SD = 17.69$  hours) and had been doing their academic program for 4.15 years on average ( $SD = 5.16$  years).

#### Instruments.

**Passion for academics.** The Passion Scale (Marsh et al., 2013; Vallerand et al., 2003) was slightly adapted to academics. Marsh et al. (2013) have shown that the Passion Scale is invariant for gender, age, and types of activities. The Passion Scale is composed of two six-item subscales assessing HP (e.g., “My academics are harmony with the other activities in my life”;  $\alpha = .92$ ) and OP (e.g., “I have almost an obsessive feeling for my academics”;  $\alpha = .88$ ). Responses to all items were scored on a 7-point Likert scale, ranging from (1) “Do not agree at all” to (7) “Very strongly agree”. Past research has repeatedly supported the validity and reliability of the Passion Scale (Marsh et al., 2013; Vallerand, 2008, 2010, 2015) including as applied to academics (Bélanger et al., 2013a).

**Mindfulness.** Mindfulness was measured using the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R; Feldman et al., 2007). Twelve items assessed four dimensions of mindfulness: attention, present focus, awareness, and acceptance/nonjudgment. A sample item is “I can accept things that I cannot change” ( $\alpha = .87$ ). Responses were recorded on a 4-point Likert scale ranging from (1) “Rarely/Not at all” to (4) “Almost always”.

### 2.3.2 Results

Preliminary analyses. Before proceeding with the main analyses, all variables were screened for possible statistical assumption violations, as well as for outliers and missing values (Meyers, Gamst, & Guarino, 2013). One case was deleted because missing values were present on most variables. Another case was deleted because it was identified as a univariate outlier ( $z$  score  $> \pm 2.5$ ). Mahalanobis distance revealed no multivariate outliers at the critical chi-square value at  $p = .001$ . Inspection of skewness indices for all variables uncovered that they were distributed normally (values ranged from  $-.431$  to  $.582$ ). Moreover, as shown by bivariate scatterplots and residuals plots, all variables were related to each other in a linear manner. Levene's Test for Equality of Variances showed that the mindfulness variable had equal levels of variability across HP, but not OP. Thus, square root transformation was applied on OP variable to remedied for heteroscedasticity. Furthermore, independence of errors assumption was met (Durbin-Watson Test =  $1.95$ ) and last, variables revealed no multicollinearity ( $VIF < 10$ ). Means, standard deviations, and correlations are presented in Table 2.1.

Multiple regression analyses. Multiple regression analyses were conducted in order to predict mindfulness from HP and OP. Results supported the hypotheses presented above with HP positively ( $\beta = .44, p < .001$ ) and OP negatively ( $\beta = -.25, p < .001$ ) predicting mindfulness, respectively. Results are presented in Table 2.2.

## 2.4 Study 2

The purpose of Study 2 was to replicate results from Study 1 and to examine the mediating role of mindfulness in the passion-affect relationship. In line with the reasoning presented previously and the results from Study 1, the following model was proposed: HP and OP were hypothesized to positively and negatively predict



mindfulness, respectively. In turn, mindfulness was expected to positively and negatively predict positive and negative affect, respectively.

#### 2.4.1 Method

**Participants and procedure.** Participants were 459 individuals living in North America who were passionate for music (163 men, 287 women, and 9 unspecified). Mean age of participants was 35.70 years old ( $SD = 12.67$  years). They listened to music on average 22.25 hours per week ( $SD = 43.03$  hours) and had been listening to music for 30.50 years on average ( $SD = 13.03$  years). Participants were recruited through Amazon Mechanical Turk using the TurkPrime platform. They were asked to complete an online survey on passion for music listening, mindfulness, and affective experiences.

##### Instruments.

**Passion for music.** The same scale as in Study 1 was used to assess passion, but this time, it was slightly adapted to music listening. A sample item for HP ( $\alpha = .88$ ) was: “Listening to music is in harmony with the other activities in my life”; and for OP ( $\alpha = .90$ ): “I have almost an obsessive feeling for listening to music”.

**Mindfulness.** Mindfulness was assessed using the same scale as presented in Study 1 ( $\alpha = .84$ ) and responses were recorded on a 7-point Likert scale ranging from (1) “Do not agree at all” to (7) “Very strongly agree”.

**Positive and negative affect.** Participants’ affect was evaluated using the Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988). This scale is composed of two 10-items subscales measuring positive affect (e.g., “I feel excited”;  $\alpha = .92$ ) and negative affect (e.g., “I feel upset”;  $\alpha = .91$ ) in general. Scores were rated on a 5-point Likert scale ranging from (1) “Never” to (5) “Always”.

### 2.4.2 Results

Preliminary analyses. Missing values were found on most variables for 6 participants and thus, they were deleted from the database. Data screening for univariate outliers showed that 9 values were above 2.5 standard deviations from the mean. Thus, 9 other participants were removed. Mahalanobis distance values for all participants showed that none of them exceeded the critical chi-square value at  $p = .001$ . Inspection of skewness indices for all variables revealed that they were distributed normally (values ranged from  $-.44$  to  $.27$ ), with the exception of negative affect ( $1.81$ ). Log transformation on the negative affect variable improved normality. Furthermore, as revealed by bivariate scatterplots and residuals plots, all variables were related to each other in a linear manner. Last, variables showed no heteroscedasticity (Levene's Test was non-significant), independence of errors (Durbin-Watson Test =  $1.87$ ), and no multicollinearity ( $VIF < 10$ ). Means, standard deviations, and correlations are presented in Table 2.3.

Path analyses. The hypothesized model was composed of two exogenous variables (i.e., HP and OP) and three endogenous variables (i.e., mindfulness, positive affect, and negative affect). First, paths from both HP and OP to mindfulness were specified. Paths from mindfulness to positive affect and negative affect were then specified. Finally, in line with past theoretical evidence, direct paths from HP and OP to positive and negative affect were specified.

The model had adequate fit to the data. Specifically, the chi-square value was non-significant,  $\chi^2$  ( $df = 9$ ,  $N = 450$ ) =  $1.54$ ,  $p = .21$ , and other fit indices were satisfactory: CFI =  $.999$ , TLI =  $.984$ , SRMR =  $.01$ , and RMSEA =  $.04$  [ $.00$ ;  $.14$ ]. Standardized solutions of the final model are presented in Figure 2.1. HP ( $\beta = .39$ ,  $p < .001$ ) and OP ( $\beta = -.17$ ,  $p < .01$ ) respectively predicted positively and negatively mindfulness, which, in turn, positively predicted positive affect ( $\beta = .45$ ,  $p < .001$ )

and negatively predicted negative affect ( $\beta = -.25, p < .001$ ). In addition, direct relations between HP and positive affect ( $\beta = .14, p < .01$ ) and negative affect ( $\beta = -.18, p < .001$ ) remained significant, as well as those between OP and positive affect ( $\beta = .20, p < .001$ ) and negative affect ( $\beta = .30, p < .001$ ). Bias-corrected bootstrapped 95% confidence interval estimates indicated that mindfulness was a significant partial mediator of the relationships of HP ( $\beta = .17$ ; 95% CI = .11 to .24,  $p = .000$ ) and OP ( $\beta = -.08$ ; 95% CI = -.13 to -.03,  $p = .004$ ) with positive affect. Finally, mindfulness also significantly partially mediated the relationship of HP ( $\beta = -.10$ ; 95% CI = -.14 to -.06,  $p = .000$ ) and OP ( $\beta = .04$ ; 95% CI = .01 to .07,  $p = .004$ ) with negative affect. All indirect effects are presented in Table 2.4.

## 2.5 Study 3

The purpose of Study 3 was to replicate results from Studies 1 and 2, using a design that incorporated a time interval between passion and outcomes. In Studies 1 and 2, passion and mindfulness were assessed at the same point in time, which made it difficult to determine if passion led to mindfulness or vice versa. Thus, this time interval from passion at Time 1 to mindfulness at Time 2 sought to address this issue. Moreover, subjective vitality was included as an additional outcome. Thus, in line with the DMP and the results from Studies 1 and 2 of this research, the following model was hypothesized. Specifically, it was proposed that HP and OP at Time 1 would, respectively, positively and negatively predict mindfulness at Time 2, which, in turn, would positively predict positive affect and vitality at Time 2 and would be negatively associated with negative affect at Time 2.

### 2.5.1 Method

**Participants and procedure.** Participants were recruited in the week prior to the 2014-2015 NFL Super Bowl, through a targeted ad for football fans on Amazon Mechanical Turk. A total of 606 fans completed our initial questionnaire. Of these

participants, 406 completed our follow-up questionnaire right after the Super Bowl. Preliminary analyses revealed that more than half of participants in this sample were not actual football fans. Thus, for the final sample, only participants with a score higher than the mid point on the passion criterion subscale were kept. Our final sample comprised 179 passionate fans (125 males, 53 females, and 1 did not indicate his or her gender)<sup>1</sup>. The mean age of the sample was 32.80 years (SD = 10.67 years).

#### Instruments.

##### Time 1.

Passion for football. The Passion Scale was again used in Study 3 (Marsh et al., 2013). In this study, participants were asked to complete the scale with regards to the team they supported during the 2014-2015 NFL Super Bowl ( $\alpha = .87$  for HP;  $\alpha = .90$  for OP).

##### Time 2.

Mindfulness. The same Mindfulness scale used in Studies 1 and 2 was measured in Study 3 and scores were recorded on a 4-point Likert scale. Cronbach alpha value for this study was .86.

- 
1. A MANOVA was conducted to confirm if significant differences existed between our final sample of passionate fans and the non-passionate fans removed from the analysis on all variables observed in Study 3. A significant multivariate effect was found, Wilks' Lambda = 0.50,  $F(6, 388) = 3571.07$ ,  $p < .001$ ,  $\eta^2 = 0.50$ , followed by significant univariate effects for HP,  $F(1, 393) = 370.83$ ,  $p < .001$ ,  $\eta^2 = 0.44$ , OP,  $F(1, 393) = 208.76$ ,  $p < .001$ ,  $\eta^2 = 0.33$ , mindfulness,  $F(1, 393) = 2.34$ ,  $p < .001$ ,  $\eta^2 = 0.02$ , subjective vitality,  $F(1, 393) = 24.36$ ,  $p < .001$ ,  $\eta^2 = 0.06$ , positive affect,  $F(1, 393) = 14.96$ ,  $p < .001$ ,  $\eta^2 = 0.04$ , and negative affect,  $F(1, 393) = 12.72$ ,  $p < .001$ ,  $\eta^2 = 0.03$ .

Subjective vitality. A 6-item version of the Subjective Vitality Questionnaire (Ryan & Frederick, 1997) was used to assess participants' subjective vitality following the game (e.g., "Following the game, I felt alive and vital";  $\alpha = .93$ ).

Positive and negative affect. Participants' affect after the Super Bowl was assessed using two 6-item subscales from Feldman Barrett and Russell (1998), measuring positive (e.g., "Following the game, I felt excited";  $\alpha = .99$ ) and negative affect (e.g., "Following the game, I felt upset";  $\alpha = .97$ ).

### 2.5.2 Results

Preliminary analyses. Data screening revealed no missing values. Three univariate outliers with scores above  $\pm 2.5$  standard deviations from the mean were identified and removed from our final sample ( $n = 176$ ). No multivariate outliers were found, as the Mahalanobis distance values for all participants revealed that none exceeded the critical chi-square value at  $p = .001$ . Skewness indices revealed that all variables were distributed normally (values ranged from  $-.268$  to  $.529$ ). As shown by bivariate scatterplots and residuals plots, all variables were related to each other in a linear manner. Levene's Test for Equality of Variances showed that the dependent variables had equal levels of variability across all independent variables. Finally, the independence of errors assumption was met (Durbin-Watson Test =  $.63$ ) and variables revealed no multicollinearity ( $VIF < 10$ ). Means, standard deviations, and correlations are presented in Table 2.5.

Path analyses. The model tested was composed of 2 exogenous variables (i.e., HP and OP) and four endogenous variables (i.e., mindfulness, subjective vitality, positive affect, and negative affect). To test the hypothesized model, a path analysis was conducted and paths were drawn according to the hypotheses presented above. First, paths from both HP and OP to mindfulness were specified. Second, paths from mindfulness to subjective vitality, positive affect, and negative affect were specified.

Finally, in line with past empirical evidence, direct paths from HP and vitality, HP and positive affect, as well as OP and negative affect were specified.

The model had a satisfactory fit to the data. The chi-square value was non-significant,  $\chi^2$  (df = 3, N = 176) = 4.13,  $p = .245$  and other fit indices were adequate: CFI = .998, TLI = .989, SRMR = .02, and RMSEA = .05 [.00; .14]. The standardized solutions of the final model are presented in Figure 2.2. HP ( $\beta = .37$ ,  $p < .001$ ) and OP ( $\beta = -.24$ ,  $p < .01$ ) at Time 1 respectively positively and negatively predicted mindfulness at Time 2 which, in turn, positively predicted vitality ( $\beta = .31$ ,  $p < .001$ ) and positive affect ( $\beta = .21$ ,  $p < .01$ ), but negatively predicted negative affect ( $\beta = -.20$ ,  $p < .01$ ). Moreover, direct relations between HP and subjective vitality ( $\beta = .12$ ,  $p < .05$ ), as well as OP and negative affect ( $\beta = .12$ ,  $p < .01$ ) remained significant. The relation between HP and positive affect remained marginally significant ( $\beta = .08$ ,  $p = .059$ ). Bias-corrected bootstrapped 95% confidence interval estimates indicated that mindfulness was a significant partial mediator of the relationship between HP and subjective vitality ( $\beta = .11$ ; 95% CI = .04 to .19,  $p = .002$ ), as well as of the relationship between OP and subjective vitality ( $\beta = -.08$ ; 95% CI = -.13 to -.02,  $p = .010$ ). Mindfulness also significantly partially mediated the relation of HP ( $\beta = .08$ ; 95% CI = .02 to .14,  $p = .014$ ) and OP ( $\beta = -.05$ ; 95% CI = -.10 to -.01,  $p = .026$ ) with positive affect. Finally, mindfulness significantly partially mediated the relation of HP ( $\beta = -.08$ ; 95% CI = -.14 to -.01,  $p = .017$ ) and OP ( $\beta = .05$ ; 95% CI = .00 to .09,  $p = .034$ ) with negative affect. All indirect effects are presented in Table 2.6.

## 2.6 Discussion

The present research focused on the role of passion in mindfulness and its impact on one's affective experiences and subjective vitality. It was hypothesized that HP would be positively related to mindfulness, whereas OP would be negatively associated with such trait. In addition, it was proposed that mindfulness would be positively related to positive affect and subjective vitality, but negatively linked to negative affect.

Findings from three studies supported the above hypotheses. Specifically, Study 1 uncovered that HP and OP positively and negatively predicted mindfulness, respectively. Study 2 replicated these results and showed that mindfulness was positively and negatively associated with positive and negative affect, respectively. Finally, Study 3 used a time lag design to replicate findings from Studies 1 and 2 and additionally looked at subjective vitality as an outcome. Results revealed that HP and OP at Time 1 positively and negatively predicted mindfulness at Time 2, respectively, which in turn positively predicted positive affect and subjective vitality at Time 2, and was negatively related to negative affect, also at Time 2. These findings lead to important implications for the field of positive psychology.

#### 2.6.1 Passion as a Determinant of Mindfulness

The growing literature on mindfulness has mainly focused on its outcomes (see Brown et al., 2015; Grossman et al., 2004 for reviews), while few studies have looked at its determinants (Feltman et al., 2009; Walsh et al., 2009). Findings from the present research revealed that passion is an important determinant of mindfulness, as it appears to allow access to one's innate mindful capacity. However, this access depends on one's type of passion. Indeed, this research uncovered in three studies that HP was conducive to mindfulness, but that OP blocked such ability. What the present findings suggest is that engaging in an activity with a passion that is harmonious in nature represents one way to provide access to a mindful state. Future research on the role of HP in helping individuals develop mindfulness over time would appear interesting.

In addition, the present findings provide support for one of the important tenets of the DMP (Vallerand et al., 2003; Vallerand, 2015). Specifically, the DMP posits that HP allows access to adaptive self-processes, such as mindfulness, whereas OP limits such entrance. This research was the first to empirically test this assumption and findings from three studies supported the hypotheses. Indeed, the present results uncovered

that HP facilitates, while OP blocks, one's mindful capacity. Thus, it appears that HP, with its autonomous form of internalization of the activity into identity and flexible engagement, allows one to access self-processes that are adaptive. Conversely, OP prevents this connection because of its controlled form of internalization and its rigid engagement.

An interesting avenue for future research would be to explore the role of HP in providing access to other important adaptive self-processes that are typically studied in positive psychology, such as resilience. Resilience refers to one's ability to bounce back from stress or negative events (Carver, 1998; Smith, Tooley, Christopher, & Kay, 2010; Tugade & Fredrickson, 2004). Research has shown that one's ability to be resilient leads to greater positive affect and to less negative affect (Fredrickson, Tugade, Waugh, & Larkin, 2003; Tugade, Fredrickson, & Barrett, 2004; Xing & Sun, 2013). It is thus possible that engaging in a meaningful activity out of HP would trigger resilience during the activity and its positive impact, and thus, it would help people to bounce back from failures or other forms of stress that might occur within the passionate activity (e.g., performing poorly at a musical concert). Indeed, past research on passion has shown that HP facilitates the use of adaptive coping strategies (Shellenberg, Gaudreau, & Crocker, 2013; Verner-Fillion et al., 2014). Thus, research on the relationship between passion and other important self-processes constructs in positive psychology that are adaptive would appear promising.

### 2.6.2 On the Role of Mindfulness in Outcomes

An important feature of Studies 2 and 3 was to show that mindfulness leads to positive affect and subjective vitality and prevents the experience of negative affect. These results bring support for the positive effects of mindfulness on one's experience of affect and other adaptive outcomes. Indeed, past research on mindfulness has shown that mindfulness enhances positive affect and decreases negative affect (Goldin & Gross, 2010; Grossman, et al, 2004; Nyklíček & Kuijpers,



2008; Orzech et al., 2009). Of importance, mindfulness was found in the present research to mediate the effects of passion on affect. Future research should further examine the linkage between passion, mindfulness, and other outcomes. For example, mindfulness training shows many health benefits, including greater quality of life, empathy, self-compassion, and lower stress, chronic pain, depression and anxiety symptoms, etc. (see Bohlmeijer, Prenger, Taal, & Cuijpers, 2010; Eberth & Sedlmeier, 2012; Grossman and al., 2004 for reviews). Thus, an interesting avenue of research would be to explore if engaging in an activity out of HP provides a benefit on these outcomes because of the mindful state that HP induces.

### 2.6.3 Limitations

Three important limitations of the present research need to be addressed. First, correlational designs were used in all three studies and thus, no causality can be inferred from the present findings. Future research should test the passion-mindfulness relationship with experimental designs, by inducing harmonious and obsessive passions as was done in past experimental research (see Bélanger et al., 2013a; Lafrenière et al., 2013, Study 2). Second, participants completed only self-report measures. Future research should also include objective measures, such as physiological instruments (e.g., vagal tone; Kok et al., 2013) to assess positive and negative affect and vitality. Finally, this research focused on passion as a determinant of mindfulness but did not take into account the possible bidirectional effect of this relationship. Thus, future research should examine the potential recursive relationship between passion and mindfulness that can take place over time within the purview of the passionate activity.

In sum, this research is the first to document the role of passion as a determinant of mindfulness and the benefits that the latter may have on well-being. Not all passions are equal, however, and only HP, and not OP, was found to lead to mindfulness and its benefits. Future research is needed to more fully assess the relationship between

passion and mindfulness. Indeed, HP may represent one of the keys to developing a mindful state of mind.

Table 2.1

Descriptive Statistics and Pearson Bivariate Correlations – Study 1 (n = 299).

	M	SD	1	2	3
1. Harmonious passion	4.37	1.47	1		
2. Obsessive passion	2.76	1.47	.43***	1	
3. Mindfulness	2.80	.50	.33***	-.05	1

Note. \*\*\*  $p < .001$ .

Table 2.2

Multiple Regression Analyses for Harmonious and Obsessive Passion Predicting Mindfulness – Study 1 (n = 299).

Variables	Mindfulness			R <sup>2</sup>
	B	SE B	$\beta$	
Harmonious passion	.15	.109	.44***	.16
Obsessive passion	-.28	.067	-.25***	

Note 1. \*\*\* p < .001.

Table 2.3

Descriptive Statistics and Bivariate Correlations – Study 2 (n = 450).

	M	SD	1	2	3	4	5
1. Harmonious passion	5.16	1.19	1				
2. Obsessive passion	3.27	1.62	.47***	1			
3. Mindfulness	4.62	.99	.30***	.01	1		
4. Positive affect	2.97	.92	.37***	.27***	.50** *	1	
5. Negative affect	1.40	.60	-.12**	.21***	.28** -	.14	1

Note. \*\* p &lt; .01, \*\*\* p &lt; .001.

Table 2.4

Standardized Estimates of Total, Direct, and Indirect Effects with 95% Biased-Corrected Bootstrap Confidence Intervals – Study 2 (n = 450).

Harmonious Passion	Total Effect		Direct Effect		Indirect Effect	
	$\beta$	95% CI	$\beta$	95% CI	$\beta$	95% CI
Positive affect	.31***	[.214, .414]	.14**	[.044, .235]	.17***	[.114, .235]
Negative affect	-.28***	[-.373, -.185]	-.18***	[-.282, -.086]	-.10***	[-.135, -.055]
Obsessive Passion						
Positive affect	.12*	[.020, .225]	.20***	[.112, .285]	-.08**	[-.130, -.025]
Negative affect	.34***	[.251, .438]	.30***	[.209, .396]	.04**	[.014, .071]

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Table 2.5

Descriptive Statistics and Bivariate Correlations – Study 3 (n = 176).

	M	SD	1	2	3	4	5	6
1. Harmonious passion	4.3 1	1.1 7	1					
2. Obsessive passion	2.8 2	1.3 7	.43**	1				
3. Mindfulness	2.9 4	.53	.24**	-.09	1			
4. Vitality	4.2 9	1.7 6	.24**	.07	.37**	1		
5. Positive affect	3.6 2	2.3 8	.18*	.13*	.25**	.86**	1	
6. Negative affect	2.9 5	1.9 8	-.05	.06	-.26**	-.76**	-.79**	1

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Table 2.6

Standardized Estimates of Total, Direct, and Indirect Effects with 95% Biased-Corrected Bootstrap Confidence Intervals – Study 3 (n = 176).

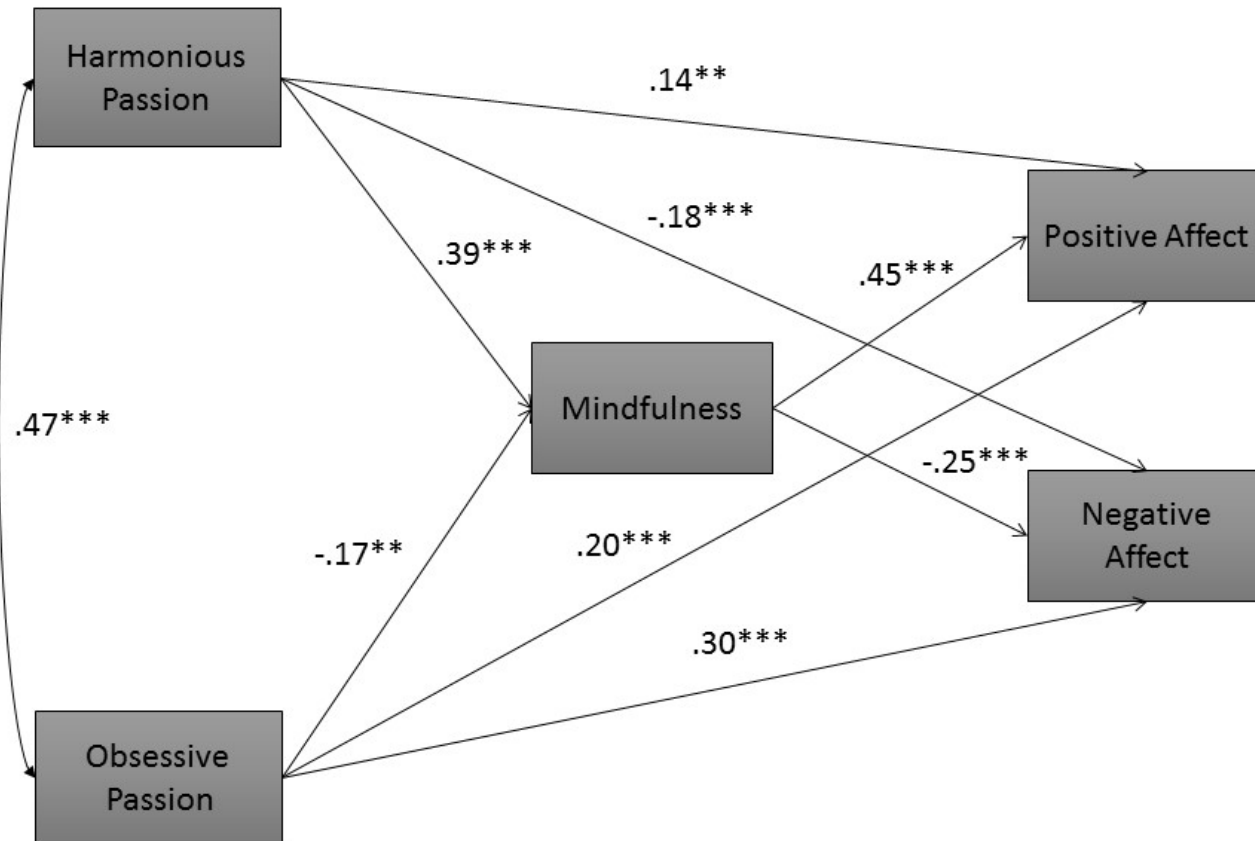
	Total Effect		Direct Effect		Indirect Effect	
	$\beta$	95% CI	$\beta$	95% CI	$\beta$	95% CI
<b>Harmonious Passion</b>						
Vitality	.23** *	[.121, .342]	.12*	[.024, .210]	.11* *	[.043, .186]
Positive affect	.16**	[.058, .261]	.08	[-.002, .165]	.08*	[.016, .141]
Negative affect	-.08*	[-.136, -.013]	-	-	.08* -	[-.136, -.013]
<b>Obsessive Passion</b>						
Vitality	-.08**	[-.131, -.018]	-	-	.08* -	[-.131, -.018]
Positive affect	-.05*	[-.096, -.006]	-	-	.05* -	[-.096, -.006]
Negative affect	.17**	[.072, .263]	.12* *	[.032, .205]	.05*	[.004, .093]

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$



Figure 2.1

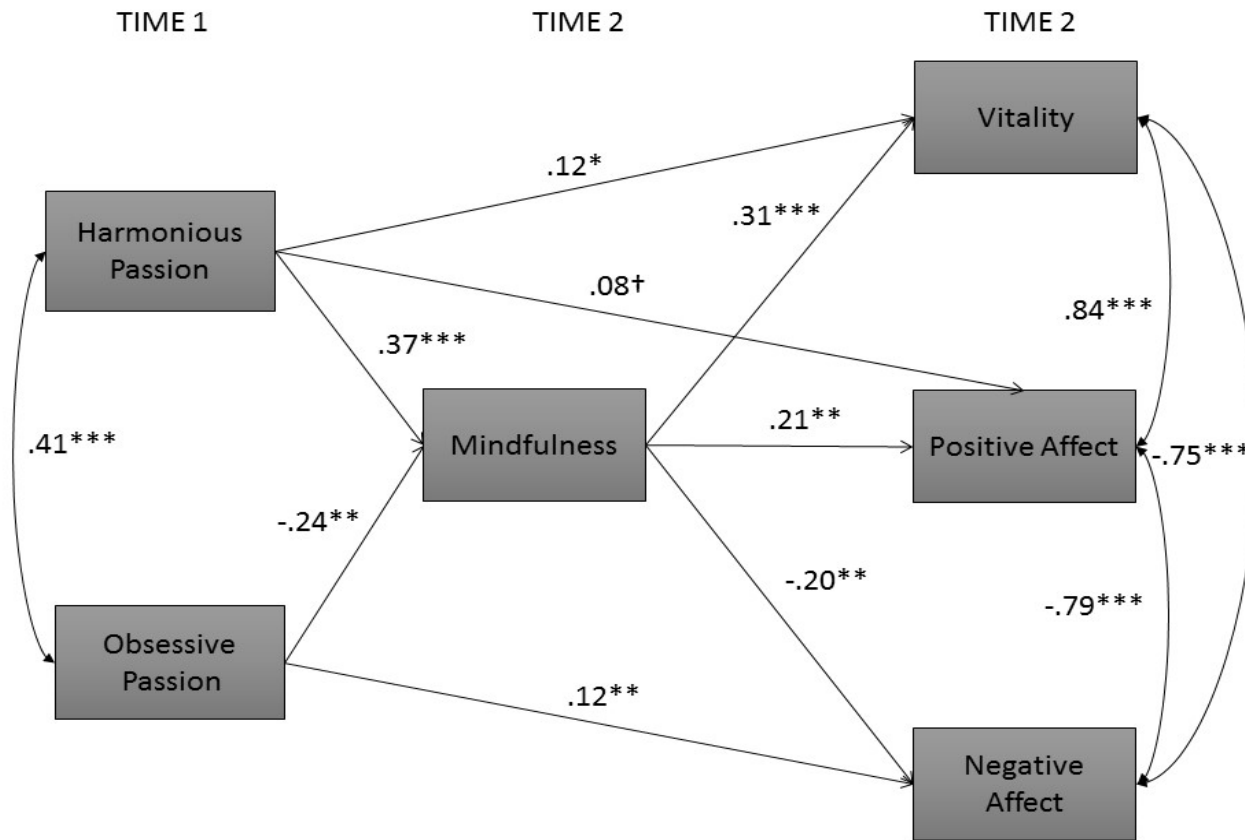
Results of the Path Analyses: Study 2. Standardized path coefficients are presented.



Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ,  $n = 450$ .

Figure 2.2

Results of the Path Analyses: Study 3. Standardized path coefficients are presented.



Note.  $^\dagger p < .10$ ,  $* p < .05$ ,  $** p < .01$ ,  $*** p < .001$ ,  $n = 176$ .

## CHAPITRE III

### ARTICLE 2

#### On Emotion Regulation Strategies and Well-Being: The Role of Passion

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## RÉSUMÉ EN FRANÇAIS DE L'ARTICLE 2

L'Article 2 comprend une série de trois études ayant pour objectif général d'examiner la passion comme déterminant de la régulation émotionnelle et les conséquences de celles-ci sur le bien-être des individus. À cet effet, la première étude a employé un devis transversal pour investiguer la relation entre la passion harmonieuse (PH) et la passion obsessionnelle (PO), les stratégies de régulation émotionnelle, et le bien-être. Puis, en employant le même devis, la seconde étude avait pour objectif de reproduire les résultats de l'Étude 1 dans le contexte spécifique des relations amoureuses et en incluant d'autres indices de bien-être. Enfin, la dernière étude avait pour objectif de reproduire les résultats des deux études précédentes, mais cette fois-ci, en empruntant un devis prospectif et en ajoutant une mesure de mal-être.

L'Étude 1 visait à explorer les relations entre la passion et l'utilisation de stratégies de régulation émotionnelle et les effets de celles-ci sur le bien-être des gens. La recherche s'est intéressée à deux types de stratégies principales de régulation émotionnelle, soit la ré-évaluation cognitive et la suppression de l'expression des émotions, menant respectivement au bien-être et au mal-être (Gross, 1998a, 2015; Gross & John, 2003; Webb et al., 2012). Il fut postulé que la PH serait positivement liée à la ré-évaluation cognitive et négativement liée à la suppression de l'expression des émotions. Il fut suggéré que la PO quant à elle serait positivement liée à la suppression de l'expression des émotions et négativement liée ou non-liée à la ré-évaluation cognitive. Il a aussi été proposé que la ré-évaluation cognitive serait positivement liée au bien-être alors que la suppression de l'expression des émotions y serait négativement liée.

Les participants étaient 370 adultes américains recrutés via la plateforme internet d'Amazon Mechanical Turk à l'aide d'une annonce ciblant des gens qui pratiquent des activités de façon régulière. Ils ont été invités à compléter un questionnaire en ligne mesurant la passion envers leur activité préférée (Passion Scale; Marsh et al., 2013; Vallerand et al., 2003), les stratégies de régulation émotionnelle adaptatives (la ré-évaluation cognitive) et moins adaptatives (la suppression de l'expression des émotions) (Emotion Regulation Questionnaire; Gross & John, 2003), et l'épanouissement (Brief Inventory of Thriving; Su, Tay, & Diener, 2014). Les résultats d'analyses acheminatoires ont révélé des indices d'adéquation satisfaisants :  $\chi^2$  (df = 1, N = 370) = 0.72, ns; CFI = 1.00, TLI = 1.01, SRMR = .007, et RMSEA = .00 [.00; .13]. Les résultats ont montré que la PH était positivement liée à la ré-évaluation cognitive ( $\beta = .41$ ,  $p < .001$ ) et négativement associée à la suppression de l'expression des émotions ( $\beta = -.20$ ,  $p < .001$ ). En revanche, la PO était positivement liée à la suppression de l'expression des émotions ( $\beta = .29$ ,  $p < .001$ ) et négativement

associée à la ré-évaluation cognitive ( $\beta = -.11, p < .05$ ). La ré-évaluation cognitive était positivement liée à l'épanouissement ( $\beta = .36, p < .001$ ), alors que la suppression de l'expression des émotions était négativement liée à cet indice de bien-être ( $\beta = -.17, p < .05$ ). Enfin, une relation directe entre la PH et l'épanouissement est demeurée significative ( $\beta = .30, p < .001$ ). Les résultats d'analyses par « bootstrap » ont montré que la relation entre la PH et l'épanouissement était partiellement médiée par la ré-évaluation cognitive ( $\beta = .15; 95\% \text{ CI} = .094 \text{ à } .234, p < .001$ ) et la suppression de l'expression des émotions ( $\beta = .06; 95\% \text{ CI} = .010 \text{ à } .60, p < .01$ ). La relation entre la PO et l'épanouissement était aussi partiellement médiée par la ré-évaluation cognitive ( $\beta = -.04; 95\% \text{ CI} = -.077 \text{ to } -.005, p < .05$ ) et la suppression de l'expression des émotions ( $\beta = -.05; 95\% \text{ CI} = -.078 \text{ to } -.019, p < .001$ ).

L'Étude 2 visait à reproduire les résultats de la première étude dans le contexte spécifique des relations amoureuses. Ainsi, plutôt que de mesurer la passion et les stratégies de régulation émotionnelle au niveau du trait, elles furent mesurées au niveau contextuel ou celui de l'activité (Vallerand, 1997). La sphère amoureuse fût choisie puisque la passion et la régulation émotionnelle présentent toutes deux des implications importantes pour le couple. En effet, la passion représente une partie importante des relations de couple et les recherches passées ont montré que les gens peuvent avoir une PH ou une PO envers leur partenaire amoureux (Carbonneau & Vallerand, 2016; Ratelle, Carbonneau, Vallerand, & Mageau, 2013). De plus, les émotions sont fréquemment sollicitées en relation amoureuse et la recherche montre que les couples ayant une PH tendent à utiliser de meilleures stratégies de résolution de conflits que les couples avec une PO. La régulation émotionnelle a aussi été étudiée dans le contexte du couple et les résultats montrent que l'emploi de stratégie de régulation émotionnelle adaptatives, soit la ré-évaluation cognitive, a un impact positif sur la qualité de la relation (Finkel, Slotter, Luchies, Walton, & Gross, 2013; Levenson et al., 2014; Richards, Butler, & Gross, 2003). Ainsi, cette seconde étude avait pour but d'investiguer la passion romantique comme déterminant de l'utilisation de stratégies de ré-évaluation cognitive et de suppression de l'expression des émotions en situation de couple et de voir leurs conséquences sur le bien-être. Un second objectif de cette étude était de tester davantage la validité externe du modèle en incluant diverses mesures de bien-être. Les mêmes hypothèses que celles de l'Étude 1 furent postulées.

Les participants étaient 266 individus en couple recrutés sur la plateforme d'Amazon Mechanical Turk à l'aide d'une annonce recherchant des gens en couple. Ils ont été invités à compléter un questionnaire en ligne sur le statut de couple, la passion amoureuse (The Romantic Passion Scale; Ratelle et al., 2013), les stratégies de régulation émotionnelles employées en couple (Emotion Regulation Questionnaire; Gross & John, 2003), et différentes mesures de bien-être, soit la satisfaction de vie (The Satisfaction with Life scale; Diener et al., 1985), le bonheur (The Happiness Scale; Lyubomirsky & Lepper, 1999) et le sens à la vie (Meaning in Life

Questionnaire (Steger et al., 2006). Les résultats d'analyses acheminatoires ont révélé des indices d'adéquation satisfaisants :  $\chi^2$  (df = 3, N = 253) = .32, ns; CFI = 1.00, TLI = 1.03, SRMR = .02, et RMSEA = .00 [.00; .00]. Les résultats ont montré que la PH était positivement associée à la ré-évaluation cognitive ( $\beta = .23$ ,  $p < .001$ ), mais négativement liée à la suppression de l'expression des émotions ( $\beta = -.30$ ,  $p < .001$ ). La PO quant à elle était positivement associée à la suppression de l'expression des émotions ( $\beta = .33$ ,  $p < .001$ ) et non-liée à la ré-évaluation cognitive ( $\beta = -.03$ , ns). Ensuite, seule la ré-évaluation cognitive était positivement liée à la satisfaction de vie ( $\beta = .19$ ,  $p < .001$ ), le bonheur ( $\beta = .32$ ,  $p < .001$ ), et le sens à la vie ( $\beta = .23$ ,  $p < .001$ ). La suppression de l'expression des émotions était non-liée à la satisfaction de vie ( $\beta = .04$ , ns), le bonheur ( $\beta = -.08$ , ns), et le sens à la vie ( $\beta = -.01$ , ns). De plus, des effets directs de la PH aux mesures de bien-être sont demeurés positifs : la satisfaction de vie ( $\beta = .40$ ,  $p < .001$ ), le bonheur ( $\beta = .24$ ,  $p < .001$ ) et le sens à la vie ( $\beta = .31$ ,  $p < .001$ ). Finalement, les résultats d'analyse par « bootstrap » ont montré que la ré-évaluation cognitive était un médiateur significatif partiel de la relation entre la PH et la satisfaction de vie ( $\beta = .04$ ; 95% CI = .028 à .519  $p < .05$ ), entre la PH et le bonheur ( $\beta = .07$ ; 95% CI = .135 à .393,  $p < .01$ ) et entre la PH et le sens à la vie ( $\beta = .05$ ; 95% CI = .191 à .439,  $p < .05$ ).

L'Étude 3 avait trois objectifs principaux. Tout d'abord, elle avait pour but de reproduire le patron de résultats des deux études précédentes à l'aide d'un devis prospectif. Plus précisément, un espace temps de trois mois a été introduit entre la mesure de la passion et celles des conséquences. L'ajout de cet intervalle temporel avait pour but de vérifier si la direction des effets est bien de la passion vers les conséquences et non l'inverse. Ensuite, cette étude visait à examiner plus en profondeur les effets de la passion et des stratégies sur le bien-être des gens, en utilisant d'une part une même mesure de bien-être que dans l'Étude 2 (la satisfaction de vie) et d'autre part, en incluant une nouvelle mesure de bien-être (la vitalité subjective), ainsi qu'une mesure de mal-être (la dépression). Un dernier but de cette étude était d'explorer le changement de bien-être en testant le modèle proposé tout en contrôlant pour l'influence des variables de bien-être et de mal-être au temps 1. Il fût proposé que, en contrôlant pour l'influence des variables de bien-être et de mal-être au temps 1, la PH au temps 1 serait positivement liée à la ré-évaluation cognitive au temps 2. De plus, il fût proposé que la PH au temps 1 serait négativement liée à la suppression de l'expression des émotions au temps 2. À l'inverse, il fût suggéré que la PO au temps 1 serait positivement liée à la suppression de l'expression des émotions au temps 2. Il fût aussi suggéré que la PO au temps 1 serait négativement liée ou non-liée à la ré-évaluation cognitive au temps 2. Puis, il fût postulé que la ré-évaluation cognitive serait positivement liée au bien-être et négativement liée au mal-être alors que la suppression de l'expression des émotions serait négativement liée ou non-liée au bien-être, et positivement associée au mal-être (tous au temps 2).

Les participants de l'Étude 3 ont été recrutés via la plateforme d'Amazon Mechanical Turk à l'aide d'une annonce ciblant des gens qui pratiquent des activités de façon courante. Un nombre total de 515 individus ont complété un premier questionnaire en ligne sur la passion (Passion Scale; Marsh et al., 2013; Vallerand et al., 2003), la satisfaction de vie (The Satisfaction with Life Questionnaire; Diener et al., 1985), la vitalité subjective (Subjective Vitality Scale; Ryan & Frederick, 1997) et la dépression (General Health Questionnaire; Goldberg & Hillier, 1979; Goldberg & Williams, 1988). Trois mois plus tard, ces mêmes personnes ont été invitées à compléter un second questionnaire en ligne sur les stratégies de régulation émotionnelle (Emotion Regulation Questionnaire; Gross & John, 2003) et les mêmes mesures de bien-être et de mal-être qu'au temps 1. Les résultats d'analyses acheminatoires ont révélé des indices d'adéquation satisfaisantes :  $\chi^2(df = 17, N = 253) = 14.91, ns$ ; CFI = 1.00; TLI = 1.00; SRMR = .02; RMSEA = .02 [.00, .07]. Les résultats ont montré que la PH au temps 1 était positivement liée à la ré-évaluation cognitive au temps 2 ( $\beta = .20, p < .001$ ). De plus, bien que le bêta fût non-significatif, les résultats ont montré que la PH au temps 1 était négativement associée à la suppression de l'expression des émotions au temps 2 ( $\beta = -.09, p = .14$ ). En revanche, la PO au temps 1 était positivement associée à la suppression de l'expression des émotions au temps 2 ( $\beta = .22, p < .001$ ) et non-liée à la ré-évaluation cognitive au temps 2 ( $\beta = -.00, ns$ ). Puis, les résultats ont montré que la ré-évaluation cognitive au temps 2 était positivement associée à la satisfaction de vie ( $\beta = .08, p < .01$ ) et à la vitalité subjective ( $\beta = .14, p < .001$ ) au temps 2, alors qu'elle était négativement liée à la dépression au temps 2 ( $\beta = -.10, p < .001$ ). De son côté, la suppression de l'expression des émotions était non-liée à la satisfaction de vie ( $\beta = -.01, ns$ ) et à la vitalité subjective ( $\beta = -.05, ns$ ) au temps 2, alors qu'elle était positivement liée à la dépression au temps 2 ( $\beta = .10, p < .001$ ). En ce qui concerne les variables de contrôle, les résultats ont soulevé que la satisfaction de vie ( $\beta = .87, p < .001$ ), la vitalité subjective ( $\beta = .80, p < .001$ ) et la dépression au temps 1 ( $\beta = .74, p < .001$ ) étaient positivement liées à leurs équivalents au temps 2. Aussi, la satisfaction de vie au temps 1 était négativement liée à la suppression de l'expression des émotions au temps 2 ( $\beta = -.23, p < .001$ ) et la vitalité subjective au temps 1 était positivement associée à la ré-évaluation cognitive au temps 2 ( $\beta = .40, p < .001$ ). Enfin, les effets indirects ont été explorés afin de vérifier le rôle médiateur de la régulation émotionnelle dans la relation entre la passion et le bien-être. Les résultats d'analyse par « bootstrap » ont montré que la ré-évaluation cognitive était un médiateur significatif de la relation entre PH et la satisfaction de vie ( $\beta = .01; 95\% CI = .001 \text{ à } .027, p < .05$ ), ainsi qu'entre la PH et la vitalité subjective ( $\beta = .03; 95\% CI = .004 \text{ à } .046, p < .05$ ). Finalement, les résultats ont montré que la suppression de l'expression des émotions était un médiateur significatif de la relation entre la PO et la dépression ( $\beta = .02; 95\% CI = .001 \text{ à } .005, p < .05$ ).

Dans l'ensemble, les résultats de la présente recherche se sont avérés cohérents avec nos hypothèses. En effet, les résultats ont montré que la PH est positivement liée à la

ré-évaluation cognitive et qui, en retour, est positivement associée au bien-être et négativement liée au mal-être. Inversement, les résultats ont révélé que la PO est positivement liée à la suppression de l'expression des émotions et qui, en retour, est liée négativement (Étude 1) ou non-reliée (Études 2 et 3) au bien-être, et est associée positivement au mal-être (Étude 3).

En somme, les résultats de cette recherche mettent en lumière la passion comme déterminant motivationnel important de l'utilisation de stratégies de régulation émotionnelle plus ou moins adaptatives pour le bien-être. De plus, ces résultats procurent un soutien important pour le postulat de base du MDP concernant le lien entre la passion et l'accès aux processus de régulation du soi. Enfin, les résultats ajoutent aux connaissances actuelles concernant l'impact positif de l'utilisation de stratégies de ré-évaluation cognitive sur le bien-être des gens.

Certaines limites doivent être prises en compte dans cette recherche. Tout d'abord, les trois études ont employé un devis corrélationnel et, même si l'Étude 3 a employé un devis prospectif, les données des Études 1 et 2 étaient de nature transversale. Ainsi, aucune relation causale ne peut être inférée à partir des résultats de la présente recherche. Les recherches futures devront employer des devis expérimentaux (par ex., Bélanger et al., 2013; Lafrenière et al., 2013) ou longitudinaux (par ex., Carbonneau et al., 2008; Lavigne et al., 2014) pour investiguer davantage le rôle causal de la passion dans la régulation des émotions. Par exemple, les recherches antérieures ont montré que le fait d'induire de la PH et de la PO mène aux mêmes effets que ceux de l'échelle de la Passion (voir Bélanger et al., 2013; Lafrenière et al., 2013, Étude 2). En lien avec les résultats de la présente recherche, il se pourrait que l'induction des deux types de passion favorise l'adoption de différentes stratégies de régulation émotionnelle. Une seconde limite importante porte sur les instruments employés dans cette recherche. En effet, les participants ont seulement complété des mesures auto-rapportées et donc, les résultats doivent être interprétés avec précaution. Les recherches futures sur ce thème devraient incorporer des mesures objectives, telles que des observations de l'emploi de stratégies de régulation émotionnelle adaptatives et moins adaptatives. Une dernière limite porte sur l'utilisation d'Amazon Mechanical Turk pour la collecte de données des trois études. Même si cette plateforme Internet est utilisée fréquemment dans la recherche en psychologie, les utilisateurs pourraient présenter des différences par rapport à la population en générale. Par exemple, la recherche passée a montré que les utilisateurs d'Amazon Mechanical Turk tendent à être plus jeunes, plus éduqués, moins religieux et souvent sans emploi (Goodman et al., 2013). Toutefois, les recherches antérieures ont montré que les données obtenues par cette plateforme seraient aussi fiables que celles obtenus par d'autres sources en ligne et hors ligne (Buhrmester et al., 2011; Paolacci et al., 2010). Néanmoins, des recherches futures devraient répliquer les résultats de la présente recherche en utilisant différents échantillons dans le but d'augmenter la validité externe du modèle testé.



## Abstract

Emotion regulation entails using specific strategies to manage emotions, impacting on well-being. Research has uncovered important factors that may affect one's use of more or less adaptive emotion regulation strategies). Passion influences self-regulatory processes such as emotion regulation. However, so far, no research has examined the role of passion in employing emotion regulation strategies. Specifically, using the Dualistic Model of Passion (Vallerand et al., 2003), this research investigated how passion, harmonious (HP) and obsessive (OP), is related to the use of cognitive reappraisal and expressive suppression (Gross & John, 2003), and their impact on well-being. Three online studies were conducted. Study 1 (n=370) used a cross-sectional design in order to explore the relationships between passion, emotion regulation strategies, and well-being in the context of various leisure activities. Using the same design, Study 2 (n=253) aimed at replicating the findings from Study 1 within the specific context of romantic relationships. Finally, the goal of Study 3 (n=253) was to replicate the findings from Studies 1 and 2 while using a prospective design. Overall, results from path analyses uncovered that HP was positively associated with cognitive reappraisal whereas OP was positively related to expressive suppression. Cognitive reappraisal was the only strategy positively linked to well-being. Findings underscore the important role of HP in the use of more adaptive emotion regulation strategies, facilitating well-being.

Keywords: passion, emotion regulation, well-being, cognitive reappraisal, expressive suppression.

### On Emotion Regulation Strategies and Well-Being: The Role of Passion

Over the past decade, an increasing amount of research has focused on emotion regulation. Research highlights the important role of emotion regulation strategies in well-being, with cognitive reappraisal being overall more adaptive than expressive suppression for one's well-being (Aldao, Nolen-Hoeksema, Schweizer, 2010; Gross & John, 2003; John & Gross, 2004; Webb, Miles, & Sheeran, 2012). Importantly, recent research has investigated what influences individuals to use one particular regulatory strategy over another (Gross, Sheppes, & Urry, 2011; Sheppes, 2014). These studies identified key determinants such as the emotional intensity that is experienced, the cognitive complexity in generating a strategy, as well as one's motivational and emotional goals. The main purpose of this research was to further study the motivational determinants of emotion regulation strategies and their impact on well-being, by investigating the role of passion.

Because passionate individuals invest so much time and energy in the activity that they love, highly value, and that defines them, being passionate entails a strong emotional experience during and after activity engagement (Vallerand, 2015). Therefore, self-regulatory processes, such as emotion regulation, are at play when it comes to engaging in one's passionate activity. The Dualistic Model of Passion (Vallerand et al., 2003) proposes that there are two types of passion, harmonious (i.e. a flexible form of passionate engagement) and obsessive (i.e. a rigid form of passionate engagement), that mainly leads to positive and negative outcomes, respectively. Of particular interest is that past research has shown that people who engage in a passionate activity out of harmonious passion have access to self-regulatory processes that are more adaptive than individuals with an obsessive passion (e.g., St-Louis, Verner-Filion, Bergeron, & Vallerand, 2018; Vallerand, 2015). Based on the DMP and past passion research on self-regulatory processes, the present research sought to investigate for the first time the role of harmonious and

obsessive passion in the relationship between adaptive (i.e. cognitive reappraisal) versus less adaptive (i.e. expressive suppression) emotion regulation strategies and well-being.

### 3.1 On the Role of Emotion Regulation in Well-Being

Emotion regulation refers to the process by which people influence which emotions they have, when they have them, and how they express and experience them (Gross, 1998b; 2015). In order to enhance or decrease the magnitude of one's emotional experience, a person needs to implement emotion regulation strategies. Research on emotion regulation has focused on two main strategies, namely cognitive reappraisal and expressive suppression (Gross, 1998a, 2015; Gross & John, 2003; Webb et al., 2012). The use of such strategies, as defined by Gross, can be seen as both a broad orientation to use the two emotion strategies (see Gross, 2015), as well as context-specific as pertains to a given activity (see Levenson, Haase, Bloch, Holley & Seider, 2014 on emotion regulation in couples). Cognitive reappraisal is a form of cognitive change that involves interpreting or re-evaluating a situation that engenders emotions in a way that changes its emotional impact (e.g., Lazarus & Alfert, 1964; Speisman, Lazarus, Mordkoff, & Davison, 1964). For example, when a person feels angry, he or she might take a moment to rethink the situation that evoked these negative emotions in order to better understand what went wrong. This strategy may decrease his or her feelings of anger. Expressive suppression on the other hand is a form of response modulation that involves inhibiting ongoing emotion-expressive behavior (Gross, 1998a). For instance, when feeling angry, a person may suppress his or her feelings of anger by not expressing these negative emotions. This tactic most often backfires and increases one's experience of anger. Research on these two emotion regulation strategies has shown that cognitive reappraisal is typically more adaptive as it generally enhances and reduces both the experiential and behavioral components of positive and negative emotions, respectively (Gross, 1998a; 2003; Gross & John, 2003). Conversely, expressive suppression is effective in decreasing

the behavioral expression of positive and negative emotions, but it is unhelpful in reducing the experiential aspect of both types of emotions.

Research on the relationship between emotion regulation strategies and well-being has shown that not all strategies lead to greater well-being. Well-being refers to optimal functioning and experience (Ryan & Deci, 2001). There are two main perspectives to the study of well-being, the hedonic and eudaimonic approach. Hedonic and eudaimonic well-being share common features but research has shown that they are two related but nevertheless different constructs (Keyes, Shmotkin, & Ryff, 2002). Many researchers have equated hedonic well-being with subjective well-being (Diener, 1984; 2009), which is an evaluation of life satisfaction (global or domain specific). With eudaimonic well-being, the focus is on self-actualisation, self-growth, and the experience of meaning in life (Ryff, 1989; Ryff & Keyes, 1995). Research on the relationship between emotion regulation strategies and well-being (both hedonic and eudaimonic) has revealed that, in general, cognitive reappraisal has a more adaptive impact on well-being than expressive suppression (Aldao et al., 2010; Gross, 1998a; 2002; 2013; 2015; Gross & John, 2003; Webb et al., 2012). Specifically, findings underscore that individuals who use cognitive reappraisal tend to be more satisfied with their lives, be more optimistic, show higher levels of environmental mastery, autonomy, and personal growth, reveal greater self-acceptance, have more positive relationships, have a clearer sense of purpose in life and show fewer symptoms of depression. Conversely, people using expressive suppression tend to be less satisfied with their lives, be less optimistic, have lower levels of environmental mastery, autonomy, and personal growth, and exhibit more depressive symptoms.

In sum, the literature on the relationship between emotion regulation strategies and well-being reveals that cognitive reappraisal seems to be a strategy that is positively associated with well-being while expressive suppression is less. The present research

sought to add to this literature by examining the role of passion in the relationships between cognitive reappraisal and expressive suppression strategies and well-being.

### 3.2 The Dualistic Model of Passion

The Dualistic Model of Passion (DMP) defines passion as a strong inclination toward an activity, a person or an object that people love, highly value, and in which they invest regularly significant amount of time and energy (Vallerand et al., 2003; Vallerand, 2015; Vallerand & Houlfort, 2019). In addition, when people find an activity that they are passionate about, this favorite activity comes to define in part who they are and how they perceive themselves. The integration of the passionate activity into one's sense of self occurs because individuals have a natural tendency to internalize significant components of their environment into their identity (Deci, Eghrari, Patrick, & Leone, 1994).

The DMP postulates that there are two types of passion, harmonious passion (HP) and obsessive passion (OP). Both types of passion entail loving and being highly committed to a meaningful self-defining activity. Thus, HP and OP have similar levels of intensity directed toward the activity. Where they differ is mainly in their quality of involvement (see Table 3.1). With HP, people engage in the activity freely and remain in control while being flexible. The passionate activity is in harmony with other important life domains or components of the self. This is because HP derives from an autonomous internalization process (Deci & Ryan, 2000; Ryan & Deci, 2000), which occurs when a person freely perceives the activity as valuable for itself and without any contingencies attached to it (Deci & Ryan, 1985; Sheldon, 2002; Vallerand, 1997). This allows individuals to engage in the passionate activity with a secure sense of self-esteem and in a flexible, open, non-defensive manner (Hodgins & Knee, 2002). Importantly, HP allows access to adaptive self-processes, such as mindfulness (St-Louis et al., 2018) and leads to many positive outcomes (for e.g., positive emotions, vitality, eudaimonic well-being, etc.; see Vallerand, 2015).

Conversely, OP leads to a different quality of involvement. From this type of passion emanates an uncontrollable urge to partake in the activity and a rigid form of engagement over which people often lose control. The passionate activity becomes overwhelming and conflict occurs with other significant self-components and life aspects. OP stems from a controlled internalization process, which takes place when a person feels compelled to engage in the activity and when contingencies such as self-esteem and social acceptance are attached to its engagement (Deci & Ryan, 1985; Hodgins & Knee, 2002; Ryan & Deci, 2000; Sheldon, 2002; Vallerand, 1997). In such a case, individuals engage in the passionate activity that they love in a defensive, closed, and mindless way. Thus, OP restricts access to adaptive self-processes (St-Louis et al., 2018) and, although this type of passion may lead to positive outcomes (e.g., brief bouts of positive emotions and short-term performance gain), it is mainly conducive to negative consequences (for e.g., negative emotions, relationship conflicts, ill-being, etc.; see Vallerand, 2015). It should be noted that although autonomous and controlled internalization leads respectively to the initial development of HP and OP, both types of passion are nevertheless present within the individual to different degrees. For instance, personal or social factors may temporarily set off one type of passion or the other. People thus possess features of both HP and OP, but nonetheless have a predominant type of passion (see Vallerand, 2015 on this issue).

Strong support exists for this dual perspective on passion (see Curran, Hill, Appleton, Vallerand, & Standage, 2015; Vallerand, 2008, 2010, 2015; Vallerand & Houliort, 2019 for reviews). Past research shows that HP leads to important psychological benefits. For example, HP has been found to positively predict indices of well-being such as life satisfaction and subjective vitality (Lafreniere, St-Louis, Vallerand, & Donahue, 2012; Lalande et al., 2017; Philippe et al., 2009; Rousseau & Vallerand, 2008). HP also protects passionate individuals from negative outcomes. For instance, research has shown that HP lead to less self-neglect behaviors from humanitarian

workers during missions (St-Louis et al., 2016) and to less burn-out at work (Fernet, Lavigne, Vallerand, & Austin, 2014; Trépanier, Fernet, Austin, Forest, & Vallerand, 2014; Vallerand et al., 2010). Conversely, OP is conducive to less desirable outcomes. Past research reveals that OP is either unrelated (Vallerand et al., 2007; Vallerand et al., 2008) or negatively related (Lalande et al., 2017; Rousseau & Vallerand, 2008) to measures of life satisfaction, and negatively predicts subjective vitality (Forest, Mageau, Sarrazin, & Morin 2011; Lalande et al., 2017).

### 3.3 The Present Research

As mentioned previously, emotion regulation involves using specific strategies in order to manage one's feelings which, in turn, may impact well-being (e.g., Aldao et al., 2010; Gross, 1998a; Gross & John, 2003; John & Gross, 2004; Nezlek & Kuppens, 2008; Webb et al., 2012). Research has also studied why people would use a certain strategy over another and uncovered that the emotional intensity that is felt, the cognitive difficulty in using a particular strategy, as well as one's motivational and emotional goals influences one's choice of strategies (Gross, Sheppes, & Urry, 2011; Sheppes, 2014; Sheppes, Scheibe, Suri, & Gross, 2011; Sheppes, Scheibe, Suri, Redu, Blechert, & Gross, 2014). However, passion has never been studied in relation to emotion regulation strategies and well-being. This is important because being passionate involves the experience of emotions during and after activity engagement (Vallerand, 2015). Self-regulatory processes, such as emotion regulation, are thus often called upon when people engage in their passionate activity. Of importance is that one's type of passion, HP versus OP, may differ in the use of emotion regulation strategies, impacting on well-being. The purpose of this research was to explore for the first time passion as a motivational determinant of adaptive (i.e. cognitive reappraisal) versus less adaptive (i.e. expressive suppression) emotion regulation strategies, and to look at the effect of these strategies on well-being.

The DMP posits, and past research on passion reveals, that since one's passionate activity is part of one's identity, passion allows access to self-regulatory processes (Vallerand, 2015). More importantly, past research has shown that because HP and OP come respectively from autonomous and controlled internalization processes, they thus vary in the type of access that they provide to self-regulatory processes. Findings reveal that HP gives access to adaptive self-regulatory processes, whereas OP limits such access. In a series of three studies, St-Louis and colleagues (2018) found that HP was positively related to mindfulness, a healthy form of self-processes, which in turn was positively associated with indices of well-being. Conversely, OP was negatively associated with mindfulness. Moreover, in another series of three studies on passion and coping, Verner-Filion et al. (2014) found that HP was positively associated with approach coping strategies and negatively related to avoidant coping strategies, whereas OP was a significant and positive predictor of only avoidant coping strategies. Similar results on the relationship between passion and coping strategies were found by Schellenberg, Gaudreau, and Crocker (2013). Finally, results from Briki (2017) show that HP led to trait self-control and predicted well-being. No relationship was found with OP. Thus, in light of the above findings on passion and self-regulatory processes, such as emotion regulation, it may be posited that one's type of passion, HP and OP, may be related to more or less adaptive emotion regulation strategies, respectively, that, in turn, may affect well-being.

Furthermore, cognitive reappraisal (a more adaptive strategy for well-being) and expressive suppression (a less adaptive strategy) are used at a very different moment in the emotion generative process. In fact, Gross (1998a) elaborated a process model of emotion regulation in which emotion regulation strategies may be distinguished along the timeline of the emotional response. Antecedent-focused strategies are strategies that people use before the emotion response tendencies are generated, while response-focused strategies are strategies that individuals employ once an emotion is already activated (after the response tendencies have already been generated).



Cognitive reappraisal is an antecedent-focused strategy and it involves re-evaluating a situation that engenders emotion before the emotion response tendencies are engendered. Expressive suppression on the other hand is response-focused strategy that involves response modulation and it entails inhibiting ongoing emotion-expressive behavior. Particularly, research has shown that antecedent-focused strategies, such as cognitive reappraisal, entails cognitive effort and are more often used and are more effective if emotions are of low intensity (Sheppes et al., 2012). This goes hand in hand with the emotional profile of people with an HP and also their ability to access cognitive resources (such as mindfulness; St-Louis et al., 2018). Indeed, much research has shown that HP is positively related to the experience of positive emotions of low to moderate activation during and even after activity engagement (Carbonneau, Vallerand, & Massicotte, 2010; Lafreniere, Vallerand, Donahue, & Lavigne, 2009; St-Louis & Vallerand, 2015; Stoeber, Harvey, Ward, & Childs, 2011; Vallerand et al., 2003; Study 1). Conversely, research has revealed that OP limits one's access to cognitive resources (St-Louis et al., 2018) and is mainly positively associated with the experience of negative emotions of high activation, also during and after activity engagement (Rousseau & Vallerand, 2008; Stoeber et al., 2011; Vallerand et al., 2006; Study 2). It may thus be posited that HP would be positively associated with antecedent-focused strategies, such as cognitive reappraisal, but negatively related to response-focused strategies, such as expressive suppression, impacting on well-being. The opposite scenario may be anticipated for OP.

The main goal of this research was to explore the role of passion in the relationship between emotion regulation strategies and well-being. The present research assessed both the hedonic and eudaimonic perspectives of well-being and incorporated positive as well as negative indices. It was hypothesized that (1) HP would be positively related to adaptive emotion regulation strategies (i.e., cognitive reappraisal) and (2) negatively associated with less adaptive emotion regulation strategies (i.e.,

expressive suppression). On the other hand, it was proposed that (3) OP would be positively associated with adaptive emotion regulation strategies (i.e., expressive suppression) and (4) negatively related or unrelated to more adaptive emotion regulation strategies (i.e. cognitive reappraisal). Moreover, it was suggested that (5) adaptive emotion regulation strategies (i.e., cognitive reappraisal) would be positively related to positive indices of hedonic (i.e., satisfaction with life and happiness) and eudaimonic well-being (i.e., thriving, meaning in life, and subjective vitality), while (6) less adaptive emotion regulation strategies (i.e., expressive suppression) would be negatively linked to such well-being indices. Finally, it was suggested that (7) adaptive emotion regulation strategies (i.e., cognitive reappraisal) would be negatively associated with negative indices of well-being (i.e., depression), while (8) less adaptive strategies (i.e. expressive suppression) would be positively related to it.

The goal of Study 1 was to test the first six hypotheses above in the context of passion for various leisure activities, using a cross-sectional design. Next, using once again a cross-sectional design, Study 2 aimed at replicating the findings from Study 1, while assessing both passion and emotion regulation strategies at the contextual level. Measuring both passion and emotion regulation strategies at the same contextual level, namely romantic relationships, would allow us to test the role of passion in the use of emotion regulation strategies in a new life context. Furthermore, for greater external validity, other positive indices of well-being were measured in Study 2. Finally, the purpose of Study 3 was to replicate the findings from Studies 1 and 2 while using a prospective design. Using such design allowed us to look at changes in well-being outcomes (Carbonneau et al., 2010; Lalande et al., 2017; Vallerand et al., 2008). In addition, Study 3 further investigated whether the same findings would be obtained with same (satisfaction with life) and different (subjective vitality) indices of positive well-being as in Studies 1 and 2, as well as by using a negative well-being index (depression). The use of such measures therefore allowed us to replicate and extend our findings while looking at outcome changes. Thus, while controlling for

positive and negative indices of well-being at Time 1, the eight hypotheses as presented above were proposed.

### 3.4 Study 1

Study 1 used a cross-sectional design and recruited individuals passionate for one of various activities to investigate the association between passion (i.e., HP and OP), two emotion regulation strategies (i.e., cognitive reappraisal and expressive suppression), and eudaimonic well-being (i.e., thriving). We hypothesized that HP would be positively related to cognitive reappraisal which, in turn, was expected to be positively associated with thriving. It was also proposed that HP would be negatively linked to expressive suppression. Conversely, it was suggested that OP would be positively linked to expressive suppression that, in turn, was hypothesized to be negatively related to thriving. Finally, it was proposed that OP would be either negatively related or unrelated to cognitive reappraisal.

#### 3.4.1 Method

**Participants and procedure.** Participants were 370 individuals (201 men, 165 women and 4 unspecified) who regularly practiced one of a variety of activities, such as sports, arts, reading, and gaming. They were recruited through the Amazon Mechanical Turk, a reliable crowdsourcing platform for data collection (Buhrmester, Kwang, & Gosling, 2011; Goodman, Cryder, & Cheema, 2013; Paolacci, Chandler, & Ipeirotis, 2010). Control of the participants' ID ensured that they participated in only one study. They were first asked to agree to a consent form pre-approved by the ethics committee of the University of Quebec in Montreal and then to complete an online survey on their favourite activity, their emotion regulation strategies, and their well-being. Demographic questions were also completed at the end of the questionnaire. Participants reported spending on average 12.16 hours per week (SD = 12.83 hours) on this activity and have been engaging in it for 20.63 years on average

(SD = 13.73 years). The mean age of participants was 37.72 years (SD = 12.74 years).

#### Measures.

Passion for activities. The Passion Scale (Marsh et al., 2013; Vallerand et al., 2003) begins by asking participants to describe an activity that they love, find important, and in which they spend a significant amount of time. Participants are then asked to complete two six-item subscales assessing HP or OP. A sample item for HP is: “My favourite activity is in harmony with the other activities in my life”; and for OP: “I have almost an obsessive feeling for my favourite activity.” Responses to all items were scored on a 7-point Likert scale, ranging from (1) “Do not agree at all” to (7) “Very strongly agree”. Past research has repeatedly supported the validity and reliability of the Passion Scale (e.g., Marsh et al., 2013; Vallerand, 2008, 2010, 2015). In the present study, the Cronbach alpha values for the HP and OP subscales were .87 and .86, respectively.

Emotion regulation strategies. Emotion regulation strategies were assessed using the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003). This 10-item scale is composed of two subscales measuring cognitive reappraisal (6 items) and expressive suppression (4 items). A sample item for cognitive reappraisal is: “When I want to feel less negative emotions (such as sadness or anger), I change what I am thinking about”; and for expressive suppression: “When I am feeling negative emotions, I make sure not to express them.” Responses to all items were scored on a 7-point Likert scale, ranging from (1) “Do not agree at all” to (7) “Very strongly agree”. Results from Gross and John (2003) offered support for validity and reliability of this scale. In the present study, the Cronbach alpha values for the cognitive reappraisal and expressive suppression subscales were .88 and .83, respectively.

Well-being. Participants' well-being was measured using a positive eudaimonic well-being index: The Brief Inventory of Thriving (BIT; Su, Tay, & Diener, 2014). Results from Su et al. (2014) supported the validity and reliability of this scale. This 10-item scale yields an indicator of participants' well-being (e.g., "What I do in life is valuable and worthwhile";  $\alpha = .94$ ). Responses to all items were scored on a 7-point Likert scale, ranging from (1) "Do not agree at all" to (7) "Very strongly agree".

### 3.4.2 Results and Discussion

Preliminary analyses. All variables were screened for possible statistical assumption violations, as well as for outliers and missing values (Meyers, Gamst, & Guarino, 2013). There were no missing values in the data set and no univariate outliers ( $z$  score  $> \pm 3$ ). Mahalanobis distance revealed no multivariate outliers at the critical chi-square value at  $p = .001$ . Inspection of skewness indices for all variables showed that they were distributed normally (range from  $-.58$  to  $.64$ ). Moreover, as shown by bivariate scatterplots and residuals plots, all variables were related to each other in a linear manner. Furthermore, independence of errors assumption was met (Durbin-Watson Test = 2.01) and variables revealed no multicollinearity ( $VIF < 10$ ). Means, standard deviations, and correlations are presented in Table 3.2.

Main analyses. Analyses were performed using Mplus version 8 (Muthén & Muthén, 2017). The proposed model encompassed two exogenous variables (i.e., HP and OP) and three endogenous variables (i.e., cognitive reappraisal, expressive suppression, and thriving). All variables were transformed into  $z$  scores for further analyses. To test the hypothesized model, a path analysis was conducted using maximum likelihood estimation and paths were drawn according to the hypotheses presented above. Thus, paths from HP to cognitive reappraisal and from HP to expressive suppression were specified, followed by paths from OP to cognitive

reappraisal and from OP to expressive suppression. Finally, paths were drawn from cognitive reappraisal and expressive suppression to thriving. Covariances between the two exogenous variables, as well as the covariances between the error terms were estimated. Acceptable thresholds levels for model fit are: A Chi-square value ( $\chi^2$ ) value relative to degrees of freedom with a non-significant p value; Comparative Fit Index (CFI)  $\geq .95$ ; Tucker-Lewis Index (TLI)  $\geq .95$ ; Standardized Root Mean Square Residual (SRMR)  $\leq .07$ ; and Root Mean Square Error of Approximation (RMSEA)  $\leq .08$  (see Hooper, Coughlan, & Mullen, 2008 for a review). Results suggested that this model had a poor fit to the data:  $\chi^2$  (df = 2, N = 370) = 41.76, p = 0.000; and other fit indices were also not adequate: CFI = .84, TLI = .30, SRMR = .06, and RMSEA = .23 [.17; .30]. However, because research on the relationship between passion, psychological processes, and well-being has shown direct positive links between HP and positive indices of well-being (e.g., St-Louis et al., 2008; Verner-Filion et al., 2017), the proposed model was thus re-specified by adding such direct positive link between HP and thriving. This second partial mediation model had a satisfactory fit to the data<sup>1</sup>: Chi-square value ( $\chi^2$ ) (df = 1, N = 370) = .72, ns; and other fit indices were adequate: CFI = 1.00, TLI = 1.01, SRMR = .007, and RMSEA = .00 [.00; .13].

The standardized solutions of the final model are presented in Figure 3.1. HP was positively related to cognitive reappraisal ( $\beta = .41$ , p < .001), but negatively associated with expressive suppression ( $\beta = -.20$ , p < .001). Conversely, OP was positively linked to expressive suppression ( $\beta = .29$ , p < .001), but negatively related to cognitive reappraisal ( $\beta = -.11$ , p < .05). Cognitive reappraisal was positively linked to thriving ( $\beta = .36$ , p < .001), whereas expressive suppression was negatively associated with this positive well-being index ( $\beta = -.17$ , p < .05). Finally, the direct path from HP to thriving remained significant ( $\beta = .30$ , p < .001).

Indirect effects were investigated to further test the mediating role of emotion regulation between passion and well-being. Consequently, bootstrapped confidence

interval estimates of the indirect effect were calculated to confirm the significance of mediations. Bootstrapping is a statistical method that randomly constructs a number of resamples of the original sample in order to estimate parameters (Preacher and Hayes, 2008). In the present study, the bias-corrected 95 % confidence intervals of the indirect effects were obtained with 5,000 bootstrap resamples. Using bootstrap methods to estimate indirect effects is especially recommended in small to moderate samples (Shrout & Bolger, 2002). It should be noted that the indirect effect is significant at  $p < 0.05$  if the 95 % confidence intervals do not include the value of zero. Results indicated that the relationship between HP and thriving was significantly, but partially, mediated by cognitive reappraisal ( $\beta = .15$ ; 95% CI = .094 to .234,  $p < .001$ ) and expressive suppression ( $\beta = .06$ ; 95% CI = .010 to .060,  $p < .01$ ). Finally, results also showed that the relationship between OP and thriving was significantly, but partially, mediated by cognitive reappraisal ( $\beta = -.04$ ; 95% CI = -.077 to -.005,  $p < .05$ ) and expressive suppression ( $\beta = -.05$ ; 95% CI = -.078 to -.019,  $p < .01$ ).

In sum, the present findings provided support for the proposed model. Globally, HP was positively related to a more adaptive emotion regulation strategy (i.e., cognitive reappraisal) but negatively associated with a less adaptive strategy, namely expressive suppression. Conversely, OP was positively related to expressive suppression but negatively related to cognitive reappraisal. Finally, as expected cognitive reappraisal was positively, and expressive suppression negatively, associated with well-being.

### 3.5 Study 2

The purpose of Study 2 was to replicate findings from Study 1, but this time within the specific context of romantic relationships and while incorporating other positive indices of well-being. In Study 1, passion was assessed toward one of several activities whereas emotional regulation was assessed in general (at the trait level).

One of the purposes of Study 2 was to assess both passion and emotional regulation within the purview of the same activity, namely the sphere of romantic relationships. This context was selected because both passion and emotion regulation strategies have implications for couples. Indeed, passion represents an important part of close relationships and past research has shown that individuals can have a HP or an OP for their partner (Carbonneau, Vallerand, Lavigne, & Paquet, 2016; Ratelle, Carbonneau, Vallerand, & Mageau, 2013). In addition, emotions are often solicited in romantic relationships and research shows that couples with a HP tend to use better conflict resolution strategies than couples with an OP. Emotion regulation has also been studied in the context of dyadic love and results reveals that the use of cognitive reappraisal has a positive impact on relationship quality (Finkel, Slotter, Luchies, Walton, & Gross, 2013; Levenson et al., 2014; Richards, Butler, & Gross, 2003). Thus, rather than measuring emotional regulation strategies at the trait level (Study 1), both passion and emotional regulation strategies were assessed at the same contextual (or activity) level (Vallerand, 1997), namely romantic relationships.

Another goal of Study 2 was to test the hypothesized model with different positive indices of both hedonic (i.e., satisfaction with life and happiness) and eudaimonic well-being (i.e., meaning in life) than the one used in Study 1 (i.e., thriving) in order to provide a further test of the model's external validity. Thus, it was hypothesized that HP for one's romantic partner would be positively related to cognitive reappraisal within the relationship which, in turn, would be positively related to satisfaction with life, happiness, and meaning in life. It was further suggested that HP for one's romantic partner would be negatively linked to expressive suppression. Finally, it was proposed that OP would be positively related to expressive suppression and negatively related or unrelated to cognitive reappraisal. Expressive suppression would be negatively associated with all three positive well-being indices.

### 3.5.1 Method



Participants and procedure. Participants were 266 individuals (100 men, 164 women, and 2 unspecified) with a mean age of 35.32 years old ( $SD = 21.01$  years). As in Study 1, they were recruited through the Amazon Mechanical Turk platform. Participants were asked to agree to a consent form pre-approved by the ethics committee of the Université du Québec à Montréal and then to complete an online survey about their romantic passion, their emotion regulation strategies in the relationship, and their well-being. Demographic questions were also completed at the end of the questionnaire. Questions regarding the relationship status of participants showed that 3.4% were dating, 33.8% were in a relationship, 10.2% were in a common-law relationship, 8.3% were engaged, and 44.4% were married. Because we were looking for participants who were involved in a romantic relationship, participants who reported that they were simply dating (8 participants) were deleted from further analyses.

#### Measures.

Romantic passion. The Romantic Passion Scale (Ratelle et al., 2013) is composed of two six-item subscales assessing HP and OP towards one's partner and shows good validity and reliability. A sample item for HP is: "My relationship with my romantic partner is in harmony with the other activities in my life"; and for OP: "I have almost an obsessive feeling for my romantic partner." Responses to all items were scored on a 7-point Likert scale, ranging from (1) "Do not agree at all" to (7) "Very strongly agree". In the present study, the Cronbach alpha values for the HP and OP subscales were respectively .92 and .74.

Emotion regulation strategies. Emotion regulation strategies were assessed using the same scale as in Study 1, the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), but it was adapted to the context of romantic relationship. A sample item for cognitive reappraisal is: "In my romantic relationship, when I want to feel less negative emotion (such as sadness or anger), I change what I am thinking

about”; and for expressive suppression: “In my romantic relationship, when I am feeling negative emotions, I make sure not to express them.” In this study, the Cronbach alpha values for the cognitive reappraisal and expressive suppression subscales were respectively .92 and .86.

Well-being. To assess positive indices of hedonic and eudaimonic well-being, three measures were used in this Study 2<sup>2</sup>: three items from the Satisfaction with Life scale (e.g., “I am satisfied with my life.”,  $\alpha = .89$ ; Diener, Emmons, Larsen, & Griffin, 1985), three items from the Happiness scale (e.g., “I am generally happy.”,  $\alpha = .95$ ; Lyubomirsky & Lepper, 1999), and three items from the Meaning in Life Questionnaire (e.g., “My life has a clear sense of purpose.”,  $\alpha = .96$ ; Steger, Frazier, Oishi, & Kaler, 2006). Responses to all items were scored on a 7-point Likert scale, ranging from (1) “Strongly Disagree” to (7) “Strongly Agree”. Past literature has shown strong support for the validity and reliability of these scales (Diener et al., 1985; Lyubomirsky & Lepper, 1999; Steger et al., 2006).

### 3.5.2 Results and Discussion

Preliminary analyses. All variables were screened for possible statistical assumption violations, as well as for outliers and missing values (Meyers et al., 2013). There were no missing values in the data set. Three cases were deleted because they were identified as univariate outliers ( $z$  score  $> +/- 3$ ). Mahalanobis distance revealed two multivariate outliers at the critical chi-square value at  $p = .001$ , which were deleted from further analyses. Inspection of skewness indices for all variables showed that they were distributed normally (range from  $-.58$  to  $.64$ ). Moreover, as shown by bivariate scatterplots and residuals plots, all variables were related to each other in a linear manner. Furthermore, independence of errors assumption was met (Durbin-Watson Test = 2.15) and last, variables revealed no multicollinearity ( $VIF < 10$ ). Means, standard deviations, and correlations are presented in Table 3.3.

Main analyses. Analyses were performed Mplus version 8 (Muthén & Muthén, 2017). The proposed model was composed of two exogenous variables (i.e., HP and OP) and five endogenous variables (i.e., cognitive reappraisal, expressive suppression, satisfaction with life, happiness, and meaning in life). All variables were transformed into z scores for further analyses. To test the hypothesized model, maximum likelihood estimation was used and paths from HP to cognitive reappraisal and from HP to expressive suppression were specified, followed by paths from OP to cognitive reappraisal and from OP to expressive suppression. In addition, paths were drawn from cognitive reappraisal and expressive suppression to satisfaction with life, happiness, and meaning in life. Covariances between the two exogenous variables, as well as the covariances between the error terms were estimated. The same acceptable thresholds levels for model fit as in Study 1 were used. Results suggested that this model had a poor fit to the data:  $\chi^2$  (df = 6, N = 253) = 42.81,  $p = .000$ ; and most other fit indices were not adequate: CFI = .94, TLI = .81, SRMR = .09, and RMSEA = .16 [.11; .20]. Thus, as in Study 1, the model was re-specified by adding direct paths from HP to indices of well-being. This partial mediation model had a satisfactory fit to the data<sup>3</sup>: The chi-square value was non-significant,  $\chi^2$  (df = 3, N = 253) = .32, ns; and other fit indices were adequate: CFI = 1.00, TLI = 1.03, SRMR = .00, and RMSEA = .00 [.00; .00].

The standardized solutions of the final model are presented in Figure 3.2. HP was positively related to cognitive reappraisal ( $\beta = .23$ ,  $p < .001$ ), but negatively associated with expressive suppression ( $\beta = -.30$ ,  $p < .001$ ). OP was positively related to expressive suppression ( $\beta = .33$ ,  $p < .001$ ) and unrelated to cognitive reappraisal ( $\beta = -.03$ , ns). Cognitive reappraisal was positively linked to satisfaction with life ( $\beta = .19$ ,  $p < .001$ ), happiness ( $\beta = .32$ ,  $p < .001$ ), and meaning in life ( $\beta = .23$ ,  $p < .001$ ). Furthermore, direct effects from HP to well-being outcomes were also positive and significant: Satisfaction with life ( $\beta = .40$ ,  $p < .001$ ), happiness ( $\beta = .24$ ,  $p < .001$ ), and meaning in life ( $\beta = .31$ ,  $p < .001$ ). Finally, expressive suppression was unrelated

to all three positive indices of well-being: satisfaction with life ( $\beta = .04$ , ns), happiness ( $\beta = -.08$ , ns), meaning in life ( $\beta = -.01$ , ns).

Indirect effects were investigated to further test the mediating role of emotion regulation between romantic passion and the three indicators of well-being (satisfaction with life, happiness, and meaning in life). Bias-corrected bootstrapped 95% confidence interval estimates indicated that cognitive reappraisal was a significant partial mediator of the relationship between HP and satisfaction with life ( $\beta = .04$ ; 95% CI = .0281 to .519,  $p < .05$ ), between HP and meaning in life ( $\beta = .05$ ; 95% CI = .191 to .439,  $p < .05$ ), and between HP and happiness ( $\beta = .07$ ; 95% CI = .135 to .393,  $p < .01$ ).

In sum, the present findings provided support for the basic proposed model in the context of romantic relationships. Specifically, HP in the romantic sphere was positively associated with cognitive reappraisal but negatively associated with expressive suppression, whereas OP was positively related to expressive suppression but unrelated to cognitive reappraisal. In turn, cognitive reappraisal was the only strategy that was positively linked to all indices of well-being.

### 3.6 Study 3

Study 3 had three main goals. First, it sought to replicate findings from Studies 1 and 2, using a three-month prospective design. Such a design would allow us to explore the direction of effects. Second, Study 3 investigated further the impact of passion and emotion regulation strategies on well-being by using a positive hedonic well-being measure used in Study 2 (i.e., satisfaction with life) and also by measuring a new positive eudaimonic well-being measure (i.e., subjective vitality). Furthermore, a negative well-being measure (i.e., depression) was included as an additional outcome. This allowed us to further test the generalizability of the hypothesized model. Third, both positive and negative indices of well-being were entered in the model as control

variables at Time 1. This allowed us to examine changes in well-being (Carbonneau et al., 2010; St-Louis et al., 2016; Vallerand et al., 2008). Thus, in line with research on the DMP (Vallerand, 2015), the hypotheses presented above in the Present Research section, and the findings from Studies 1 and 2, it was proposed that, while controlling for all indices of well-being at Time 1, HP at Time 1 would be positively related to cognitive reappraisal at Time 2 which, in turn, would be positively linked to satisfaction with life and subjective vitality, and negatively associated with depression (all at Time 2). It was also suggested that HP at Time 1 would be negatively associated with expressive suppression at Time 2. Conversely, OP at Time 1 was expected to be positively related to expressive suppression at Time 2 which, in turn, would be negatively related or unrelated to satisfaction with life and subjective vitality, and would be positively associated with depression (all at Time 2), again while controlling for all indices of well-being at Time 1. Finally, it was proposed that OP at Time 1 would be negatively related or unrelated to cognitive reappraisal at Time 2.

### 3.6.1 Method

**Participants and procedure.** A total of 515 individuals completed an initial online survey through the Amazon Mechanical Turk. First, participants were asked to agree to a consent form pre-approved by the ethics committee of the Université du Québec à Montréal and then they were asked to answer questions on their favorite activity, as well as on their well-being. Demographic questions were also completed at the end of the questionnaire. Three months later, they were invited to complete a second online questionnaire on their emotion regulation strategies and positive and negative indices of well-being. Of the initial sample, 281 people (101 men, 177 women and 3 unspecified) completed the follow-up survey<sup>4</sup>. Mean age of participants was 39.94 years ( $SD = 12.44$  years). Participants reported various kinds of favorite activities, such as sports, arts, reading, and gaming. Moreover, they spent time doing

their favorite activity on average 12.74 hours per week (SD = 13.87 hours) and have been engaging in their activity for 19.74 years on average (SD = 14.17 years).

#### Measures.

##### Time 1.

Passion for activities. As in Study 1, the Passion Scale (Vallerand et al., 2003; Marsh et al., 2013) was used. Cronbach alpha values for the HP and OP subscales were respectively .83 and .86.

Well-being indices. Two well-documented measures were used in this study to assess positive indices of hedonic and eudaimonic well-being: The Satisfaction with Life Scale (e.g., “I am satisfied with my life”; Diener et al., 1985) and the Subjective Vitality scale (e.g., “I feel alive and vital”; Ryan & Frederick, 1997). For the Satisfaction with Life scale, responses to all five items were scored on a 7-point Likert scale, ranging from (1) “Do Not Agree At All” to (7) “Very Strongly Agree”. The Cronbach alpha value was of .94. For the Subjective Vitality scale, responses to all six items were scored on a 7-point Likert scale, ranging from (1) “Absolutely Untrue” to (7) “Absolutely True”. The Cronbach alpha value was of .94. Furthermore, the depression subscale from the General Health Questionnaire (GHQ; Goldberg & Hillier, 1979; Goldberg & Williams, 1988) was assessed as a negative well-being index. The GHQ is a well-known valid and reliable instrument for measuring minor psychological distress. This 3-item subscale assesses presence of depressive symptoms (e.g., “I think of myself as a worthless person”;  $\alpha = .93$ ). Responses to all items were scored on a 5-point Likert scale, ranging from (1) “Strongly Disagree” to (5) “Strongly Agree”.

##### Time 2.

Emotion regulation strategies. As in Study 1, the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) was used to measure emotion regulation strategies in general. In this study, the Cronbach alpha values for the cognitive reappraisal and expressive suppression subscales were respectively .92 and .86.

Well-being indices. The same positive and negative well-being indices at Time 1 were assessed at Time 2. The Cronbach alpha value for satisfaction with life was of .94, for subjective vitality it was of .93, and .91 for depression<sup>5</sup>.

### 3.6.2 Results and Discussion

Preliminary analyses. All variables were screened for possible statistical assumption violations, as well as for outliers and missing values (Meyers et al., 2013). Five cases were removed because they did not complete the whole survey and thus, they had missing data on almost all variables. In addition, one case was removed because it was identified as a univariate outlier ( $z$  score  $> +/- 3.0$ ) and a multivariate outlier. Mahalanobis distance revealed 22 other multivariate outliers at the critical chi-square value at  $p = .001$ , which were also removed from further analyses. The final model was tested on 253 participants. Inspection of skewness indices for all variables showed that they were distributed normally except for depression at Time 1 and at Time 2. Log transformation was applied on both variables to improve normality. Final tests for skewness indices indicate that variables were distributed normally (ranging from  $-.64$  to  $.76$ ). Moreover, as shown by bivariate scatterplots and residuals plots, all variables were related to each other in a linear manner. Furthermore, independence of errors assumption was met (Durbin-Watson Test = 1.97) and last, variables revealed no multicollinearity ( $VIF < 10$ ). Means, standard deviations, and correlations are presented in Table 3.4.

Main analyses. Analyses were performed Mplus version 8 (Muthén & Muthén, 2017). The proposed model encompassed five exogenous variables (i.e., HP, OP, satisfaction with life, subjective vitality, and depression) and five endogenous

variables (i.e., cognitive reappraisal, expressive suppression, satisfaction with life, subjective vitality, and depression). All variables were transformed into z scores for further analyses. The hypothesized model was tested using the maximum likelihood estimation and paths were drawn according to the hypotheses presented above in the Introduction of Study 3. Thus, paths from passion to emotion regulation strategies were first specified. Specifically, paths from HP at Time 1 to cognitive reappraisal and to expressive suppression (both at Time 2) were added. Then, paths from OP at Time 1 to cognitive reappraisal and to expressive suppression (both at Time 2) were drawn. Second, paths from emotion regulation strategies to well- and ill-being were specified. Specifically, paths were drawn from cognitive reappraisal and expressive suppression to satisfaction with life, subjective vitality, and depression (all at Time 2). Finally, direct paths from well- and ill-being indices (satisfaction with life, subjective vitality, and depression) at Time 1 to their equivalent at Time 2. Covariances between the five exogenous variables at Time 1, as well as the covariances between the error terms at Time 2 were estimated. Acceptable thresholds levels for model fit were the same as the previous studies. The results showed that this initial model did not have an acceptable fit to the data:  $\chi^2(df = 17, N = 253) = 103.17, p = 0.000$ ; CFI = .94; TLI = .88; SRMR = .10; RMSEA = .14 [.11, .16]. Based on theory on the top-down effects of well-being (Diener, 2009; Feist, Bodner, Jacobs, Miles, & Tan, 1995) and the positive effects of well-being on psychological processes (Fredrickson, 2000), as well as modification indices (see Kline, 2011 on re-specification of path models based on theoretical and statistical considerations), a second model was tested including direct paths between well-being indices at Time 1 and emotion regulation strategies at Time 2. Specifically, the two following paths were added: One from satisfaction with life at Time 1 to expressive suppression at Time 2 and one from subjective vitality at Time 1 to cognitive reappraisal at Time 2. The results showed that this modified model had an acceptable fit to the data<sup>6</sup>,  $\chi^2(df =$



17,  $N = 253$ ) = 14.91, *ns*; CFI = 1.00; TLI = 1.00; SRMR = .02; RMSEA = .02 [.00, .07].

The standardized solutions are presented in Figure 3.3 (for clarity concerns, covariances for well-being measures were omitted). Results showed that HP at Time 1 was positively related to cognitive reappraisal at Time 2 ( $\beta = .20$ ,  $p < .001$ ). In addition, even though the beta weight was non-significant, HP at Time 1 was negatively related to expressive suppression at Time 2 ( $\beta = -.09$ ,  $p = .14$ ). Conversely, OP at Time 1 was positively associated with expressive suppression at Time 2 ( $\beta = .22$ ,  $p < .001$ ) and unrelated to cognitive reappraisal at Time 2 ( $\beta = .00$ , *ns*). Cognitive reappraisal was positively linked to satisfaction with life ( $\beta = .08$ ,  $p < .01$ ), subjective vitality ( $\beta = .14$ ,  $p < .001$ ), and was negatively related to depression ( $\beta = -.09$ ,  $p < .01$ ), all at Time 2. Expressive suppression was unrelated to satisfaction with life ( $\beta = -.01$ , *ns*) and to subjective vitality ( $\beta = -.05$ , *ns*), and was positively associated with depression ( $\beta = .10$ ,  $p < .001$ ), all at Time 2. Satisfaction with life ( $\beta = .87$ ,  $p < .001$ ), subjective vitality ( $\beta = .80$ ,  $p < .001$ ) and depression variables at Time 1 ( $\beta = .74$ ,  $p < .001$ ) were positively related to their equivalent at Time 2. In addition, satisfaction with life at Time 1 was negatively linked with expressive suppression at Time 2 ( $\beta = -.23$ ,  $p < .001$ ) and subjective vitality at Time 1 was positively related to cognitive reappraisal at Time 2 ( $\beta = .40$ ,  $p < .001$ ).

Indirect effects were explored to further test the mediating role of emotion regulation in the relationship between passion and well-being. Bias-corrected bootstrapped 95% confidence interval estimates indicated that cognitive reappraisal significantly mediated the relationship between HP and satisfaction with life ( $\beta = .01$ ; 95% CI = .001 to .027,  $p < .05$ ), as well as subjective vitality ( $\beta = .03$ ; 95% CI = .004 to .046,  $p < .05$ ). Finally, expressive suppression significantly mediated the relationship between OP and depression ( $\beta = .02$ ; 95% CI = .001 to .005,  $p < .05$ ).

In sum, the findings of Study 3 provided additional support for the role of passion in emotion regulation strategies, impacting on well-being. Globally, results indicated that emotion regulation strategies mediated the relationship between passion and well- and ill-being even after controlling for the initial levels of well-being. HP was positively related to cognitive reappraisal three months later, which was positively associated with life satisfaction and subjective vitality, and was negatively related with depression (all three months later and while controlling for positive and negative indices of well-being at Time 1). On the other hand, OP was positively associated with expressive suppression three months later which, in turn, was positively associated with depression (also three months later). Finally, the present findings also suggest that positive indices of well-being may be positively linked to more adaptive emotional regulation strategies.

### 3.7 General Discussion

The present research examined the role of passion in the relationship between emotion regulation strategies and well-being. A model was tested in which it was hypothesized that HP would be positively related to adaptive emotion regulation strategies (i.e., cognitive reappraisal) and negatively related to less adaptive ones (i.e., expressive suppression). Conversely, it was suggested that OP would positively be associated with expressive suppression and negatively related or unrelated to cognitive reappraisal. In turn, it was proposed that cognitive reappraisal would be positively associated with positive indices of both hedonic and eudaimonic well-being and negatively with depression, while expressive suppression would be negatively related to positive well-being indices and positively associated with depression. Overall, the main model was replicated consistently across all three studies conducted in different contexts (i.e., passion was for one of various activities in Studies 1 and 3 and for one's romantic relationship in Study 2) while using both cross-sectional and prospective designs. Although there were some subtle differences

in some studies regarding cross paths between passion and strategies (i.e., the negative relationships between HP and expressive suppression and OP and cognitive reappraisal), findings revealed that HP was positively associated with more adaptive emotion regulation strategies whereas OP was positively related to less adaptive emotion regulation strategies. Finally, adaptive emotion regulation strategies were positively related to well-being. These findings have important implications for the field of emotion regulation and for the DMP.

### 3.7.1 Passion as a Determinant of Emotion Regulation

Emotion regulation involves implementing specific regulatory strategies in order to manage one's emotional experience. Some strategies are more or less adaptive regarding their impact on well-being (e.g., Aldao et al., 2010; Gross & John, 2004; Webb et al., 2012). Importantly, past research has shown new interest in psychological processes that may influence the use of a particular strategy over another. So far, important determinants of emotion regulation choice have been uncovered, i.e. emotional intensity, cognitive complexity of emotion regulation strategies, and motivational and emotional goals (see Sheppes, 2014 for a review). Findings from the present research adds to this literature by revealing that passion seems to play an important role in strategy selection for regulating emotions. Importantly, results showed that one's type of passion, harmonious or obsessive, relates differently to emotion regulation strategies. In fact, it appears that HP is positively associated with more adaptive emotion regulation strategies such as cognitive reappraisal. However, such is not the case for OP as it was positively linked to a much less adaptive form of emotional regulation, namely expressive suppression. Of additional interest is the fact that not only does HP seem to be positively related to adaptive emotional regulation strategies but it also appears to be negatively associated with less adaptive ones as well. Indeed, Studies 1 and 2 revealed that HP was negatively correlated with expressive suppression. Although the prospective results of Study 3 did not replicate the findings of the first two studies, it is possible that the

strong temporal stability effects are responsible for the null effect. Future longitudinal research using a much longer time lag is necessary to further look into the protective role of HP in expressive suppression. Similarly, the negative relationship between OP and cognitive reappraisal was significant only in Study 1. Thus, the cross-effect of OP on more adaptive strategy may not replicate across situations and time. Thus, future research is necessary to further explore such effects. Additional research should also explore differences in implicit versus explicit emotion regulation goals, according to one's type of passion. For example, it is possible that individuals with an OP would want to increase their experience of negative emotions (such as anger during a relationship conflict in order to boost their energy to make a point and "win" the fight with others) by choosing to use less adaptive emotion regulation strategies. People with a HP on the other hand may seek to decrease their experience of negative emotions by choosing to use more adaptive strategies in order to preserve the relationship with other people. Thus, one's type of passion may influence emotion regulation goals, thereby impacting on emotion regulation choice and well-being. Future research is needed to test these hypotheses using priming procedures (see Bélanger et al., 2013 to this effect).

Another main implication of this research is that the current findings provide support for one of the major principles of the DMP, namely that passion influences self-regulatory processes (Vallerand et al., 2003; Vallerand, 2015). Specifically, the DMP proposes that HP allows access to adaptive self-regulatory processes, whereas OP limits such access (Shellenberg et al., 2013; St-Louis et al., 2018; Vallerand, 2015; Verner-Filion et al., 2014). The present research was the first to investigate the relationship between passion and emotion regulation as a self-regulatory process and it supports this assumption. Findings uncovered that HP was positively related to helpful emotion regulation strategies (all three studies) and was even negatively associated with less helpful ones (Studies 1 and 2). Conversely, OP was negatively linked to adaptive strategies (Study 1) and was even positively related to less helpful

emotion regulation strategies (all three studies). Future research is needed in order to better understand the underlying psychological mechanisms that allow HP to be positively associated with such adaptive self-regulatory processes. One possibility is that mindfulness would mediate such relationship. Indeed, past research has shown that HP is positively, but OP is negatively, related to mindfulness (St-Louis et al., 2018). Future research on the mediating functions of mindfulness in the passion-emotional regulation strategies relationship would therefore appear fruitful.

### 3.7.2 On the Role of Emotion Regulation in Well-Being

Past research has shown that emotional regulation affects well-being (Gross, 2015). Specifically, more adaptive emotion regulation strategies such as cognitive reappraisal has been found to have a positive impact on people's well-being, whereas using less adaptive strategies such as expressive suppression may engender ill-being (Aldao et al., 2010; Gross & John, 2003; John & Gross, 2004; Nezlek & Kuppens, 2008). Findings from the present research support this literature by revealing that cognitive reappraisal was positively associated with positive indices of both hedonic and eudaimonic well-being (in all three studies). Also, findings from Study 1 showed that expressive suppression was negatively related to such indices. Although this result was not replicated in Study 2, results from Study 3 showed that, expressive suppression was positively related to a negative well-being index (i.e. depression). Future research is needed on the possible detrimental effects of expressive suppression on well- versus ill-being. Furthermore, the present findings revealed that well-being may also play a role in adaptive emotion regulation strategies (Study 3). Future research is needed with full longitudinal designs, where all variables would be assessed at two points in time, in order to permit a thorough investigation of directions of effects as well as the bidirectional relationship between emotion regulation strategies and well-being.

In addition, past passion research has shown the existence of relationships between

passion and well- and ill-being (see Vallerand 2015 for a review). However, the present research is the first to assess emotion regulation strategies as a psychological process that mediates the different impact of the two types of passion on well- and ill-being. The current research is the first to provide insight on this matter. Indeed, results from the present research showed that HP appears to be positively associated with strategies that help individuals to regulate their emotional experience in a way that is positively linked to well-being. However, OP seems to be positively related to less adaptive emotion regulation strategies that are positively correlated with depression. Importantly, these findings were uncovered even while controlling for the initial levels of well- and ill-being (Study 3). In addition, the present research found that significant direct relationships between HP and well-being were obtained in the Studies 1 and 2. In line with past research (Rousseau & Vallerand, 2008; Vallerand, 2012), future research should ascertain whether positive emotions mediate such effects and whether emotion regulation strategies contribute to these emotions. Such research could help determine whether these two mediators (positive emotions and emotion regulation strategies) may be intertwined. Other important self-regulatory processes such as resilience (Tugade & Fredrickson, 2004) and self-compassion (Neff, 2011) could also be investigated in future research in order to further understand the relationship between passion and well-being, and this time, using a longitudinal design.

### 3.7.3 Limitations

Some limitations of this research need to be addressed. First, correlational designs were used in all three studies and, even though a time interval and a prospective design were used in Study 3, data from Studies 1 and 2 were cross-sectional in nature. Thus, no causal inferences can be drawn from the present findings. The use of longitudinal (see Carbonneau, Vallerand, Fernet, & Guay, 2008; Lavigne, Forest, Fernet, & Crevier-Braud, 2014) and especially experimental (e.g., Bélanger et al., 2013; Lafrenière, Vallerand, & Sedikides, 2013) designs in future research is thus

highly recommended. For example, past research has shown that the experimental induction of HP and OP leads to the same effects as those of the Passion Scale (see Bélanger et al., 2013; Lafrenière et al., 2013, Study 2). It is thus possible that inducing either HP or OP may actually lead one to adopt either adaptive or less adaptive emotional regulation strategies in line with the present findings. This hypothesis awaits future research. A second important limitation pertains to the instruments used in this research. Participants completed only self-report measures and thus, results should be interpreted carefully. For instance, although research reveals that the Passion Scale is free from social desirability concerns (Rousseau et al., 2002), social desirability and shared method variance may influence the results. Thus, future research should make use of objective measures such as observer-rated of emotion regulation strategies. A third limitation regarding the present research pertains to some differences across studies. For instance, different measures of well-being were used, and ill-being was measured only in the last study. Additionally, Studies 1 and 3 focused on passion for various activities whereas in Study 2, romantic passion was investigated. While these differences provide generalization to the findings of this research, the present findings need to be interpreted with caution. A final limitation deals with the use of Amazon Mechanical Turk for data collection in all three studies. Even though this platform is now widely used for research in psychology, Amazon Mechanical Turk users may display differences from the general population. For instance, research has shown that they tend to be younger, more educated, less religious, and are more likely to be unemployed (Goodman et al., 2013). Also, people from low socio-economic status and from certain racial and ethnic groups (Hispanic Americans and African Americans) tend to be less represented among users (Paolacci et al., 2010). However, it should be noted that past research has shown that the data obtained by such sources is at least as reliable as those obtained with other online or even offline methods (Buhrmester et al., 2011; Paolacci et al., 2010). Nevertheless, future research should replicate this research using different samples in order to increase the model external validity.

In sum, the present research suggests that passion plays an important role in the relationship between emotion regulation strategies and well-being. However, passions and emotion regulation strategies are not created equal. Thus, it is HP that is positively associated with the more adaptive emotion regulation strategy of cognitive reappraisal, and OP that positively relates to a less adaptive strategy of expressive suppression, impacting on well-being. Future research is needed to replicate the present findings with more stringent experimental and longitudinal designs and more diverse well-being outcomes and participants.

### 3.8 Notes

1. The model for Study 1 was also tested while controlling for age and gender. Results revealed that the model had a satisfactory fit to the data: The chi-square value was non-significant,  $\chi^2$  (df = 5, N = 370) = 3.09, ns; and other fit indices were adequate: CFI = 1.00, TLI = 1.02, SRMR = .01, and RMSEA = .00 [.00; .06]. Standardized solutions showed significant relationship between both age and gender and expressive suppression. Specifically, age was negatively related to expressive suppression ( $\beta = -.14$ ,  $p < .001$ ). Gender was



positively linked to expressive suppression ( $\beta = .29, p < .001$ ). These findings show that the relationship between passion, emotion regulation strategies and well-being is the same irrespective of age and gender. However, in this study, older individuals tended to make less use of expressive suppression than younger people. Men tended to make more use of expressive suppression than women.

2. Confirmatory factor analyses were conducted, and results showed support for this 3-factor measurement model:  $\chi^2$  (df = 22, N = 253) = 24.62,  $p > .05$ , CFI = 1.00, TLI = 1.00, SRMR = .01, and RMSEA = .02 [.00; .06].
3. The model for Study 2 was also tested controlling for age, gender, and relationship status and duration. Results also showed that the model had a satisfactory fit to the data: The chi-square value was non-significant,  $\chi^2$  (df = 23, N = 253) = 34, ns; and other fit indices were adequate: CFI = .99, TLI = .97, SRMR = .04, and RMSEA = .04 [.00; .07]. Standardized solutions showed that gender positively predicted expressive suppression ( $\beta = .19, p < .001$ ). These findings show that the relationships among passion, emotion regulation strategies and well-being were the same irrespective of age, gender, relationship duration and status. However, in this study, men tended to make more use of expressive suppression than women.
4. A MANOVA was conducted to investigate if significant differences existed between our initial and final sample (Study 3). No significant multivariate effect was found on all variables at Time 1: Wilks' Lambda = .98,  $F(5, 515) = 1.85, p = .10, \eta^2 = .02$ .
5. Confirmatory factor analyses were conducted in order to see if the above dimensionalities for positive and negative well-being indices fit the sample from this research. Results revealed adequate fit indices for this 3-factor measurement model:  $\chi^2$  (df = 73, N = 253) = 139.13,  $p < .001$ , CFI = .98, TLI = .97, SRMR = .03, and RMSEA = .06 [.05; .08]. However, results also uncovered a cross-loading item: Item #3 from the Subjective Vitality subscale

(“Sometimes I feel so alive that I just want to burst”) also loaded negatively on the depression subscale (.46). Thus, this item was removed from further analyses ( $\alpha = .94$ ). Confirmatory factor analyses were conducted again without Item #3 and results revealed adequate fit indices for this 3-factor measurement model:  $\chi^2$  (df = 64, N = 253) = 114.63,  $p < .001$ , CFI = .99, TLI = .98, SRMR = .03, and RMSEA = .06 [.04; .07].

6. The model for Study 3 was also tested controlling for age and gender. Results showed that the model had a satisfactory fit to the data:  $\chi^2$  (df = 19, N = 253) = 21.96, ns; CFI = 1.00, TLI = 1.00, SRMR = .02, and RMSEA = .03 [.00; .06]. Standardized solutions showed that gender positively predicted expressive suppression ( $\beta = .19$ ,  $p < .001$ ). These findings show that the relationship between passion, emotion regulation strategies and well-being remain the same irrespective of age and gender. However, in this study, men tended to make more use of expressive suppression than women.

Table 3.1

Main Differences between HP and OP.

Harmonious Passion (HP)	Obsessive Passion (OP)
Autonomous internalization	Controlled internalization
Flexible form of engagement	Rigid form of engagement
Harmony with other life aspects	Conflicts with other life aspects
No contingencies attached to the activity	Contingencies attached to the activity
Allows access to adaptive self-processes	Restricts access to adaptive self-processes
Positive outcomes	Negative outcomes (few positive)

Table 3.2.

Descriptive Statistics and Bivariate Correlations – Study 1 (N = 370).

	M	SD	1	2	3	4	5
1. Harmonious Passion	5.19	1.18	1				
2. Obsessive Passion	2.94	1.42	.21***	1			
3. Cognitive Reappraisal	5.16	.91	.38***	-.03	1		
4. Expressive Suppression	3.59	1.32	-.14**	.24***	-.03	1	
5. Thriving	5.19	1.20	.46***	-.02	.48***	-.22***	1

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Table 3.3.

Descriptive Statistics and Bivariate Correlations – Study 2 (N = 253).

	M	SD	1	2	3	4	5	6	7
1. Harmonious Passion	5.37	1.21	1						
2. Obsessive Passion	3.21	1.25	.20***	1					
3. Cognitive Reappraisal	4.62	1.39	.22***	.02	1				
4. Expressive Suppression	2.71	1.36	-.24***	.27***	.25***	1			
5. Satisfaction with Life	4.66	1.57	.43***	.10	.29***	-.01	1		
6. Happiness	4.98	1.55	.33***	.04	.36***	-.05	.75***	1	
7. Meaning in Life	4.74	1.72	.36***	.05	.30***	-.03	.76***	.76***	1

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 3.4

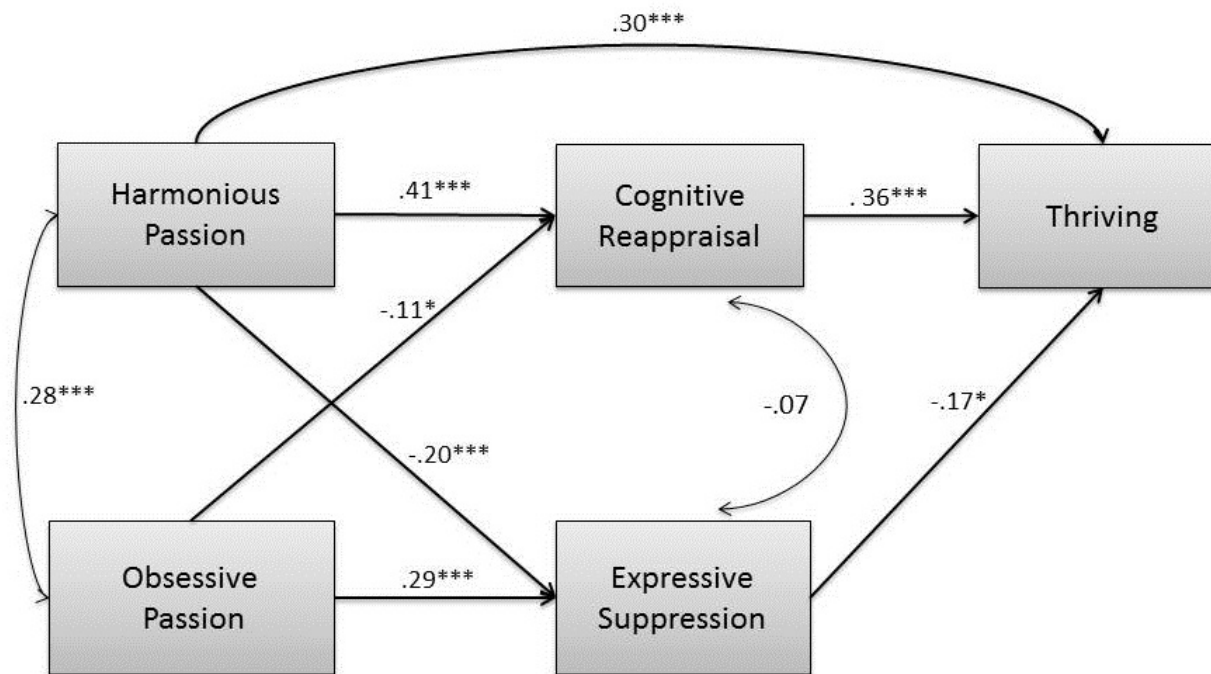
Descriptive Statistics and Bivariate Correlations – Study 3 (N = 253).

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
<i>TIME 1</i>												
1. Harmonious Passion	5.30	1.03	1									
2. Obsessive Passion	2.86	1.45	.11	1								
3. Satisfaction with Life	4.24	1.70	.26***	.09	1							
4. Subjective Vitality	4.72	1.32	.34**	.07	.71***	1						
5. Depression	1.74	1.03	-.22***	.15*	-.54***	-.68***	1					
<i>TIME 2</i>												
6. Cognitive Reappraisal	4.68	1.34	.34***	.03	.31***	.46***	-.31***	1				
7. Expressive Suppression	3.33	1.58	-.13*	.19***	-.24***	-.24***	.24***	.04	1			
8. Satisfaction with Life	4.33	1.78	.28***	.08	.90***	.67***	-.52***	.34***	-.21***	1		
9. Subjective Vitality	4.75	1.36	.30***	.10	.70***	.88***	-.64***	.49***	-.22***	.73***	1	
10. Depression	1.69	.98	-.28***	.08	-.63***	-.75***	.76***	-.43***	.27***	-.66***	-.76***	1

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Figure 3.1

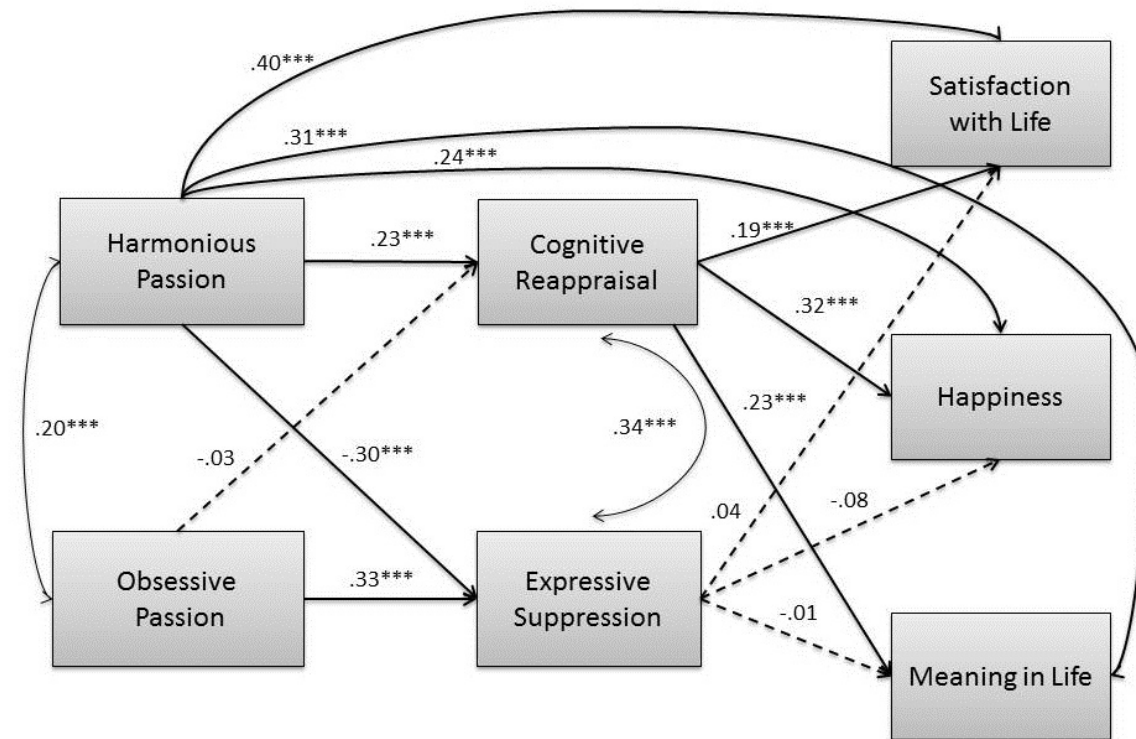
Results of the Path Analyses: Study 1. Standardized path coefficients are presented.



Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ,  $n = 370$ .

Figure 3.2

Results of the Path Analyses: Study 2. Standardized path coefficients are presented. For clarity concerns, covariances for well-being measures are omitted.

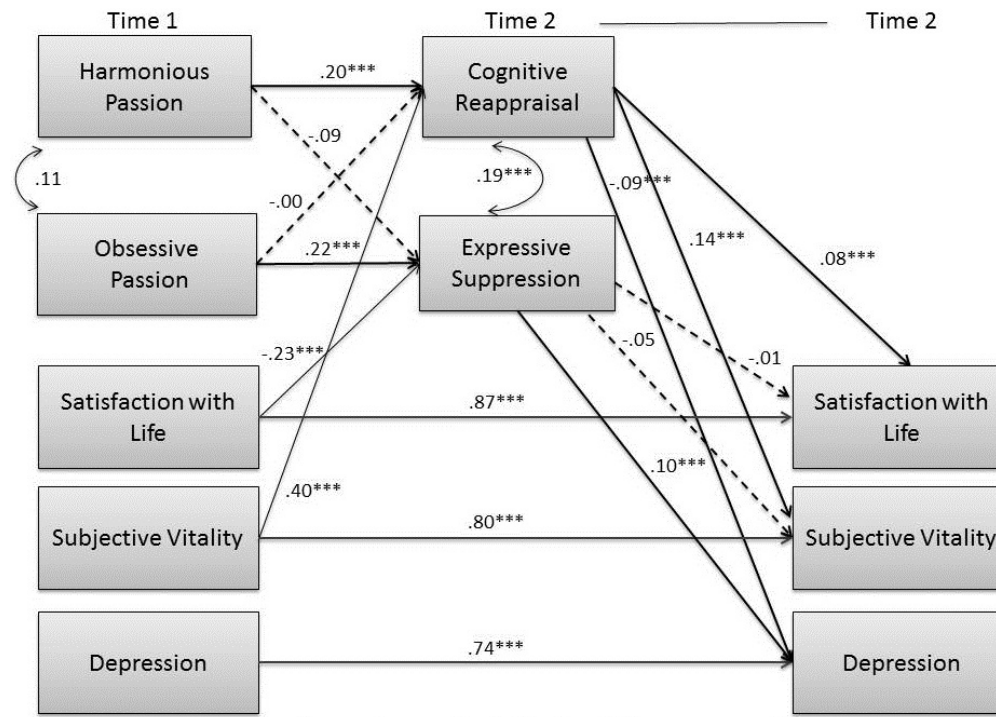


Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ,  $n = 253$ .



Figure 3.3

Results of the Path Analyses: Study 3. Standardized path coefficients are presented. For clarity concerns, covariances for well-being measures are omitted.



Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ,  $n = 253$ .

## CHAPITRE IV

### CONCLUSION GÉNÉRALE

Certains individus parviennent à accéder à des processus de régulation du soi qui sont adaptatifs pour le bien-être alors que d'autres n'y parviennent pas. Néanmoins, peu de recherche a jusqu'ici expliqué ce phénomène. L'objectif général de cette thèse était d'examiner le rôle de la passion dans l'accès aux processus de régulation du soi et de voir l'impact de ceux-ci sur le bien-être individuel. Deux processus de régulation du soi essentiels et jamais étudiés avant en lien avec la passion ont été investigués, soit la pleine conscience (Article 1) et la régulation émotionnelle (Article 2). Six études corrélationnelles ont été réalisées (trois par articles) dont deux avec devis prospectifs. Globalement, les résultats montrent que seule la PH, et non la PO, est associées positivement à l'utilisation de processus de régulations qui aident au bien-être. La conclusion présentée ci-après souligne la contribution scientifique de cette thèse. La première partie porte sur les implications théoriques et pratiques de l'ensemble des résultats des deux articles composants la présente thèse. La deuxième partie traite des limites associées à ces deux séries d'études, alors que la troisième partie offre des pistes pour les recherches futures. Enfin, la quatrième partie présente une brève conclusion.

#### 4.1 Implications

##### 4.1.1 La passion : un déterminant motivationnel des processus de régulation du soi.

L'ensemble des résultats de cette thèse offre un nouvel éclairage sur la passion en tant que déterminant motivationnel important de l'accès aux processus de régulation du soi, spécifiquement ceux de la pleine conscience (Article 1) et de la régulation émotionnelle (Article 2). Jusqu'à maintenant la littérature sur la pleine conscience a

surtout porté sur ses conséquences (voir Brown et al., 2015; Grossman et al., 2004 pour des recensions). La recherche existante sur les déterminants de la pleine conscience s'est surtout attardée à sa relation avec certains traits comme le névrotisme et l'anxiété (Feltman et al., 2009; Walsh et al., 2009) sans toutefois explorer ses associations avec les processus motivationnels. Or, les résultats de l'Article 1 dévoilent que la passion semble être un processus motivationnel associé à la pleine conscience. Or il apparaît que la passion puisse jouer un rôle important dans l'accès à cette capacité innée. Toutefois, l'accessibilité à ce processus de régulation du soi dépendrait du type de passion. Les résultats de la série d'études du premier article révèlent que la PH était liée positivement à la pleine conscience alors que la PO y était négativement associée. Ce que ces résultats suggèrent est que le fait de s'engager dans une activité passionnante de façon harmonieuse, c'est-à-dire avec flexibilité et sans contingence, permet d'accéder à un état d'esprit comme celui de la pleine conscience. À l'opposé, le fait de s'engager dans une activité passionnante de manière obsessive, soit avec rigidité et contingences, limite cet accès.

Les résultats du deuxième article présentent également un appui scientifique à la passion en tant que déterminant motivationnel important de l'accès aux processus de régulation du soi, mais dans ce cas-ci, celui de la régulation émotionnelle. La régulation émotionnelle implique l'utilisation de stratégies permettant de gérer les émotions. Comme pour la pleine conscience, la recherche antérieure sur la régulation des émotions s'est davantage centrée sur l'examen des conséquences de l'usage des stratégies (Aldao et al., 2010; John et Gross, 2004; Webb et al., 2012) plutôt que sur les déterminants de celles-ci. En effet, seulement quelques études se sont penchées sur les facteurs qui influencent l'emploi de stratégies plus ou moins adaptatives pour le bien-être et les déterminants suivants ont été identifiés : l'intensité émotionnelle vécue, la complexité cognitive à générer la stratégie, ainsi que les buts motivationnels et émotionnels de l'individu (voir Sheppes, 2014 pour une recension). Les résultats de la série d'études composant le second article mettent en lumière que,

lorsqu'il en vient à influencer nos expériences émotionnelles, la passion semble être aussi un déterminant motivationnel important de l'utilisation de stratégies de régulation émotionnelle adaptatives ou moins adaptatives pour le bien-être individuel. Surtout, les résultats ont montré que l'emploi de stratégies de régulation émotionnelle plus ou moins adaptatives pour le bien-être dépend du type de passion. En effet, les résultats soulèvent que la PH était positivement liée à la ré-évaluation cognitive, alors que la PO était positivement associée à la suppression de l'expression des émotions. Ainsi, ces résultats suggèrent que seule la PH permettrait d'accéder à des stratégies de régulation émotionnelle qui sont aidantes pour le bien-être de l'individu. De plus, les résultats montrent que la PH était négativement liée à la suppression de l'expression des émotions (Études 1 et 2). Cela voudrait dire que la PH permettrait non seulement d'accéder à des stratégies de régulation émotionnelle adaptatives pour le bien-être mais préviendrait contre l'utilisation de stratégies liée au mal-être. Même si ce résultat ne fût pas répliqué dans la dernière étude à devis prospectif (les résultats montrant un lien négatif mais non-significatif), il se peut que ceci soit lié à une forte stabilité temporelle des effets. Des recherches longitudinales futures avec un interval de temps plus long sont nécessaires afin d'investiguer davantage le rôle protecteur de la PH dans l'utilisation de la suppression de l'expression des émotions. Similairement, une relation négative entre la PO et la ré-évaluation cognitive était présente dans l'Étude 1. Ce résultat, qui laisse présager un effet nocif de PO sur l'utilisation de cette stratégie adaptative, doit toutefois être interprété avec prudence puisqu'il n'a pas été reproduit dans les Études 2 et 3. Des études futures doivent être réalisées afin de mieux comprendre ce lien.

#### 4.1.2 Appui empirique au Modèle Dualiste de la Passion.

Les résultats de la présente thèse ont aussi des implications importantes pour le MDP. L'un des postulats fondamentaux du MDP est que la passion permet l'accès aux processus de régulation du soi (Vallerand, 2015). Plus précisément, ce modèle propose une prémisse selon laquelle la PH permettrait aux individus d'accéder à des

processus de régulation du soi qui sont adaptatifs pour le bien-être, alors que la PO limiterait cet accès. Toutefois, seulement quelques études ont jusqu'ici appuyé de manière empirique cette proposition (Briki, 2017; Schellenberg et al., 2013; Verner-Filion et al., 2014). Les résultats des deux articles constituant cette thèse offrent un soutien scientifique additionnel en étudiant pour la première fois les relations entre la passion et la pleine conscience, ainsi que la régulation émotionnelle. En effet, les résultats de l'Article 1 montrent que la PH était liée positivement à la pleine conscience, alors que la PO y était liée négativement. De plus, les résultats de l'Article 2 dévoilent que la PH était positivement liée à la ré-évaluation cognitive (Études 1, 2 et 3) et était négativement associée à la suppression de l'expression des émotions (Études 1 et 2). Inversement, les résultats ont montré que la PO était négativement liée à la ré-évaluation cognitive (Étude 1) et était positivement liée à la suppression de l'expression des émotions (Études 1, 2 et 3). Ainsi, comme le propose le MDP (Vallerand, 2015), ces résultats semblent suggérer que la PH, avec sa forme autonome d'intériorisation et sa flexibilité d'engagement, permet aux gens d'avoir accès à des processus de régulation du soi qui sont adaptatifs pour le bien-être et peut même agir comme facteur de protection contre ceux liés au mal-être. Toutefois, la PO, avec sa forme d'intériorisation contrôlée et son engagement rigide, limite l'accès aux processus de régulation du soi adaptatifs et conduit même à des processus de régulation du soi liés au mal-être.

#### 4.1.3 Le rôle important des processus de régulation du soi dans le bien-être des gens.

La recherche sur les processus de régulation du soi s'est fortement intéressée à ses conséquences (Leary et Tangney, 2012). Les résultats de la présente thèse ajoutent aux connaissances actuelles sur les effets des processus de régulation du soi sur le bien-être individuel. Plus spécifiquement en ce qui a trait à la pleine conscience, la recherche antérieure a montré son rôle important dans le bien-être émotionnel. Par exemple, certaines études proposent que la pleine conscience augmente l'expérience

d'affect positif et diminue celle d'affect négatif (Brown et Ryan, 2003; Goldin et Gross, 2010; Grossman, et al, 2004; Nyklíček et Kuijpers, 2008; Orzech et al., 2009). Les résultats des Étude 2 et 3 du premier article offrent un soutien empirique additionnel pour les effets positifs de la pleine conscience sur le bien-être individuel en dévoilant que celle-ci était positivement liée à de l'affect positif (Étude 2 et 3) et négativement liée à de l'affect négatif (Études 2 et 3). De plus, les résultats ont montré que la pleine conscience était positivement liée de la vitalité subjective (Étude 3).

Les résultats de la série d'études du deuxième article sur la régulation émotionnelle ajoutent aussi aux connaissances scientifiques présentes sur le rôle important des processus de régulation du soi dans le bien-être des gens. La recherche antérieure sur le sujet a montré que l'utilisation de stratégies de régulation émotionnelles comme la ré-évaluation cognitive a un effet positif sur le bien-être des individus, tandis que l'emploi de stratégies comme la suppression de l'expression des émotions peut entraîner le mal-être (Aldao et al., 2010; Gross, 1998a; 2002; 2013; 2015; Gross et John, 2003; Nezlek et Kuppens, 2008). Or, les résultats des trois études présentées dans le second article de cette thèse soutiennent cette littérature en relevant que la ré-évaluation cognitive était positivement associée à divers indices de bien-être. De plus, les résultats de l'Étude 1 ont montré que la suppression de l'expression des émotions était négativement associée au bien-être. Bien que ce résultat ne fût pas reproduit dans l'Étude 2, les résultats de l'Étude 3 ont montré que la suppression de l'expression des émotions était positivement liée au mal-être. Des recherches futures sont nécessaires afin d'explorer plus en profondeur les effets néfastes de l'utilisation de la suppression de l'expression des émotions sur le bien-être. Par ailleurs, les résultats de cette recherche dévoilent que le bien-être pourrait jouer un rôle dans la sélection de stratégies adaptatives (Étude 3). L'Étude 3 a employé un devis prospectif et le modèle a été testé en contrôlant pour l'influence des variables de bien-être et de mal-être au temps 1, permettant ainsi d'explorer le changement de bien-être.

Toutefois, des recherches futures avec devis longitudinal complet sont nécessaires, par exemple en mesurant chacune des variables aux deux temps de mesures, afin d'investiguer plus en profondeur la direction des effets, ainsi que la relation bidirectionnelle entre les stratégies de régulation et le bien-être.

Une autre implication importante à souligner liée aux résultats de cette thèse porte sur les processus de régulation du soi en tant que médiateurs de la relation entre la passion et le bien-être. La recherche antérieure sur la passion a dégagé à maintes reprises le rôle important des deux types de passion, la PH et la PO, respectivement dans le bien-être et le mal-être des gens (voir Vallerand, 2015 pour une recension). Or, les résultats des deux articles de cette thèse ajoutent aux connaissances sur le sujet en montrant que la pleine conscience et la régulation émotionnelle sont des processus de régulation du soi qui peuvent être responsables des différents effets entre la passion et le bien-être et le mal-être chez les gens. En effet, les résultats de l'Article 1 soulignent que la PH semble aider au bien-être via la pleine conscience, mais pas la PO. Dans le même ordre d'idée, les résultats de l'Article 2 montrent que la PH semble aider les gens à gérer leurs expériences affectives par le biais de l'utilisation de stratégies de régulation émotionnelle adaptatives au bien-être, alors que la PO semble plutôt diriger les individus vers l'emploi de stratégies positivement liées au mal-être. De plus, les résultats dévoilent la présence d'un lien direct positif entre la PH et le bien-être (Études 1 et 2). En lien avec des recherches passées (Rousseau et Vallerand, 2008; Vallerand, 2012), les recherches futures devraient examiner si les émotions positives pourraient médier cet effet et si les stratégies de régulation contribueraient à ce type d'émotions.

#### 4.1.4 Apports pratiques du rôle de la passion dans les processus de régulation du soi.

Les résultats de la présente thèse sont intéressants pour leur apport à plusieurs domaines de vie. Dans l'ensemble, les résultats démontrent l'importance de la passion

dans l'accès aux processus de régulation du soi comme la pleine conscience (Article 1) et la régulation émotionnelle (Article 2), qui elles impactent le bien-être individuel. Par ailleurs, les résultats montrent que le type de passion, harmonieuse ou obsessionnelle, est associé aux processus d'auto-régulation de manière différente. En effet, il apparaît que la PH est associée positivement à la capacité d'accéder à des processus du soi permettant de bien se réguler, comme la pleine conscience et la ré-évaluation cognitive. En retour, ces processus d'auto-régulation sont positivement liés au bien-être. À l'inverse, la PO est associée négativement à la pleine conscience et est soit négativement liée ou non liée à la ré-évaluation cognitive. Les résultats dévoilent aussi qu'elle est liée à l'emploi de stratégies de régulation moins adaptatives comme la suppression de l'expression émotionnelle. En conséquence, cette forme d'auto-régulation est soit négativement liée ou non-liée au bien-être et positivement associée au mal-être.

Puisque ces résultats ont été investigués dans la présente recherche, et surtout répliqués, dans une variété de domaines, tels que l'éducation, la musique, les relations amoureuses, ainsi qu'une multitude d'activités récréatives, il semble la passion puisse jouer un rôle sur les processus de régulation du soi, impactant ainsi le bien-être, dans toutes les sphères de vie où la PH et la PO sont en jeu. Par exemple, dans le milieu de travail où les gens sont souvent passionnés pour ce qu'ils font (Houlihan et Vallerand, 2019), une entreprise qui remarquerait un taux d'absence et de congés de maladie élevés, ou même qui aurait plusieurs employés souffrant d'épuisement professionnel, pourrait viser à améliorer le bien-être de ses employés en favorisant le développement et le maintien d'une PH pour le travail. À cet effet, les études antérieures montrent que l'environnement social joue un rôle très important dans la qualité du processus d'intériorisation des activités que l'on aime (Deci et Ryan, 2002; Vallerand, 1997). Plus spécifiquement, un environnement favorisant l'autonomie (Mageau et al., 2009) et la satisfaction de leurs besoins fondamentaux en général (voir Lalande et al., 2018;



Verner-Filion et Vallerand, 2018) permettrait le développement et le maintien de la PH.

Un autre exemple d'application pratique des résultats de la présente recherche serait dans le contexte de la thérapie. En effet, basé sur les résultats de cette thèse, il semble pertinent de recommander à un thérapeute de favoriser le développement d'une PH avec ses clients, par exemple en les encourageant de manière autonome à prendre part à une activité qu'ils aiment tout en investissant d'autres domaines de vie importants. Cela pourrait aider les clients à accéder davantage à des processus d'auto-régulation qui sont adaptatifs, aidant leur bien-être. De même, on se doit de souligner le rôle que la PH du thérapeute lui (ou elle)-même envers la thérapie peut jouer dans l'ouverture à des processus du soi qui pourront l'amener à être davantage efficace dans ses interventions.

En résumé, à la lumière des résultats de la présente thèse, il semble que le développement et le maintien de la PH représente une voie importante permettant d'accéder à des processus de régulations du soi qui sont adaptatifs pour le bien-être des individus. Il est donc fort important que les acteurs concernés (parents, professeurs, entraîneurs, patrons, partenaires amoureux, thérapeutes et autres intervenants, etc.) mettent en place les ingrédients essentiels afin de créer un environnement propice au développement d'une PH et au maintien de celle-ci via des environnements favorisant l'autonomie et la satisfaction des besoins fondamentaux).

#### 4.2 Limites de la recherche

Des limites à la présente recherche se doivent d'être soulignées. Tout d'abord, un devis corrélationnel fût employé pour chacune des études des deux articles de cette thèse. Bien que chaque article ait incorporé une étude à devis prospectif, soit un interval de temps entre les mesures des déterminants et des conséquences, aucune causalité ne peut être inférée concernant l'ensemble des résultats de cette recherche.

Ainsi, il serait pertinent que les recherches futures sur la relation entre la passion et les processus de régulation du soi emploient des devis expérimentaux (Bélanger et al., 2013; Lafrenière et al., 2013) et longitudinaux (Carbonneau et al., 2008; Lavigne et al., 2014). Les recherches antérieures ont montré que le fait d'induire de la PH et de la PO mène aux mêmes effets que ceux de l'échelle de la Passion (Bélanger et al., 2013; Lafrenière et al., 2013, Étude 2). Or, en lien avec les résultats de la présente thèse, il se pourrait que l'induction de la PH ou de la PO facilite ou limite, respectivement, l'accès aux processus de régulation du soi.

Une autre limite importante à cette recherche porte sur les instruments de type auto-rapporté utilisés dans l'ensemble des études. Ainsi, les résultats de cette thèse doivent être interprétés avec prudence étant donné les biais (par exemple, la désirabilité sociale) liés à ce type de mesure. Afin de pallier cette limite, les recherches futures pourraient inclure des mesures objectives, telles que des instruments physiologiques, de l'observation directe ou encore des rapports de tierce personne connaissant bien les participants.

Finalement, l'utilisation d'Amazon Mechanical Turk pour la collecte de données de l'ensemble des études de cette thèse présente une limite importante. Malgré le fait que cette méthode de collecte est fréquemment utilisée en psychologie et que la recherche montre qu'elle serait aussi fiable que d'autres types de méthode de collecte de données en ligne ou hors ligne (Buhrmester et al., 2011; Paolacci et al., 2010), il pourrait exister des différences entre les utilisateurs d'Amazon Mechanical Turk et la population générale (Goodman et al., 2013). Il semble donc pertinent que des recherches futures reproduisent les résultats de la présente thèse en utilisant différents échantillons dans le but d'augmenter la validité externe des modèles testés.

#### 4.3 Recherche Futures

Les résultats des séries d'études des deux articles de cette thèse soulèvent des pistes intéressantes pour les recherches à venir. D'abord, les résultats montrent la relation positive de la PH dans l'accès aux processus de régulation du soi. En effet, les résultats de l'ensemble des études montrent que la PH est positivement liée à la pleine conscience (Article 1) et positivement liée à la ré-évaluation cognitive (Article 2). Les recherches futures pourraient étudier davantage ces relations en se penchant sur le rôle de la PH dans le développement de la pleine conscience et du maintien de l'utilisation de stratégies adaptatives pour le bien-être à long-terme. Des recherches longitudinales pourraient être employées à cet effet (Carbonneau, et al., 2008; Lavigne et al., 2014).

De plus, en lien avec les résultats du second article, les recherches futures pourraient aussi explorer les différences entre les buts de régulation émotionnelle (explicites versus implicites), en fonction du type de passion. Les gens emploient différentes stratégies pour réguler leurs émotions dans le but soit d'augmenter ou de diminuer l'expérience d'émotions positives ou négatives (Gross, 2015). Ainsi, il se pourrait que les gens ayant une PO aient pour but d'augmenter les affects négatifs qu'ils vivent durant un conflit relationnel, comme la colère, afin de « gagner » la discussion. À l'inverse, les individus ayant un PH pourrait chercher à diminuer leur expérience d'émotions négatives afin de préserver l'harmonie dans la relation. À cet effet, les recherches futures pourraient employer des procédures d'amorçage (Bélanger et al., 2013). Une autre avenue prometteuse de recherche sur la régulation émotionnelle serait d'explorer l'engagement dans l'activité passionnante comme stratégie de régulation émotionnelle (au même titre que la ré-évaluation cognitive par exemple). Plus spécifiquement, les recherches futures pourraient investiguer comment le fait de réguler ses émotions en s'engageant dans une activité passionnante puisse améliorer l'expérience émotionnelle vécue et ce, surtout pour les personnes ayant une PH. Par exemple, si un individu passionné de façon harmonieuse pour la musique vit des émotions négatives au travail, est-ce que le fait d'écouter de la musique au travail,

dans ses pauses ou après lui permettrait de mieux gérer ses émotions et ainsi être plus efficace au travail ?

Une autre avenue intéressante de recherche pourrait être d'explorer le rôle de la PH dans l'accès à d'autres processus de régulation du soi importants, comme la résilience. La résilience réfère à l'habileté à surmonter des épreuves difficiles (voir Carver, 1998; Smith, Tooley, Christopher, et Kay, 2010; Tugade et Fredrickson, 2004). La recherche montre que la résilience mène à davantage d'affect positif et à moins d'affect négatif (Fredrickson, Tugade, Waugh, et Larkin, 2003; Tugade, Fredrickson, et Barrett, 2004; Xing et Sun, 2013). Ainsi, il semble que l'engagement dans des activités significatives découlant d'une passion harmonieuse puisse susciter de la résilience chez les gens qui vivent de l'échec ou du stress lié à la pratique de l'activité (par exemple, la performance sportive ou musicale). Cette proposition découle des recherches antérieures sur la passion qui montrent que la PH aide à l'utilisation de stratégies de coping adaptatives (Shellenberg et al., 2013; Verner-Fillion et al., 2014). Ainsi, des recherches futures sur la relation entre la passion et d'autres processus de régulation du soi semblent pertinentes.

Par ailleurs, les recherches futures pourraient examiner davantage les relations entre la passion, les processus de régulation du soi et d'autres conséquences. Par exemple, la recherche sur la pleine conscience a montré des bénéfices importants sur la qualité de vie, l'empathie, la compassion de soi, le stress, la douleur chronique, la dépression et l'anxiété, la satisfaction dans les relations, etc. (voir Bohlmeijer, Prenger, Taal, et Cuijpers, 2010; Eberth et Sedlmeier, 2012; Grossman et al., 2004 pour des recensions). La recherche sur la régulation émotionnelle a aussi soulevé des effets positifs sur la santé mentale, l'estime de soi, le fonctionnement social, etc. (Aldao et al, 2010; Gross et John, 2003; Webb et al., 2012). Ainsi, une avenue intéressante pour les recherches futures serait de voir si le fait de s'engager dans une activité passionnante avec une PH produirait des bénéfices sur les conséquences énumérées

ci-dessus, étant donné la pleine conscience ou l'utilisation de stratégies adaptatives que la PH induit chez l'individu.

Pour terminer, il serait intéressant d'étudier le rôle de la passion dans l'accès aux processus de régulation du soi dans le contexte de la thérapie. L'un des facteurs centraux à l'efficacité thérapeutique concerne la capacité de régulation du thérapeute en séance (Lecomte, Savard, Drouin, et Guillon, 2004). Or, il serait fort pertinent d'investiguer la relation entre le type de passion du psychologue et cette capacité. Par exemple, si le psychologue a une PH envers la thérapie et donc, s'engage de manière flexible dans son travail et en harmonie avec ses autres sphères de vie, sera-t-il en mesure de mieux se réguler en séance ? À l'inverse, s'il n'a que la thérapie dans sa vie (PO envers la thérapie), sera-t-il limité dans sa capacité à gérer ses émotions durant la séance ? Ces questions sont fort intéressantes et méritent d'être examinées en étudiant l'influence du type de passion du psychologue pour la thérapie sur sa capacité de régulation en séance, ainsi que l'impact de celle-ci sur la capacité de régulation du client, sur l'alliance thérapeutique et sur l'efficacité thérapeutique.

#### 4.4 Conclusion

En terminant, les six études des deux articles scientifiques constituant la présente thèse sont parmi les premiers à documenter le rôle important de la passion dans l'accès aux processus de régulation du soi et les effets que ceux-ci peuvent avoir sur le bien-être individuel. Les deux types de passion ne sont toutefois pas équivalents. Les résultats ont révélé que seule la PH est liée positivement à des processus de régulation du soi qui sont adaptatifs pour le bien-être. Des recherches futures sont nécessaires afin de mieux comprendre les mécanismes sous-jacents impliqués dans la relation entre la passion et les processus de régulation du soi dans le but d'identifier les facettes de la PH qui favorisent l'accès à des processus de régulation du soi qui sont adaptatifs pour le bien-être de la personne et son fonctionnement optimal.

## APPENDICE A

### ARTICLE 1, ÉTUDE 1 : PAGE COUVERTURE, FORMULAIRE DE CONSENTEMENT AVERTI ET QUESTIONNAIRE



#### STUDY ON ATTITUDES AND BEHAVIORS TOWARD ACADEMICS

The Research Laboratory on Social Behavior (RLSB), in collaboration UQAM, is currently conducting a study on attitudes and behaviors toward academics.

What will I be asked to do? We invite you to complete an online survey that will take approximately 20 minutes. We are inviting you to participate in this research project because you are currently involved in an academic program and you are at least 18 years old. Your participation in this research is completely voluntary. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What about confidentiality? We will keep your personal information confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected.

What are the risks of this research? There are no known risks associated with participating in this research project.

What are the benefits of this research? This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with academics. We hope that, in the future, other people might benefit from this study through improved understanding of psychological processes regarding academics.

### GENERAL INSTRUCTIONS

- Note that this questionnaire is neither a test, nor an evaluation. Thus, there are no good or bad answers. We simply invite you to complete the questionnaire spontaneously and honestly.
- Your answers will remain confidential and will be used for research purpose only.
- Please answer all the questions in the questionnaire and indicate only one answer per question.

Thank you for your precious collaboration!

Ariane St-Louis, Doctoral Candidate & Robert J. Vallerand, Ph.D.  
Research Laboratory on Social Behavior  
Université du Québec à Montréal  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)



## INFORMATION AND CONSENT FORM

« Study on attitudes and behaviors toward academics »

### PREAMBLE:

We invite you to participate in a study on attitudes and behaviors towards academics. This study is for anyone currently involved in an academic program and aged 18 and over. Before agreeing to participate in this project, it is important to read and understand the information below. If there are any words or sections you do not understand, feel free to contact to the research project coordinator.

### IDENTIFICATION:

Research Project Coordinator: Ariane St-Louis (Doctoral Candidate)

Research Laboratory on Social Behavior

Université du Québec à Montréal

Psychology Department

Box 8888, Downtown Station, Montreal, QC, H3C 3P8

Tel: 1 (514) 987-4836

e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

Co-researchers: Robert J. Vallerand, Ph.D., Jérémie Verner-Filion, Ph.D., & Catherine Bergeron, Ph.D.

### PROJECT GOALS and FINANCING (if applicable):

The goal of this research project is to better understand attitudes and behaviors towards academics. This will help identify some of the psychological processes regarding individuals who are involved in an academic program. This research was facilitated by grants from the Fonds de Recherche du Québec Société et Culture (FRQSC).

### PROCEDURE(S) OR TASKS REQUESTED FROM THE PARTICIPANT:

Your participation involves completing an online questionnaire that will require about 20 minutes of your time. You will have to answer questions about your attitudes and behaviors towards academics, about your life in general, as well as demographic information.



## BENEFITS AND DISCOMFORTS ASSOCIATED WITH THIS RESEARCH:

Benefits: This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with academics. We hope that, in the future, other people might benefit from this study through improved understanding of psychological processes regarding individuals involved in an academic program.

Discomfort: There is no significant risk associated with your participation in this research. However, some questions may revive unpleasant emotions and thus, you may feel some discomfort in answering some questions. If this is the case, you may call helplines that offer to every person, without distinction, in a situation of precariousness or psychological distress, a free, anonymous and confidential telephone service of active listening and reference:

- Crisis Help Line – For any kind of crisis: 1-800-233-4357
- US Suicide Prevention Lifeline: 1-800-273-8255

You may also contact the research project coordinator: Ariane St-Louis 1-514-987-4836 or by e-mail [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

Remember that you may choose to suspend or end your participation at any time.

## ANONYMITY and CONFIDENTIALITY:

All information collected in the online questionnaire is confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected. In order to protect your identity and the confidentiality of the data collected, you will always be identified by an alphanumeric code. In addition, emails and IP address will be kept in a separate file from your questionnaire. Finally, all surveys will be destroyed at the end of this research. Only members of the research team will have access to the data and all completed surveys and consent forms will be kept separately on a computer in a safe place at the laboratory for the entire duration of the project.

## VOLUNTARY PARTICIPATION and WITHDRAWAL:

Your participation in this project is voluntary. This means that you agree to participate in the project without any external constraint or pressure, and that you are free to end your participation at any time during this study, without prejudice of any nature whatsoever and without having to justify yourself. In this case, and unless otherwise instructed by you, your records will be destroyed.

Your agreement to participate also implies that you agree that the research team may use the information collected for the purposes of this research (for e.g. articles, dissertations and students theses, conferences and scientific papers, etc.) in the condition that any personally identifiable information will be publicly disclose unless you have explicitly consented to it.

#### FINANCIAL COMPENSATION or OTHER:

As compensation for the time spent answering the online survey, you will receive \$0.50 through your Amazon Mechanical Turk account.

#### LIABILITY CLAUSE:

By agreeing to participate in this project, you do not waive any of your rights or release the researchers, the sponsor or the institutions involved from their legal and professional obligations.

#### QUESTIONS ABOUT THE PROJECT or YOUR RIGHTS?

For additional questions about the research project, your participation, and your rights as a research participant, or to withdraw from this research project, please contact:

Ariane St-Louis (research coordinator)  
Telephone: 514-987-4836  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

The UQAM Institutional Committee for the Ethics of Research Involving Humans has approved the research project in which you are going to participate. For more information and to make a complaint, you may contact the Chair of the Committee at (514) 987-3000 # 7753 or by e-mail at [cierch@uqam.ca](mailto:cierch@uqam.ca). The Ombudsman of the UQAM is also an available resource, in case you think you are being treated unfairly: telephone (514) 987-3151 and e-mail [ombudsman@uqam.ca](mailto:ombudsman@uqam.ca)

#### WORDS OF THANKS:

The research team would like to thank you because your collaboration is important to the realization of our project. You will be able to obtain a written summary of the main results of this research at the end of our study, available on our website: [www.lrcs.uqam.ca](http://www.lrcs.uqam.ca)

#### SIGNATURES:

Hereby:

- a) I acknowledge that I have read this information and consent form;
- b) I voluntarily consent to participate in this research project;
- c) I understand the goals of the project and what my involvement entails;
- d) I confirm that I have sufficient time to reflect on my decision to participate;
- e) I also acknowledge that the Researcher responsible for the project (or its research coordinator) has satisfactorily answered my questions; and
- f) I understand that my participation in this research is voluntary and that I may end it at any time without penalty of any form or justification.

**PARTICIPANT'S SIGNATURE:**

I, the undersigned, declare:

- a) Explaining the purpose, nature, benefits, risks of the project and other information, and the consent form; and
- b) Have answered to the best of my knowledge the questions asked.

I agree to participate in the study.

I refuse to participate in the study.

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SURVEY ON ATTITUDES AND BEHAVIORS TOWARD ACADEMICS
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1. How old are you? \_\_\_\_\_ years old
2. What is your gender :
  - Male
  - Female
3. Are you currently involved in an academic program :
  - Yes
  - No
4. What is your current academic program : \_\_\_\_\_
5. For how many years have you been involved in your academics? \_\_\_\_\_  
(years)
6. How many hours per week do you spend on your academics? \_\_\_\_\_  
(hours)
7. Using the scale below, please indicate to what extent you agree with the following statements regarding your academics.

Do not agree at all 1	Very slightly agree 2	Slightly agree 3	Moderately agree 4	Mostly agree 5	Strongly agree 6	Very strongly agree 7
-----------------------------	-----------------------------	------------------------	--------------------------	----------------------	------------------------	-----------------------------

- |  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
| 1. My academics are in harmony with the other activities in my life.                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. I have difficulties controlling my urge to do my academics.                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. The new things that I discover with my academics allow me to appreciate it even more. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. I have almost an obsessive feeling for my academics.                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. My academics reflect the qualities I like about myself.                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. My academics allow me to live a variety of experiences.                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. My academics are the only thing that really turns me on.                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. My academics are well integrated in my life.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. If I could, I would only do my academics.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

10. My academics are in harmony with other things  
that are part of me. 1 2 3 4 5 6 7
11. My academics are so exciting that I sometimes  
lose control over it. 1 2 3 4 5 6 7
12. I have the impression that my academics control me. 1 2 3 4 5 6 7
13. I spend a lot of time doing my academics. 1 2 3 4 5 6 7
14. I love my academics. 1 2 3 4 5 6 7
15. My academics are important for me. 1 2 3 4 5 6 7
16. My academics are a passion for me. 1 2 3 4 5 6 7
17. My academics are part of who I am. 1 2 3 4 5 6 7

8. People have a variety of ways of relating to their thoughts and feelings in their life in general. For each of the items below, rate how much each of these ways applies to you using the scale below.

Rarely/ Not at all 1	Sometimes 2	Often 3	Almost always 4
----------------------------	----------------	------------	-----------------------

1. It is easy for me to concentrate on what I am doing. 1 2 3 4
2. I am preoccupied by the future. 1 2 3 4
3. I can tolerate emotional pain. 1 2 3 4
4. I can accept things I cannot change. 1 2 3 4
5. I can usually describe how I feel at the moment in considerable detail. 1 2 3 4
6. I am easily distracted. 1 2 3 4
7. I am preoccupied by the past. 1 2 3 4
8. It's easy for me to keep track of my thoughts and feelings. 1 2 3 4
9. I try to notice my thoughts without judging them. 1 2 3 4
10. I am able to accept the thoughts and feelings I have. 1 2 3 4
11. I am able to focus on the present moment. 1 2 3 4
12. I am able to pay close attention to one thing for a long period of time. 1 2 3 4

**Thank you for your participation!**

## APPENDICE B

### ARTICLE 1, ÉTUDE 2 : PAGE COUVERTURE, FORMULAIRE DE CONSENTEMENT AVERTI ET QUESTIONNAIRE



#### STUDY ON ATTITUDES AND BEHAVIORS TOWARD MUSIC LISTENING

The Research Laboratory on Social Behavior (RLSB), in collaboration UQAM, is currently conducting a study on attitudes and behaviors toward music listening.

What will I be asked to do? We invite you to complete an online survey that will take approximately 20 minutes. We are inviting you to participate in this research project because you love listening to music and you are at least 18 years old. Your participation in this research is completely voluntary. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What about confidentiality? We will keep your personal information confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected.

What are the risks of this research? There are no known risks associated with participating in this research project.

What are the benefits of this research? This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with music listening. We hope that, in the future, other people might benefit from this study through improved understanding of psychological processes regarding music listening.

### GENERAL INSTRUCTIONS

- Note that this questionnaire is neither a test, nor an evaluation. Thus, there are no good or bad answers. We simply invite you to complete the questionnaire spontaneously and honestly.
- Your answers will remain confidential and will be used for research purpose only.
- Please answer all the questions in the questionnaire and indicate only one answer per question.

Thank you for your precious collaboration!

Ariane St-Louis, Doctoral Candidate & Robert J. Vallerand, Ph.D.  
Research Laboratory on Social Behavior  
Université du Québec à Montréal  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)



## INFORMATION AND CONSENT FORM

« Study on attitudes and behaviors toward music listening »

### PREAMBLE:

We invite you to participate in a study on attitudes and behaviors towards music listening. This study is for anyone who loves listening to music and is aged 18 and over. Before agreeing to participate in this project, it is important to read and understand the information below. If there are any words or sections you do not understand, feel free to contact to the research project coordinator.

### IDENTIFICATION:

Research Project Coordinator: Ariane St-Louis (Doctoral Candidate)

Research Laboratory on Social Behavior

Université du Québec à Montréal

Psychology Department

Box 8888, Downtown Station, Montreal, QC, H3C 3P8

Tel: 1 (514) 987-4836

e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

Co-researchers: Robert J. Vallerand, Ph.D., Jérémie Verner-Filion, Ph.D., & Catherine Bergeron, Ph.D.

### PROJECT GOALS and FINANCING (if applicable):

The goal of this research project is to better understand attitudes and behaviors towards music listening. This will help identify some of the psychological processes regarding individuals who love listening to music. This research was facilitated by grants from the Fonds de Recherche du Québec Société et Culture (FRQSC).

### PROCEDURE(S) OR TASKS REQUESTED FROM THE PARTICIPANT:

Your participation involves completing an online questionnaire that will require about 20 minutes of your time. You will have to answer questions about your attitudes and behaviors towards music listening, about your life in general, as well as demographic information.



## BENEFITS AND DISCOMFORTS ASSOCIATED WITH THIS RESEARCH:

Benefits: This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with music listening. We hope that, in the future, other people might benefit from this study through improved understanding of psychological processes regarding individuals who love listening to music.

Discomfort: There is no significant risk associated with your participation in this research. However, some questions may revive unpleasant emotions and thus, you may feel some discomfort in answering some questions. If this is the case, you may call helplines that offer to every person, without distinction, in a situation of precariousness or psychological distress, a free, anonymous and confidential telephone service of active listening and reference:

- Crisis Help Line – For any kind of crisis: 1-800-233-4357
- US Suicide Prevention Lifeline: 1-800-273-8255

You may also contact the research project coordinator: Ariane St-Louis 1-514-987-4836 or by e-mail [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

Remember that you may choose to suspend or end your participation at any time.

## ANONYMITY and CONFIDENTIALITY:

All information collected in the online questionnaire is confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected. In order to protect your identity and the confidentiality of the data collected, you will always be identified by an alphanumeric code. In addition, emails and IP address will be kept in a separate file from your questionnaire. Finally, all surveys will be destroyed at the end of this research. Only members of the research team will have access to the data and all completed surveys and consent forms will be kept separately on a computer in a safe place at the laboratory for the entire duration of the project.

## VOLUNTARY PARTICIPATION and WITHDRAWAL:

Your participation in this project is voluntary. This means that you agree to participate in the project without any external constraint or pressure, and that you are free to end your participation at any time during this study, without prejudice of any nature whatsoever and without having to justify yourself. In this case, and unless otherwise instructed by you, your records will be destroyed.

Your agreement to participate also implies that you agree that the research team may use the information collected for the purposes of this research (for e.g. articles, dissertations and students theses, conferences and scientific papers, etc.) in the condition that any personally identifiable information will be publicly disclose unless you have explicitly consented to it.

#### FINANCIAL COMPENSATION or OTHER:

As compensation for the time spent answering the online survey, you will receive \$0.50 through your Amazon Mechanical Turk account.

#### LIABILITY CLAUSE:

By agreeing to participate in this project, you do not waive any of your rights or release the researchers, the sponsor or the institutions involved from their legal and professional obligations.

#### QUESTIONS ABOUT THE PROJECT or YOUR RIGHTS?

For additional questions about the research project, your participation, and your rights as a research participant, or to withdraw from this research project, please contact:

Ariane St-Louis (research coordinator)  
Telephone: 514-987-4836  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

The UQAM Institutional Committee for the Ethics of Research Involving Humans has approved the research project in which you are going to participate. For more information and to make a complaint, you may contact the Chair of the Committee at (514) 987-3000 # 7753 or by e-mail at [cierch@uqam.ca](mailto:cierch@uqam.ca). The Ombudsman of the UQAM is also an available resource, in case you think you are being treated unfairly: telephone (514) 987-3151 and e-mail [ombudsman@uqam.ca](mailto:ombudsman@uqam.ca)

#### WORDS OF THANKS:

The research team would like to thank you because your collaboration is important to the realization of our project. You will be able to obtain a written summary of the main results of this research at the end of our study, available on our website: [www.lrcs.uqam.ca](http://www.lrcs.uqam.ca)

#### SIGNATURES:

Hereby:

- a) I acknowledge that I have read this information and consent form;
- b) I voluntarily consent to participate in this research project;
- c) I understand the goals of the project and what my involvement entails;
- d) I confirm that I have sufficient time to reflect on my decision to participate;
- e) I also acknowledge that the Researcher responsible for the project (or its research coordinator) has satisfactorily answered my questions; and
- f) I understand that my participation in this research is voluntary and that I may end it at any time without penalty of any form or justification.

**PARTICIPANT'S SIGNATURE:**

I, the undersigned, declare:

- a) Explaining the purpose, nature, benefits, risks of the project and other information, and the consent form; and
- b) Have answered to the best of my knowledge the questions asked.

I agree to participate in the study.

I refuse to participate in the study.

---

SURVEY ON ATTITUDES AND BEHAVIORS TOWARD MUSIC LISTENING
--

1. How old are you? \_\_\_\_\_ years old
2. What is your gender :
  - Male
  - Female
3. For how many years have you been listening to music? \_\_\_\_\_ (years)
4. How many hours per week do you spend listening to music? \_\_\_\_\_ (hours)
5. Using the scale below, please indicate to what extent you agree with the following statements regarding music listening.

Do not agree at all 1	Very slightly agree 2	Slightly agree 3	Moderately agree 4	Mostly agree 5	Strongly agree 6	Very strongly agree 7
-----------------------------	-----------------------------	------------------------	--------------------------	----------------------	------------------------	-----------------------------

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1. Listening to music is in harmony with the other activities in my life.                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. I have difficulties controlling my urge to listen to music.                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. The new things that I discover when I listen to music allow me to appreciate it even more. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. I have almost an obsessive feeling for listening to music.                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Listening to music reflects the qualities I like about myself.                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Listening to music allows me to live a variety of experiences.                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. Listening to music is the only thing that really turns me on.                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. Listening to music is well integrated in my life.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. If I could, I would only listen to music.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Listening to music is in harmony with other things that are part of me.                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. Listening to music is so exciting that I sometimes lose control over it.                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. I have the impression that listening to music controls me.                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. I spend a lot of time listening to music.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

14. I love listening to music. 1 2 3 4 5 6 7
15. Listening to music is important for me. 1 2 3 4 5 6 7
16. Listening to music is a passion for me. 1 2 3 4 5 6 7
17. Listening to music is part of who I am. 1 2 3 4 5 6 7

6. People have a variety of ways of relating to their thoughts and feelings in their life in general. For each of the items below, rate how much each of these ways applies to you using the scale below.

Do not agree at all 1	Very slightly agree 2	Slightly agree 3	Moderately agree 4	Mostly agree 5	Strongly agree 6	Very strongly agree 7
-----------------------------	-----------------------------	------------------------	--------------------------	----------------------	------------------------	-----------------------------

1. It is easy for me to concentrate on what I am doing. 1 2 3 4 5 6 7
2. I am preoccupied by the future. 1 2 3 4 5 6 7
3. I can tolerate emotional pain. 1 2 3 4 5 6 7
4. I can accept things I cannot change. 1 2 3 4 5 6 7
5. I can usually describe how I feel at the moment in considerable detail. 1 2 3 4 5 6 7
6. I am easily distracted. 1 2 3 4 5 6 7
7. I am preoccupied by the past. 1 2 3 4 5 6 7
8. It's easy for me to keep track of my thoughts and feelings. 1 2 3 4 5 6 7
9. I try to notice my thoughts without judging them. 1 2 3 4 5 6 7
10. I am able to accept the thoughts and feelings I have. 1 2 3 4 5 6 7
11. I am able to focus on the present moment. 1 2 3 4 5 6 7
12. I am able to pay close attention to one thing for a long period of time. 1 2 3 4 5 6 7

7. This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you feel this way in general.

Never 1	Rarely 2	Sometimes 3	Very often 4	Always 5
------------	-------------	----------------	-----------------	-------------

In general, I feel...

- |                   |           |                   |           |
|-------------------|-----------|-------------------|-----------|
| 1. ...interested. | 1 2 3 4 5 | 11. ...irritable. | 1 2 3 4 5 |
| 2. ...distressed. | 1 2 3 4 5 | 12. ...alert.     | 1 2 3 4 5 |
| 3. ...excited.    | 1 2 3 4 5 | 13. ...ashamed.   | 1 2 3 4 5 |
| 4. ...upset.      | 1 2 3 4 5 | 14. ...inspired.  | 1 2 3 4 5 |

- |                     |   |   |   |   |   |                    |   |   |   |   |   |
|---------------------|---|---|---|---|---|--------------------|---|---|---|---|---|
| 5. ...strong.       | 1 | 2 | 3 | 4 | 5 | 15. ...nervous.    | 1 | 2 | 3 | 4 | 5 |
| 6. ...guilty.       | 1 | 2 | 3 | 4 | 5 | 16. ...determined. | 1 | 2 | 3 | 4 | 5 |
| 7. ...scared.       | 1 | 2 | 3 | 4 | 5 | 17. ...attentive.  | 1 | 2 | 3 | 4 | 5 |
| 8. ...hostile.      | 1 | 2 | 3 | 4 | 5 | 18. ...jittery.    | 1 | 2 | 3 | 4 | 5 |
| 9. ...enthusiastic. | 1 | 2 | 3 | 4 | 5 | 19. ...active.     | 1 | 2 | 3 | 4 | 5 |
| 10. ...proud.       | 1 | 2 | 3 | 4 | 5 | 20. ...afraid.     | 1 | 2 | 3 | 4 | 5 |

Thank you for your participation!

## APPENDICE C

### ARTICLE 1, ÉTUDE 3 : PAGE COUVERTURE, FORMULAIRE DE CONSENTEMENT AVERTI ET QUESTIONNAIRE



#### STUDY ON ATTITUDES AND BEHAVIORS TOWARD FOOTBALL

The Research Laboratory on Social Behavior (RLSB), in collaboration UQAM, is currently conducting a study on attitudes and behaviors toward football.

What will I be asked to do? We invite you to complete:

- 1) a first online survey before the NFL Superbowl game that will take approximately 10 minutes.
- 2) a second online survey after the NFL Superbowl game that will take approximately 20 minutes.

We are inviting you to participate in this research project because you are a football fan and you are at least 18 years old. Your participation in this research is completely voluntary. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What about confidentiality? We will keep your personal information confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected.

What are the risks of this research? There are no known risks associated with participating in this research project.

What are the benefits of this research? This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with football. We hope that, in the future, other people might benefit from this study through improved understanding of psychological processes regarding football fans.

#### GENERAL INSTRUCTIONS

- Note that this questionnaire is neither a test, nor an evaluation. Thus, there are no good or bad answers. We simply invite you to complete the questionnaire spontaneously and honestly.
- Your answers will remain confidential and will be used for research purpose only.
- Please answer all the questions in the questionnaire and indicate only one answer per question.

Thank you for your precious collaboration!

Ariane St-Louis, Doctoral Candidate & Robert J. Vallerand, Ph.D.  
Research Laboratory on Social Behavior  
Université du Québec à Montréal  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)





## INFORMATION AND CONSENT FORM

« Study on attitudes and behaviors toward football »

### PREAMBLE:

We invite you to participate in a study on attitudes and behaviors toward football. This study is for football fans that are aged 18 and over. Before agreeing to participate in this project, it is important to read and understand the information below. If there are any words or sections you do not understand, feel free to contact to the research project coordinator.

### IDENTIFICATION:

Research Project Coordinator: Ariane St-Louis (Doctoral Candidate)

Research Laboratory on Social Behavior

Université du Québec à Montréal

Psychology Department

Box 8888, Downtown Station, Montreal, QC, H3C 3P8

Tel: 1 (514) 987-4836

e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

Co-researchers: Robert J. Vallerand, Ph.D., Jérémie Verner-Filion, Ph.D., & Catherine Bergeron, Ph.D.

### PROJECT GOALS and FINANCING (if applicable):

The goal of this research project is to better understand attitudes and behaviors towards football. This will help identify some of the psychological processes regarding football fans. This research was facilitated by grants from the Fonds de Recherche du Québec Société et Culture (FRQSC).

### PROCEDURE(S) OR TASKS REQUESTED FROM THE PARTICIPANT:

Your participation involves completing two online questionnaires that will require about 30 minutes of your time. You will have to answer questions about your attitudes and behaviors towards football, about your life in general, as well as demographic information.

## BENEFITS AND DISCOMFORTS ASSOCIATED WITH THIS RESEARCH:

Benefits: This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with football. We hope that, in the future, other people might benefit from this study through improved understanding of psychological processes regarding football fans.

Discomfort: There is no significant risk associated with your participation in this research. However, some questions may revive unpleasant emotions and thus, you may feel some discomfort in answering some questions. If this is the case, you may call helplines that offer to every person, without distinction, in a situation of precariousness or psychological distress, a free, anonymous and confidential telephone service of active listening and reference:

- Crisis Help Line – For any kind of crisis: 1-800-233-4357
- US Suicide Prevention Lifeline: 1-800-273-8255

You may also contact the research project coordinator: Ariane St-Louis 1-514-987-4836 or by e-mail [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

Remember that you may choose to suspend or end your participation at any time.

## ANONYMITY and CONFIDENTIALITY:

All information collected in the online questionnaire is confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected. In order to protect your identity and the confidentiality of the data collected, you will always be identify by an alphanumeric code. In addition, emails and IP address will be keep in a separate file from your questionnaire. Finally, all surveys will be destroyed at the end of this research. Only members of the research team will have access to the data and all completed surveys and consent forms will be kept separately on a computer in a safe place at the laboratory for the entire duration of the project.

## VOLUNTARY PARTICIPATION and WITHDRAWAL:

Your participation in this project is voluntary. This means that you agree to participate in the project without any external constraint or pressure, and that you are free to end your participation at any time during this study, without prejudice of any nature whatsoever and without having to justify yourself. In this case, and unless otherwise instructed by you, your records will be destroyed.

Your agreement to participate also implies that you agree that the research team may use the information collected for the purposes of this research (for e.g. articles, dissertations and students theses, conferences and scientific papers, etc.) in the condition that any personally identifiable information will be publicly disclose unless you have explicitly consented to it.

#### FINANCIAL COMPENSATION or OTHER:

As compensation for the time spent answering the online surveys, you will receive \$0.50 for each survey through your Amazon Mechanical Turk account.

#### LIABILITY CLAUSE:

By agreeing to participate in this project, you do not waive any of your rights or release the researchers, the sponsor or the institutions involved from their legal and professional obligations.

#### QUESTIONS ABOUT THE PROJECT or YOUR RIGHTS?

For additional questions about the research project, your participation, and your rights as a research participant, or to withdraw from this research project, please contact:

Ariane St-Louis (research coordinator)  
Telephone: 514-987-4836  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

The UQAM Institutional Committee for the Ethics of Research Involving Humans has approved the research project in which you are going to participate. For more information and to make a complaint, you may contact the Chair of the Committee at (514) 987-3000 # 7753 or by e-mail at [cierch@uqam.ca](mailto:cierch@uqam.ca). The Ombudsman of the UQAM is also an available resource, in case you think you are being treated unfairly: telephone (514) 987-3151 and e-mail [ombudsman@uqam.ca](mailto:ombudsman@uqam.ca)

#### WORDS OF THANKS:

The research team would like to thank you because your collaboration is important to the realization of our project. You will be able to obtain a written summary of the main results of this research at the end of our study, available on our website: [www.lrcs.uqam.ca](http://www.lrcs.uqam.ca)

#### SIGNATURES:

Hereby:

- a) I acknowledge that I have read this information and consent form;
- b) I voluntarily consent to participate in this research project;
- c) I understand the goals of the project and what my involvement entails;
- d) I confirm that I have sufficient time to reflect on my decision to participate;
- e) I also acknowledge that the Researcher responsible for the project (or its research coordinator) has satisfactorily answered my questions; and
- f) I understand that my participation in this research is voluntary and that I may end it at any time without penalty of any form or justification.

**PARTICIPANT'S SIGNATURE:**

I, the undersigned, declare:

- a) Explaining the purpose, nature, benefits, risks of the project and other information, and the consent form; and
- b) Have answered to the best of my knowledge the questions asked.

I agree to participate in the study.

I refuse to participate in the study.

---

<p><b>SURVEY ON ATTITUDES AND BEHAVIORS TOWARD FOOTBALL</b>  <b>(A WEEK PRIOR TO THE SUPERBOWL GAME)</b></p>
--

1. In order to match both your surveys, please write your mTurk ID ? \_\_\_\_\_

2. How old are you? \_\_\_\_\_ years old

3. What is your gender :

Male

Female

4. Which team is your favorite of the Superbowl this year ?

New England Patriots

Seattle Seahawks

5. For how many years have you been a (Patriots or Seahawks) fan?

\_\_\_\_\_ (years)

6. Using the scale below, please indicate to what extent you agree with the following statements regarding football.

Do not agree at all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

- |  |               |
|--|---------------|
| 1. Being a (Patriots or Seahawks) fan is in harmony with the other activities in my life.                | 1 2 3 4 5 6 7 |
| 2. I have difficulties controlling my urge to be a (Patriots or Seahawks) fan.                           | 1 2 3 4 5 6 7 |
| 3. The new things that I discover in being a (Patriots or Seahawks) allow me to appreciate it even more. | 1 2 3 4 5 6 7 |
| 4. I have almost an obsessive feeling for being a (Patriots or Seahawks) fan.                            | 1 2 3 4 5 6 7 |
| 5. Being a (Patriots or Seahawks) fan reflects the qualities I like about myself.                        | 1 2 3 4 5 6 7 |

- |  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
| 6. Being a (Patriots or Seahawks) fan allows me to live a variety of experiences.            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. Being a (Patriots or Seahawks) fan is the only thing that really turns me on.             | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. Being a (Patriots or Seahawks) fan is well integrated in my life.                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. If I could, I would only be a (Patriots or Seahawks) fan.                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Being a (Patriots or Seahawks) fan is in harmony with other things that are part of me.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. Being a (Patriots or Seahawks) fan is so exciting that I sometimes lose control over it. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. I have the impression that being a (Patriots or Seahawks) fan controls me.               | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. I spend a lot of time being a (Patriots or Seahawks) fan.                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. I love being a (Patriots or Seahawks) fan.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. Being a (Patriots or Seahawks) fan is important for me.                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. Being a (Patriots or Seahawks) fan is a passion for me.                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. Being a (Patriots or Seahawks) fan is part of who I am.                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Thank you for your participation!

You will receive an e-mail invitation through your Amazon Mechanical Turk account to complete the second survey AFTER the NFL Superbowl Game.

<p><b>SURVEY ON ATTITUDES AND BEHAVIORS TOWARD FOOTBALL (AFTER THE SUPERBOWL GAME)</b></p>
--

1. In order to match with your previous survey, please write your mTurk ID ?

\_\_\_\_\_

2. How old are you? \_\_\_\_\_ years old

3. What is your gender :

Male

Female

4. Which team is your favorite of the Superbowl this year ?

New England Patriots

Seattle Seahawks

5. For how many years have you been a (Patriots or Seahawks) fan?

\_\_\_\_\_ (years)

6. This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you felt this way following the game.

Do not agree at all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

Following the game, I felt...

1. ...excited.	1	2	3	4	5	6	7	7. ...sad.	1	2	3	4	5	6	7
2. ...irritable.	1	2	3	4	5	6	7	8. ...in a good mood.	1	2	3	4	5	6	7
3. ...upset.	1	2	3	4	5	6	7	9. ...joyful.	1	2	3	4	5	6	7
4. ...proud.	1	2	3	4	5	6	7	10. ...angry.	1	2	3	4	5	6	7
5. ...unhappy.	1	2	3	4	5	6	7	11. ...enthusiastic.	1	2	3	4	5	6	7
6. ...miserable.	1	2	3	4	5	6	7	12. ...happy.	1	2	3	4	5	6	7

7. This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you felt this way following the game.

Do not agree at all 1	Very slightly agree 2	Slightly agree 3	Moderately agree 4	Mostly agree 5	Strongly agree 6	Very strongly agree 7
-----------------------------	-----------------------------	------------------------	--------------------------	----------------------	------------------------	-----------------------------

Following the game, ...

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1. ... I felt alive and vital.              | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. ...I didn't feel very energetic.         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. ...I had energy and spirit.              | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. ...I looked forward to each new day.     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. ...I nearly always felt alert and awake. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. ...I felt energized.                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

8. People have a variety of ways of relating to their thoughts and feelings in their life in general. For each of the items below, rate how much each of these ways applies to you using the scale below.

Rarely/ Not at all 1	Sometimes 2	Often 3	Almost always 4
----------------------------	----------------	------------	-----------------------

- |  |   |   |   |   |
|--|---|---|---|---|
| 1. It is easy for me to concentrate on what I am doing.                      | 1 | 2 | 3 | 4 |
| 2. I am preoccupied by the future.   | 1 | 2 | 3 | 4 |
| 3. I can tolerate emotional pain.  | 1 | 2 | 3 | 4 |
| 4. I can accept things I cannot change.                                      | 1 | 2 | 3 | 4 |
| 5. I can usually describe how I feel at the moment in considerable detail.   | 1 | 2 | 3 | 4 |
| 6. I am easily distracted.   | 1 | 2 | 3 | 4 |
| 7. I am preoccupied by the past.   | 1 | 2 | 3 | 4 |
| 8. It's easy for me to keep track of my thoughts and feelings.               | 1 | 2 | 3 | 4 |
| 9. I try to notice my thoughts without judging them.                         | 1 | 2 | 3 | 4 |
| 10. I am able to accept the thoughts and feelings I have.                    | 1 | 2 | 3 | 4 |
| 11. I am able to focus on the present moment.                                | 1 | 2 | 3 | 4 |
| 12. I am able to pay close attention to one thing for a long period of time. | 1 | 2 | 3 | 4 |

Thank you for your participation!



## APPENDICE D

ARTICLE 2, ÉTUDE 1 : PAGE COUVERTURE, FORMULAIRE DE  
CONSENTEMENT AVERTI ET QUESTIONNAIRESTUDY ON ATTITUDES AND BEHAVIORS TOWARD ACTIVITY  
ENGAGEMENT

The Research Laboratory on Social Behavior (RLSB), in collaboration UQAM, is currently conducting a study on attitudes and behaviors toward activity engagement.

What will I be asked to do? We invite you to complete an online survey that will take approximately 20 minutes. We are inviting you to participate in this research project because you are currently practice an activity regularly and you are at least 18 years old. Your participation in this research is completely voluntary. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What about confidentiality? We will keep your personal information confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected.

What are the risks of this research? There are no known risks associated with participating in this research project.

What are the benefits of this research? This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with activity engagement. We hope that, in the future, other

people might benefit from this study through improved understanding of psychological processes regarding activity engagement.

#### GENERAL INSTRUCTIONS

- Note that this questionnaire is neither a test, nor an evaluation. Thus, there are no good or bad answers. We simply invite you to complete the questionnaire spontaneously and honestly.
- Your answers will remain confidential and will be used for research purpose only.
- Please answer all the questions in the questionnaire and indicate only one answer per question.

Thank you for your precious collaboration!

Ariane St-Louis, Doctoral Candidate & Robert J. Vallerand, Ph.D.  
Research Laboratory on Social Behavior  
Université du Québec à Montréal  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)



## INFORMATION AND CONSENT FORM

« Study on attitudes and behaviors toward activity engagement »

### PREAMBLE:

We invite you to participate in a study on attitudes and behaviors towards activity engagement. This study is for anyone who currently practices an activity regularly and is aged 18 and over. Before agreeing to participate in this project, it is important to read and understand the information below. If there are any words or sections you do not understand, feel free to contact to the research project coordinator.

### IDENTIFICATION:

Research Project Coordinator: Ariane St-Louis (Doctoral Candidate)

Research Laboratory on Social Behavior

Université du Québec à Montréal

Psychology Department

Box 8888, Downtown Station, Montreal, QC, H3C 3P8

Tel: 1 (514) 987-4836

e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

Co-researchers: Robert J. Vallerand, Ph.D., & Maylys Rapaport (Doctoral Candidate).

### PROJECT GOALS and FINANCING (if applicable):

The goal of this research project is to better understand attitudes and behaviors towards activity engagement. This will help identify some of the psychological processes regarding individuals who currently practice an activity regularly. This research was facilitated by grants from the Fonds de Recherche du Québec Société et Culture (FRQSC).

### PROCEDURE(S) OR TASKS REQUESTED FROM THE PARTICIPANT:

Your participation involves completing an online questionnaire that will require about 20 minutes of your time. You will have to answer questions about your attitudes and behaviors towards your favourite activity, about your life in general, as well as demographic information.

## BENEFITS AND DISCOMFORTS ASSOCIATED WITH THIS RESEARCH:

Benefits: This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with activity engagement. We hope that, in the future, other people might benefit from this study through improved understanding of psychological processes regarding individuals who practice an activity regularly.

Discomfort: There is no significant risk associated with your participation in this research. However, some questions may revive unpleasant emotions and thus, you may feel some discomfort in answering some questions. If this is the case, you may call helplines that offer to every person, without distinction, in a situation of precariousness or psychological distress, a free, anonymous and confidential telephone service of active listening and reference:

- Crisis Help Line – For any kind of crisis: 1-800-233-4357
- US Suicide Prevention Lifeline: 1-800-273-8255

You may also contact the research project coordinator: Ariane St-Louis 1-514-987-4836 or by e-mail [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

Remember that you may choose to suspend or end your participation at any time.

## ANONYMITY and CONFIDENTIALITY:

All information collected in the online questionnaire is confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected. In order to protect your identity and the confidentiality of the data collected, you will always be identified by an alphanumeric code. In addition, emails and IP address will be kept in a separate file from your questionnaire. Finally, all surveys will be destroyed at the end of this research. Only members of the research team will have access to the data and all completed surveys and consent forms will be kept separately on a computer in a safe place at the laboratory for the entire duration of the project.

## VOLUNTARY PARTICIPATION and WITHDRAWAL:

Your participation in this project is voluntary. This means that you agree to participate in the project without any external constraint or pressure, and that you are free to end your participation at any time during this study, without prejudice of any nature whatsoever and without having to justify yourself. In this case, and unless otherwise instructed by you, your records will be destroyed.

Your agreement to participate also implies that you agree that the research team may use the information collected for the purposes of this research (for e.g. articles, dissertations and students theses, conferences and scientific papers, etc.) in the condition that any personally identifiable information will be publicly disclose unless you have explicitly consented to it.

#### FINANCIAL COMPENSATION or OTHER:

As compensation for the time spent answering the online survey, you will receive \$0.50 through your Amazon Mechanical Turk account.

#### LIABILITY CLAUSE:

By agreeing to participate in this project, you do not waive any of your rights or release the researchers, the sponsor or the institutions involved from their legal and professional obligations.

#### QUESTIONS ABOUT THE PROJECT or YOUR RIGHTS?

For additional questions about the research project, your participation, and your rights as a research participant, or to withdraw from this research project, please contact:

Ariane St-Louis (research coordinator)  
Telephone: 514-987-4836  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

The UQAM Institutional Committee for the Ethics of Research Involving Humans has approved the research project in which you are going to participate. For more information and to make a complaint, you may contact the Chair of the Committee at (514) 987-3000 # 7753 or by e-mail at [cierch@uqam.ca](mailto:cierch@uqam.ca). The Ombudsman of the UQAM is also an available resource, in case you think you are being treated unfairly: telephone (514) 987-3151 and e-mail [ombudsman@uqam.ca](mailto:ombudsman@uqam.ca)

#### WORDS OF THANKS:

The research team would like to thank you because your collaboration is important to the realization of our project. You will be able to obtain a written summary of the main results of this research at the end of our study, available on our website: [www.lrcs.uqam.ca](http://www.lrcs.uqam.ca)

#### SIGNATURES:

Hereby:

- a) I acknowledge that I have read this information and consent form;
- b) I voluntarily consent to participate in this research project;
- c) I understand the goals of the project and what my involvement entails;
- d) I confirm that I have sufficient time to reflect on my decision to participate;
- e) I also acknowledge that the Researcher responsible for the project (or its research coordinator) has satisfactorily answered my questions; and
- f) I understand that my participation in this research is voluntary and that I may end it at any time without penalty of any form or justification.

**PARTICIPANT'S SIGNATURE:**

I, the undersigned, declare:

- a) Explaining the purpose, nature, benefits, risks of the project and other information, and the consent form; and
- b) Have answered to the best of my knowledge the questions asked.

I agree to participate in the study.

I refuse to participate in the study.

---

<b>SURVEY ON ATTITUDES AND BEHAVIORS TOWARD ACTIVITY ENGAGEMENT</b>
---

1. How old are you? \_\_\_\_\_ years old
2. What is your gender :
  - Male
  - Female
4. Describe an activity that you like, that is important for you, and in which you spend a significant amount of time. What is your favourite activity?  
\_\_\_\_\_
5. For how many years have you been practicing this activity? \_\_\_\_\_ (years)
6. How many hours per week do you practice this activity? \_\_\_\_\_ (hours)
7. Using the scale below, please indicate to what extent you agree with the following statements regarding your favourite activity.

Do not agree at all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

1. My favourite activity is in harmony with the other activities in my life. 1 2 3 4 5 6 7
2. I have difficulties controlling my urge to do my favourite activity. 1 2 3 4 5 6 7
3. The new things that I discover with my favourite activity allows me to appreciate it even more. 1 2 3 4 5 6 7
4. I have almost an obsessive feeling for my favourite activity. 1 2 3 4 5 6 7
5. My favourite activity reflects the qualities I like about myself. 1 2 3 4 5 6 7
6. My favourite activity allows me to live a variety of experiences. 1 2 3 4 5 6 7
7. My favourite activity is the only thing that really turns me on. 1 2 3 4 5 6 7
8. My favourite activity is well integrated in my life. 1 2 3 4 5 6 7
9. If I could, I would only do my favourite activity. 1 2 3 4 5 6 7

10. My favourite activity is in harmony with other things that are part of me. 1 2 3 4 5 6 7
11. My favourite activity is so exciting that I sometimes lose control over it. 1 2 3 4 5 6 7
12. I have the impression that my favourite activity controls me. 1 2 3 4 5 6 7
13. I spend a lot of time doing my favourite activity. 1 2 3 4 5 6 7
14. I love my favourite activity. 1 2 3 4 5 6 7
15. My favourite activity is important for me. 1 2 3 4 5 6 7
16. My favourite activity is a passion for me. 1 2 3 4 5 6 7
17. My favourite activity is part of who I am. 1 2 3 4 5 6 7

8. We would like to ask you some questions about your emotional life IN GENERAL, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave.

Although some of the following questions may seem similar to one another, they differ in important ways. For each items, please answer using the following scale:

Do not agree at all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

1. When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about. 1 2 3 4 5 6 7
2. I keep my emotions to myself. 1 2 3 4 5 6 7
3. When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about. 1 2 3 4 5 6 7
4. When I am feeling positive emotions, I am careful not to express them. 1 2 3 4 5 6 7
5. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm. 1 2 3 4 5 6 7
6. I control my emotions by not expressing them. 1 2 3 4 5 6 7
7. When I want to feel more positive emotion, I change the way I'm thinking about the situation. 1 2 3 4 5 6 7
8. I control my emotions by changing the way I think about the situation I'm in. 1 2 3 4 5 6 7



9. When I am feeling negative emotions, I make sur not to express them. 1 2 3 4 5 6 7
10. When I want to feel less negative emotion, I change the way I'm thinking about the situation. 1 2 3 4 5 6 7

9. Regarding your life IN GENERAL, please indicate your level of agreement or disagreement with each of the following statements using the scale below:

Do not agree at all 1	Very slightly agree 2	Slightly agree 3	Moderately agree 4	Mostly agree 5	Strongly agree 6	Very strongly agree 7
-----------------------------	-----------------------------	------------------------	--------------------------	----------------------	------------------------	-----------------------------

1. There are people who appreciate me as a person. 1 2 3 4 5 6 7
2. I feel a sense of belonging in my community. 1 2 3 4 5 6 7
3. In most activities I do, I feel energized. 1 2 3 4 5 6 7
4. I am achieving most of my goals. 1 2 3 4 5 6 7
5. I can succeed if I put my mind to it. 1 2 3 4 5 6 7
6. What I do in life is valuable and worthwhile. 1 2 3 4 5 6 7
7. My life has a clear sense of purpose. 1 2 3 4 5 6 7
8. I am optimistic about my future. 1 2 3 4 5 6 7
9. My life is going well. 1 2 3 4 5 6 7
10. I feel good most of the time. 1 2 3 4 5 6 7

Thank you for your participation!

## APPENDICE E

### ARTICLE 2, ÉTUDE 2 : PAGE COUVERTURE, FORMULAIRE DE CONSENTEMENT AVERTI ET QUESTIONNAIRE



#### STUDY ON ROMANTIC RELATIONSHIPS

The Research Laboratory on Social Behavior (RLSB), in collaboration UQAM, is currently conducting a study on romantic relationships.

What will I be asked to do? We invite you to complete an online survey that will take approximately 20 minutes. We are inviting you to participate in this research project because you are currently involved in a romantic relationship and you are at least 18 years old. Your participation in this research is completely voluntary. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What about confidentiality? We will keep your personal information confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected.

What are the risks of this research? There are no known risks associated with participating in this research project.

What are the benefits of this research? This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with romantic relationship involvement. We hope that, in the future, other people might benefit from this study through improved understanding of psychological processes regarding romantic relationships.

### GENERAL INSTRUCTIONS

- Note that this questionnaire is neither a test, nor an evaluation. Thus, there are no good or bad answers. We simply invite you to complete the questionnaire spontaneously and honestly.
- Your answers will remain confidential and will be used for research purpose only.
- Please answer all the questions in the questionnaire and indicate only one answer per question.

Thank you for your precious collaboration!

Ariane St-Louis, Doctoral Candidate & Robert J. Vallerand, Ph.D.

Research Laboratory on Social Behavior

Université du Québec à Montréal

e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)



## INFORMATION AND CONSENT FORM

« Study on romantic relationships »

### PREAMBLE:

We invite you to participate in a study on romantic relationships. This study is for anyone who is currently involved in a romantic relationship and is aged 18 and over. Before agreeing to participate in this project, it is important to read and understand the information below. If there are any words or sections you do not understand, feel free to contact to the research project coordinator.

### IDENTIFICATION:

Research Project Coordinator: Ariane St-Louis (Doctoral Candidate)  
Research Laboratory on Social Behavior  
Université du Québec à Montréal  
Psychology Department  
Box 8888, Downtown Station, Montreal, QC, H3C 3P8  
Tel: 1 (514) 987-4836  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)  
Co-researchers: Robert J. Vallerand, Ph.D., & Maylys Rapaport (Doctoral Candidate)

### PROJECT GOALS and FINANCING (if applicable):

The goal of this research project is to better understand attitudes and behaviors in romantic relationships. This will help identify some of the psychological processes regarding individuals who are involved in a romantic relationship. This research was facilitated by grants from the Fonds de Recherche du Québec Société et Culture (FRQSC).

### PROCEDURE(S) OR TASKS REQUESTED FROM THE PARTICIPANT:

Your participation involves completing an online questionnaire that will require about 20 minutes of your time. You will have to answer questions about your attitudes and behaviors towards your romantic relationship, about your life in general, as well as demographic information.

## BENEFITS AND DISCOMFORTS ASSOCIATED WITH THIS RESEARCH:

Benefits: This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with romantic relationships. We hope that, in the future, other people might benefit from this study through improved understanding of psychological processes regarding individuals who are involved in a romantic relationship.

Discomfort: There is no significant risk associated with your participation in this research. However, some questions may revive unpleasant emotions and thus, you may feel some discomfort in answering some questions. If this is the case, you may call helplines that offer to every person, without distinction, in a situation of precariousness or psychological distress, a free, anonymous and confidential telephone service of active listening and reference:

- Crisis Help Line – For any kind of crisis: 1-800-233-4357
- US Suicide Prevention Lifeline: 1-800-273-8255

You may also contact the research project coordinator: Ariane St-Louis 1-514-987-4836 or by e-mail [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

Remember that you may choose to suspend or end your participation at any time.

## ANONYMITY and CONFIDENTIALITY:

All information collected in the online questionnaire is confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected. In order to protect your identity and the confidentiality of the data collected, you will always be identified by an alphanumeric code. In addition, emails and IP address will be kept in a separate file from your questionnaire. Finally, all surveys will be destroyed at the end of this research. Only members of the research team will have access to the data and all completed surveys and consent forms will be kept separately on a computer in a safe place at the laboratory for the entire duration of the project.

## VOLUNTARY PARTICIPATION and WITHDRAWAL:

Your participation in this project is voluntary. This means that you agree to participate in the project without any external constraint or pressure, and that you are free to end your participation at any time during this study, without prejudice of any nature whatsoever and without having to justify yourself. In this case, and unless otherwise instructed by you, your records will be destroyed.

Your agreement to participate also implies that you agree that the research team may use the information collected for the purposes of this research (for e.g. articles, dissertations and students theses, conferences and scientific papers, etc.) in the condition that any personally identifiable information will be publicly disclose unless you have explicitly consented to it.

#### FINANCIAL COMPENSATION or OTHER:

As compensation for the time spent answering the online survey, you will receive \$1.00 through your Amazon Mechanical Turk account.

#### LIABILITY CLAUSE:

By agreeing to participate in this project, you do not waive any of your rights or release the researchers, the sponsor or the institutions involved from their legal and professional obligations.

#### QUESTIONS ABOUT THE PROJECT or YOUR RIGHTS?

For additional questions about the research project, your participation, and your rights as a research participant, or to withdraw from this research project, please contact:

Ariane St-Louis (research coordinator)  
Telephone: 514-987-4836  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

The UQAM Institutional Committee for the Ethics of Research Involving Humans has approved the research project in which you are going to participate. For more information and to make a complaint, you may contact the Chair of the Committee at (514) 987-3000 # 7753 or by e-mail at [cierch@uqam.ca](mailto:cierch@uqam.ca). The Ombudsman of the UQAM is also an available resource, in case you think you are being treated unfairly: telephone (514) 987-3151 and e-mail [ombudsman@uqam.ca](mailto:ombudsman@uqam.ca)

#### WORDS OF THANKS:

The research team would like to thank you because your collaboration is important to the realization of our project. You will be able to obtain a written summary of the main results of this research at the end of our study, available on our website: [www.lrcs.uqam.ca](http://www.lrcs.uqam.ca)

#### SIGNATURES:

Hereby:

- a) I acknowledge that I have read this information and consent form;
- b) I voluntarily consent to participate in this research project;
- c) I understand the goals of the project and what my involvement entails;
- d) I confirm that I have sufficient time to reflect on my decision to participate;
- e) I also acknowledge that the Researcher responsible for the project (or its research coordinator) has satisfactorily answered my questions; and
- f) I understand that my participation in this research is voluntary and that I may end it at any time without penalty of any form or justification.

**PARTICIPANT'S SIGNATURE:**

I, the undersigned, declare:

- a) Explaining the purpose, nature, benefits, risks of the project and other information, and the consent form; and
  - b) Have answered to the best of my knowledge the questions asked.
- I agree to participate in the study.
- I refuse to participate in the study.
-

SURVEY ON ROMANTIC RELATIONSHIPS
----------------------------------

1. How old are you? \_\_\_\_\_ years old

2. What is your gender :

Male

Female

3. Are you currently involved in a romantic relationship ?

Yes

No

3. For how long have you been involved in a romantic relationship with your current partner ? \_\_\_\_\_ (months)

4. What is your current romantic relationship status ?

Dating

In a relationship

Common-law

Engaged

Married

Other  Please specify: \_\_\_\_\_

4. How many hours per week do you spend with your romantic partner ?  
\_\_\_\_\_ (hours)

5. Using the scale below, please indicate to what extent you agree with the following statements regarding music listening.

Do not agree at all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

1. My relationship with my partner is in harmony with the other  
activities in my life.

1 2 3 4 5 6 7



- |  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
| 2. I have difficulties controlling my urge to be with my romantic partner.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. The new things that I discover when I am with my partner allow me to appreciate my romantic relationship even more. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. I have almost an obsessive feeling for my romantic partner.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. My relationship with my partner reflects the qualities I like about myself.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. My relationship with my partner allows me to live a variety of experiences.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. My relationship with my partner is the only thing that really turns me on.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. My relationship with my partner is well integrated in my life.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. If I could, I would only be with my romantic partner.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. My relationship with my partner is in harmony with other things that are part of me.                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. My relationship with my partner is so exciting that I sometimes lose control over it.                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. I have the impression that my relationship with my partner controls me.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. I spend a lot of time with my romantic partner.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. I love my romantic partner.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. My romantic partner is important for me.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. My romantic partner is part of who I am.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. My romantic partner is part of my identity.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

6. We would like to ask you some questions about your emotional life IN YOUR ROMANTIC RELATIONSHIP, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life with your partner. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions to your partner in the way you talk, gesture, or behave.

Although some of the following questions may seem similar to one another, they differ in important ways. For each items, please answer using the following scale:

Do not agree at all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

In my romantic relationship...

1. When I want to feel more positive emotion (such as joy or amusement),  
I change what I'm thinking about. 1 2 3 4 5 6 7
2. I keep my emotions to myself. 1 2 3 4 5 6 7
3. When I want to feel less negative emotion (such as sadness or anger),  
I change what I'm thinking about. 1 2 3 4 5 6 7
4. When I am feeling positive emotions, I am careful not  
to express them. 1 2 3 4 5 6 7
5. When I'm faced with a stressful situation, I make myself think about  
it in a way that helps me stay calm. 1 2 3 4 5 6 7
6. I control my emotions by not expressing them. 1 2 3 4 5 6 7
7. When I want to feel more positive emotion, I change the way  
I'm thinking about the situation. 1 2 3 4 5 6 7
8. I control my emotions by changing the way I think about the  
situation I'm in. 1 2 3 4 5 6 7
9. When I am feeling negative emotions, I make sur not to  
express them. 1 2 3 4 5 6 7
10. When I want to feel less negative emotion, I change the way I'm  
thinking about the situation. 1 2 3 4 5 6 7

7. Regarding your life IN GENERAL, please indicate your level of agreement or disagreement with each of the following statements using the scale below:

Do not agree at all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

1. In most ways my life is close to my ideal. 1 2 3 4 5 6 7
2. I am satisfied with my life. 1 2 3 4 5 6 7
3. If I could live my life over, I would change almost  
nothing. 1 2 3 4 5 6 7

- |  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
| 4. I understand my life's meaning.                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. My life has a clear sense of purpose.                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. I have discovered a satisfying life purpose.                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. I consider myself as a very happy person.                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. Compared with most of my peers, I consider myself<br>happier. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. I am generally happy.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Thank you for your participation!

## APPENDICE F

ARTICLE 2, ÉTUDE 3 : PAGE COUVERTURE, FORMULAIRE DE  
CONSENTEMENT AVERTI ET QUESTIONNAIRESTUDY ON ATTITUDES AND BEHAVIORS TOWARD ACTIVITY  
ENGAGEMENT

The Research Laboratory on Social Behavior (RLSB), in collaboration UQAM, is currently conducting a study on attitudes and behaviors toward activity engagement.

What will I be asked to do? We invite you to complete:

- 3) a first online survey that will take approximately 20 minutes.
- 4) a second online survey three months later that will take approximately 20 minutes.

We are inviting you to participate in this research project because you are currently practicing an activity regularly and you are at least 18 years old. Your participation in this research is completely voluntary. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What about confidentiality? We will keep your personal information confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected.

What are the risks of this research? There are no known risks associated with participating in this research project.

What are the benefits of this research? This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with activity engagement. We hope that, in the future, other people might benefit from this study through improved understanding of psychological processes regarding activity engagement.

#### GENERAL INSTRUCTIONS

- Note that this questionnaire is neither a test, nor an evaluation. Thus, there are no good or bad answers. We simply invite you to complete the questionnaire spontaneously and honestly.
- Your answers will remain confidential and will be used for research purpose only.
- Please answer all the questions in the questionnaire and indicate only one answer per question.

Thank you for your precious collaboration!

Ariane St-Louis, Doctoral Candidate & Robert J. Vallerand, Ph.D.  
Research Laboratory on Social Behavior  
Université du Québec à Montréal  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)



## INFORMATION AND CONSENT FORM

« Study on attitudes and behaviors toward activity engagement»

### PREAMBLE:

We invite you to participate in a study on attitudes and behaviors towards activity engagement. This study is for individuals who practice an activity regularly and are aged 18 and over. Before agreeing to participate in this project, it is important to read and understand the information below. If there are any words or sections you do not understand, feel free to contact to the research project coordinator.

### IDENTIFICATION:

Research Project Coordinator: Ariane St-Louis (Doctoral Candidate)  
 Research Laboratory on Social Behavior  
 Université du Québec à Montréal  
 Psychology Department  
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 Co-researchers: Robert J. Vallerand, Ph.D. & Maylys Rapaport (Doctoral Candidate).

### PROJECT GOALS and FINANCING (if applicable):

The goal of this research project is to better understand attitudes and behaviors towards activity engagement. This will help identify some of the psychological processes regarding individuals who practice an activity regularly. This research was facilitated by grants from the Fonds de Recherche du Québec Société et Culture (FRQSC).

### PROCEDURE(S) OR TASKS REQUESTED FROM THE PARTICIPANT:

Your participation involves completing two online questionnaires that will require about 40 minutes of your time. You will have to answer questions about your attitudes and behaviors towards activity engagement, about your life in general, as well as demographic information.

## BENEFITS AND DISCOMFORTS ASSOCIATED WITH THIS RESEARCH:

Benefits: This research is not designed to help you personally, but the results may help the investigators learn more about behaviors and attitudes associated with activity engagement. We hope that, in the future, other people might benefit from this study through improved understanding of psychological processes regarding individuals who practice an activity regularly.

Discomfort: There is no significant risk associated with your participation in this research. However, some questions may revive unpleasant emotions and thus, you may feel some discomfort in answering some questions. If this is the case, you may call helplines that offer to every person, without distinction, in a situation of precariousness or psychological distress, a free, anonymous and confidential telephone service of active listening and reference:

- Crisis Help Line – For any kind of crisis: 1-800-233-4357
- US Suicide Prevention Lifeline: 1-800-273-8255

You may also contact the research project coordinator: Ariane St-Louis 1-514-987-4836 or by e-mail [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

Remember that you may choose to suspend or end your participation at any time.

## ANONYMITY and CONFIDENTIALITY:

All information collected in the online questionnaire is confidential. Thus, your name will not be included on the survey, a code will be placed on the survey, and if we write a report or an article about this research, your identity will be protected. In order to protect your identity and the confidentiality of the data collected, you will always be identified by an alphanumeric code. In addition, emails and IP address will be kept in a separate file from your questionnaire. Finally, all surveys will be destroyed at the end of this research. Only members of the research team will have access to the data and all completed surveys and consent forms will be kept separately on a computer in a safe place at the laboratory for the entire duration of the project.

## VOLUNTARY PARTICIPATION and WITHDRAWAL:

Your participation in this project is voluntary. This means that you agree to participate in the project without any external constraint or pressure, and that you are free to end your participation at any time during this study, without prejudice of any nature whatsoever and without having to justify yourself. In this case, and unless otherwise instructed by you, your records will be destroyed.

Your agreement to participate also implies that you agree that the research team may use the information collected for the purposes of this research (for e.g. articles, dissertations and students theses, conferences and scientific papers, etc.) in the condition that any personally identifiable information will be publicly disclose unless you have explicitly consented to it.

#### FINANCIAL COMPENSATION or OTHER:

As compensation for the time spent answering the online surveys, you will receive \$1.00 for each survey through your Amazon Mechanical Turk account.

#### LIABILITY CLAUSE:

By agreeing to participate in this project, you do not waive any of your rights or release the researchers, the sponsor or the institutions involved from their legal and professional obligations.

#### QUESTIONS ABOUT THE PROJECT or YOUR RIGHTS?

For additional questions about the research project, your participation, and your rights as a research participant, or to withdraw from this research project, please contact:

Ariane St-Louis (research coordinator)  
Telephone: 514-987-4836  
e-mail: [stlouis.ariane@gmail.com](mailto:stlouis.ariane@gmail.com)

The UQAM Institutional Committee for the Ethics of Research Involving Humans has approved the research project in which you are going to participate. For more information and to make a complaint, you may contact the Chair of the Committee at (514) 987-3000 # 7753 or by e-mail at [cierch@uqam.ca](mailto:cierch@uqam.ca). The Ombudsman of the UQAM is also an available resource, in case you think you are being treated unfairly: telephone (514) 987-3151 and e-mail [ombudsman@uqam.ca](mailto:ombudsman@uqam.ca)

#### WORDS OF THANKS:

The research team would like to thank you because your collaboration is important to the realization of our project. You will be able to obtain a written summary of the main results of this research at the end of our study, available on our website: [www.lrcs.uqam.ca](http://www.lrcs.uqam.ca)

#### SIGNATURES:



Hereby:

- a) I acknowledge that I have read this information and consent form;
- b) I voluntarily consent to participate in this research project;
- c) I understand the goals of the project and what my involvement entails;
- d) I confirm that I have sufficient time to reflect on my decision to participate;
- e) I also acknowledge that the Researcher responsible for the project (or its research coordinator) has satisfactorily answered my questions; and
- f) I understand that my participation in this research is voluntary and that I may end it at any time without penalty of any form or justification.

**PARTICIPANT'S SIGNATURE:**

I, the undersigned, declare:

- a) Explaining the purpose, nature, benefits, risks of the project and other information, and the consent form; and
- b) Have answered to the best of my knowledge the questions asked.

I agree to participate in the study.

I refuse to participate in the study.

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SURVEY ON ATTITUDES AND BEHAVIORS TOWARD ACTIVITY  
ENGAGEMENT  
(SURVEY 1)

1. In order to match both your surveys, please write your Mturk ID ? \_\_\_\_\_
2. How old are you? \_\_\_\_\_ years old
3. What is your gender :
  - Male
  - Female
4. Describe an activity that you like, that is important for you, and in which you spend a significant amount of time. What is your favorite activity?  
\_\_\_\_\_
5. For how many years have you been practicing this activity? \_\_\_\_\_ (years)
6. How many hours per week do you practice this activity? \_\_\_\_\_ (hours)
7. Using the scale below, please indicate to what extent you agree with the following statements regarding your favourite activity.

Do not agree at all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

1. My favourite activity is in harmony with the other activities in my life. 1 2 3 4 5 6 7
2. I have difficulties controlling my urge to do my favourite activity. 1 2 3 4 5 6 7
3. The new things that I discover with my favourite activity allows me to appreciate it even more. 1 2 3 4 5 6 7
4. I have almost an obsessive feeling for my favourite activity. 1 2 3 4 5 6 7
5. My favourite activity reflects the qualities I like about myself. 1 2 3 4 5 6 7
6. My favourite activity allows me to live a variety of experiences. 1 2 3 4 5 6 7

7. My favourite activity is the only thing that really turns me on. 1 2 3 4 5 6 7
8. My favourite activity is well integrated in my life. 1 2 3 4 5 6 7
9. If I could, I would only do my favourite activity. 1 2 3 4 5 6 7
10. My favourite activity is in harmony with other things that are part of me. 1 2 3 4 5 6 7
11. My favourite activity is so exciting that I sometimes lose control over it. 1 2 3 4 5 6 7
12. I have the impression that my favourite activity controls me. 1 2 3 4 5 6 7
13. I spend a lot of time doing my favourite activity. 1 2 3 4 5 6 7
14. I love my favourite activity. 1 2 3 4 5 6 7
15. My favourite activity is important for me. 1 2 3 4 5 6 7
16. My favourite activity is a passion for me. 1 2 3 4 5 6 7
17. My favourite activity is part of who I am. 1 2 3 4 5 6 7

8. Regarding your life IN GENERAL, please indicate your level of agreement or disagreement with each of the following statements using the scale below:

Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5
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1. I feel scared or panicky for no good reason. 1 2 3 4 5
2. I feel like everything is getting on top of me. 1 2 3 4 5
3. I feel nervous and strung-out all the time. 1 2 3 4 5
4. I think of myself as a worthless person. 1 2 3 4 5
5. I feel that life is entirely hopeless. 1 2 3 4 5
6. I feel that life isn't worth living. 1 2 3 4 5

9. Regarding your life IN GENERAL, please indicate your level of agreement or disagreement with each of the following statements using the scale below:

Absolutely untrue 1	Mostly untrue 2	Somewhat untrue 3	Can't say true or false 4	Somewhat true 5	Mostly true 6	Absolutely true 7
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1. I feel alive and vital. 1 2 3 4 5 6 7
2. I don't feel very energetic. 1 2 3 4 5 6 7
3. I have energy and spirit. 1 2 3 4 5 6 7
4. I look forward to each new activity. 1 2 3 4 5 6 7
5. I nearly always feel alert and awake. 1 2 3 4 5 6 7
6. I feel energized. 1 2 3 4 5 6 7

10. Regarding your life IN GENERAL, please indicate your level of agreement or disagreement with each of the following statements using the scale below:

Do not agree at all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

1. In most ways my life is close to my ideal. 1 2 3 4 5 6 7
2. The conditions in my life are excellent. 1 2 3 4 5 6 7
3. I am satisfied with my life. 1 2 3 4 5 6 7
4. So far, I have gotten the important things I want in life. 1 2 3 4 5 6 7
5. If I could live my life over, I would change almost nothing. 1 2 3 4 5 6 7

**Thank you for your participation!**

**You will receive an e-mail invitation through your Amazon Mechanical Turk account to complete the second survey in THREE MONTHS.**

<p><b>SURVEY ON ATTITUDES AND BEHAVIORS TOWARD ACTIVITY ENGAGEMENT (SURVEY 2)</b></p>
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1. In order to match both your surveys, please write your Mturk ID ? \_\_\_\_\_

2. How old are you? \_\_\_\_\_ years old

3. What is your gender :

Male

Female

4. Describe an activity that you like, that is important for you, and in which you spend a significant amount of time.

What is your favorite activity? \_\_\_\_\_

5. For how many years have you been practicing this activity? \_\_\_\_\_ (years)

6. How many hours per week do you practice this activity? \_\_\_\_\_ (hours)

7. We would like to ask you some questions about your emotional life IN GENERAL, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave.

Although some of the following questions may seem similar to one another, they differ in important ways. For each items, please answer using the following scale:

Do not agree at all	Very slightly agree	Slightly agree	Moderately agree	Mostly agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

1. When I want to feel more positive emotion (such as joy or amusement),

I change what I'm thinking about.

1 2 3 4 5 6 7

2. I keep my emotions to myself.

1 2 3 4 5 6 7

3. When I want to feel less negative emotion (such as sadness or anger),

I change what I'm thinking about.

1 2 3 4 5 6 7

4. When I am feeling positive emotions, I am careful not to

- express them. 1 2 3 4 5 6 7
5. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm. 1 2 3 4 5 6 7
6. I control my emotions by not expressing them. 1 2 3 4 5 6 7
7. When I want to feel more positive emotion, I change the way I'm thinking about the situation. 1 2 3 4 5 6 7
8. I control my emotions by changing the way I think about the situation I'm in. 1 2 3 4 5 6 7
9. When I am feeling negative emotions, I make sur not to express them. 1 2 3 4 5 6 7
10. When I want to feel less negative emotion, I change the way I'm thinking about the situation. 1 2 3 4 5 6 7

8. Regarding your life IN GENERAL, please indicate your level of agreement or disagreement with each of the following statements using the scale below:

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

1. I feel scared or panicky for no good reason. 1 2 3 4 5
2. I feel like everything is getting on top of me. 1 2 3 4 5
3. I feel nervous and strung-out all the time. 1 2 3 4 5
4. I think of myself as a worthless person. 1 2 3 4 5
5. I feel that life is entirely hopeless. 1 2 3 4 5
6. I feel that life isn't worth living. 1 2 3 4 5

9. Regarding your life IN GENERAL, please indicate your level of agreement or disagreement with each of the following statements using the scale below:

Absolutely untrue	Mostly untrue	Somewhat untrue	Can't say true or false	Somewhat true	Mostly true	Absolutely true
1	2	3	4	5	6	7

1. I feel alive and vital. 1 2 3 4 5 6 7
2. I don't feel very energetic. 1 2 3 4 5 6 7

3. I have energy and spirit. 1 2 3 4 5 6 7
4. I look forward to each new activity. 1 2 3 4 5 6 7
5. I nearly always feel alert and awake. 1 2 3 4 5 6 7
6. I feel energized. 1 2 3 4 5 6 7

10. Regarding your life IN GENERAL, please indicate your level of agreement or disagreement with each of the following statements using the scale below:

Do not agree at all 1	Very slightly agree 2	Slightly agree 3	Moderately agree 4	Mostly agree 5	Strongly agree 6	Very strongly agree 7
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1. In most ways my life is close to my ideal. 1 2 3 4 5 6 7
2. The conditions in my life are excellent. 1 2 3 4 5 6 7
3. I am satisfied with my life. 1 2 3 4 5 6 7
4. So far, I have gotten the important things I want in life. 1 2 3 4 5 6 7
5. If I could live my life over, I would change almost nothing. 1 2 3 4 5 6 7

Thank you for your participation

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