Obsessive Passion for Studying:

Developmental Sources and Potential Resolutions

by

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Abstract

Passion is a strong motivational force that has been used to explain humans' achievements and foibles. This suggests both its importance and its dual nature that was recently categorized into obsessive passions (OP) and harmonious passions (HP). OP, unlike HP, is known to be associated with adverse psychological wellbeing. Although, many outcome studies on passion exist, little is known about what contributes to the development of OP, and no study has examined possible strategies to decrease levels of OP or increase levels of HP. Accordingly, the present research examines these questions in the context of OP for studying. In Study 1, parenting style was evaluated as a potential contributor to the development of OP for studying among university students with varying levels of obsessive passion (n = 253). Perfectionism, achievement goals, burnout, self-compassion, leisure-time satisfaction, and life satisfaction were explored for their mediation effects, and implicit theories of intelligence and sociodemographic characteristics were examined for their moderation effects. Although authoritarian parenting was associated with lower life satisfaction, contrary to what was expected, permissive parenting style was significantly associated with OP, and this relationship was mediated by mastery goal achievement. In Study 2, self-affirmation (SA) essay writing was examined for its helpfulness in transforming OP into HP and in reducing the negativities associated with high OP (Cohen & Sherman, 2014). In a sample of university students whose OP levels were identified as "high" (n = 178), SA writing, compared to control writing, did not establish a healthier balance between HP and OP, nor did it reduce negativities related to OP. The limited findings are contextualized within the domain of studying among university students. Overall, the results suggest that the origins of OP do not rest upon an authoritarian parenting style and that a single dose of SA administration was not efficacious in altering levels of OP and HP. This study, however,

nonetheless offers an initial step in the exploration of preventative and treatment strategies for OP. Future research should follow, by shifting the attention of passion research from outcome studies to the identification of risk factors and interventions.

Keywords: obsessive passion, parenting style, self-affirmation, studying

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CHAPTER I: General Introduction

The Concept of Passion

Largely taking the form of romantic infatuation, the concept of passion in the context of interpersonal relationships has long been studied in the field of psychology. Outside of love, craze, and fascination, passion has been linked to valued characteristics such as motivation and enthusiasm. Its study within the context of intrapersonal goal pursuits, however, is only a recent development in the field (Vallerand et al., 2003). Given that there are multiple definitions for the word passion, it is important to first define it in the current research.

A quick search in the thesaurus yields two broad categories of synonyms for passion. The first, characterized by joy and a positive overtone, includes: devotion, eagerness, affection, and warmth. The other, characterized largely by pain included words like misery, agony, rage, and resentment. In looking at the etymology of the word passion with its roots in Greek – *pathos* and Latin – *passio*, both meaning to "suffer," it shares the same root as the word pathology – the study of illness and diseases that humans suffer (Lawrence, 2005). Although traditionally, the experience of passion has implied a sense of passivity where this intense emotion is not felt by choice but rather, the individual is *overcome* by it, a more contemporary view – the social constructionist perspective, argued for the involvement of action such that the passionate behaviour is realized through interpersonal and intrapersonal pursuits (Averill, 1990). Regardless of whether the experience of passion is passive or actively sought, it nonetheless implies a relationship to something trying and possibly difficult, and it was not until the Renaissance period that the word, passion, gained its more common meaning as an intense emotion of exuberance (Charland, 2010). Although being passionate is highly admirable with popular examples of individuals like Jesus Christ, Martin Luther King Jr. and Abraham Lincoln, whom

all dedicated their lives to their passions, let us not forget that every one of these individuals had also undergone some severe hardship in the pursuit of their passions.

Just like the dichotomous definition of passion of pleasure versus pain, another important aspect of passion that needs to be acknowledged is its duality of "good" versus "bad." Popular among the Greek philosophers (e.g., Plato and Aristotle), passion has often been equated to madness, dysregulation, and a loss of reason and control (Miller, 2007). From this perspective, passionate individuals are often seen as passive and as slaves of their passions. On the other hand, philosophers like David Hume (1711-1776) and Jean-Jacques Rousseau (1712-1778) contended passion is an important driving force for truth and knowledge (Hall, 2001). As Galileo (1564-1642) once said, "passion is the genesis of genius." It is important to note, however, that the debate of passion as either "good" or "bad" should not be limited to just these two opposing beliefs, as a closer examination of the "good" versus "bad" of passion led to a not very well documented third perspective of passion. This third perspective suggested that the good and bad elements of passion may coexist. This idea was first entertained by Descartes (1596-1650) in his *The Passion of the Soul*, where he articulated that "it is on the passions alone that all the good and evil of this life depends" (Descartes, 1649/1989, p.134).

Passion Towards an Activity: The Dualistic Model of Passion

Consistent with Descartes' view of passion: when in excess or in an undesirable form, passion can have detrimental effects that may be counterproductive and conflictual (Ratelle, Vallerand, Mageau, Rousseau, & Provencher, 2004; Vallerand, 2008), and this would apply to both passion in the context of interpersonal emotions, as well as passion in the context of activity pursuit. To capture both the "good" and "evil" of passion towards an activity, in 2003, Vallerand

et al. proposed a conceptual model of passion for activity engagement.[1] This Dualistic Model of Passion defines passion as a strong inclination toward an activity that people value and enjoy, and in which, people dedicate their time and energy to practice. Although it can fuel motivation and provide enthusiasm to the engagement of the activity, it may also sometimes become pathological, such that individuals may compulsively and rigidly persist at their beloved activity, be enslaved by the activity, and thus lead to negative emotions and poor wellbeing. Within this model, the distinction between the adaptive type and the more maladaptive type of passion lies mainly in the way the passionate activity has been internalized within the individual.

The Dualistic Model of Passion is in line with the organismic-dialectic metatheory of human motivation of the Self-Determination Theory (Deci & Ryan, 2000), which posits that the pursuit of activities serves to satisfy self-fulfillment and psychological needs of autonomy, competence, and social relatedness. The beloved activity thus becomes an essential part of the individual, and by which, the individual self-identifies. Specifically, two types of passion were identified: harmonious versus obsessive passion.

Harmonious passion arises from an autonomous internalization of the activity into the person's identity, such that the individual is able to freely choose and accept the activity (Vallerand et al., 2003). It is purported that the activity is congruent with one's personal values and the practice and engagement of the activity are rewarded by the enjoyment and mastery of the activity, as opposed to external benefits (i.e., praise, money, etc.). Harmoniously passionate individuals tend to have control over the activity, and are therefore more able to approach their passionate activity with greater flexibility. They are more able to experience the activity as well-

[1] This dualism proposed by Descartes (1649/1989) was captured well in the title of Vallerand and colleagues' (2003) seminal article, "Les passions de l'âme: obsessive and harmonious passion," which is central to the current research.

integrated with, as opposed to overpowering, other areas of life (Séguin-Lévesque, Laliberté, Pelletier, Vallerand, & Blanchard, 2003).

Obsessive passion, on the other hand, results from controlled internalization that arises from intrapersonal and/or interpersonal pressure, such that individuals who are obsessively passionate are *controlled by* the activity and feel compelled to engage in their passionate activities because they *have to*. The activity is typically incongruent with one's values, and the satisfaction is usually brought about by extrinsic rewards rather than pure enjoyment (Lee, Back, Hodgins, & Lee, 2013; Lee, Chung, & Bernhard, 2013; Vallerand et al., 2003). With obsessive passion, individuals often find that other life domains are in conflict with the beloved activity (Donahue, Rip, & Vallerand, 2009; Lafrenière, Bélanger, Sedikides, & Vallerand, 2011), and they also tend to ruminate a great deal when not engaged in their passionate activity (Carpentier, Mageau, & Vallerand, 2012). It has been found that obsessively passionate individuals are extrinsically motivated (Vallerand & Miquelon, 2007), meaning that these individuals are more focused on the reward contingencies brought about by high performance of the activity (Houlfort, Philippe, Vallerand, & Ménard, 2012), as opposed to pure enjoyment obtained from engaging in the activity. The phenomenon of the extrinsically driven obsessively passionate individuals, in contrast to their intrinsically motivated harmoniously passionate counterparts, concurs with self-determination theory, which states that motivation can either come from *intrinsic* or *extrinsic* sources (Ryan & Deci, 2002). The focus of the current study will be on the more problematic type – obsessive passion.

Obsessive passion tends to overwhelm one's attention and identity. Individuals who are obsessively passionate often pursue their beloved activity due to feeling obligated and pressured to persist in it even when they experience negative effects and consequences. Obsessively

passionate individuals also tend to practice the activity in a severely rigid fashion, tending to continue their engagement even when it is more advisable to leave the task. For example, when injured or sick, obsessively passionate individuals will continue to attend their yoga practices, whereas harmoniously passionate people will give their bodies time to recover (Carbonneau, Vallerand, & Massicotte, 2010). Specific problems related to obsessive passion include, but are not limited to, negative affect (Vallerand et al., 2003), psychological distress (Forest, Mageau, Sarrazin, & Morin, 2011), burnout (Carbonneau, Vallerand, Fernet, & Guay, 2008; Vallerand, Paquet, Philippe, & Charest, 2010), and depression (Houlfort, Philippe, Vallerand, Ménard, 2012). Obsessively passionate individuals may also experience a decrease of positive affect when without, or prevented from engaging in, the activity (Mageau & Vallerand, 2007). Research has also documented that individuals who are obsessively passionate are more likely to display rigid forms of task engagement and are implicated in self-destructive behaviours such as excessive online gaming and addictive gambling (Vallerand et al., 2003). Finally, obsessive passion dominates a substantial portion of one's life such that the person's identity is highly defined by the passionate activity and when without it, the individual may feel lost or even incomplete.

Research on Passion

Since the introduction of this dualistic model of passion and the Passion Scale, research and publications on this topic has flourished, with the original lab being responsible for over 100 studies on the topic (Vallerand & Verner-Filion, 2013) and a total of more than 200 published studies in the English language. Concurrent with the conception of this model, Vallerand and colleagues (2003) also introduced a scale to measure harmonious and obsessive passions – the Passion Scale. The psychometric properties, including test-retest reliability, internal consistency,

and content reliability of this scale are strong (Marsh et al., 2013, Vallerand et al., 2003, and Vallerand &Verner-Filion, 2013). The two subscales of the Passion Scale have both demonstrated acceptable to very good reliabilities in previous studies where individuals were free to choose their passionate activities in their response (Vallerand et al., 2003). The scale had lower, but nonetheless good, internal consistency when the passionate activities were predetermined for research purposes on a specific activity.

A meta-analysis that examined this line of research identified three major domains of passion that have been studied: 1) sport, performing arts, and leisure, 2) work, and 3) education. Across these domains, the main focuses of the studies fell within four interpersonal spheres: a) wellbeing, b) motivational factors, c) cognitive outcomes, and d) behaviour and performance (Curran, Hill, Appleton, Vallerand, & Standage, 2015). To my surprise and to the best of my knowledge, despite there being a large number of studies that examined the effect of harmonious vs. obsessive passions in the above three areas of pursuits across the four seemingly wide and related areas of intrapersonal spheres, none have attempted to identify specific factors that lead to the development of obsessive passion. Additionally, despite the known association between obsessive passion and poor psychological wellbeing, unfortunately, there is little research on what can help to decrease levels of obsessive passion and increase levels of harmonious passion. To address these gaps in the literature, I chose to focus on passion in the context of academics, wherein the specific research objectives of this thesis were:

1. To examine the relationship between a developmental source, namely, parenting style, and obsessive passion. To further examine a number of known and relevant trait variables in the academic context, such as perfectionism, burnout, achievement goals,

etc. and sociodemographic characteristics as potential pathways to the development of obsessive passion (Study 1).

2. To evaluate self-affirmation as an intervention strategy for achieving a better balance between obsessive passion and harmonious passion in a sample of university students that have been identified to have high levels of obsessive passion (Study 2).

Obsessive Passion for Studying

In the context of academics among university students, obsessive passion is characterized first by a noticeable amount of academic engagement and dedication (Stoeber, Childs, Hayward, & Feast, 2011). Further, activity identification is also central to the passionate individual (Bonneville-Roussy, Vallerand, & Bouffard, 2013). Harmoniously passionate students willingly study and do not feel compelled to study. For these students, studying is significant, but not overpowering, to their lives. Obsessively passionate students on the other hand, study due to external pressure and often do not express enjoyment in their academics (Vallerand, 2015).

Obsessive passion has been found to manifest in many domains including work, sports, videogames, gambling, and education (Bonneville-Roussy, Vallerand, & Bouffard, 2013; Bureau, Vallerand, Ntoumanis, & Lafrenière, 2013; Carbonneau, Vallerand, Fernet, & Guay, 2008; Houlfort, Philippe, Vallerand, & Ménard, 2012; Tosun & Lajunen, 2009). Although there are only a few studies that have investigated the relationship between the two types of passion and potential outcomes in the context of academics, existing literature on passion and academics has consistently demonstrated that harmonious passion is positively linked to subjective wellbeing, dedication and persistence, and adoption of mastery-oriented goals (Bonneville-Roussy, Vallerand, Bouffard, 2013; Vallerand, 2015). It is worth noting that obsessive passion is also associated with many of these favourable outcomes – what possibly explains why many

obsessively passionate individuals hold on to their rigid way of practicing. Hence, any efforts to alter passion levels should be careful to not eliminate passion altogether, but to transform this more maladjusted form to the more advantageous form of harmonious passion. With that said, however, even though obsessive passion is also associated with some of these favourable outcomes such as deliberate practice, level of absorption in academics, it is also related to problematic outcomes, with the most significant being academic burnout (both cynicism and exhaustion; Stoeber, Childs, Hayward, & Feast, 2011). To infer results from other related areas such as passion in work settings, we might also expect obsessive academic passion to negatively impact life satisfaction, relationship satisfaction, and interpersonal harmoniousness (Phillippe, Vallerand, & Lavigne, 2009; Jowett, Lafrenière, & Vallerand, 2013). Although in comparison, the associations between negative outcomes and obsessive passion in the domain of work, for the most part, were stronger than in sport, performing arts, and leisure, as well as education (Curran, Hill, Appleton, Vallerand, & Standage, 2015), with most jobs now requiring a post-secondary level degree, many students feel pressured to pursue higher education and achieve high grades in school.

Currently, only four studies have investigated passion for studying (Schellenberg & Bailis, 2015; Stoeber, Childs, Hayward, & Feast, 2011; Vallerand et al., 2007, Studies 1 and 2), and only one of these studies included information on the percentage of students that are affected by obsessive passion (Schellenberg & Bailis, 2015). In this recent Canadian study that examined general university students, it was found that approximately 36% of the students exhibit moderate to high levels of obsessive passion for academics. The researchers assessed students at three time points within a period of six months to observe for any change in students' level of obsessive passion. They found that only a very small proportion (approximately 2.5%) of

students had variable levels of obsessive passion across the three time points, and that the majority of students' levels of obsessive passion remained relatively stable over time. Given the negative outcomes associated with obsessive passion, the proportion of students affected, and the enduring nature of the problem, the difficulties associated with obsessive passion are concerning and thus warrant further research.

Overview of Research Design

The present research is comprised of two related, but distinct, studies. Both studies employ quantitative methodologies. Study 1 used a cross-sectional design and examined undergraduate students with varying levels of obsessive passion. Study 2 is a mini-longitudinal experimental study. Its study sample included undergraduate students who have been identified as having high levels of obsessive passion. These studies were conducted concurrently. Participants were all screened initially to ensure that they meet the passion criteria as measured by the passion criteria subscale on the Passion Scale (Vallerand et al., 2003). Eligible participants were then selected to either participate in the single-step, single-condition Study 1, or in the multi-stage, experimental study of Study 2.

In examining both a developmental source and a potential resolution for obsessive passion for studying, I hoped to offer both preventative and treatment strategies to eventually offer ways to establish or restore a healthy balance between harmonious and obsessive passions, as well as to prevent and reduce the negative effects associated with being obsessively passionate. In the pages that follow this introductory chapter (Chapter 1), Chapter 2 is devoted to Study 1: Developmental Sources – Parenting Style, and Chapter 3 focuses on Study 2: Potential Resolutions – Self-Affirmation. Finally, this thesis concludes with Chapter 4 - Conclusion, in

which I piece together the findings of, and make some final concluding remarks for, the current research.

CHAPTER II: Developmental Sources - Parenting Style

Development of Passion

The extant research literature emphasizes the negative outcomes associated with being highly obsessively passionate, and its distressing properties in relation to one's thought processes and self-perceptions. While understanding the negativities associated with obsessive passion is important, however, we currently do not have much understanding as to how obsessive passion emerges. Vallerand and Miquelon (2007) articulated a three-stage process towards the development of passion for an activity, which offers a loose protocol in regards to how passion may be developed. Specifically, the first stage involves activity selection, which is the initiation of participation in a chosen activity that an individual is motivated to partake either for intrinsic or extrinsic reasons. Once the activity has been chosen and the individual has begun engaging in it, the other two steps follow suit, namely, activity valuation and internalization. During the second stage of this process, the individual may begin to value the activity either due to deepened interest or mere enjoyment – this is a crucial step in qualifying whether the activity becomes a "passion." Finally, in the final stage of this process, the integration of the activity and one's self-identity may occur and depending on how the activity becomes internalized, either in an autonomous or controlled manner, this activity may then become a harmonious or obsessive passion, respectively. Not all activities progress through these three stages in this manner and some activities are dropped either during the second or the third stages for reasons such as a loss of interest or the encountering of barriers to pursue further engagement in the activity.

Vallerand and Miquelon (2007) proposed that there are two major determinants of the internalization process, specifically: personality and social conditions. It was suggested that the aspect of personality that pertains to internalization style would likely become more influential

as people age because it only becomes more crystallized towards late adolescence and early adulthood. Social conditions on the other hand, may be instrumental in influencing behaviours from a very young age. According to Deci and Ryan's (1994) Self-Determination Theory, people have three fundamental human needs: competence, autonomy, and relatedness. From this, it is not hard to see that human beings are naturally drawn to feel socially connected, and one way to achieve this is through engaging in valued activities.

Parents play a key role in establishing and shaping a child's social conditions, and previous research has identified parenting style as an important factor that influences an individual's development of either harmonious or obsessive passion (Mageau et al., 2009). Mageau explained that parents' valuation of an activity likely translates into dedication and more time spent, which creates a social environment with a high level of focus of the valued activity. Parents are also capable of creating a context to facilitate the engagement of more voluntary and involuntary practices of the child in the valued activity. However, among parents who create this social environment that promotes valuation towards a certain activity, it was found that these parents differ in the quality of their involvement. Some parents were perceived as being overly involved by their children, while others were seen as highly involved.

Overinvolved parents do not necessarily dedicate more time, but tend to exhibit more control over their children. These parents do not explain reasons behind their rules and demands and tend to pressure their children into engaging in their own valued activities. This description of overly controlling parents is consistent with that of an authoritarian parenting style. In Baumrind's original framework of parenting styles, he described authoritarian parents as those that adopt a restrictive and punitive parenting style. These parents place high levels of demands on their children, consistently emphasize and deliver the consequences when rules are broken,

while offering little warmth (Baumrind & Black, 1967; Ellithorpe, Ewoldsen, & Fazio, 2014). This, in fact, is the harshest of the three typologies of parenting styles, and it can be contrasted with its "polar opposite" of the permissive parenting style, where parents, though attentive, indulgently relegate total responsibility to their children, allowing them to monitor their own behaviour without providing any guidance. In between is the third type of parenting style – authoritative parenting style. These parents are generally adept at striking an adequate level of balance between encouragement and having limits and control. They allow their children to negotiate rules and punishment while fostering independence and autonomy.

Highly involved parents are defined as those that respect their children's autonomy. These autonomy-supportive parents place value on self-initiation and encourage their children to partake in decision-making. Because autonomy-supportive parents allow their children to go through the exploration process to find their children's enjoyed activities, this parenting style is linked to enhanced interest and intrinsic motivation, which are characteristics of harmonious passion. These positive outcomes are lacking in children whose parents place value on control and impose pressure, thus, authoritarian parents who are more controlling and tend to stipulate precision and accuracy in children are theorized to foster the development of obsessive passion. Mageau et al. (2009) reasoned that controlling parents deliver the message that the engagement of the chosen activity is associated with social approval, and thus the activity becomes an essential part of the child for self-protective and defensive purposes. Hence, overly controlling parents' overemphasis of the activity implies that the child must engage in the activity in order to maintain their social identity. Studies that examined the relationship between the different types of parenting style and the externalizing versus internalizing problems also showed the strongest association between authoritarian parenting style and internalizing problems (Kerr, Stattin, &

Ozdemir, 2012). Given that obsessive passion arises from a controlled internalization (Séguin-Lévesque, Laliberté, Pelletier, Vallerand, & Blanchard, 2003), a link can be drawn between authoritarian parenting style and the development of obsessive passion.

Taken together, the current state of knowledge suggests that parenting style may play an important role in the development of passion. I tested this general hypothesis in the context of passion for education, and in examining the relationship between parenting style and obsessive passion, I also evaluated a number of variables that potentially mediate and moderate this relationship.

Potential Mediators

My review of the literature identified the following four variables that may mediate the relationship between parenting style and obsessive passion: perfectionism, achievement goals, burnout, and self-compassion. In reviewing each potential mediator, I considered both the theoretical and empirical basis for a linkage to both parenting style and to obsessive passion for studying.

Perfectionism. Perfectionism is a pertinent construct to academics because of its relevancy to motivation, performance, and wellbeing. Early research on perfectionism showed a rather unclear, and sometimes, opposing, effect on students. While some researchers have identified concerning issues with having high levels of perfectionism, such that it has been linked to low academic performance and poorer psychological wellbeing (Bong, Hwang, Noh & Kim, 2014; Eum & Rice, 2011); others have shown the exact opposite effect on these outcomes (Dykstra, 2006; Flett, Blankstein, & Hewitt, 2009). However, considering the complexity and multidimensional nature of perfectionism, the various aspects and types of perfectionism need to be differentiated and examined individually.

Perfectionism is a personality trait characterized by the tendency to possess and pursue extremely high standards for one's own performance (Flett & Hewitt, 2002). Over the past decade or so, the multidimensional model of perfectionism has received increasing attention. This model of perfectionism is comprised of three trait dimensions: self-oriented perfectionism, other-oriented perfectionism, and socially-prescribed perfectionism (Hewitt & Flett, 1991). Specifically, self-oriented perfectionism is characterized by self-imposed, often unrealistic, high standards and a tendency to achieve perfection. Other-oriented perfectionism represents the tendency to demand that other people meet high standards and thus should be "perfect." Finally, socially-prescribed perfectionism is the perception that others are exerting pressure and imposing high standards on the self, and that the self can only be respected and valued when one is "perfect."

These three trait dimensions can further be categorized into two formations of perfectionism: adaptive perfectionism and maladaptive perfectionism. Adaptive perfectionism, or its descriptive name – perfectionistic striving, is marked by high personal standards and striving for associated rewards while still able to feel satisfied with one's performance. Both self-oriented and other-oriented types of perfectionism have been shown to be linked to adaptive perfectionism (Bieling, Israeli, Smith, & Antony, 2003). Socially-prescribed perfectionism, on the other hand, has been associated with maladaptive perfectionism, or perfectionistic concerns, which involves over-criticalness, inflexibly high standards, and excessive concerns over criticisms and minor mistakes (Bieling et al., 2003).

In the educational context, the role of adaptive perfectionism and its relationship with wellbeing and academic performance remains unclear, and sometimes contradictory (Verner-Filion & Vallernad, 2016). It has been established that maladaptive perfectionism is associated

with a number of negative outcomes both in the domain of academic performance (Flett, Blankstein, & Hewitt, 2009; Verner-Filion & Gaudreau, 2010) and students' mental health, including depression (Erozkan, Karakas, Ata, & Ayberk, 2011; Flett, Besser, Hewitt, & Davis, 2007), anxiety (Bong, Hwang, Noh, & Kim, 2014; Stoeber, Feast, & Hayward, 2009), stress (Chang & Rand, 2000; La Rocque, Lee, & Harkness, 2016), and even suicide (Hewitt, Caelian, Chen, & Flett, 2014; Roxborough, et al., 2012).

It is not difficult to extrapolate that perfectionism and passion share some common ground. First, it is unlikely that the individual will be passionate at all without any perfectionistic tendencies. One must devote a significant amount of time and energy to *perfect* a chosen activity, and over time, the individual may begin to internalize and identify with this activity, which may then evolve into a passion. Second, the controlling orientation exhibited by those who are socially-prescribed perfectionists are similar to those that are obsessively passionate. There is some limited research in this area that explored the relationship between perfectionism and passion. In an unpublished work by Balon, Lecoq, and Rime (2013), the authors found that harmonious passion is negatively associated with maladaptive perfectionism, while obsessive passion is significantly positively and negatively associated with maladaptive and adaptive forms of perfectionism, respectively. A more detailed exploration revealed that being harmoniously passionate leads to the development of self-oriented perfectionism and positive academic adjustment, and vice versa, there is a negative relationship between the adaptive types of perfectionism, as well as positive academic adjustment with being obsessively passionate (Verner-Filion & Vallerand, 2016).

In terms of the relationship between parenting style and perfectionism, there is ample research documenting that a harsh parenting style promotes the development of perfectionism

(Besharat, Azizi, & Poursharifi, 2011). In the context of academic achievement, it was found that harsh and authoritarian parenting styles were related to maladaptive, as opposed to adaptive, components of perfectionism across various ethnic groups (Craddock, Church, & Sands, 2009; Kawamura, Frost, & Harmatz, 2002; Basirion, Majid, & Jelas, 2014). Although there seemed to be a slight gender difference such that the adaptive form of perfectionism is associated with higher grades for females but not for males, maladaptive forms of perfectionism have generally been shown to negatively impact interpersonal relationships and coping (Kawamura, Frost, & Harmatz, 2002). Thus, I hypothesize that the relationship between parenting style and obsessive passion can be partially explained by having a personality profile characterized by high maladaptive perfectionism.

Achievement goals. Elliot and Harackiewicz (1996) proposed that there are three types of achievement goals: mastery goals (i.e., the aim is to develop competence and achieve task mastery), performance-approach goals (i.e., competence development relative to others), and performance-avoidance goals (i.e., the avoidance of feeling incompetent relative to others). Research has consistently demonstrated that mastery goals lead to adaptive learning marked by better learning strategies and greater self-efficacy (Hau & Ho, 2008; Ho & Haw, 2008; Lau & Lee, 2008), whereas both performance-approach and performance-avoidance goals, relative to mastery goals, are associated with lower academic achievement and maladaptive learning, though performance-approach goals nonetheless are positively associated with high levels of academic achievement.

It was not until recently that researchers in this field attempted to understand how achievement goal orientations are constructed and developed. Chen (2015) explored parenting style as a possible source of development of various achievement goals. She found that perceived

authoritative parenting was related to both mastery goals and performance-approach goals, both of which led to positive academic achievement. Authoritarian parenting positively predicted performance-avoidance goals, which was related to poor academic achievement.

There appears to be some mixed findings, however, when examining a relatively younger sample. In an unpublished work examining the impact of maternal parenting style on achievement goals and academic performance, it too found that students tended to endorse mastery goals when they perceived their mothers to exhibit higher levels of authoritative parenting style (Mital, 2011). However, in this sample of high school students, unlike what was found in the group of university students surveyed by Chen, the author did not find any relationship between either authoritarian and permissive parenting styles with any of the achievement goals. What was consistent, however, was that both authoritarian and permissive parenting styles were associated with poorer academic performance, and these results were replicated in a group of adolescent Australian students (Phillipson & McFarland, 2016).

Taking all the above together, these results suggest that the impact of different parenting styles on students' achievement goals may be dependent on age, such that older adolescents and young adults tend to benefit the most from perceiving their parents as exhibiting higher levels of authoritative parenting style. Despite the somewhat inconsistent results across the ages, these results nonetheless underscore the close relationship between parenting style and achievement goals.

Achievement goals have also been shown to have a connection with passion. Vallerand et al. (2007) demonstrated that achievement goals mediate the relationship between passion and performance. Specifically, these authors found that the more adaptive type of goal achievement – mastery goals, was the only form of goal achievement that reliably predicted deliberate practice,

whereas the two performance goals did not significantly predict deliberate practice. It was found that harmonious passion was only significantly correlated with mastery goals, whereas obsessive passion was significantly correlated with all three types of goal achievements. Because performance goals do not significantly predict deliberate practice, which is an essential condition in order to achieve high performance, these results suggest that among all obsessively passionate individuals, only those who are mastery goal-oriented would attain high performance, while those that are performance-goal oriented will not.

Although the relationship between passion and performance may seem clearly explained with achievement goals, the concept of achievement goals has not been investigated in the context of the development of passion. There appears to be a common thread between performance goals and avoidance of negative consequences resulting from having parents that adopt the authoritarian style. Drawing on this commonality, I propose that achievement goals may mediate the parenting style-obsessive passion relationship, as authoritarian parents may likely foster children that would adopt either the performance-approach or performance-avoidance goal orientation, which I hypothesize may lead to the development of obsessive passion.

Burnout. Prolonged exposure to chronic, job and educational-related stressors typically results in burnout (Maslach, Schaufeli, & Leiter, 2001), and burnout is characterized by emotional exhaustion, cynicism, and reduced professional efficacy. Those that are psychologically invested (i.e., greater devotion, involvement, commitment, and engagement) tend to be more vulnerable to burnout (Fernet, Lavigne, Vallerand, & Austin, 2014; Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002); and as such, research in this area has traditionally focused on workload, demands, and difficulty of job (Swider & Zimmerman, 2010). It was

realized recently, however, that not everyone that is heavily invested in their work or school in the same social environment become burnt out over time.

Approaching this research question from the dualistic model of passion, research has shown that the emergence of burnout may be a product of attitude towards the activity and control (Vallerand, Paquet, Phillipe, & Charest, 2010). Extant research examining the relationship between passion and burnout largely in the areas of work and athletes, has generally found harmonious passion prevents burnout and obsessive passion fosters it (Birkeland & Buch, 2015; Vallerand et al., 2010). However, despite this general pattern, there is some evidence that obsessive passion and burnout are only positively correlated when examined within a longitudinal design and this relationship disappears when using cross-sectional data. For example, in a study that surveyed 494 experienced teachers, Carbonneau, Vallerand, Fernet, and Guay (2008) found that harmonious passion reduced burnout over a three-month period, whereas a significant relationship between obsessive passion and burnout could not be detected when examined cross-sectionally. A recent study that attempted to disentangle this phenomenon found that degree of burnout fluctuates according to levels of harmonious and obsessive passion. This signifies the close relationship that is shared between passion and burnout.

Within the context of academic learning, although there has so far only been one study, the findings did not fully corroborate that of those observing workers and athletes (Stoeber, Childs, Hayward, & Feast, 2011). It was found that harmonious passion did correlate negatively with all three forms of burnout, but obsessive passion was also negatively associated with two aspects of academic burnout – cynicism and lack of professional efficacy. This might be again explained by the difference between the study samples. Specifically, in comparing the sample selection, the university students were mainly freshmen and sophomores, whereas the teachers

had been teaching for, on average, more than 15 years. These numbers likely imply that the students, although obsessively passionate, have been this way for a shorter amount of time and thus have not been as negatively impacted.

Even though past research in the domain of passion has only explored the relationship uni-directionally with passion predicting burnout, there is evidence, although limited, in the work and burnout literature to suggest people who have reached the point of burnout tend to engage in inflexible thinking patterns and coping strategies (Azar, 2000; O'Mahony, Gerhart, Grosse, Abram, & Levy, 2016). This rigidity component in which people think and cope while feeling burnt-out might insinuate that obsessively passionately engaging in their beloved activity may be a form of coping for these individuals despite its questionable effectiveness. As such, I propose that it may be possible that burnout may contribute to an elevated level of obsessive passion, as these obsessively passionate individuals, in the hopes to cope, may try to hold on to, and engage in, their most important activity in a more rigid manner.

As for the relationship between parenting style and burnout, although there is a dearth of research looking at the relationship between the two, in the literature of parental bonding, parental affectionless control (a characteristic of the authoritarian parenting style) has been evidenced to lead to high levels of exhaustion, cynicism, and academic inefficacy (Shin, Lee, Kim, & Lee, 2012). As such, I included burnout as a potential mediator in this current study to explore the mechanism of which parenting style may lead to the development of either harmonious and obsessive passions.

Self-compassion. Self-compassion, a specific form of compassion, involves three overlapping and interactive components: 1) being kind and loving rather than critical towards the self (loving kindness); 2) perceiving one's experiences as commonly shared among all humans

rather than being idiosyncratic and isolated (common humanity); and 3) being mindful of one's actions and taking a non-judgmental attitude towards experiences even in the face of inadequacies or failures (mindfulness; Neff, 2003). Although no linkage has been drawn between self-compassion, or lack thereof, and obsessive passion, its common associations with related constructs such as fear, mastery goals, intrinsic motivation, and increased motivation for self-improvement have been documented in several studies (Breines & Chen, 2012; Donahue, Rip, & Vallerand, 2009; Gilbert, McEwan, Matos, & Rivis, 2011; Neff, Hsieh, & Dejitterat, 2005). Although many studies have investigated and supported the association between high levels of self-compassion and positive outcomes, the developmental origins of self-compassion have largely been neglected in this field of research. Recently, Pepping, Davis, O'Donovan, and Pal (2015) noted that different levels of self-compassion may arise from various parenting styles received as a youngster. Specifically, children who perceived themselves as having parents with high levels of rejection and protection and low levels of parental warmth subsequently developed low levels of self-compassion. Given such evidence, I hypothesized that self-compassion may mediate the relationship between parenting style and obsessive passion.

In addition to these four mediators, I also included leisure-time satisfaction and life satisfaction in my mediation analysis. As described previously, having varying levels of obsessive and harmonious passions may affect one's leisure-time satisfaction and life satisfaction (e.g., Lafrenière, St-Louis, & Vallerand, 2012; Lafrenière, Vallerand, Sedikides, 2013). Though the directionality of this research has always examined passion as the predictor and levels of satisfaction as a consequence of passion, it is nonetheless possible according to the Self-Determination Theory that a global dissatisfaction in life and leisure-time may lead people to approach their most valued activity in a more controlled and rigid manner in order to achieve

social-connectedness, and thus elevate their levels of obsessive passion. Furthermore, the three types of parenting styles have also been shown to differentially relate to levels of life satisfaction. Therefore, it was felt that these two variables were worthwhile to include and explore in the current study.

Potential Moderator

Implicit theories of intelligence. Parents' perceptions of their children's academic abilities, especially the stability of their children's competence, play a crucial role in the parents' socialization of their children, and these beliefs can often affect children's motivation, achievement, and overall academic functioning (Butler, 2000; Haimovitz & Dweck, 2016; Pomerantz & Dong, 2006). Like a self-fulfilling prophecy, parents' beliefs about their children's academic competence lead them to offer more guidance, patience, and opportunities that would allow their children to maximize their capabilities to perform well in the academic realm. Intelligence and academic competence as we know, are both a combination of an innate ability and learning. Research, however, has demonstrated that chronic self-views of intelligence differ across people and can influence one's future intelligence level (Dweck and Leggett; 1988). Perceptions of the stability of intelligence can be divided into two categories: those that view intelligence as a fixed entity (entity theorists), and others that perceive it as a quality with plasticity (incremental theorists). In the field of academics, entity theorists pursue education for self-protective reasons – to avoid negative feedback in order to maintain a positive self-view, whereas incremental theorists are motivated for learning and mastery purposes (Ehrlinger & Dweck, 2006).

Earlier research looking at parents' views of children's academic competence demonstrated some evidence linking parents' perceptions of the fixedness versus malleability of

intelligence, both of themselves and their children's own perception of intelligence, with their children's objective competence over time (Pomerantz & Dong, 2006). For example, relative to entity theorist mothers, incremental theorist mothers foreshadowed their children's academic performance more strongly (as measured by children's academic grades), they were more mastery-oriented, as opposed to performance-oriented, they placed more emphasis on effort and development, and most importantly, these values successfully trickled down to their children, which helped to shape the children's views of goal achievement (Blackwell, Trzesniewski, & Dweck, 2007; Grant & Dweck, 2003; Hulleman, Schrager, Bodmann, & Harackiewicz, 2010; Pomerantz & Dong, 2006).

Some recent research in the area demonstrated another perspective that parents' views of failure, as opposed to parents' views of intelligence may be the key influential factor in predicting children's view of intelligence (Haimovitz & Dweck, 2016; Haimovitz & Dweck, 2017). The mechanisms by which parents' implicit theories of intelligence and their failure-related mindsets[2] influence their children's views on intelligence were explored and explained in Haimovitz and Dweck's (2016) four-study paper. In their studies, Haimovitz and Dweck demonstrated that parental failure-debilitating mindsets seem to translate to excessive concern and overt performance-oriented parenting style. These parental behaviours likely contribute to their children developing the belief that intelligence is a fixed entity. In the face of failure, instead of endorsing a learning-oriented reaction, these parents pity, doubt, and comfort their children while focusing on their children's abilities as an explanation for their failures. These

[2] Failure-enhancing vs. failure-debilitating mindsets. Parents with failure-enhancing mindsets encourage learning and development, consistent with the idea that intelligence/academic competence is incremental. Failure-debilitating mindset on the other hand, concurs with that of entity theorists such that abilities cannot be changed, and that the failure experience is proof of such.

new findings suggest that the source of children's implicit theories of intelligence may be found within their parents' parenting style.

Literature has also shown that implicit theories of intelligence are associated with other mediators that I examined in the current study. For instance, research that examined reducers and maintainers of intrinsic motivation suggest that students who had previously endorsed an entity theory of intelligence experienced a decline in their level of intrinsic motivation over the course of a school year (Haimovitz, Wormington, Henderlong Corpus, 2011).

The effects of implicit theories of intelligence on the approach one adopts for pursuing a task are very similar to those of obsessive and harmonious passion. Entity theorists will be less self-compassionate, more blaming, and have greater concerns over minor mistakes (also characteristic of those with maladaptive perfectionistic tendencies; Dweck, Chiu, & Hong, 1995a). In addition, when faced with academic difficulty, in order to preserve their sense of self-competence relative to others, they tend to engage in more ineffective strategies of learning and report more negative emotions (Dweck & Leggett, 1988). Conversely, when students with incremental views of intelligence find themselves struggling with their academics, they are more likely to think flexibly, to try new learning strategies, as opposed to being preoccupied with "perception management" thoughts (Dweck, Chiu, & Hong, 1995b).

Given the relationships shared between implicit theories of intelligence and my mediators while considering that fixed versus malleable views of intelligence in students were likely instilled within them by their parents, I predicted that entity theorists would rigidly engage in their chosen task, in this case, studying. For exploratory purposes, I hypothesized that implicit theories of intelligence directly moderate the relationships between parenting style and the proposed mediators and indirectly moderates the effects of parenting style on the development of

passion, such that entity theorists would show a greater tendency to become obsessively passionate via the proposed mediators about their beloved activity.

Objective and Hypotheses

The purpose of Study 1 was to test the hypothesis that different parenting styles are differentially associated with either harmonious or obsessive passions. I expected parenting style, specifically, an authoritarian parenting style to lead to the development of obsessive passion and that this relationship, as I hypothesized, would be mediated by perfectionism, burnout, achievement goals, self-compassion, leisure-time satisfaction, and life satisfaction (Hypothesis 1). To obtain a clearer picture of how these variables influence the parenting style-obsessive passion relationship, I controlled for potential confounding sociodemographic factors – if any sociodemographic factors were significantly associated with passion. I also explored whether implicit theories of intelligence exerted a moderated mediation effect on the above proposed mediation models (Hypothesis 2). Finally, sociodemographic factors were tested to observe for any moderation effect on the parenting style – obsessive passion relationship (Hypothesis 3).

Method

Ethical Approval. This study was approved by the Research Ethics Board of the University of Manitoba. Ethical approval was obtained prior to any data collection (Appendix A).

Participants. Participants were 253 undergraduate students (*M* age = 19.9, *SD* age = 4.1) enrolled in Introduction to Psychology at the University of Manitoba who completed the Mass Testing and provided permission, as well as contact information to participate in additional studies throughout the academic year. The “Mass Testing” is a common protocol that the Department of Psychology at the University of Manitoba practices at the beginning of every

school year. It is a paper-and-pencil administration of a large packet of questionnaires available for all students registered in the Introductory of Psychology course at the University of Manitoba. This initial screening phase occurred in September 2015, and the Passion Scale for Studying was included in this packet of questionnaires. They were administered to all students registered in the Introduction to Psychology course at the University of Manitoba that chose to participate in this research opportunity. The mass testing took place during class time and students completed the entire package of questionnaires between 30 to 50 minutes. These questionnaires were then manually entered into a database and checked for accuracy. Students that participated in the mass testing received two course credits towards their research requirement for the course in exchange of their participation.

University students were not just a convenient sample but also an appropriate population for this topic for two primary reasons. First, university students have chosen to pursue higher education, and thus likely possess a certain minimum level of interest and dedication for studying, whether this is due to parental pressure or an interest in advanced educational goals. Therefore, a relatively larger proportion of individuals with obsessive passion for academics are more likely to be found in a university sample than in a sample from the general adult population. Second, unlike high school, there is typically no in-class time to work on assignments or prepare for tests in university, and thus, the amount of out-of-class time university students spend engaging in their studies is entirely discretionary and more variable. Accordingly, the opportunity to empirically evaluate the significance of varying degrees of academic involvement is greater in a university sample.

Not everyone that completed the mass testing Passion Scale was invited to participate in the current research. The following procedure was used to establish the final sample of those that

qualified for the current research. During the preliminary phase (i.e., mass testing), 2024 introductory psychology students at the University of Manitoba completed the Passion scale adapted for academic studying. One hundred and fifty-five students used the scale incorrectly (i.e., provided ratings outside of the 7-point Likert scale), which resulted in a pool of 1869 students. The initial data collected from these 1869 eligible participants were then examined for missing data. It was observed that more than 100 students did not provide a response to item 17 on the Passion scale, which reads, "[this activity] is part of who I am;" however, given that the original version of the Passion scale is only comprised of items 1 – 16, such that item 17 was simply a new addition to the scale with most of the previous research on this topic conducted using the original 16 items of the scale, we decided to omit item 17. After the exclusion of item 17, respondents with two or more missing responses were excluded from further consideration (n = 53), which then reduced the sample size to 1816. Of the 1816 participants who provided a reasonable number of responses to the screening questionnaire (i.e., no missing or only one missing response), 983 individuals either did not meet the passion criteria (the midpoint of the scale was used as the cut-off score for the passion criteria subscale; a detailed description of this measure can be found on page 31) or they did not provide permission to be contacted to participate in further studies. As such, the final sample size available for both Study 1 and 2 was 833.

To determine the number, and type, of participants appropriate for each of the two studies, all eligible participants' obsessive mean per item scores were rank ordered. The scores were then dichotomized using the median score of the average of the obsessive passion (OP) subscale such that those that scored in the bottom 50% on the obsessive passion subscale were considered as having low OP, and individuals that scored in the top 50% of the OP subscale were

considered as having high levels of OP. Using the median score of 2.20, approximately 46.5% of the sample (n = 387) fell in the low OP category and approximately 53.5% (n = 446) fell in the high OP category. This approach to dichotomize the sample into low and high levels of OP was taken to ensure that Study 1 and Study 2 would have a balanced number of participants, as the selection criteria for Study 2 was much more stringent (which will be described in the next chapter of this thesis). Two hundred and seventy of the high OP individuals were randomly selected and reserved for recruitment for Study 2, and this yielded a pool of 563 students (176 of which were from the high OP group) for this study (Figure 1).

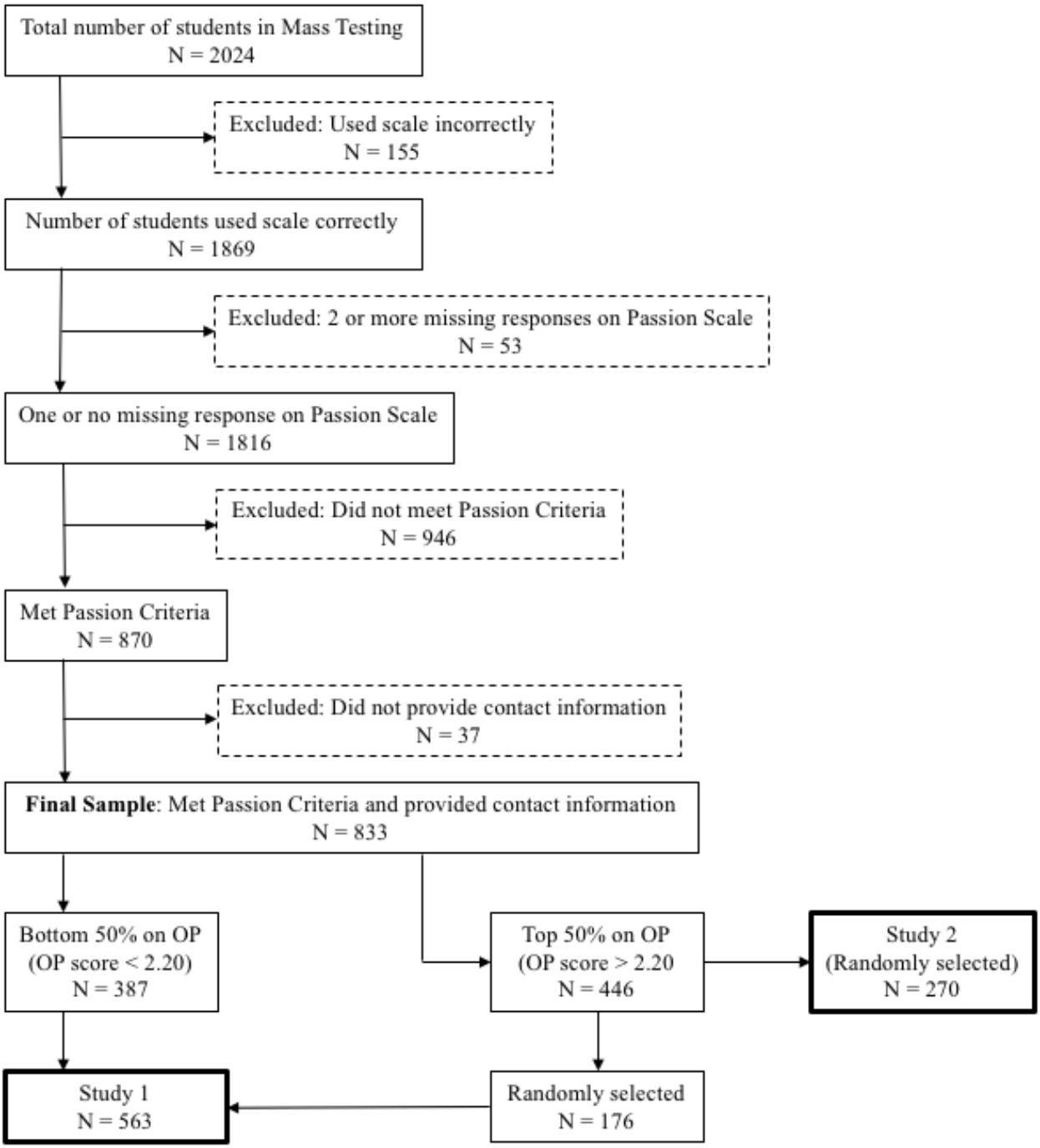

Figure 1. Flowchart of sample studied.

An a priori power analysis using G*Power (version 3.1.9.1; Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007) was conducted to determine the sample size appropriate for this study. Although no studies have examined the effects of parenting styles

on the development of obsessive and harmonious passions, parenting styles have been extensively studied in the context of academic achievement, especially for the age groups of children and adolescents. An examination of the effect sizes in the context of academics revealed that parenting styles typically exhibit small to very small effect sizes on a wide range of academic-related dependent variables (Pinquart, 2016; Pong, Johnston, & Chen, 2009). As such, for a linear multiple regression ("Fixed model, R^2 increase") to achieve the desired power of 80% for an estimated effect size of $f^2 = 0.02$ (which by convention denotes a "small" effect size; Cohen, 1988) at $\alpha = 0.05$, a minimum number of 395 participants are required.

Two-hundred and fifty-three students participated in the current study. There were 187 females (73.9%), 65 males (25.7%), and 1 person (0.4%) that self-identified as "Other." In terms of ethnic background, White (54.2%) and Asians (29.2%) make up most of the sample. Participants received two research credits in exchange for their participation of Study 1.

Measures

Mass testing measures. (Appendix B).

Passion for studying. The 17-item Passion Scale for Studying was adapted from the Passion Scale (Vallerand et al., 2003), which is a 17-item multi-factorial scale that measures harmonious passion (HP), OP, and passion criteria. There are six items for each of the two passion subscales and five other items that are used to identify if passion is present in the individual (passion criteria). Typically, the participant is first asked to describe an activity that he/she likes and that she/he spends a significant amount of time doing. Once the activity has been identified, the participant then answers all 17 items while thinking about the chosen activity. For the purpose of the current study, participants were not given the choice of choosing their activity, the instructions simply told students to answer the items while thinking about

studying. Accordingly, the original scale target "this activity" was replaced with "studying." For example, the original item, "This activity is in harmony with the other activities in my life" was modified to, "Studying is in harmony with the other activities in my life." Five of the 17 items on this scale constitute the Passion Criteria subscale. On the 7-point scale, the midpoint of this subscale has served in many studies as the cut-off point to qualify people who are considered passionate (e.g., Bonneville-Roussy, Lavigne, & Vallerand, 2011; Bonneville-Roussy, Vallerand, & Bouffard, 2013; Donahue, Rip, & Vallernad, 2009; Vallerand & Houlfort, 2003). This method was followed by identifying whether a participant meets the passion criteria, but only using the first four items due to reasons described earlier in the Participants section. Participants that scored, on average, below four on these items, were identified as not passionate towards studying and these individuals were eliminated from the study. Other sample items that assess OP include, "If I could, I would only study" or "I spend a lot of time studying." The two subscales demonstrated acceptable and similar reliability as previous studies of when the passionate activities were predetermined for research purposes (Houlfort, Philippe, Vallerand, & Ménard, 2012) with Cronbach alpha values of .77 for OP and .78 for HP.

Self-compassion. Neff's (2003) six-factor (self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification) Self-Compassion Scale was used to measure this potential mediator. A sample item reads, "I try to see my failings as part of the human condition." The 26-item scale has excellent reliability ($\alpha \geq .92$; Neff, 2003). Fortuitously, another researcher submitted the full version of this scale in the Mass Testing packet, and as such, I decided to use data collected during the Mass Testing using this full version of the scale and thus dropped the inclusion of this scale from the online survey. The scale demonstrated good

internal consistency in the present study (α = .84), but much lower than what was found in the literature.

Study 1 measures. (Appendix C)

Demographic questionnaire. Although students were asked to provide information about their age, gender, and contact information during Mass Testing, because the online survey included more questions and was what was used to analyze the final data, the version that was used for the online survey is included in Appendix C. Specifically, students were asked to indicate their age, gender, year in university, first language, ethnicity, socioeconomic status, level of parental education, immigration status, type of prior education (i.e., private, public, or homeschool), amount of studying, satisfaction with amount of studying, satisfaction with current grades, and email address (for data linkage purposes between the mass testing and the online survey).

Parental Authority Questionnaire. The 30-item Parental Authority Questionnaire, by Buri (1991), was developed to measure Baumrind's (1971) parenting styles: Authoritative versus Authoritarian versus Permissive. The scale was originally developed and tested using university students, and has been validated with other cultural groups (Ang & Goh, 2006). The instructions were modified slightly to suit the purpose of the current study. While the original instructions inquired about its items' applications to the respondents and their mothers during their years of growing up at home, to account for single fathers and individuals whose fathers were more involved in their educational upbringing, participants were asked to reflect on the parent that was most influential in their educational developments. A sample item from this measure reads, "As I was growing up my father/mother did not allow me to question any decision he/she had made." Although I was primarily interested in authoritarian parents, the other 20 items that measure

permissive and authoritative parenting style were included to help further explore the relationship between these other two types of parents and the development of OP in their children. Internal consistencies for each subscale ranged between good to very good (Authoritarian: α = .87; Authoritative = α = .82; Permissive: α = .77).

Perfectionism. The Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991) is a 45-item, three-factor measure. It assesses three sources of perfectionism: self-oriented, other-oriented, and socially prescribed. Generally, having high self-oriented perfectionism is associated with greater productivity, while having other-oriented and socially prescribed perfectionism are associated with negative consequences such as being seen as highly critical by others and being susceptible to psychiatric conditions including anxiety and depression (Enns, Cox, & Clara, 2002; Enns, Cox, Sareen, & Freeman, 2001). This instrument has been extensively tested among the student population and has been used specifically in the context of passion studies with results suggesting a strong linkage between OP and both types of maladaptive perfectionism (Balon et al., 2013; Enns et al., 2001; Henning, Ey, & Shaw, 1998). Items included "When I am working on something, I cannot relax until it is perfect"; "I am not likely to criticize someone for giving up too easily."; and "It is not important that people I am close to are successful." The reliability estimates for the three subscales were .84 for self-oriented perfectionism, .74 for other-oriented perfectionism, and .87 for socially-prescribed perfectionism, and these estimates were quite similar to ranges of internal consistency measures found in the literature (e.g., Black & Reynolds, 2013; Sturman, Flett, Hewitt, & Rudoph, 2009).

Achievement Goals. I used the Achievement Goal Questionnaire (Elliot and McGregor, 2001), which is an 18-item questionnaire proposed by Elliot and Church (1997) to measure participants' mastery, performance-approach, and performance-avoidance goals. Sample item

include, "It is important to me to do well compared to others in school." Each subscale is comprised of six items. Participants rated themselves on a 1 (*Not at all true for me*) to 7 (*Very true for me*) scale. All three subscales have demonstrated adequate reliability with Cronbach's alpha values around .80 (Elliot & Church, 1997; Vallerand et al., 2007). The original items were phrased to capture students' achievement goals in one specific class. To better address the research purposes of this project, items were modified to reflect students' achievement goals in school in general. In the current study, the subscales demonstrated acceptable to nearly excellent internal consistency (mastery: $\alpha = .82$, performance-approach: $\alpha = .89$; performance-avoidance: $\alpha = .75$).

Academic Burnout. To measure academic burnout, a potential negative effect of being obsessively passionate about studying, I used the Maslach Burnout Inventory-Student Survey (MBI-SS; Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002). The questionnaire is comprised of 15 items with five items to measure exhaustion ("I feel emotionally drained by my studies.", for example), four cynicism items (e.g., "I doubt the significance of my studies."), and six professional efficacy (example item include, "In my opinion, I am a good student.") items. Existing literature has provided evidence that the scale is reliable to use in university students with alpha values ranging between 0.75 to 0.82 for all subscales (Breso, Schaufeli, & Salanova, 2011; Schaufeli et al., 2002; Stoeber, Childs, Hayward, & Feast, 2011). The three subscales demonstrated adequate to good internal consistency. Specifically, the exhaustion subscale exhibited a nearly excellent level of reliability estimate of .89 in the current sample. The cynicism scale also had a good internal consistency of only .87. The professional efficacy subscale demonstrated slightly lower, but nonetheless, adequate internal consistency ($\alpha = .74$).

Leisure time satisfaction. Students completed the Leisure Time Satisfaction (LTS; Steven Director et al., 2014). This is a brief measure that assesses their subjective satisfaction and the frequency or amount of leisure activities experienced. All items share the same question root, which reads, "Over the past month, how satisfied are you with the amount of time you have been able to spend…" and a sample item would then read, "In quiet time by yourself?" This measure is made up of six items that all load onto one factor with an internal consistency value of 0.80. The scale demonstrated modest internal consistency of .62.

Life satisfaction. The Brief Multidimensional Students' Life Satisfaction Scale – College Version (BMSLSS - C; Zullig, Huebner, Patton, & Murray, 2009) was administered to measure students' level of satisfaction in seven life domains (e.g., "I would describe my satisfaction with my family as…". Five of which, family, friends, school, self, and living environment were included in the Multidimensional Students' Life Satisfaction Scale (Huebner, 1994), as well as the original version of the Brief Multidimensional Students' Life Satisfaction Scale (Seligson, Huebner, & Valois, 2003). Although the scale was recently developed, the original versions of the MSLSS and BMSLSS were widely used with acceptable reliability measures (α-value ranging from 0.62 to 0.91 on the original five domains; Funk, Huebner, & Valois, 2006), and the new scale has shown similar, and some times better, coefficient alpha value of 0.80 (Zullig, Huebner, Patton, & Murray, 2009). The total scale demonstrated acceptable internal consistency (α = .75).

Implicit theories of intelligence. The original, 8-item, 2-factor, Implicit Theories of Intelligence Scale was used to measure whether an individual conceives of intelligence as a fixed entity or as incremental (Dweck, Chiu, & Hong, 1995). The scale is comprised of four items for the entity theory of intelligence (e.g., "Everyone has certain amount of intelligence and we can't

really do much to change it;") and four items for the incremental theory of intelligence (e.g., "No matter who someone is, he/she can significantly change his/her intelligence level;"). Overall, research indicates the scale demonstrates good to excellent internal consistency (α = .82 to .97), though in the current sample, the scale only displayed an acceptable level of internal consistency of .75.

Procedure. Most qualifying students were recruited by email, and in the case where an email address was not readable or provided, the individual was then recruited by phone (see Appendix C for recruitment script). All participants that were recruited by phone or provided an email address that was not a University of Manitoba email address were asked to provide his/her University of Manitoba email address for linkage purposes for the eventual combination of data from Mass Testing and the online survey. An invitation email with a special code to access the online survey was sent to all eligible participants to ensure that only eligible students participated in the survey. As an additional way to safeguard that only qualifying students participated in the survey, their unique University of Manitoba email address served as their one-time use password to begin the survey. Even though the study can be seen on the University of Manitoba Psychology Subpool Portal by those who did not meet study criteria, without this special code and my inclusion of their University of Manitoba email address as one of the allowed passwords, those disqualified individuals were not able to sign up for the study or access the survey.

Questionnaire packages were compiled and administered online using the survey portal, Qualtrics. Before entering the questionnaire portion of the survey, students were informed that their codes would only grant them a one-time access to the survey and once they began the survey, they would only have a maximum of four hours to complete it before their links expire. These restrictions were put in place to ensure that students complete the survey in a single

sitting. After this warning, students were given instructions to complete the survey without distractions such as email, cellphone or other forms of social media. Following these general instructions, students read and indicated their consent by clicking on an "I agree" button on the informed consent form (Appendix C), where all participants were assured of their confidentiality. This form also included a description of the study as well as a brief explanation of procedures through Qualtrics on the protection of collection, and storage of, data. If a student does not provide consent to participate, this individual would then be taken to the final thank you page and thanked for their consideration. Once students have given informed consent, they were then asked to provide their university email addresses for the purpose of linking the data; this was the only hard-requirement component of the survey, meaning that participants were not able to proceed further without entering their email address. All other items in the survey were soft required, meaning that if the participant did not provide a response to any of the items, the survey prompted the participant for an answer but did not require one to continue. The questionnaire portion of the survey began after the students entered their email address. The measures described in the Materials section were presented in random order to minimize any order effects. On average, participants completed the survey in 27.4 minutes, with completion times ranging from 6.2 to 117.7 minutes.

Analyses

Multiple data analysis procedures were used to answer the research question and in testing the hypotheses described in the introduction of this chapter. Data from the online survey were exported from Qualtrics to the Statistical Package for the Social Sciences (SPSS) version 23.0 for Mac (IBM Corp, 2015). To ensure anonymity, all data files were stripped of any

identifying information, including student number and email address after the two portions of the study were linked.

***Data Preparation*.** Data from Mass Testing and the online survey were merged using participants' student email addresses as the identifier. Four participants did not complete the survey (i.e., dropped out of the survey less than halfway through the survey) and therefore were eliminated from the dataset from the outset.

After these four non-completers were deleted, results of a missing value analysis indicated 99.6% complete values in the overall dataset with no obvious patterns to the missing data (Little's MCAR chi-square = 969.0, $p > .05$). Item-level, as well as scale-level missing data were also considered. Only one individual had scale-level missing data on one scale, and on an individual item-level, no individual item had over 1.8% of missing values. For the scale-level missing data, although multiple imputation (MI) is recommended (Newman, 2009), this methodology was not feasible because the PROCESS software used to analyze the data does not support it. Accordingly, I used expectation maximization (EM) with 50 iterations (because the data did not converge at 25 iterations – the typical default setting for statistical software packages). I used mean imputation to impute item-level missing data. Although mean imputation has been criticized to distort the distribution of the imputed variables and thus leading to underestimates of variance and standard deviations (Gelman & Hill, 2007), given the trifling level of missing data, which fell far short of the 20% threshold to appropriately use mean imputation (Newman, 2009), it was deemed suitable to use. After all imputations were complete, values and patterns appeared identical for the original and imputed datasets when regression coefficients (R^2 and ΔR^2) were compared. As such, all analyses were conducted using the EM imputed dataset to achieve maximum power.

Survey based responses often face issues related to inattention and careless responding. To address this potential issue, three indices were examined to identify respondents who failed to exert sufficient effort in completing the survey: 1) Response Time; 2) Consistency; and 3) Response Pattern.

Although response time as a screening technique does not account for respondents' variable reading time and it assumes that there is a minimum amount of time that is needed to provide an accurate and thoughtful response, there is believed to be a minimum amount of time that participants need to respond to a survey item attentively and thoughtfully. Huang and colleagues (2012) suggested that it is unlikely for participants to respond to items in less than 2 seconds. However, this suggestion does not take into consideration the length of item descriptions. As such, when this rule was applied to the current study, it appeared that this was too low of an estimate given that it was much shorter than the shortest response time for this survey. This suggests that it is important to take the length of the survey items into consideration when establishing a cut-off score. Maniaci and Rogge (2014) recommended to exclude participants who complete the survey in less than half of the average time, depending on which average time was more appropriate to be used for the study of interest (i.e., mean, median, etc.) or half of the 5% trimmed mean completion time. Given that the distribution of response times participants used to complete the survey was positively skewed, I used the median (1388.0 seconds) to determine the optimum cut-off time. This resulted in a cut-off score of 694 seconds. Four participants completed the survey in less than 694 seconds and therefore, were flagged for further evaluation.

To examine participants' response consistency, I calculated the even-odd consistency measure, which is a within-person correlation across subscales formed by an even-odd split of

unidimensional scales and multidimensional subscales (items that need reverse coding were handled prior to calculating the correlation coefficients). I then applied the Spearman-Brown split-half formula to adjust for the length of the survey (Meade and Craig, 2012). Based on the Spearman-Brown split-half formula adjusted correlation coefficients, all participants responded to the survey items reasonably consistently ($.93 \leq r \leq 1.00$). As such, no participant was flagged using this method.

Finally, to observe for invariant patterns of response styles, I calculated the LongString for each multidimensional scale. This is the recommended approach for multidimensional scales that has a mix of positively and negative scored items, as it is assumed that too many consecutive identical responses indicate a lack of effort (DeSimone, Harms, & DeSimone, 2015; Meade & Craig, 2012). MaxString scores were then observed for each multidimensional scale. Those with a score larger than two standard deviations above the mean were identified as having an invariant response pattern. Using this technique, 62 participants were flagged as having invariant response patterns.

Together using all three methods, 65 individuals were identified as having responded to the survey in a careless and inattentive manner. Data from these 65 individuals were excluded from the original sample of 253 participants (after deleting the four non-completers), which yielded a final sample size of 188.

Data was then assessed for any outliers and assumption violations. Assumptions of homoscedasticity, multicollinearity, independence, homogeneity, and normality were assessed by reviewing residual plots. As for outliers, they were identified by inspecting distributions of the residuals and index plots of Cook's D values (Cohen, Cohen, West, & Aiken, 2003). Any extremely unusual cases would have been flagged and examined further, but for the most part,

there were very few cases that fell outside of the sample norm and they can hardly be categorized as "extreme." This suggests that there were no serious assumption violations or concerns and thus, all data were retained.

Upon establishing that these residuals met assumptions of multiple regressions, scale and subscale scores were calculated accordingly. Descriptive analyses were conducted on all sociodemographic and scale scores. Because HP and OP are typically collinear, to ensure that only the effects of the various predictor variables on the unique OP aspect of passion were examined, using a direct measure of OP as the dependent variable would have been insufficient. Furthermore, it is conceptualized that the magnitude of the OP is less important than the proportion of OP relative to one's overall passion, as such a ratio score was calculated using formula below:

$$\text{Ratio} = \frac{\text{OP}}{\text{OP} + \text{HP}}$$

To correct for the positive skewness of the ratio score, a log transformation was applied. This log transformed ratio score (hereon referred as *r*OP) served as the dependent variable for all mediation and moderation analyses.

***Descriptive Statistics*.** I conducted frequencies and descriptive analyses of all sociodemographic variables and scale scores, as well as a zero-order correlation of the two types of passion and all the demographic variables, as well as scale scores.

***Hypothesis Testing*.** To test Hypothesis 1 concerning the expected differential association of parenting styles and *r*OP and that the parenting style and *r*OP relationship would be mediated by perfectionism, burnout, achievement goals, self-compassion, leisure-time satisfaction, and life satisfaction, I first observed for any significant correlations between *r*OP and all the demographic variables. I then entered any demographic variables as covariates into the

mediation models (Model 4 in PROCESS; Figure 2) if they were significantly correlated with *r*OP. To examine for the unique effects of each parenting style on *r*OP, complementary parenting styles (e.g., authoritative and permissive parenting styles if authoritarian parenting was the independent variable) were entered into the model as covariates.

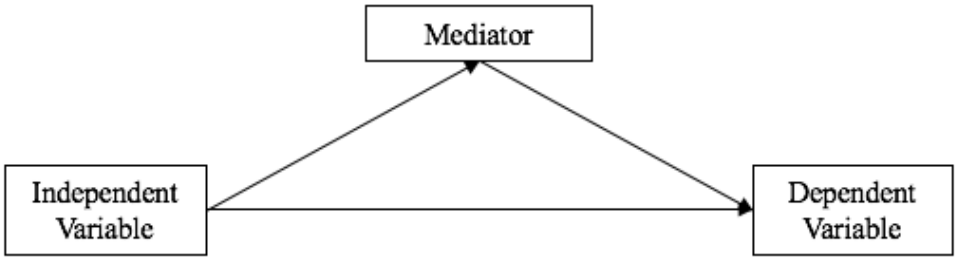

Figure 2. A conceptual diagram of Model 4 of PROCESS.

According to Hypothesis 2, implicit theories of intelligence was hypothesized to moderate, the relationship between parenting style and my various mediators proposed in Hypothesis 1, as well as the direct relationship between parenting style and obsessive passion. I used Model 8 in PROCESS (Figure 3) to explore any moderated mediation effects.

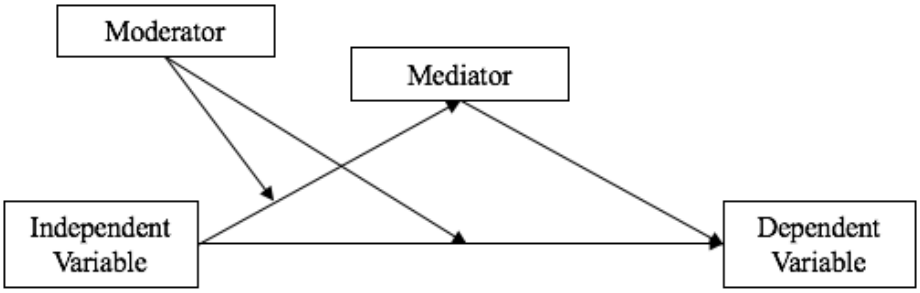

Figure 3. A conceptual diagram of Model 8 of PROCESS.

The simple moderation model (Model 1 of PROCESS; Figure 4) was used to explore whether any of the sociodemographic variables moderated the effects between parenting styles and *r*OP (Hypothesis 3).

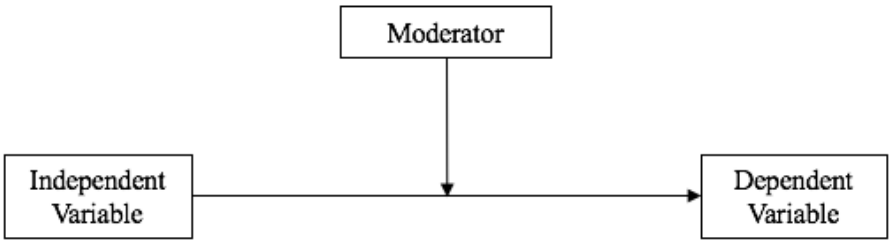

Figure 4. A conceptual diagram of Model 1 of PROCESS.

Results

Descriptive Statistics. Table 1 and 2 respectively show the demographic, and individual and familial educational-related characteristics of the sample. Certain demographic variable options were collapsed here in the table due to small cell sizes.[3] Regarding the sample's age, there were only two participants that were 17 years of age and only three participants in their 30's and three in their 40's with most students' age ranged between 18 and 20. Although the Introductory to Psychology course is a first-year course taken primarily by first-year university students, students in other years of university can also be enrolled in it. As can also be seen in Table 1, most participants were largely White or Asian, contributing to just under 85% of the sample. In terms of participants' course load, the University of Manitoba considers those that take three or more courses per semester as fulltime students. In the current sample, there were 14 part-time students taking only one or two courses (n = 3 and 11, respectively). Students can take up to five courses without special permission from their respective departments; as such, only one individual was taking six courses at the time of the survey.

[3] Although more options were given in the survey for certain demographic variables, but due to some of the small cell sizes, certain categories were collapsed here and hereinafter in testing Hypothesis 3. For example, four options were given for Year of University in the survey: First, Second, Third, and Fourth or More Years; but due to small cell sizes in the latter three categories, these options were collapsed into First Year and Non-First Years.

Table 1. *Demographic Characteristics of Sample*

	M (SD; Range)
Age	19.8 (4.1; 17 – 43)
	N (%)
Gender	
Male	49 (26.1)
Female	138 (73.4)
Other	1 (0.5)
Year of University	
First Year	141 (75.0)
Non-First Year	47 (25.0)
Ethnicity	
White	109 (58.0)
Asian	50 (26.6)
First Nations/Inuit/Métis	8 (4.3)
Black	11 (5.9)
Other	10 (5.3)
Family's Gross Income	
<$35,000	31 (16.5)
$35,000-$59,999	54 (28.7)
$60,000-$99,999	54 (28.7)
$100,000+	49 (26.1)

Table 2. *Individual and Educational Characteristics of Sample*

	N (%)
Father's Highest Level of Education	
Less Than High School	16 (8.5)
High School Graduate	42 (22.3)
Some College/University	48 (25.5)
Bachelor's Degree	49 (26.1)
Master's or Higher (Including Professional School)	28 (14.9)
Unknown	5 (2.7)
Mother's Highest Level of Education	
Less Than High School	16 (8.5)
High School Graduate	26 (13.8)
Some College/University	54 (28.7)
Bachelor's Degree	63 (23.5)
Master's or Higher (Including Professional School)	25 (13.3)
Unknown	4 (2.1)
Immigration Status	
Third Generation or More	99 (52.7)
Second Generation	55 (29.3)
First Generation	22 (11.7)
International Student	12 (6.4)
Type of Secondary School	
Public	155 (82.4)
Non-Religious Private	10 (5.3)
Religious Private	23 (12.2)
Hours/Week Studying	
0 – 5	13 (6.9)
6 – 10	36 (19.1)
11 – 15	52 (27.7)
16 – 20	35 (18.6)
21 – 30	32 (17.0)
31 – 40	15 (8.0)
40+	5 (2.7)
	M (SD; Range)
Course Load	3.9 (0.9; 1 – 6)
Satisfaction with Amount of Studying	4.2 (1.4; 1 – 7)
Satisfaction with Grades	4.1 (1.7; 1 – 7)

Table 3 displays the descriptive statistics for all scale and subscale measures. With regards to the measure of implicit theories of intelligence, incremental/entity theories are measured on a continuum such that a higher score denotes that the participant conceives intelligence as incremental.

Table 3. *Descriptive Statistics for all Scale and Subscale Measures*

	Mean	SD	Range	Min Possible	Max Possible
Passion					
HP	4.33	0.89	4.33	1.00	7.00
OP	1.99	1.05	5.17	1.00	7.00
Parenting Style					
Authoritarian	32.03	7.45	37.00	10.00	50.00
Authoritative	35.72	5.96	32.00	10.00	50.00
Permissive	25.89	5.88	29.00	10.00	50.00
Perfectionism					
Self-Oriented	73.5	12.9	78.00	6.00	105.00
Other-Oriented	57.4	10.2	65.00	6.00	105.00
Socially-Prescribed	57.2	13.6	65.00	6.00	105.00
Achievement Goals					
Mastery	34.8	4.25	21.00	7.00	42.00
Performance-Approach	27.5	7.64	35.00	7.00	42.00
Performance-Avoidance	31.5	6.66	32.00	7.00	42.00
Academic Burnout					
Exhaustion	18.64	4.17	23.00	5.00	35.00
Cynicism	17.2	3.45	19.00	5.00	35.00
Professional Efficacy	22.14	5.06	27.00	5.00	35.00
Self-Compassion	82.12	9.67	56.00	26.00	130.00
Leisure Time Satisfaction	12.36	2.45	12.00	6.00	18.00
Life Satisfaction	29.38	5.53	27.00	7.00	42.00
Incremental Theory	22.10	6.99	36.00	8.00	48.00

Table 4 is a correlation matrix of passion and scale/subscale scores. As expected, HP is positively correlated with authoritative parenting. However, unlike what was predicted, OP was not significantly correlated with authoritarian parenting, rather, it was positively and significantly correlated with permissive parenting. (Partial and semi-partial correlation of OP

with authoritarian parenting style controlling for HP was also tested. Similar results were found.) The ratio score of *r*OP was negatively correlated with harmonious passion and positively correlated with obsessive passion. However, it was not significantly correlated with any of the three types of parenting styles.

Table 4. *Correlation Matrix of Passion and all Scale/Subscale Scores*

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	HP																		
2	OP	.15*																	
3	*r*OP	-.45**	.77**																
4	Authoritarian[a]	-.07	.12	.10															
5	Authoritative[a]	.20**	.03	-.10	-.45**														
6	Permissive[a]	.15*	.21**	.11	-.49**	.33**													
7	Self-Ori[b]	-.00	.00	.01	.19*	-.06	-.18*												
8	Other-Ori[b]	.13	.02	-.06	.04	-.01	-.04	.44**											
9	Social-Pre[b]	-.15*	.08	.14	.43**	-.20**	-.11	.30**	.10										
10	Mastery[c]	.25**	-.07	-.22**	-.08	-.20**	-.07	.38**	.21**	-.11									
11	Perform-App[c]	.05	.00	*.03	.08	-.10	.01	.34**	.30**	.19**	.13								
12	Perform-Avo[c]	-.08	.15*	.18*	.14	-.02	.04	.10	-.16*	.32**	-.11	.12							
13	Exhaustion[d]	-.09	.09	.13	.15*	.01	-.01	.16*	-.03	.26**	.03	.13	.36**						
14	Cynicism[d]	.01	.03	.06	.05	.10	-.07	.31**	.11	.13	.23**	.15*	.17*	.63*					
15	Pro Efficacy[d]	-.14	.04	.11	.13	.09	.07	.14	.03	.28**	-.10	.19**	.37**	.66**	.48**				
16	Self-Comp	.02	-.01	-.05	.06	.05	.08	.26**	.06	.08	.20*	.06	.12	.04	.08	.01			
17	LTS	.14	-.11	-.19	-.14	.21**	.12	-.20**	-.13	-.18*	.02	-.11	-.13	.01	-.15*	.05	.05		
18	Life Sati	.26**	-.13	-.25**	-.26**	.33**	.09	-.14	-.08	-.39**	.15*	-.14	-.21**	-.14	-.04	-.13	-.13	.39**	
19	Incre Theory	.01	.01	.00	.05	-.02	.07	.01	-.10	.11	-.15*	-.00	.18*	-.01	-.08	.15*	.15*	.03	-.01

Note. Self-Ori = Self-Oriented Perfectionism, Other-Ori = Other-Oriented Perfectionism, Social-Pre = Socially Prescribed Perfectionism, Perform-App = Performance Approach Goals, Perform-Avo = Performance-Avoidance Goals, Pro Efficacy = Professional Efficacy, Self-Comp = Self-Compassion, LTS = Leisure Time Satisfaction, Life Sati = Life Satisfaction, Incre Theory = Incremental Theory.
[a]Parenting Style. [b]Perfectionism. [c]Achievement Goals. [d]Burnout
*p < .05. **p < .01

Analysis of Hypotheses. I used Hayes' (2012) PROCESS Software (v3.0) to observe for any mediation, moderation, and conditional process analyses. A p-value of .05 was employed to determine the statistical significance of my results.

Hypothesis 1. In my first hypothesis, I proposed that authoritarian parenting style would lead to the development of OP, and that this relationship would be mediated by perfectionism, burnout, achievement goals, self-compassion, leisure-time satisfaction, and life satisfaction. Authoritarian parenting style served as the independent variable, perfectionism, burnout, achievement goals, self-compassion, leisure-time satisfaction, and life satisfaction were entered into the mediation models separately as mediators. If the scale contained subscales, each subscale served as parallel mediators simultaneously (i.e., self-oriented, other-oriented, and socially-prescribed perfectionisms were entered simultaneously into the model), and *r*OP served as the dependent variable. In terms of covariates, none of the demographic variables were significantly correlated with *r*OP (as shown in Table 5)[4], and as such, I only adjusted for the effects of complementing parenting styles, as the three types of parenting styles are all significantly correlated with each other (shown in Table 4).

[4] A correlation coefficient was obtained for *r*OP with Immigrant Status, as well as Type of Secondary School despite these two demographic factors being multi-level categorical variables. It was reasoned that since the categories imbedded within these two variables can be ordered to follow a logical sequence, it can therefore, be appropriately used in a correlational analysis. Specifically, Immigrant Status was rank ordered to represent an increase in recency of living in Canada starting with Third Generation or More, followed by Second Generation, then First Generation, Immigrants, and finally, International Students. Type of Secondary School attended was ordered in such a way that denoted an increase in strictness/selectiveness in the type of school's attendees to start with Public School, followed by Private School (non-religious), Private School (religious), and Homeschool, respectively.

Table 5. *Correlation Coefficients for rOP and Demographic Factors*

	*r*OP
Age	-.05
Gender	.06
Year of University	-.09
Family Income	-.13
Father's Highest Education[a]	-.07
Mother's Highest Education[a]	.02
Immigrant Status	.07
Type of Secondary School	-.05
Hours/Week Studying	.03
Course Load	.11
Satisfaction with Amount of Studying	-.15
Satisfaction with Grades	-.10

Note. [a]Participants that answered "Unknown" were excluded.
*$p < .05$. **$p < .01$

The results showed that authoritarian parenting had a weak relationship with *r*OP, as authoritarian parenting style was not significantly associated with *r*OP in any of the models tested when the effects of the mediators were accounted for. In terms of the mediators, only life satisfaction mediated the authoritarian parenting style – *r*OP relationship, and only this model with significant results are presented and described here.

The results concerning life satisfaction as the mediator of authoritarian parenting and *r*OP are shown in Figure 5 suggest life satisfaction as a meaningful mediator. As shown in the figure, higher authoritarian parenting was associated with lower life satisfaction (a = -.13, SE = .06, p = .039) and higher life satisfaction is associated with lower *r*OP (b = -.00, SE = .00, p = .003). A 95% confidence interval for this indirect effect (ab = .00) based on a 5,000-bootstrap sample fell entirely above zero (.00, .00). Approximately 5% of the variance in *r*OP was accounted for by authoritarian parenting and life satisfaction (R^2 = .05).

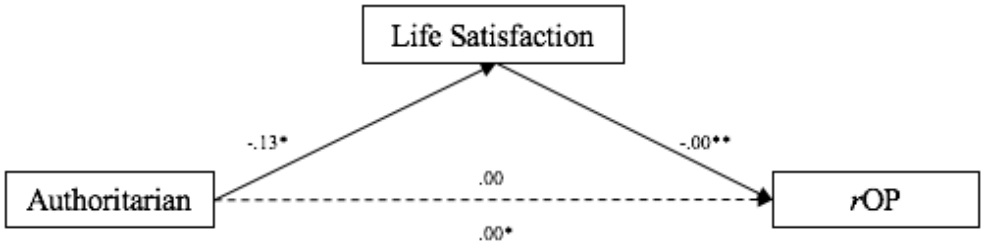

Figure 5. Results of PROCESS model 4 mediation analysis of authoritarian parenting style, life satisfaction, and *r*OP.

⇢ Non-significant relationship.
→ Significant relationship.

When the variables were standardized,[5] a similar relationship was obtained for life satisfaction and *r*OP (b = -.23, SE = ..08, *p* = .003). However, the 95% confidence interval for this indirect effect (ab = .04) included zero (-.00, .12). Statistically speaking, the standardization of the dependent variable should not change the results in any meaningful way, thus, the shift from significance to non-significance suggests that the significant mediation effect found above was very small.

Hypothesis 2. I used model 8 in PROCESS to explore whether implicit theories of intelligence moderated the direct relationship between authoritarian parenting style and *r*OP, and the relationship between authoritarian parenting style and the mediator. Implicit theories of intelligence did not moderate any of the above relationships in any of the mediation models tested.

Conditional process models were also examined to determine whether the mediation effects may have been conditional depending on the levels, specifically one standard below and above the mean, as well as at the mean, of implicit theories of intelligence – the moderator. The

[5] The standardized variables were calculated by subtracting the mean from the individual scores, then divided by the standard deviation.

analyses yielded no significant confidence intervals (meaning that the confidence interval included zero) of the moderator at any of the three tested values.

For exploratory purposes, using the simple mediation model (Model 4 of PROCESS), I examined whether implicit theories of intelligence mediated the relationship between authoritarian parenting style and *r*OP, this too, did not yield any significant results.

Hypothesis 3. I used a simple moderation model to explore whether any of the sociodemographic variables moderated the effects between authoritarian parenting styles and *r*OP. It was revealed that no sociodemographic moderated the authoritarian parenting styles – *r*OP relationship.

Exploratory Analyses. For exploratory purposes, I also tested the relationship between the authoritative parenting style and permissive parenting style with *r*OP, especially in light of the limited significant results obtained from examining authoritarian parenting style as the independent variable. Modifications to the parenting covariates were made accordingly.

Using the same procedures described above for testing the effect of authoritarian parenting style on *r*OP, the effect of authoritative parenting style on *r*OP was observed while controlling for the effects of the other two parenting styles: authoritarian and permissive. There was no association between authoritative and *r*OP in any of the models tested, and across all the mediators examined, none of the variables mediated the authoritative parenting style and *r*OP relationship.

Finally, while controlling for the effects of authoritarian and authoritative parenting styles, I tested all the proposed mediator variables against the permissive parenting – *r*OP relationship. Achievement goals, specifically mastery goals, were found to mediate the relationship between permissive parenting and *r*OP (Figure 6). As shown, higher permissive

parenting was associated with lower mastery goals (a_1 = -.13, SE = .06, p < .034), and lower mastery goals was associated with higher *r*OP (b_1 = -.00, SE = .00, p = .038). A 95% confidence interval for this indirect effect (a_1b_1 = .0004) based on 5,000 bootstrap samples was entirely above zero (.00, .00). Performance-approach goals was examined as parallel mediator in this model, but no significant indirect effect or specific indirect effects was detected (confidence interval included zero, evidence for that the effect failed to approach statistical significance). There was no significant association between permissive parenting and performance-avoidance goals (a_3 = .16, SE = .09, p = .98), but higher performance-avoidance goals was marginally positively associated with higher *r*OP (b_3 = .00, SE = .00, p = .066). A 95% confidence interval for these indirect effects (a_3b_3 = .00) fell entirely above zero (.00, .00). Approximately 5% of the variance in *r*OP was accounted for by the predictors (R^2 = .05). A comparison of the three indirect effects showed that the difference between the indirect effects of mastery goals and performance-approach goals (.00) fell entirely above zero with a 95% confidence interval of (.00, .00), constructed from 5000 bootstrap samples, whereas the comparison of indirect effects of performance-avoidance vs. mastery goals (.00) and the performance-avoidance vs. performance-approach (-.00) showed no significant difference, as their respective 95% confidence interval both included zero (-.00, .00; -.00, .00). To summarize, permissive parenting was independently predictive of *r*OP even after accounting for the effects of the mediators. Both mastery goals and performance-avoidance goals mediated the permissive parenting style – *r*OP relationship. Given the magnitude of the indirect effects, it is likely that most of the mediation effect was accounted for via mastery goals. That is, higher permissive parenting was associated with lower mastery goals, and lower mastery goals was associated with higher *r*OP, though higher performance avoidance goals may also marginally contribute to an increase in *r*OP.

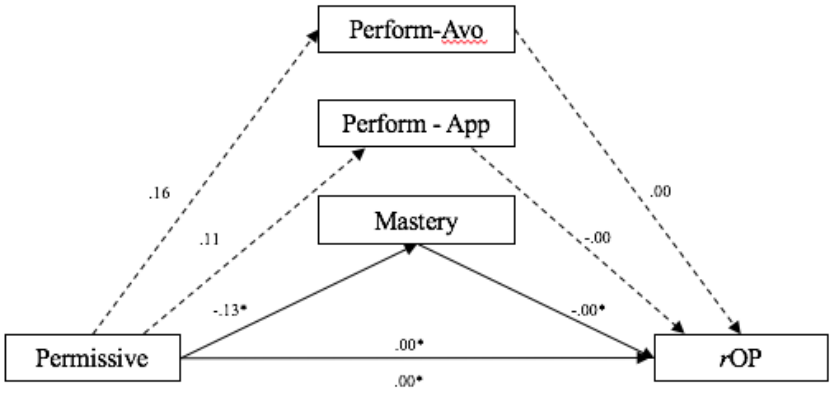

Figure 6. Results of PROCESS model 4 mediation analysis of permissive parenting style, achievement goals, and *r*OP.

⇢ Non-significant relationship.
→ Significant relationship.

Once *r*OP was standardized, although the relationship found between mastery goals and *r*OP (b = -.16, SE = .07, *p* = .04) remained, the significant mediation effect found with mastery goals became non-significant, as the 95% confidence interval for the indirect effect (ab = .03) included zero (-.00, .09).[6] This suggests that the mediation effect was very small.

I found no significant moderation results (hypotheses 2 and 3) using authoritative or permissive parenting styles as the independent variable.

In light of the nonsignificant relationships between *r*OP and any of the three types of parenting styles (as shown in Table 4), the hypothesis testing procedures were repeated using residualized passion scores[7], as well as obsessive passion as dependent variables, and given that some significant results emerged from examining permissive parenting, the exploratory analytical strategies using authoritative and permissive parenting styles were also explored

[6] The results did not change (in level of significance) when the mediators were run individually.
[7] Residualized passion score regressed OP scores on HP scores, which allowed the creation of a "pure" OP score independent of the covariate HP score.

against the direct measure of obsessive passion and the residualized passion scores as dependent variables. However, I did not find any additional significant results using these methods.

Finally, it is important to recognize that the two indirect effects of parenting style on passion (i.e., authoritarian parenting style through life satisfaction and permissive parenting style through mastery goals) are likely to affect the ratio score, *r*OP, through different components, such that the first pathway involves decreases in harmonious passion, and the second pathway, increases in harmonious passion. Although the focus of the current research was not on harmonious passion, the contributing effect of HP should not be neglected. Therefore, a ratio score, *r*HP, was created using the formula below to allow for a closer examination of the effects on HP, which revealed no significant results when authoritarian or permissive parenting were examined as the predictor. Not surprisingly, some significant results emerged when authoritative parenting style was examined, though the specifics of these results will not be described, as this is beyond the scope of the current study.

$$\text{Ratio} = \frac{\text{HP}}{\text{OP} + \text{HP}}$$

Discussion

The primary aim of the present study was to explore, for the first time, a potential developmental source of obsessive passion. Parenting style was examined in association to this objective and its relationship with both harmonious and obsessive passions was studied. Additionally, various constructs known to be related to passion, namely, perfectionism, burnout, achievement goals, self-compassion, leisure-time satisfaction, life satisfaction, and incremental theories of intelligence, as well as sociodemographic factors were examined for their mediation and moderation effects between parenting styles and passion.

Though harmonious passion was also examined, the focus of the current study was on the more problematic version – obsessive passion. Specifically, I hypothesized, based on previous research and theory, that authoritarian parenting, with its emphasis on conforming to rigid, performance-related behavioral control, as well as its focus on punishment as a means of discipline, would be positively associated with the development of obsessive passion. The results showed a positive association between the two, though it was not statistically significant. This is surprising given the underlying "control" exhibited by both authoritarian parents and individuals with obsessive passion.

I did not make any specific hypotheses with respect to the remaining two parenting styles and their relationships with either types of passion. Although not explicitly described in the introduction of this study, when this study was first conceptualized it was thought that the healthier, authoritative parenting style would lead to the development of harmonious passion. Permissive parenting on the other hand was thought to have exerted no influence, or in other words, be unrelated to either forms of passion, due to their laissez faire parenting style. Consistent with this initial conceptualization, a positive correlation emerged between harmonious passion and authoritative parenting. Unexpectedly, however, permissive parenting was found to share significant positive relationships with both harmonious and obsessive passions.

Although parenting styles in the current research were not defined in the exact same way as was in Mageau and colleagues' (2009) research that first proposed parents as an important agent in promoting the development of either types of passion, how Mageau and colleagues conceptualized parenting style certainly provided enough description to have resembled that of both authoritarian (i.e., overly involved, lack of autonomy support, rigidity, etc.) and

authoritative (i.e., highly involved, support for autonomy, providing choices and rationale for tasks, as well as being emotionally in tune with their children) parenting styles in the current research. However, within their conceptualization, there was no mention of a parenting style that resembled that of the permissive parenting.

The discussion below will focus on explaining the findings and its implications, including those that were not specifically hypothesized. Although no significant correlational relationship was detected between authoritarian parenting and either form of passion, the direction of the correlations were nonetheless consistent with that of my predictions. These results provide partial support for the hypothesized relationship between parenting style and the development of passion. Furthermore, the strength of the relationship may be bolstered when a number of limitations of this research, which I will discuss later, are addressed. In the absence of a strong direct effect between parenting style and passion, the majority of the proposed mechanisms hypothesized were not supported. A number of potential explanations will be discussed to better understand these results, as due to the methodological limitations, the relatively weak correlation between parenting style and passion in the current research does not necessarily nullify the presence of a significant and meaningful relationship. While the current research study only yielded some limited significant findings, the notion of attempting to find the sources that foster the development of either forms of passion is nonetheless a novel idea that should be pursued further in future research. As such, I will conclude this discussion by outlining a number of promising future research directions.

Main Findings

Authoritarian parenting promoted low life satisfaction

Authoritarian parenting style was found to promote higher levels of obsessive passion, and this relationship was mediated by life satisfaction. However, these results were only marginally significant, as when the dependent variable was standardized, the effect became nonsignificant, suggesting that the relationships are very weak or possibly confounded by factors that were not examined in the current research. Nonetheless, the significant finding of the mediation effect of life satisfaction further bolsters the idea proposed by the Self-Determination Theory, that the development of obsessive passion is associated with global dissatisfaction in life and leisure that would lead to a more controlled and rigid manner of approaching the valued activity (Ryan & Deci, 2012). Taking together the established findings that low levels of life satisfaction are a result of having high levels of obsessive passion (e.g., Vallerand & Miquelon, 2007) and the current finding, they suggest the existence of a cyclical relationship between life satisfaction and obsessive passion. This potential downward spiral of low satisfaction and subsequent increase in obsessive passion may suggest a need for intervention.

Permissive parenting and achievement goals

Mastery goals mediated the relationship between permissive parenting style and levels of obsessive passion. Specifically, permissive parenting was found to lead to an increase in obsessive passion by way of decreasing mastery goals, but similar to what was found with respect to life satisfaction and authoritarian parenting, this result was also weak, as it became non-significant after the dependent variable was standardized. However small or sensitive to change, this is not a surprise finding even though no specific hypothesis was made regarding the relationship between permissive parenting and obsessive passion, as past findings have generally

shown a positive link between authoritative parenting style and mastery goal orientation, whereas both authoritarian and permissive parenting styles were found to be related to performance goal orientation (Gonzalez & Wolters, 2006). Gonzalez and Wolter's finding was, however, quite limited, as other studies have been inconclusive in this regard, especially with respect to the permissive parenting style (Miller, Speirs Neumeister, 2017; Mital, 2011). There is some literature to suggest that permissive parents tend to adopt a view of learning as quick, straight forward, and with the belief that it is an activity that is limited by innate abilities (Ricco & Rodriguez, 2006). If children become influenced by their parents' view that they are passive learners with fixed abilities, these children might adopt a rigid manner to their studying by spending more time in order to achieve high levels of academic performance. However, it should be noted that no significant results were found in the current study when implicit theories of intelligence was examined.

What was more puzzling was that, although not a focus of the current study and thus not explored further, permissive parenting was also positively correlated with harmonious passion. Traditionally, it was thought that though they are linked to different sets of problems, both authoritarian and permissive parenting styles were detrimental to children's development. In recent years, however, with emergent research examining the linkage between parenting styles experienced during childhood, and psychological as well as behavioral outcomes in adulthood, there appears to be evidence to suggest that authoritative and permissive parenting styles can both lead to positive adjustments in adulthood, and that only authoritarian parenting style consistently predicted future adulthood maladjustment (Rothrauff, Cooney, & An, 2009). Furthermore, relative to authoritarian parents, children raised by permissive parents tend to have higher levels of self-esteem and tend to be more resourceful, especially in their emotion

regulation skills (Turkel & Tezer, 2008). The specific components shared between authoritative and permissive parenting styles of being sensitive, responsive, and caring to their children have all been linked to secure attachments and fewer behavioral problems. It has also been suggested that permissive parents' modeling of being supportive and adopting prosocial approaches to life act as an important buffer against the development of behavioural problems in their children (Rothrauff, Cooney, & An, 2009). Thus, having experienced parenting characterized by high levels of sensitivity, responsivity, and care, may have counteracted some of the negative aspects of permissive parenting and thereby led to the development of harmonious passion.

In examining the individual permissive parenting style items on the Parental Authority Questionnaire (Buri, 1991), it is interesting to note how "reasonable" many these items actually appear to be. For example, item #10 on the questionnaire (a permissive parenting style item) reads "*As I was growing up, my mother did not feel that I needed to obey rules and regulations of behaviors simply because someone in authority had established them*." Considering the individualistic culture of Canada and the emphasis on the promotion of children's independent thinking and decision-making abilities, the latter portion of this item that obedience should not simply precipitate from authority is in fact now a valued quality in children, and thus can hardly be considered as permissive parenting practice per se.[8]

Published evidence on trends in parenting style is both patchy and limited. Inferences can be drawn on some instances from research on parental attitudes towards physical punishment and time spent with children to make tentative comments about the progression of parenting styles through the last couple of decades but they are by no means close to being conclusive. Despite the dearth of studies in this area, research on acceptability of physical punishment has

[8] This prompted a confirmatory factor analysis on the data collected for this study. The results from this factory analysis confirmed the original three factor model.

consistently declined since the 1960's and parental involvement and responsiveness have risen steeply in the last two to three decades (Gardner, Collishaw, Maughan, & Scott, 2009). From these results, it is not a stretch to deduce that parental discipline has become increasingly more collaborative and less harsh. What may have been perceived as permissive parenting in 1991, when the Parental Authority Questionnaire was constructed and initially validated, may be seen as more authoritative by today's standards. Hence, the positive linkage found between permissive parenting and mastery goals, and its indirect predictability of the more balanced levels of passion, appear much more reasonable following the above premises.

Taken together, the findings appear to indicate that while permissive parenting may, by reducing children's ability to internalize the development of structured flexible habits to achieve mastery goals, leave them more vulnerable to develop rigid obsessive passion habits and goals, and that some children of permissive parenting, through an unknown mechanism, could also develop the more desirable harmonious passion towards studying. In light of the mixed results, it may be worthwhile to explore other related constructs for their mediation or moderation effects to clarify how exactly permissive parenting affects the development of passion. Further, given the surprise finding with permissive parenting, the relationship between neglectful parenting style (an addition to the initial three parenting styles by Maccoby and Martin, 1983) and the development of passion may also be of interest and should be explored in future studies. This parenting style was not considered in the original conceptualization of the current study because these parents do not offer their children any support or attention, and thus would have exhibited very little influence on their children's academic functioning and the development of passion.

Null Findings

While a couple of mediation effects were detected that helped to explain the relationship between parenting style and passion, most of the hypotheses and the mechanisms tested were not able to reach statistical significance. This is likely due to the weak correlational relationships shared between parenting style and passion.

Although the mediators proposed in the current study have shown some robust correlational relationships with passion, beside the above noted methodological limitations, the lack of consistent connections with parenting style in the literature may also help to explain the absence of significant findings. Take perfectionism for example. First, most of the research examining parenting style and perfectionism have predominantly focused on authoritative and authoritarian parenting styles with very few studies including the other two parenting styles (permissive and neglectful) in their examination. Second, the consistent finding that authoritarian parenting style is linked to the development of socially-prescribed or maladaptive perfectionism and that authoritative parenting style tends to foster the development of self-oriented or adaptive perfectionism seem to be limited within studies that involved only high ability students (Basirion, Majid, & Jelas, 2014; Miller, Lambert, & Speirs Neumeister, 2012; Speirs Neumeister, 2004). Studies that involved broader participant samples of varying ages and ability levels have largely failed to detect the above relationships (e.g., Hibbard & Walton, 2014).

Additionally, the current research assumed that parenting styles remain consistent across all ages of children's development. This, however, may not have been a valid assumption. For instance, Asian American families tend to shift from being much more permissive during their children's toddler years to adopting a more authoritarian parenting style as the children reach their formative years – an age when it is believed that children have developed some ability of

reasoning (Garcia Coll, Meyer, & Brillon 1995). Given the fluidity in parenting styles, it is difficult to know what the students reflected on when completing the Parental Authority Questionnaire. It is entirely possible that some students provided an overall assessment of their experienced parenting styles throughout their entire childhood, while others focused on only a snapshot of what was most memorable.

Readers should note that participants' ratings of parenting styles were not only self-reported but also retrospective, both of which may have contributed to potential measurement error, especially when parenting style cannot be assumed as constant and unchanging. Shah and Waller (2000) have demonstrated that individuals' current levels of psychological challenges may bias their retrospective reports of their parents' parenting styles. Several studies have found that relative to psychologically healthy adults, adults diagnosed with personality disorders, anxiety, and depression were more likely to recall memories of their parents as being uncaring and overprotective (Carter, Joyce, Mulder, & Luty, 2001; Parker, Boak, Griffin, Ripple, & Peay, 1999; Ramsey, Watson, Biderman, Reeves, 1996; Shah & Waller, 2000). As such, these self-reported experienced parenting styles may not have provided an objective measure of the students' parents' parenting styles, but a perceived one that is highly dependent on the students' mental health functioning at the time this study took place.

Finally, as indicated earlier, parenting styles typically only exhibit small to very small effects on children's eventual academic achievement and overall studying behaviours (Pinquart, 2016; Pong, Johnston, & Chen, 2009). Research looking at the degree of effect of parenting styles on late adolescent and adulthood adjustments have also consistently shown small to very small effect sizes. This suggests that parenting experienced during childhood becomes less and less influential as people age (McCrae & Costa, 1988; Rothrauff, Conney, & An, 2009). Perhaps,

if the same methodologies were applied but with a younger student population that have not completely "escaped their parents' umbrella," authoritarian parenting may have exhibited a stronger influence on their children's development of obsessive passion.

Limitations

The current study is not without limitations. As noted, some of the measures have only obtained a modest level of internal consistency (e.g., leisure time satisfaction), likely partly due to the use of online data collection. This less-than-desirable level of internal consistency within the measure may have undermined the ability to detect significant and relevant findings.

The correlational, cross-sectional design of the current research may have limited the interpretation of the findings regarding predicting the development of obsessive passion. Although the nature and design of the current research was appropriate given the context of the study and a good first step in exploring this novel domain of obsessive passion, future experimental and longitudinal designs may aid in expanding the understanding of factors that cultivate the development of obsessive passion, whether it be parenting style or another potential and reasonable source.

The final limitation pertains to the assessment of parenting styles. It is likely that parents from the same family may adopt different parenting styles, and this difference between parents may have complicated the picture and increased the difficulty for the participants to make a definitive assessment. Further, two potential issues with the use of the parenting measure may have also confounded the results: First, although a retrospective assessment of perceived parenting style is likely to capture an overall assessment of parenting style experienced by the students and that we indicated in the instructions for the participants to think about the parent that influenced their education the most, it is also possible that the student may have responded

to the questionnaire based on their most recent experience or a period of time that was most significant to them. That is to say, my assessment of parenting style may be subject to potential bias and inaccuracy. A second and related issue pertaining to the measurement of parenting styles is that these ratings were that of the students' perception of their parents' parenting style, as opposed to the parents' own, or a neutral observer's, perception. Research has documented that punitive parenting styles are associated with increased error-related brain activity and anxiety in children, and this state of mind could certainly distort one's experience (Meyer et al., 2014), which could lead to inaccurate or exaggerated reporting of their parents' parenting styles as it pertains to my study. Though previous research has noted that students' perception of parents' academic expectation and pressure plays an important role in students' academic behaviors and achievements (Naumann, Guillaume, & Funder, 2012), no study has been conducted to examine the potential discrepancies between sources of assessment, and as such, it is difficult to gauge whether these students' perception of their parents' parenting style was an accurate assessment. Given the foregoing, ensuring the accuracy and the impact of accurate assessment of parenting styles may be a first step in understanding and eliminating the above potential limitations.

Despite the limited findings with respect to parenting style as a source for the development of obsessive passion, this study represents one of the few attempts in the literature to study potential sources of obsessive passion. Similarly, no research has sought to identify effective intervention strategies to reduce the obsessiveness among this sample, particularly when considering the negative outcomes associated with obsessive passion. We attempted to address this research gap in Study 2.

CHAPTER III: Potential Resolutions - Self-Affirmation

Introduction

Self-affirmation (Steele, 1998) has emerged as a promising approach to help people cope effectively when exposed to threatening information (Cohen & Sherman, 2014; Sherman & Hartson, 2011). Steele (1988) proposed Self-Affirmation Theory with the premise that people are motivated to maintain integrity and protect the self so as to be adaptive and morally adequate. Self-affirmation is a method of restoring self-integrity by affirming one's sense of worth via another resource or aspect of the self (Steele, 1998). Self-affirmation is especially useful, as self-affirmed individuals are able to protect one's self-integrity in an *indirect* manner, such that the affirmation does not need to focus on the threatening situation, yet still produce the effect of restoring self-integrity through bolstering other unrelated aspects of one's self-concept. As Harris and Epton (2009) articulated, the self-affirmation intervention "offer[s] reassurance that self-worth can be derived from other aspects of the self than the threatened one." This indirect influence is the most important aspect of self-affirmation that has contributed to its wide applicability, especially within nonclinical samples.

Evidence of self-affirmation's broad applicability can be found in studies showing its effectiveness in preventing the impact of psychological threat in a variety of domains with benefits lasting for months and sometimes even years (Cohen & Sherman, 2014). To illustrate, self-affirmation has been shown to be helpful in reducing athletes' self-handicapping tendencies (Finez & Sherman, 2012), addictive behaviors such as alcohol consumption (Klein, Harris, Ferrer, & Zajac, 2011), caffeine consumption (Sherman, Nelson, & Steele, 2000), and smoking cessation (Armitage, Harris, Hepton, & Napper, 2008), just to name a few. In the area of interpersonal relationships, though the literature is still in its infancy, self-affirmation has

demonstrated promising effects in reducing defensiveness in people with low self-esteem in long-term relationships (Jaremka, Bunyan, Collins, & Sherman, 2011). There is even evidence that points to improved relationship quality and perceived supportiveness of their partner following the engagement of a self-affirmation exercise (Marigold, Holmes, & Ross, 2007).

In the education domain, considerable attention has been placed upon the effects of self-affirmation on feelings of inadequacy and threatened identity, and self-affirmation interventions have consistently demonstrated effectiveness in improving students' academic performance and achievement (Cohen, Garcia, Purdie-Vaughns, Apfel, & Brzustoski, 2009; Cohen & Sherman, 2014). For example, self-affirmation was able to close the achievement gap between racial minority students that came from disadvantaged socioeconomic backgrounds and middle-class White students (Cohen et al., 2009; Sherman et al., 2013). Longitudinal follow-up further showed that the effects persisted for the entirety of these students' junior high years when the intervention was only delivered at the beginning of their first year in junior high school, and that the effects often spilled into the beginning of the student's high school years (Sherman et al., 2013). Self-affirmation has also benefited other groups that faced similar identity threats such as female students majoring in traditionally male dominant field of studies such as physics (Miyake, Kost-Smith, Finkelstein, Pollock, Cohen, & Ito, 2010) and financially disadvantaged university students who felt they did not belong in middle- to middle-upper class dominant university campuses (Stephens, Markus, & Fryberg 2012). These results afford confirmation that individuals who are under threat benefit most from self-affirmation, and that self-affirmation is an effective intervention strategy to counteract the negative impacts produced by identity-threat and perceived fear.

Why is self-affirmation helpful for the threatened individuals? The exact mechanism by which self-affirmation is beneficial has not been fully established but there have been several proposed hypotheses. Under normal circumstances, people have a general tendency to focus their attention on the immediate threat, which elicits responses and efforts to self-protect (Cohen & Sherman, 2014). It has been hypothesized that when an individual faces self-identity threat, one tends to try harder and longer at protecting the self to ensure self-integrity (Schmeichel & Martens, 2005). Affirming the self in areas other than the focused domain brings about a more expansive view of the self, which broadens one's field of vision and self-identity (Cook, Purdie-Vaughns, Garcia, & Cohen, 2012; Sherman et al., 2013). A specific theory that is grounded within the cognitive process model has been proposed in explaining why self-affirmation is beneficial in reducing defensiveness and detaching from the threat (Wakslak & Trope, 2009). Within this theory, it has been hypothesized that self-affirmation works through positively impacting one's level of construal, such that those affirmed would shift from adopting a narrow, concrete mindset to a more expanded, abstract one (Sherman, 2013; Trope & Liberman, 2010). Literature has described that individuals adopting a low level of construal (i.e., a concrete mindset) tend to focus on the more immediate threat. On the other hand, individuals with a high level of construal would be able to successfully uncouple with the minutiae of the threatening information, thus attenuating the impact of the threat (Sherman & Hartson, 2011). Essentially, affirming the self in other areas of life helps the individual to put their threatened identity in the context of the "big picture," which increases an individual's psychological coping resources, and thus achieves the goal of lowering one's motivation to protect his/her self-identity (Schmeichel & Vohs, 2009; Sherman, 2013).

Although self-affirmation has been comprehensively studied for its effect on academic performance among students that faced racial or other socioeconomic threat, no study, to my knowledge, has examined problematic studying behaviours such as those exhibited by students with an obsessive passion. Given the ever-increasing academic demands on students and the high prevalence of reported burnout, the current study aims to determine the efficacy of self-affirmation in lowering the levels of obsessive passion and boosting the amount of harmonious passion in a student population. Secondary to this primary goal, self-affirmation was also evaluated for its ability to decrease the negative impacts associated with high levels of obsessive passion (i.e., lower levels of life satisfaction, higher rates of burnout, etc.).

As detailed in Chapter 1, but briefly here again, there is currently limited literature in the area of obsessive passion and academics; however, consequences related to being obsessively passionate about academics could be safely inferred from passion research in other areas including work, sports, and music. The results from these domains have consistently identified obsessive passion's relationship with lowered life and relationship satisfaction, academic burnout, and personal harmoniousness (Phillippe, Vallerand, & Lavigne, 2009; Jowett, Lafrenière, & Vallerand, 2013; Stoeber, Childs, Hayward, & Feast, 2011). Conversely, being harmoniously passionate towards a beloved activity has consistently demonstrated positive links to subjective wellbeing, dedication and persistence, and an adoption of mastery-oriented goals (Bonneville-Roussy, Vallerand, Bouffard, 2013; Ruiz-Alfonso & León, 2016; Vallerand, 2015).

Applying self-affirmation interventions to alter levels of obsessive passion has not been widely used. However, given self-affirmation's success in reducing level of defensiveness when faced with identity-related threats (Bélanger, Lafrenière, Vallerand, & Kruglanski, 2013; Donahue & Vallerand, 2009) and the assumption that studying dominates the better part of these

obsessively passionate students' identity, it certainly holds promise as a potential strategy to work against the threats that these students would likely face when encouraged to approach their studies in a different manner. By adopting a more flexible way of studying and increasing quantity and quality of leisure time to mimic that of a harmonious passion style, it was theorized that these obsessively passionate individuals would experience lower levels of academic burnout and stress level, as well as to improve mood, relationship, and life satisfaction.

To instruct a student to adopt a less rigid way to their studies and the delivery of this information would undoubtedly set the stage for future change, but also act as a source of stress given the inextricable linkage between these obsessively passionate students' studying and their identity. Specific to this study, students were first educated on the harmful effects of obsessive passion on studying and were asked to spend fewer hours studying and engage in other more pleasurable activities as a means of promoting their wellbeing (hereon after referred to as the "psychoeducation" component of the study). Owing to obsessively passionate students' determination to focus a large proportion, if not all, of their free time exclusively on studying, asking these obsessively passionate students to reduce the amount they study was expected to present as a great potential threat to their grades and their "student" identity, and therefore consequential to their self-concept. It was my expectation, based on the available literature, that self-affirmation would mitigate the effect of this threat and thus help to preserve these individuals' self-integrity. In other words, self-affirmed individuals would be more successful in carrying out the suggested change in their routine.

Self-affirming an important personal value through a writing exercise is the most typical way that self-affirmation is operationalized in research (McQueen & Klein, 2006). Not only is this intervention method widely applicable, it is also simple to execute with a short

administration time of 15 minutes or less (Thomaes, Bushman, Orobio de Castro, Cohen, & Denissen, 2009). Participants are given a list of values where they choose one or a couple that are important to them. Following the selection, participants are asked to write a short essay on their most important values. The writing instructions typically involve asking the participant to reflect on a positive experience related to the chosen value.

Although simple to execute, it is important to ensure that self-affirmation is properly administered. Research has documented that self-affirmation is most effective when the recipient is blind to its intent (Sherman, Bunyan, Creswell, & Jaremka, 2009). If and when the recipient is aware of its effects, the practice of self-affirmation may exacerbate the symptoms as opposed to remediate the consequences (Sherman & Cohen, 2006). It is also essential to not include the threatened value on the list of values for selection of writing the self-affirming essay, as its inclusion would be counterproductive to the goal of broadening one's sense of self. Although the selection of the written topic is confined to within the list of values given, the content of the writing is self-generated and tailored to capture an individual's valued identity, which allows the individual to bring forward important principles he or she values (Sherman, 2013).

The above outlined the theoretical basis for why self-affirmation was chosen as an intervention to attenuate the students' tendency to engage in their studies in an obsessively passionate way and to encourage the adoption of harmonious passion. To further understand the mechanisms by which self-affirmation operates to achieve a healthy balance between the two types of passion, a number of mediators were evaluated.

Potential Moderators

Self-compassion. Self-compassion was described in detail in Chapter 1, but to summarize, it is a self-directed feeling of sympathy, love, and kindness (Neff, 2003). Increasing

self-compassion has shown to be helpful in boosting one's self-image and having high levels of self-compassion effectively guards against vulnerability and the potential effects of criticism (Leary, Tate, Adams, Allen, & Hancock, 2007). In a study that specifically examined the relationship between self-affirmation and self-compassion, it was demonstrated self-compassion moderated the effects of self-affirmation, where individuals with higher levels of self-compassionate were more able to tolerate their own mildly embarrassing storytelling performances when affirmed (Lindsay & Creswell, 2014). Additionally, with self-compassion and obsessive passion's common association with fear, self-compassion may very well help obsessively passionate individuals to detach their self-concept from their academic performance, as the overall self-image would have been improved.

Self-worth. This was a concept that was tested from the very beginning of self-affirmation research to explain why and how self-affirmation is effective. Early evidence documents that self-affirmation tasks can help to attenuate the impact of threat on people's self-worth (i.e., Critcher & Dunning, 2015; Jaremka, Bunyan, Collins, & Sherman, 2011), but that self-esteem (used interchangeably here with self-worth) was not necessarily a product of self-affirmation (McQueen & Klein, 2006). However, a result that frequently emerged was that those with lower levels of self-esteem benefitted from self-affirmation interventions, whereas those with higher levels did not (Düring & Jessop, 2015) – highlighting a strong and firm moderation effect of self-worth for self-affirmation. These findings are consistent with related findings that self-affirmation is an effective intervention for those that perceive that their self-identities have been threatened. Particularly relevant to the current research was Düring and Jessop's study, in which the authors showed that affirmed individuals with low levels of self-esteem more readily accepted threatening health risk information and indicated motivation to engage in pertinent

exercises relative to those with high levels of self-esteem. As the psychoeducation was thought to exhibit a similar effect on the obsessively passionate students in terms of perceived threat, it was reasoned that self-worth may moderate the effect of self-affirmation the same as for the current research.

Perceived studying efficiency. It is reasonable to expect that students who perceive themselves as having low studying efficiency to want to spend more time learning the materials from their courses. As such, these individuals may not necessarily be truly "obsessively passionate" about their studies but are simply unable to effectively learn the materials in a timely manner. Following this logic, those who perceive themselves as having low levels of studying efficiency may not respond to the self-affirmation intervention the same way as those who are obsessively passionate, thus, perceived studying efficiency was included to observe for its moderating effect on self-affirmation. As this idea is only relevant to the topic of the current study, to the best of my knowledge, no previous research has explored this area, and as such, this was included for exploration purposes without prior evidence to support its effect.

Potential Mediators

Self-compassion. Although previous research has demonstrated self-compassion to moderate the effect of self-affirmation (Lindsay & Creswell, 2014), it does not suggest self-compassion's relationship with self-affirmation to be limited only to moderation effects. Given that the exploration of the relationship between self-affirmation and self-compassion is still in its infancy, it is entirely possible that self-compassion levels during follow-up may have been affected by the self-affirmation intervention. Thus, for exploratory purposes, self-compassion was also tested as a potential mediator.

***Psychological flexibility*.** In recent years, Acceptance and Commitment Therapy has emerged as a widespread clinical orientation in the so-called third wave of behaviour therapies. Its ideas are founded upon the constructs of acceptance, experiential avoidance, and psychological flexibility and inflexibility. Operationally, psychological flexibility tends to lead to acceptance of aversive feelings, whereas psychological inflexibility is closely linked to experiential avoidance (Bond et al., 2011). Given the foregoing, psychological inflexibility is likely to lead to rigidity and over-persistence seen in those who obsessively pursue their passion, and these people may have difficulty adopting alternative self-views.

Although psychological flexibility has not been tested as a potential correlate of self-affirmation, a similar concept has been studied in the self-affirmation literature – level of self-construal (concrete vs. abstract), which has shown to be a promising mediator of self-affirmation effects (Wakslak & Trope, 2009). Research examining level of self-construal showed that self-affirmation led to an increase in abstract construal among students that experienced racial/socioeconomic threat (i.e., Latino students) because they were more able to adopt a more expansive view of the self (Sherman et al., 2013). However, psychological flexibility was chosen for the current study over self-construal because its focus on flexibility vs. rigidity, is conceptualized more similarly with that of obsessive passion.

Due to the limited literature on psychological flexibility, obsessive passion, and self-affirmation, it was impossible to theorize whether psychological flexibility would lead to a shift from obsessiveness to harmoniousness or whether this shift in passion style loosens the rigidity. Therefore, given the expected relationship between the two concepts, psychological flexibility was also tested as a potential outcome of a change in passion.

Objective and Hypotheses

As has been introduced in the previous chapters that obsessive passion is highly associated with a number of negative consequences that are often damaging to one's academic performance and emotional wellbeing, the purpose of Study 2 was to explore whether self-affirmation is an effective strategy in altering the levels of obsessive and harmonious passions to achieve a healthier balance for students.

I predicted that self-affirming writing, relative to control writing, would transform OP into HP of studying such that my study participants would not become less passionate overall but to become more harmoniously passionate, and less obsessively passionate, towards this activity (Hypothesis 1).

Second, I hypothesized that the self-affirmation intervention would be effective in promoting positive behaviours towards the materials presented in the psychoeducation (details of which is provided in the Methods section of this chapter). That is to say that behaviourally, students who were assigned the self-affirmed writing would spend more time on other leisure-time activities for example (Hypothesis 2A), but that the intervention concurrently would not harm students' satisfaction with their studies. In other words, students' self-reported satisfaction with the amount of studying and grades would remain the same or even improve (Hypothesis 2B).

To investigate the mechanisms by which self-affirmation influences the changes in passion, I hypothesized that baseline measures of self-compassion and psychological flexibility would mediate the effect of self-affirmation on changes in passion (Hypothesis 3).

Self-affirmation's effects on changes in passion were hypothesized to be moderated by baseline level OP, self-compassion, self-worth, and perceived studying efficiency (Hypothesis

4). Specifically, those with higher dispositional levels of OP and low self-worth would derive greater benefit from the intervention. As for studying efficiency, it was hypothesized that those with low perceived studying efficiency would not be affected by self-affirmation, as these individuals are likely not "truly" obsessively passionate.

Finally, I explored whether changes in passion mediated the effects of self-affirmation on passion-related trait variables including perfectionism, achievement goals, burnout, self-compassion, life satisfaction, leisure time satisfaction (their relationships with passion were discussed in Chapter 2), and psychological flexibility (Hypothesis 5).

Methods

Ethical Approval. This study was approved by the Research Ethics Board of the University of Manitoba. Ethical approval was obtained prior to any data collection (Appendix A).

Participants. Two-hundred and four undergraduate students participated in Phase 1 of the study but only 180 of these students completed Phase 2 (*M* age = 19.8, *SD* = 3.7). All participants, who completed the Mass Testing and provided permission, as well as contact information to participate in further study opportunities throughout the academic year, were enrolled in Introductory Psychology at the University of Manitoba. The "Mass Testing," as well as the procedure I followed to determine who was eligible to participate in the two studies, and the rank-ordering process taken to select participants to contribute to the pool of each study were described previously in Chapter 2 and thus will not be repeated here. One thing to note that is of particular relevance is that all participants in this study had OP scores that fell within the top 50% of all eligible participants that met the passion criteria. A total of 128 participants was

required to achieve the desired power of .80 for an estimated small effect size of $d = .50$[9] for a two-tailed test for contrast between two independent means (1:1 ratio of self-affirmation and control writings). However, given that the hypothesis is unidirectional, a one-tailed test would therefore be satisfactory for the research question. In such case, a total sample size of 102 with 51 participants in each condition would satisfy the desired power.

Measures

The Passion Scale for Studying, Self-Compassion Scale, Demographic questionnaire, Multidimensional Perfectionism Scale, Achievement Goal Questionnaire, Maslach Burnout Inventory-Student Survey, Leisure Time Satisfaction Measure, and the Brief Multidimensional Students' Life Satisfaction Scale were also used in Study 1 and thus they will not be described again here. The Passion for Studying Scale and the Self-Compassion Scale were only administered in Phase 2 (Appendix B), and the rest of the above-named measures were administered during Phase 1 and Phase 2 (Appendix C). See Table 6 for alpha values for each scale and subscale of the above measures. Most scales demonstrated adequate to very good internal consistency with the exception of Phase 2 other-oriented perfectionism subscale, which fell short of adequate and into the poor range.

[9] No studies have examined the effects of self-affirmation on obsessive passion. However, in a meta-analysis by McQueen and Klein (2006), it was determined that self-affirmation typically produced at least a medium effect size ($d = .50$) in most of the studies examined in their systematic review.

Table 6. *Internal Consistencies (Alpha-Value) of the Passion Scale and Trait Scales*

	Phase 1	Phase 2
Passion		
HP	.79	.73
OP	.67	.77
Perfectionism		
Self-Oriented	.85	.64
Other-Oriented	.68	.56
Socially-Prescribed	.82	.66
Achievement Goals		
Mastery	.84	.85
Performance-Approach	.90	.90
Performance-Avoidance	.74	.73
Academic Burnout		
Exhaustion	.87	.89
Cynicism	.85	.90
Professional Efficacy	.75	.76
Self-Compassion	.84	.81
Leisure Time Satisfaction	.66	.68
Life Satisfaction	.73	.76

Phase 1 Measures. (Appendix D)

Psychological flexibility. The Acceptance and Action Questionnaire – II (AAQ-II; Bond et al., 2011) is a 7-item, unidimensional, psychological flexibility measure. A sample item of this instrument includes, "I worry about not being able to control my worries and feelings." The original study obtained a mean alpha coefficient of .84 across the six samples tested. In the current study, the scale demonstrated very good internal consistencies for both phases, reaching an alpha-value of .91 and .90 for phases 1 and 2, respectively. This measure was administered again during Phase 2 of this study.

*Self-worth***.** (Appendix Y). Previous research has shown that self-affirmation tasks can help to attenuate the impact of threat on people's self-worth (i.e., Critcher & Dunning, 2015; Jaremka, Bunyan, Collins, & Sherman, 2011). An adapted version of the Rosenberg Self-Esteem

Scale (RSE; Rosenberg, 1965) was used to measure students' general feelings of self-worth. This is a well-established 10-item measure with good validity and an overall high reliability (α = .86; Gray-Little, William, & Hancock, 1997). For each of the items, participants indicate their agreement on a 7-point Likert scale. To provide students in my study with a bit more context, the phrase "…compared to the average UofM student…" or similar words were inserted in each of the items where appropriate. For example, item 1 reads, "I feel that I am a person of worth, *at least on equal basis with other UofM students*." Another example, item 2 said, "*Compared to the average UofM student*, I feel that I have a number of good qualities." Other modified versions of the RSE with additional items have been used in research examining the association between self-affirmation tasks and self-worth (e.g., Critcher & Dunning, 2015), but I decided to implement an adapted version of the original RSE since the original version has been more extensively studied. The scale demonstrated very good internal consistency (α = .90).

Perceived studying efficiency. For exploratory purposes, an 8-item questionnaire measuring students' perceived studying efficiency was created and included in this study. "I have difficulty understanding new materials." would be an example item from this questionnaire. The internal consistency for this scale was problematic at α = .35, likely due to never been validated. Given the poor reliability test, hypotheses pertaining to this scale were not tested.

Sources of validation. Cohen et al.'s (2000) version of The Sources of Validation Scale (Harber, 1995) asks students to rank 11 values and characteristics in terms of personal importance. The topic of the students' essay depended on their ranking made on this scale, as well as the condition of the study (first choice if participant was in the self-affirmation condition and ninth choice if participant was in the control writing condition). To date, there is no

psychometric data for this scale; but its common use and reliable results produced from many studies support its applicability (Harris & Napper, 2005; Sherman, Nelson, & Steele, 2000).

Self-affirmation intervention. Using the method developed by Cohen, Aronson, and Steel (2000), participants in the intervention group were asked to write about their top-ranked value from the Sources of Validation Scale. They were asked to explain why this value is important to them and recall one or more times when they have personally experienced the importance of this value to support their reasoning. Many strategies exist for the control condition; I chose to have students in the control condition write about their ninth ranked value on the Sources of Validation Scale and explain why this value may be important to another university student. My choice of this particular strategy was based on McQueen and Klein's (2006) meta-analysis, which demonstrated this strategy to be the most commonly used control manipulation. To ensure that the participants' responses were thoroughly thought out, the survey was constructed in such a way that did not allow the participant to advance to the next step of the survey without writing at least 100 words for their essay.

Self-affirmation manipulation check. To assess the students' awareness of, and concern with, the self, I administered the five-item Self-Affirmation Manipulation Check (Napper, Harris, & Epton, 2009). A sample reads, "This exercise made me think about positive aspects of myself." The scale has been shown to have good sensitivity to self-affirmation manipulation with good internal consistency ($\alpha = .78$), and in the current sample, the items reached a similar level of internal consistency of .74.

Psychoeducation understanding check. To check the students' understanding of the materials presented during the psychoeducation, I created a multiple select list of statements. Students were instructed to select those that were recommended to them during the

psychoeducation. Sample items include, “Spend much less time studying” and “Break your studying into chunks”.

Reaction to Psychoeducation. To gauge the students’ immediate positive reaction to the psychoeducation, students were asked to answer three questions on a 7-point Likert scale (1 = *Very unconfident* to 7 = *Very confident*). A sample question reads, “How confident are you in putting this into practice?” The scale demonstrated slightly questionable internal consistency ($\alpha = .67$).

Level of Threat. Students were asked to provide responses to four final items before concluding Phase 1, which measured the extent of threat presented by the suggestions included in the psychoeducation. Participants were instructed to rate their level of agreement on a 7-point scale. “I worry that spending more time engaging in enjoyable activities and less time studying will negatively affect my grades.” is an example item from this measure. This scale also demonstrated slightly questionable internal consistency ($\alpha = .67$).

Phase 2 Measures. (Appendix E)

Frequency of Activity Engagement. At the outset of Phase 2, students were shown a list of 19 leisure activities (e.g., watching TV, surfing the web, spending time with friends, attending a social event, etc.). These activities can be broadly divided into three categories to reflect both solitary (e.g., read), social (e.g., going on family outings), and both solitary and social activities (e.g., travel). Students were then asked to indicate the change in frequency in which they engaged in the activity since Phase 1. A sliding bar was used to facilitate their response to each activity. By default, all sliding bars were centered to indicate no change. If no change was made to the frequency of activity engagement, students were asked to leave the slider in the middle. By

sliding to the right, students would be indicating more and more frequent engagement of a particular activity, and likewise to the left, to indicate less frequent engagement.

Perceived Change. To assess students' perception whether they had made any changes following the recommendations given during the psychoeducation, they were asked to rate on a scale from 1 (Very unsuccessful) to 4 (Very successful) on the following three questions: 1) How successful were you in seeking other fun activities other than studying? 2) How successful were you in studying in chunks? and 3) How successful were you connecting more with family and friends?

Procedure. All eligible participants were recruited either by phone or email. A standardized script was used for the recruitment, which included a description of the study, an explanation as to why they were selected to participate in the study, and the special code they needed to sign up for the study on the University of Manitoba Subpool Portal (Appendix D).

Phase 1 took place at a computer lab on the University of Manitoba campus, where the students were stationed at a desktop so that they were able to complete the survey, including the self-affirmation and control essay writing, online. The computer lab where the study sessions took place was equipped with 30 desktop computers. Data collection was completed in 13 study sessions and the number of students that attended the sessions varied from four to 30 participants.

This survey was also constructed and administered online using the survey portal, Qualtrics. To begin the survey, participants used their University of Manitoba email account to login. Once their email addresses had been validated, they were shown a consent form, which described the purpose of the survey in more detail, some general instructions for completing the survey, assurance of their confidentiality, and the procedures through Qualtrics on the protection

of collection and storage of data. No participants declined consent. After giving their consent by clicking on the "I agree" button on the informed consent form (Appendix D), participants were then asked to provide their university email address for the purpose of linking the data. As in Study 1, this was the only hard-requirement component of the survey, meaning that the participants were not able to proceed further without entering their email address. The questionnaire portion of the survey began with the Demographic questions, then, the Multidimensional Perfectionism Scale, Achievement Goal Questionnaire, Maslach Burnout Inventory-Student Survey, Self-Compassion Scale, Leisure Time Satisfaction Measure, Brief Multidimensional Students' Life Satisfaction Scale, Acceptance and Action Questionnaire, Positive Feelings of Self-Worth, and Perceived Studying Efficiency, were presented in random order to eliminate any potential order-effect. Once the students had completed these questionnaires, the following measures were presented: Sources of Validation, Self-Affirmation Intervention, and Self-Affirmation Manipulation Check. The Self-affirmation Intervention group assignment was preprogramed when the survey was created with a 50/50 chance of participants being assigned to either self-affirmation essay or control writing. Those self-affirmation related measures were always presented in the order just listed. Of the 204 students that participated in the study, eight participants' surveys crashed during their essay writing. All of the eight surveys resumed from the next questionnaire – the Self-Affirmation Manipulation Check when the students resumed their surveys. All of the eight participants consented to writing their essays in Microsoft Word to ensure that they met the minimum word count requirement and sending their final product in an email to me using their University of Manitoba email addresses. However, I only received six of the eight essays expected.

After all participants in the study session had completed this first online component, I engaged my study participants in a brief psychoeducation session, where I provided some background information on obsessive passion, discussed its negative effects if it is not regulated, and offered some ideas as to how these students can achieve a more balanced life (see Appendix D for an outline). The psychoeducation not only provided information to the participants about obsessive passion and behavioural recommendations, it also had a secondary purpose, which was to act as a threat to my sample of students that had been determined to be highly obsessively passionate about their academics. We reasoned that the recommendations would pose a threat to the students because they are against the usual practice that obsessively passionate students typically endorse in terms of studying attitude and habits. Immediately after the psychoeducation, individuals were instructed to return to their online survey to complete the concluding questions, including the Psychoeducation Understanding Check, Reaction to Psychoeducation, and Level of Threat.

At the conclusion of Phase 1, students were first debriefed and then provided with an information sheet that included free to low-cost University of Manitoba and community-based mental health resources in case any of the students felt distressed as a consequence of what was requested of them through the psychoeducation (see Appendix D). I also recommended that those who scored high on the Obsessive Passion Scale seek mental health resources (also see Appendix D) if and when their obsessive ways of approaching their studies becomes a burden.

An average completion time for this phase of the study cannot be calculated, as all responders needed to wait until the last participant finished the first online component before I could deliver the psychoeducation. However, the study sessions generally finished around the 70- to 80-minute mark.

Finally, students were asked whether they would like to participate in the second phase of the study, which took place one month after Phase 1, online. A sign-up sheet was provided and, on this sheet, students could also indicate whether they would like to be automatically signed up for Phase 2. For those that gave permission to be automatically signed up to Phase 2 of the study, I manually signed these students up on the University of Manitoba Subpool Portal. These students were free to cancel their enrolment in the second phase of the study any time within the one-month and 24-hours before the survey was scheduled to take place. For those who did not give permission to be automatically signed up to Phase 2 of the study, an invitation email was sent following the previously described procedure.

For Phase 2 of this study, which took place one month (28 to 32 days) after Phase 1, students were able to complete the survey as per the method adopted for Study 1, where they were given access to a unique link and they were able to complete the survey using a computer of their own choice. I then asked all students to first enter their university email address, which was used to link the datasets, to grant them access to the survey contents, and also to identify which individuals completed which version of Phase 1. After students provided their consent to participate (see Appendix E for consent form), to gauge whether students made any behavioural changes to the amount of time they spent studying after Phase 1, and to ensure that their satisfaction with their grades and time spent studying did not decrease following the intervention, the following questions from the demographic questionnaire were included (refer to Appendix A for scales used for each of the four questions): 1) “On average, how many hours per week do you spend on your academic studies outside the classroom (e.g., on assignments, studying for tests, etc.)?” 2) “Are you satisfied with the amount of studying that you do?” and 3) Are you satisfied

with your current grades (you may reflect on your Grade 12 grades if no university grades established)?"

An assessment of students' changes in their studying and leisure time activities using the Perceived Change questionnaire followed. After these questions that measured behavioural changes, the following measures were included in Phase 2 to observe for any changes in these participants' passion and its related traits scores: The Passion Scale for Studying, the Multidimensional Perfectionism Scale, Achievement Goal Questionnaire, Maslach Burnout Inventory-Student Survey, Self-Compassion Scale, Leisure Time Satisfaction Measure, Brief Multidimensional Students' Life Satisfaction Scale, and the Acceptance and Action Questionnaire – II. Again, these questionnaires were randomized to eliminate any order effects. On average, participants completed the survey in 26.2 minutes, with completion times ranging from 5.2 to 120.4 minutes.

Analyses

Multiple data analysis procedures were used to answer the research question and in testing the hypotheses described in the introduction of this chapter. Data from the online survey were exported from Qualtrics to the Statistical Package for the Social Sciences (SPSS) version 23.0 for Mac (IBM Corp, 2015). To ensure anonymity, all data files were stripped of any identifying information; including student number and email address after all three components (i.e., Mass Testing, Phase 1, and Phase 2) of the study were linked.

Data Preparation.

Before merging data from the three components, in order to pool the two conditions of the survey together, I created a new variable called "condition" within the Phase 1 subset of data. Data from those that only participated in Phase 1 of the study were deleted. All those that

participated in Phase 2 of the study produced responses to nearly every item in all three components of the study (i.e., Mass Testing, Phase 1, and Phase 2). Therefore, aside from those that did not participate in Phase 2, data from all other participants were retained.

After this initial elimination of students that only participated in Phase 1, data from all three components of the study were merged. Results of a missing value analysis using expectation maximization with 25 iterations indicated 99.2% complete values in the overall dataset with no obvious patterns to the missing data (Little MCAR chi-square = 4639.4, $p > .05$). Both item-level and scale-level missing data were considered. There were no scale-level missing data, and at the individual item-level, no student had over 3.3% of missing data and only two items had proportions of missing data of over 2%. These statistics are likely inconsequential according to expert recommendation on the acceptable amount of missing data appropriate for applying imputation methodologies, and any imputation methodologies would unlikely introduce any bias or distortion to the data due to the low percentages of missing data (Schafer, 1999). Before applying any imputation strategy, items that were reverse coded were handled such that all items were assessed in the same direction. As mentioned in Study 1, multiple imputation (MI) was not feasible to use because it does not support PROCESS and therefore, I used expectation maximization (EM; which PROCESS does support) in order to retain every participant's data for every procedure that needed to be performed to test my hypotheses. The results were also cross-checked against mean imputation, as this is the recommended method for item-level missing data with very low percentages of missing data (Newman, 2009). The two methods yielded extremely similar results. After all imputations were completed, values and patterns appeared identical for the original and imputed datasets when regression coefficients were compared (R^2 and ΔR^2). As such, all analyses were conducted using the EM imputed dataset.

Although it is expected that students may have been more attentive in their responding to the survey during Phase 1, as it was conducted in a more controlled setting, similar error rate was expected for Phase 2 of the study. Following the steps described in Study 1 to identify responses with issues related to inattention and careless responding, approximately 33% of the participants' responses would have been removed if the same level of rigor was employed, which would result in major issues with power. Using the Self-Affirmation Manipulation Check Scale (Napper, Harris, & Epton, 2009), it was detected that two participants' scores fell more than three standard deviations below the mean. This suggests that these individuals likely did not follow the instructions or understand what was needed of them for the self-affirmation writing exercise. As such, these two participants were excluded from further analyses, resulting in a sample size of 178 participants. Aside from the deletion of these two participants' data, all other participants' data were retained (this dataset will be referred to as the "full dataset" hereinafter).

I also gauged the quality of the students' writing by examining the following: 1) did the students understand the writing task instructions and take the writing exercise seriously; 2) did the students write about the importance of education/academics in their essays even though they were supposed to write about another value (for example, a student may identify family and friends as their most important value while devoting their writing to how their family and friends have been supportive towards their studies); and 3) word count. For 1) and 2), each student's essay was read twice, one month apart, to ensure consistency with determining of the writing quality. Two of the students' essay writing was not successfully logged by the Qualtrics system due to their surveys crashing in the midst of the essay writing and they were not emailed to me, as mentioned earlier. As such, these two students' essays could not be involved in the determining of the writing quality. Of the 176 available essays, it was found that 17 students

failed to understand the task correctly or showed evidence that they did not take the writing exercise seriously. It was observed that most of the students (14 of 17) that did not comprehend the writing task instructions fully were in the control condition, wherein their writings did not include a discussion of how their ninth ranked value may be important to another University of Manitoba student but instead, discussed why this value was not important to themselves. As for the education/academic confound aspect, it was found that 25 students discussed their education/academics at length in their essay. For those who merely mentioned education/academics in their essay among a list of other domains in life, their essays were not considered as to have confounded with the experiment. For example, if a student wrote about their most important value – relations with friends/family, and talked about the importance of his/her friends/family because they have been supportive of their hobbies, education, emotional wellbeing, etc., this essay was not considered to have confounded the goal of shifting their attention away from education/academics. In terms of the word count, it was identified that no student's essay contained fewer than three or more standard deviations of words from the mean (likely due to the minimum characters imposed in this task). Altogether, it was found that 40 students delivered essays that were of poor writing quality using the three identified indicators of writing quality. The elimination of these participants' data (in addition to the two individuals that produced an outlier score on the Self-Affirmation Manipulation Check Scale) would introduce serious problems to the study power but its effects were thoughtfully deliberated and analyzed in the hypotheses testing.

In response to the potential biases and distortions that the above issues (i.e., careless/inattentive responding and poor writing quality) may introduce to the data, I tested the hypotheses using the full dataset and repeated the same analyses on the "cleaner" datasets (by

removing all participants' data with issues of inattention and careless responding and/or poor-quality writing) as a sensitivity analysis. Differential results are highlighted where different results emerged when analyzed using the different datasets, where the results/effects were similar, only results from the full dataset are reported below.

I assessed the data for outliers and assumption violations. Assumptions of homoscedasticity, multicollinearity, independence, homogeneity, and normality were assessed by reviewing the residual plots. In addition, I also inspected values of skewness and kurtosis in my assessment of normality. As Kline (2008) indicated, absolute *z*-scores greater than three for skewness, and 10 for kurtosis, would be considered unacceptable. Using this as a guide, no scale scores approached even close to these recommended maximums; consequently, this suggests that all scales do not violate assumptions of normality.

Univariate and multivariate outliers were examined and treated next. With regard to univariate outliers, following recommendations of Tabachnick and Fidell (2007), scores that fell outside of just slightly over three standard deviations ($z = 3.29$) above or below the mean score of that particular scale were winsorized: Specifically, a ranking of these outliers was established, and these scores were adjusted by assigning the next value from the highest or lowest score that fell within the 3.29 standard deviations of the mean score of the scale based on ranking. This technique ensured that the relative rank of participants' scores were maintained while avoiding the assumption that outlier scores are automatically unreliable or invalid. Using this technique, only a few scores were changed and only by one or two points. Although a few scores did fall outside of the allowable extreme scores, due to restricted range or that it was already only one point above or below the established extreme scores, those values remained unchanged. Multivariate outliers were examined by calculating Mahalanobis distance values in a regression

analysis using a cut-off value of $p < .001$ (Tabachnick & Fidell, 2007). No multivariate outliers were identified using this method.

Descriptive Statistics. I conducted frequencies analyses of participants' demographic information and Sources of Validation Scale activities, separately for those in the control writing group and affirmed-writing group (see Table 6 in the Results section). I also compiled the means and standard deviations for the total and subscale scores for the Passion Scale for Studying, the Multidimensional Perfectionism Scale, the Self-Compassion Scale, the Goal Achievement Scale, the Maslach Burnout Inventory – Student Survey, Leisure Time Satisfaction Measure, the Satisfaction with Life Scale, Acceptance and Actions Questionnaire – II, the modified Rosenberg Self-Esteem Scale that was used to measure self-worth, and the Perceived Studying Efficiency scale. Finally, a correlation matrix is constructed for the scale and subscale variables.

Hypothesis Testing.

To answer Hypothesis 1, I employed general linear modeling (GLM) repeated measures ANOVA to determine if the self-affirmed writing exercise affected participants' passion scores differently relative to the control writing. T-tests were used to test whether the self-affirmation intervention significantly lowered participants' OP levels, and increased their HP levels. No significant difference was expected for overall passion score. (The overall passion score was a simple addition of OP and HP scores.) A ratio score was computed using the formula:

$$\text{Ratio} = \frac{\text{OP}}{\text{OP} + \text{HP}}$$

Because it was expected that OP would decrease from Time 1 to Time 2 as a result of the self-affirmation writing exercise and that the overall passion score (OP and HP combined) would not change, the ratio was thus expected to be lower at follow-up.

I used an independent samples t-test to determine whether those in the self-affirmed group understood the materials better, and reacted more favourable towards, and were less threatened by, the psychoeducation (Hypothesis 2). Using the same technique of an independence samples t-test, I tested whether self-affirmed students reported engaging in more leisure-time activities at follow-up. A repeated measures GLM was employed to examine whether the self-reported amount of time spent on studying reduced across the two time-points, and whether students' self-reported satisfaction with the amount of studying and grades remained the same across the two phases of the study, as it was expected that self-affirmation would boost people's satisfaction in these areas (Hypothesis 2B).

For Hypothesis 3, I used a simple mediation model (Model 4 in PROCESS, refer to Figure 2 on page 42) to test whether baseline self-compassion and psychological flexibility mediated the effect of self-affirmation on change in passion. A change in passion ratio (ΔRatio) was calculated by subtracting the ratio score at Time 2 from ratio score at Time 1 due to the reason explained under Hypothesis 1 (hence the direction of the subtraction). I recognize that the ratio scores may be biased such that it may have been affected by a change in either OP or HP score. In order to gain a more complete picture of the effects of the intervention, the same analytic procedure was conducted on residualized OP and HP scores (hereinafter res-OP and res-HP, respectively) separately. Because simple change scores have been criticized for being correlated with the underlying criterion and experts in the field (MacKinnon, Kisbu-Sakarya, & Gottschall, 2013) have noted that residualized change scores are commonly used in mediation analysis with nearly indistinguishable results from analysis of covariance or difference scores, a residual score (Time 2 score regressed onto Time 1 score) was employed to avoid this potential problem.

To test Hypothesis 4 concerning baseline OP, self-compassion, and self-worth to have moderation effects of self-affirmation on ΔRatio, I used Model 1 in PROCESS (refer to Figure 4 on page 43) to explore these relationships. Although perceived studying efficiency was also hypothesized to moderate the relationship between self-affirmation and ΔRatio, but due to the poor reliability of the scale obtained with the current sample, it was not analyzed as no meaningful results would be produced.

Model 4 in PROCESS was again used to finally test Hypothesis 5, to explore whether changes in OP mediated the effects of self-affirmation on passion-related trait variables: perfectionism, achievement goals, burnout, self-compassion, life satisfaction, leisure time satisfaction, and psychological flexibility (residualized scores of each),

Results

Descriptive Statistics. Descriptive characteristics for all variables across the entire participant sample are displayed in Tables 7 through 9. Table 7 reports the demographic characteristics categorized by experimental condition of the 178 participants. Generally, there are no significant differences in demographic characteristics across the two experimental conditions for the sample of participants. Also, the demographic variables indicate that participants represent a diverse group, reflecting all levels of socio-economic and educational backgrounds.

Table 7. *Demographic Characteristics of Sample Categorized by Experimental Condition*

	Experimental Condition	
	Control	Affirmed
Age [M; (SD)]	19.7 (3.5)	19.7 (4.0)
	N (%)	N (%)
Gender		
Male	24 (27.6)	25 (27.5)
Female	62 (71.3)	66 (72.5)
Other	1 (1.1)	0 (0.0)
Year of University		
First Year	68 (78.2)	67 (73.6)
Non-First Year	19 (21.8)	24 (26.4)
Ethnicity		
White	37 (42.5)	30 (33.0)
Asians	34 (39.1)	43 (47.3)
Black	6 (6.9)	4 (4.4)
First Nations/Inuit/Metis	7 (8.0)	7 (7.7)
Other	3 (3.4)	7 (7.7)
Family's Gross Income		
<$35,000	25 (28.7)	24 (26.4)
$35,000-$59,999	26 (29.9)	21 (23.1)
$60,000-$99,999	20 (23.0)	25 (27.5)
$100,000+	16 (18.4)	21 (23.1)
Father's Highest Level of Education		
Less Than High School or High School Graduate	18 (20.7)	24 (26.4)
Some College/University	33 (37.9)	23 (25.3)
Bachelor's Degree	17 (19.5)	26 (28.6)
Master's or Higher (Including Professional School)	17 (19.5)	16 (17.6)
Unknown	2 (2.3)	2 (2.2)
Mother's Highest Level of Education		
Less Than High School or High School Graduate	16 (18.3)	22 (24.2)
Some College/University	33 (37.9)	23 (25.3)
Bachelor's Degree	20 (23.0)	33 (36.3)
Master's or Higher (Including Professional School)	16 (18.4)	11 (12.1)
Unknown	2 (2.3)	2 (2.2)
Immigration Status		
Third Generation or More	32 (36.8)	36 (39.6)
Second Generation	21 (24.1)	24 (26.4)
First Generation	28 (32.2)	22 (24.2)
International Student	6 (6.9)	9 (9.9)
Type of Secondary School		
Public	67 (77.0)	65 (71.4)
Private	20 (22.9)	25 (27.5)
Homeschool	0 (0.0)	1 (1.1)

Table 8 displays the frequencies of the topics written for the self-affirmation writing exercise among the two experimental groups. As can be seen, there is a greater diversity in the

essays written among the control group, whereas over 50% of the participants in the affirmed writing group wrote about the importance of having good relationships with their friends and family, a common finding in this area of research.

Table 8. *Topic Written*

	Experimental Condition	
	Control	Affirmed
	N (%)	N (%)
Artistic skills/aesthetic appreciation	8 (9.2)	3 (3.3)
Sense of humour	1 (1.1)	5 (5.5)
Relations with friends/family	3 (3.4)	52 (57.1)
Spontaneity/living life in the moment	4 (4.6)	4 (4.4)
Social skills	5 (5.7)	10 (11.0)
Athletics	19 (21.8)	5 (5.5)
Musical ability/appreciation	14 (16.1)	1 (1.1)
Physical attractiveness	10 (11.5)	3 (3.3)
Creativity	12 (13.8)	5 (5.5)
Business/managerial skills	5 (5.7)	0 (0.0)
Romantic values	6 (6.9)	3 (3.3)

Table 9 reports the properties for all scale and subscale measures administered during Mass Testing, Phase 1, and Phase 2. Because questionnaires that were administered during the Mass Testing and Phase 1 did not overlap and are assumed to be independent of the effects of the self-affirmation writing intervention, in the table head, they are collectively referred to as "baseline" results. Following the same logic, since Phase 2 took place one month after, it is referred to as "follow-up."

Consistent with the intention of including those with high levels of OP scores in the current study, and as with the logic of division of the sample following this aim, the mean for the OP subscale total (M = 20.24, SD = 5.70) is notably higher than that of Study 1 (M = 11.97, SD = 5.35). The mean OP score for the current study is also much higher than what is reported elsewhere (M = 14.28, SD unknown; Stoeber, Childs, Hayward, & Feast, 2011). Nonetheless, the

range of observed scores on the other measures indicate the presence of substantial individual variability on other traits.

Table 9. *Descriptive Statistics for all Scale and Subscale Measures*

	Baseline				Follow-Up			
	Mean	SD	Range		Mean	SD	Range	
			Observed	Possible			Observed	Possible
Passion								
HP	29.27	6.78	14-42	7-42	27.13	5.48	13-29	7-42
OP	20.24	5.70	14-38	7-42	20.04	6.54	7-33	7-42
Perfectionism								
Self-Oriented	76.06	12.12	45-104	15-105	73.79	12.55	42-105	15-105
Other-Oriented	58.27	9.42	32-85	15-105	57.41	8.77	29-81	15-105
Socially-Prescribed	61.52	11.54	26-92	15-105	61.59	11.39	27-93	15-105
Achievement Goals								
Mastery	34.89	4.65	9-42	6-42	33.07	5.47	18-42	6-42
Performance-Approach	29.93	7.17	21-42	6-42	29.03	7.40	9-42	6-42
Performance-Avoidance	32.39	5.62	15-42	6-42	31.75	5.79	15-42	6-42
Academic Burnout								
Exhaustion	19.67	5.38	7-35	5-35	19.21	7.00	5-35	5-35
Cynicism	10.31	5.50	4-28	4-28	12.15	6.43	4-28	4-28
Professional Efficacy	28.36	5.36	12-42	6-42	28.17	5.64	13-42	6-42
Self-Compassion	77.57	16.02	39-125	26-130	78.04	14.18	46-113	26-130
Leisure Time Satisfaction	12.53	2.48	7-18	6-18	13.02	2.50	6-18	6-18
Life Satisfaction	28.78	5.38	13-40	7-42	28.26	5.70	12-42	7-42
Psychological Flexibility	31.26	9.61	7-49	7-49	30.04	9.28	7-49	7-49
Self-Worth[a]	48.98	10.85	18-70	10-70				

[a]This scale was only included in the study to explore whether having certain levels of each moderate the impact of self-affirmation on the transformation of participants' passion and its related trait scores; as such, they were not re-administered during follow-up.

Tables 10 to 12 provide the correlation matrices for the scale and subscale variables across the two time-points, with separate zero-order correlation coefficients displayed for each experimental condition. There was no specific hypothesis made concerning the correlational relationship between any variables; as such, the table is merely to enhance the understanding of the relationships between these variables. Due to the large number of variables involved in this analysis, I have divided the correlational matrix into three separate, smaller, matrices, such that Table 10 provides the correlation coefficients for the intercorrelation between baseline variables, Table 11 affords the correlation coefficients for the correlation between baseline and follow-up variables, and Table 12 displays the correlation coefficients for the intercorrelation between follow-up variables.

After reviewing the correlation results, it was revealed that the correlation coefficients between Phase 1 life satisfaction and Phase 2 socially-prescribed perfectionism appeared notably different among individuals assigned the control writing versus those affirmed. A statistical comparison of the correlation coefficients revealed that indeed the two coefficients were significantly different, $z = -5.25$, $p < .001$. Similar results were found for Phase 1 psychological flexibility and Phase 2 performance avoidance goals, $z = 5.26$, $p < .001$.

Table 10. *Intercorrelation Matrix for Baseline Scale and Subscale Variables by Experimental Condition*

		Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	OP	Control														
		Affirm														
2	HP	Control	.35**													
		Affirm	.28**													
3	Self-Oriented Perfectionism	Control	.14	.25*												
		Affirm	.02	-.07												
4	Other-Oriented Perfectionism	Control	-.02	.00	.51											
		Affirm	.03	.05	.30**											
5	Social-Prescribed Perfectionism	Control	.12	-.02	.54**	.20										
		Affirm	.04	-.19	.37**	.20										
6	Mastery Goal Achievement	Control	-.01	.34**	.24*	-.05	.06									
		Affirm	.09	.20	.41**	.03	.08									
7	Perform-Approach Goal Achievement	Control	-.11	-.08	.42**	.29**	.34**	.09								
		Affirm	.05	.16	.60**	.35**	.34**	.22*								
8	Perform-Avoidance Goal Achievement	Control	.08	-.09	.27*	.16	.32**	.09	.18							
		Affirm	-.10	-.31**	.27*	-.06	.41*	.00	.21*							
9	Exhaustion	Control	.17	-.10	.33**	.21	.36**	-.17	.03	.34**						
		Affirm	-.00	-.09	.20	-.07	.26*	-.11	.13	.33**						
10	Cynicism	Control	.03	-.37**	-.02	.18	.25*	-.39**	.19	.30**	.51**					
		Affirm	.06	-.31**	.16	.07	.41**	-.16	.07	.38**	.51**					
11	Professional-Efficacy	Control	.07	.47**	.20	-.01	-.18	.26*	-.01	-.22*	.10	-.15				
		Affirm	-.07	.28**	.17	-.02	-.19	.37**	.25*	-.30**	-.03	-.27**				
12	Self-Compassion	Control	-.03	.21	-.26*	-.12	-.22*	-.00	.04	-.17	-.34**	.03	.14			
		Affirm	-.04	.25*	-.16	-.00	-.18	.14	.02	.27*	-.18	-.24*	.49**			
13	Leisure-Time Satisfaction	Control	-.17	-.22*	-.32**	-.20	-.16	-.20	-.05	-.02	-.09	.09	.03	.27*		
		Affirm	-.09	.16	-.20	.14	-.03	.18	-.05	.18	-.25*	-.24*	.02	.19		
14	Life Satisfaction	Control	-.20	.22*	-.15	-.22*	-.31**	.04	-.09	-.18	-.15	-.22*	.36**	.29**	.35**	
		Affirm	-.09	.36**	-.08	-.07	-.33**	.14	.15	-.18	-.01	-.34**	.41**	.46**	.22*	
15	Psychological Flexibility	Control	-.20	.01	-.39**	-.12	-.41**	-.17	.04	-.38**	-.30**	-.10	.10	.48**	.25*	.50**
		Affirm	-.06	.24*	-.15	-.15	-.48**	.06	-.03	-.30**	-.14	-.46**	.37**	.58**	.06	.62**

**$p < .01$; *$p < .05$.

Table 11. *Correlation Coefficients for Baseline and Follow-Up Scale and Subscale Variables by Experimental Condition*

		Condition	1[a]	2[a]	3[a]	4[a]	5[a]	6[a]	7[a]	8[a]	9[a]	10[a]	11[a]	12[a]	13[a]	14[a]	15[a]
1	OP	Control	.42***	-.00	.25*	.00	.19	.11	-.05	.05	.21	-.04	-.05	-.16	-.07	-.11	-.22*
		Affirm	.51***	.32**	-.01	.01	.03	-.09	.03	-.14	-.09	.08	.20	.05	.01	-.03	-.14
2	HP	Control	.07	.26	.19	-.06	-.19	.27*	.01	-.02	-.17	-.31**	.28**	.14	.14	.17	.02
		Affirm	.23*	.54***	-.05	.14	-.25*	.16	.05	-.30**	-.21*	-.26	.34**	.32	.09	.36***	.18
3	Self-Ori	Control	.34**	.05	.73***	.44***	.41***	.32**	.48***	.27*	.18	-.13	.19	-.32**	-.22*	-.02	-.18
		Affirm	.09	.03	.73***	.15	.31**	.32**	.48***	.26*	.06	.10	.12	-.16	-.14	-.09	-.08
4	Other-Ori	Control	.26*	-.01	.29**	.70***	.20	-.08	.20	.00	.11	.04	.09	-.13	-.22*	-.11	-.05
		Affirm	.15	.18	.20	.56***	.14	-.08	.16	-.08	-.19	.03	-.09	-.06	.13	.02	-.05
5	Social-Pres	Control	.28*	-.10	.51***	.32**	.70***	.18	.26*	.34**	.29**	.12	-.03	-.31**	-.17	-.17	-.31**
		Affirm	.20	.08	.34**	-.03	.76***	.00	.35**	.31**	.23*	.36**	-.11	-.29**	.03	-.25*	-.39***
6	Mastery	Control	-.00	-.03	.17	-.16	-.05	.66***	.08	.17	-.22*	-.36**	.22*	.10	-.05	-.04	-.02
		Affirm	-.02	.31**	.34**	.02	-.01	.56***	.16	.05	-.22*	-.14	.24*	.14	.18	.10	.04
7	Perf-App	Control	.17	-.13	.28**	.24*	.31**	.24*	.53***	.10	.08	.12	.12	-.08	-.15	.03	.06
		Affirm	.01	.16	.52***	.21*	.31**	.17	.83***	.20	-.03	.00	.29**	-.01	.04	.11	.01
8	Perf-Avo	Control	.29**	-.17	.39***	.28**	.41***	.02	.25*	.49***	.42***	.24*	-.19	-.20	-.03	-.09	-.37**
		Affirm	.07	-.30**	.27*	-.05	.39***	-.13	.23*	.61***	.37***	.26*	-.09	-.22*	-.02	-.17	-.18
9	Exhaustion	Control	.29**	-.20	.34**	.17	.34**	-.10	.05	.13	.52***	.20	.01	-.38***	.01	-.06	-.29**
		Affirm	.04	-.21*	.09	-.04	.17	-.13	.11	.27**	.63***	.38***	.07	-.18	-.11	.02	-.11
10	Cynicism	Control	.17	.16	.09	.23*	.33**	-.18	-.02	.04	.45***	.63***	-.07	-.15	-.05	-.11	-.24*
		Affirm	.19	-.21*	.19	-.10	.32**	-.17	.02	.38***	.47***	.66***	-.04	-.39***	-.16	-.33**	-.41***
11	Prof Eff	Control	.06	.31**	.19	-.05	-.18	.26*	-.02	-.11	-.12	-.17	.56***	.02	.22*	.22*	.03
		Affirm	-.33**	.27**	.01	.03	-.30**	.33**	.15	-.21*	-.14	-.21*	.47***	.42***	.07	.44***	.31**
12	Self-Comp	Control	-.20	.05	-.28**	-.14	-.29**	.08	-.07	-.22*	-.34**	-.03	.11	.66***	.41***	.22*	.36**
		Affirm	-.10	.37***	-.12	.03	-.25*	.19	.07	-.23*	-.24*	.19	.34**	.77***	.15	.44***	.44***
13	LTS	Control	-.13	.05	-.25*	-.12	-.02	-.16	-.20	.08	.11	.30**	-.06	.15	.33**	.18	.05
		Affirm	-.09	.24*	-.22*	.03	-.08	-.00	.02	-.13	-.23*	-.09	-.12	.21*	.65***	.25*	.04
14	Life Sati	Control	-.33**	.24*	-.27*	-.16	-.41***	-.12	-.17	-.12	-.23*	-.11	.16	.34**	.36**	.71***	.42***
		Affirm	-.23*	.15	-.09	.11	.35**	.24*	.14	-.05	-.17	-.25*	.25*	.54***	.27*	.72***	.54***
15	Psych Flex	Control	-.37***	.12	-.46***	-.11	-.44***	-.21	.14	.43***	-.37***	-.07	.04	.54***	.26*	.42***	.72***
		Affirm	-.05*	.10	-.13	.08	-.50***	.16	.03	-.33**	-.18	-.28***	.19	.52***	.07	.48***	.68***

Note. Self-Ori = Self-Oriented Perfectionism, Other-Ori = Other-Oriented Perfectionism, Social-Pre = Socially Prescribed Perfectionism, Perf-App = Performance Approach Goals, Perf-Avo = Performance-Avoidance Goals, Pro Eff = Professional Efficacy, Self-Comp = Self-Compassion, LTS = Leisure Time Satisfaction, Life Sati = Life Satisfaction, Psych Flex = Psychological Flexibility.
[a]Follow-up scale/subscale variables
***$p < .001$; **$p < .01$; *$p < .05$.

Table 12. *Intercorrelation Matrix for Follow-Up Scale and Subscale Variables by Experimental Condition*

		Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	OP	Control														
		Affirm														
2	HP	Control	.17													
		Affirm	.33**													
3	Self-Oriented	Control	.47***	.08												
		Affirm	.22*	-.12												
4	Other-Oriented	Control	.38***	.14	.41***											
		Affirm	.11	.12	.28**											
5	Social-Prescribed	Control	.42***	-.19	.57***	.39***										
		Affirm	.21*	-.18	.42***	.05										
6	Mastery	Control	.12	.16	.41***	-.15	.16									
		Affirm	-.08	.14	.41***	.13	-.01									
7	Perform-Approach	Control	.19	.02	.44***	.39***	.33**	.20								
		Affirm	.01	.09	.49***	.17	.38***	.28***								
8	Perform-Avoidance	Control	.24*	-.04	.42***	.20	.41***	.25*	.24*							
		Affirm	-.03	-.20	.37***	-.11	.29**	.14	.23*							
9	Exhaustion	Control	.36**	-.23*	.44***	.25*	.56***	-.05	.13	.46***						
		Affirm	.02	-.36***	.05	-.19	.20	-.08	.04	.43***						
10	Cynicism	Control	.07	-.37***	-.03	.19	.34***	-.23*	-.01	.28**	.52***					
		Affirm	.19	-.24*	.02	-.04	.32**	-.12	.08	.37***	.64***					
11	Professional-Efficacy	Control	.03	.29**	.21	.00	-.21*	.33**	.04	-.14	-.22*	-.25*				
		Affirm	.08	.50***	.15	-.07	-.14	.25*	.18	-.11	-.05	-.18				
12	Self-Compassion	Control	-.37***	.29**	-.46***	-.15	-.55***	-.06	-.06	-.39***	-.58***	-.28**	.13			
		Affirm	-.11	.39***	-.14	-.02	-.38***	.21*	.04	-.23*	-.41***	-.48***	.34**			
13	Leisure-Time	Control	-.05	.38***	-.29**	-.15	-.22*	-.08	-.14	-.18	-.29**	-.14	.18	.45***		
	Satisfaction	Affirm	-.20	.25*	-.23*	-.01	-.10	-.13	.07	.07	-.21	-.06	-.07	.14		
14	Life Satisfaction	Control	-.31**	.31**	-.23*	-.16	-.46***	-.13	-.08	-.15	-.31**	-.19	.25*	.38***	.33**	
		Affirm	-.17	.27**	-.03	.15	-.32**	.19	.09	-.16	-.26*	-.44***	.32**	.58***	.38***	
15	Psychological Flex	Control	-.44***	.07	-.44***	-.14	-.54***	-.10	-.05	-.44***	-.52***	-.29**	.01	.60***	.16	.47***
		Affirm	-.25*	.04	-.07	.10	-.47***	.16	.04	-.26*	-.34**	-.47***	.18	.60***	.04	.53***

**$p < .01$; *$p < .05$.

Further, a comparison between Tables 10 and 12 showed that the direction of a number of the correlations between the OP and the trait/outcome variables either switched direction or changed in magnitude, and it appears that OP is associated significantly with negative outcomes among those in the control condition but not the self-affirmation condition during follow-up. This prompted a systematic comparison of correlation coefficients between the two conditions, which revealed that the above observation indeed was the case for some variables. Specifically, between OP and exhaustion, the results showed that the correlation coefficients did not significantly differ at baseline ($z = 1.13$, $p = .26$), but did during follow up ($z = 2.34$, $p = .02$). Similarly, between OP and life-satisfaction, the correlation coefficients did not significantly differ between the two groups at baseline ($z = -.74$, $p = .46$), but were significantly different at follow-up ($z = -3.23$, $p = .001$). These results support the presumption that self-affirmation reduces the negative consequences associated with OP, regardless of the level of OP.

Finally, using the Self-affirmation Manipulation Check Scale, the results indicate that the self-affirmation manipulation was effective, such that affirmed participants were significantly more likely to perceive the writing task to have affirmed personally important values relative to controls, $t(176) = 2.39$, $p = .018$.

Analysis of Hypotheses. I used multiple analytic procedures available in the SPSS software package. I used Hayes' (2012) PROCESS Software (v3.0) to test for mediation, moderation, and conditional process effects. A *p*-value of .05 was employed to determine the statistical significance of my results.

Hypothesis 1. To determine whether the self-affirmation intervention lowered participants' OP levels, increased their HP scores, and had no effects on the overall passion score (i.e., OP and HP combined), I first conducted a means comparison test for all the baseline scale

and subscale measures across the two experimental groups to ensure equal comparison can be achieved. As would have been expected given that participants were randomly assigned into either experimental condition, there were no significant differences across groups on these baseline measures (see Table 13). These results suggest that the randomization procedure created two groups of participants who were essentially identical prior to the self-affirmation writing intervention. Accordingly, no covariates were required to correct for baseline differences in the two conditions. Effect size for all means comparisons were calculated using the following formulae:

$$\text{Cohen's } d = \frac{M_2 - M_1}{SD_{pooled}}$$

Formula 1

where:

$$SD_{pooled} = \sqrt{\frac{{SD_1}^2 + {SD_2}^2}{2}}$$

Formula 2

Table 13. *Means Comparison Across Baseline Measures to Determine Group Equivalence*

	Experimental condition				Means comparison	Effect size	Confidence interval (95%)	
	Control		Affirmed					
	Mean	SD	Mean	SD	*t*	*d*	Lower	Upper
Passion								
HP	29.40	6.53	29.14	7.06	.26	-.04	-1.75	2.28
OP	20.14	5.46	20.33	5.96	-.22	.03	-1.88	1.50
Perfectionism								
Self-Oriented	74.85	12.31	77.21	11.89	-1.30	.20	-5.94	1.22
Other-Oriented	58.90	9.31	57.67	9.53	.87	-.13	-1.56	4.02
Socially-Prescribed	62.23	11.92	60.85	11.19	.80	-.12	-2.04	4.80
Achievement Goals								
Mastery	34.67	4.82	35.11	4.49	-.63	.09	-1.82	.94
Performance-App[a]	29.52	6.78	30.33	7.54	-.45	.11	-2.94	1.31
Performance-Avo[b]	32.03	5.44	32.73	5.80	-.82	.12	-2.36	.97
Academic Burnout								
Exhaustion	19.87	5.13	19.47	5.64	.50	-.07	-1.20	2.00
Cynicism	10.78	5.07	9.87	5.88	1.11	-.17	-.71	2.54
Pro Efficacy[c]	28.20	5.18	28.51	5.56	-.78	.06	-1.89	1.29
Self-Compassion	77.00	15.68	78.12	16.41	-.47	.07	-5.88	3.62
LTS[d]	12.44	2.43	12.62	2.52	-.50	.07	-.92	.55
Life Satisfaction	28.92	4.91	28.66	5.82	.32	-.05	-1.34	1.86
Psychological Flex[e]	31.36	9.63	31.16	9.66	.13	-.02	-2.66	3.05
Self-Worth	49.69	10.53	48.30	11.16	.86	-.13	-1.82	4.61

[a]Performance-App = Performance-Approach; [b]Performance-Avo = Performance-Avoidance; [c]Pro Efficacy = Professional Efficacy; [d]LTS = Leisure Time Satisfaction; [e]Psychological Flex = Psychological Flexibility.
Note. All *t*-tests do not assume equal variances across groups, although as was indicated by Levene's test for homogeneity of variance, there were no significant differences of variances across groups. Therefore, the t-tests results for when equal variances were assumed were almost identical to results reported here. No *p*-value reported because none reached significance ($p > .05$).

As shown in Figure 7, using a repeated measures ANOVA, results showed that with essentially the same scores at baseline and follow-up, the self-affirmation intervention did not influence OP scores differently for those who underwent the self-affirmed writing exercise relative to those in the control group, $F(1, 176) = .00$, $p = .95$. As confirmed by a paired samples t-test, there was also no significant difference between affirmed participants' baseline ($M = 20.33$, $SD = 5.96$) and follow-up ($M = 20.00$, $SD = 6.43$) OP scores, $t(90) = .51$, $p = .61$.

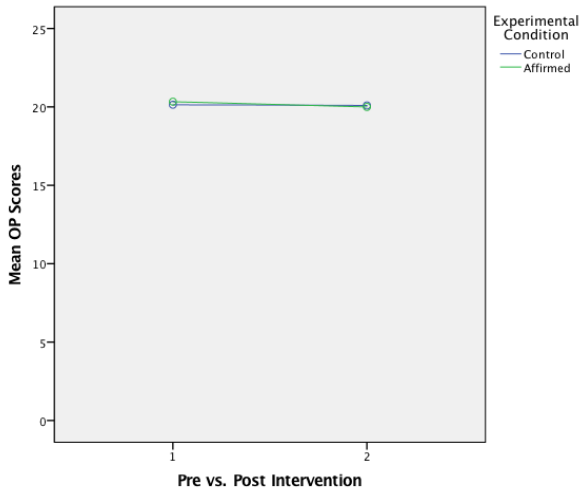

Figure 7. Graph illustrating participants' mean OP scores for both affirmed and control conditions.

Repeated measures ANOVA was also employed to test whether self-affirmation writing versus control writing influenced participants' HP scores differently. Figure 8 shows that the two experimental conditions did not influence participants' HP scores differently, $F(1, 176) = .10$, $p = .75$. However, as shown, there appears to be a general decline in participants' HP scores from baseline to follow-up. Following this observation, a paired samples t-test indeed confirmed this, wherein among participants who underwent the affirmed essay writing, their follow-up HP scores ($M = 27.50$, $SD = 5.45$) were significantly lower than their baseline HP scores ($M = 29.14$, $SD = 7.06$); $t(90) = 2.52$, $p = .01$. Similarly, this change in HP score was also detected among those that were in the control writing condition with follow-up HP scores ($M = 26.75$, $SD = 5.52$) being significantly lower than the baseline HP scores ($M = 29.40$, $SD = 6.53$); $t(86) = 3.37$, $p = .001$. A greater difference of HP scores across the time-points was observed among those in the control group, and this prompted a comparison of HP scores at follow-up between control ($M = 26.75$, $SD = 5.52$) and self-affirmed ($M = 27.50$, $SD = 5.52$) experimental conditions, which, an

independent samples t-test revealed no significant difference; $t(176) = -.92$, $p = .36$. Taken together, these results suggest that participants in both experimental conditions experienced a general decline in their HP scores, but that this effect cannot be attributed to the experimental intervention.

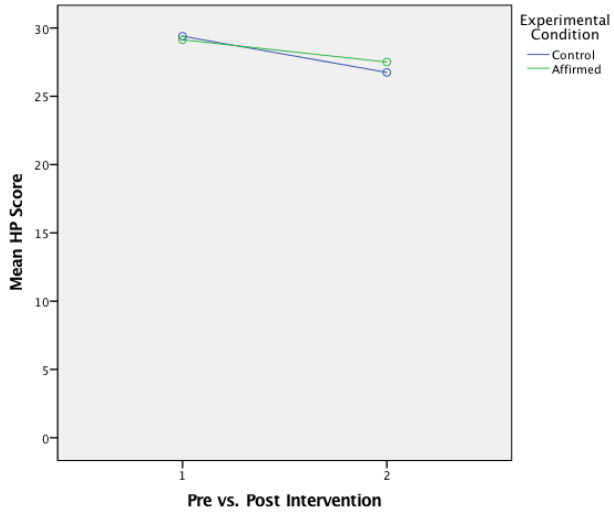

Figure 8. Graph illustrating participants' mean HP scores for both affirmed and control conditions.

In testing for any change in participants' passion ratio (Figure 9), again using repeated measures ANOVA, it was found that self-affirmation writing did not influence participants' passion ratios differently compared to control writing, $F(1, 176) = .01$, $p = .92$. A paired samples t-test tested against my hypothesis that passion ratio would decrease from baseline ($M = .41$, $SD = .08$) to follow-up ($M = .42$, $SD = .08$) for those that were self-affirmed; $t(90) = -.47$, $p = .64$.

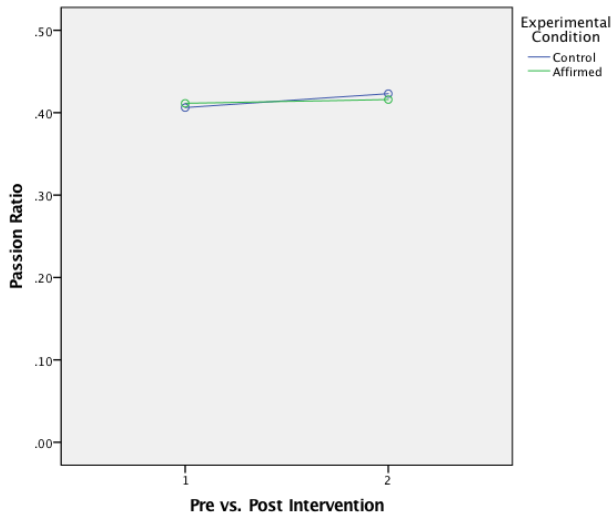

Figure 9. Graph illustrating participants' passion ratio for both affirmed and control conditions.

A test of repeated measures ANOVA showed that the two experimental conditions did not influence participants' overall passion levels differently, $F(1, 176) = .06$, $p = .82$ (see Figure 10). However, similar to the direction of the changes observed in Figure 8 for participants' HP scores, there is a decline in participants' passion scores from baseline to follow-up. Following the same procedures, a paired samples t-test indeed confirmed this, such that the follow-up overall passion scores ($M = 47.50$, $SD = 9.69$) were significantly lower than their baseline overall passion scores ($M = 49.47$, $SD = 10.44$) among participants who underwent the affirmed essay writing, $t(90) = 2.08$, $p = .04$. Similarly, this change in overall passion score was also detected among those that were in the control writing condition with follow-up overall passion scores ($M = 46.84$, $SD = 9.37$) significantly lower than the baseline overall passion scores ($M = 49.54$, $SD = 9.86$); $t(86) = 2.21$, $p = .03$. Using an independent samples t-test, a comparison of overall passion scores at follow-up between control ($M = 46.84$, $SD = 9.37$) and self-affirmed ($M = 47.50$, $SD = 9.69$) experimental conditions revealed no significant difference; $t(176) = -.47$, $p = .64$. Taken

together, these results suggest that participants in both conditions experienced a general decline in their overall passion scores, and the two experimental conditions did not impact the students differently.

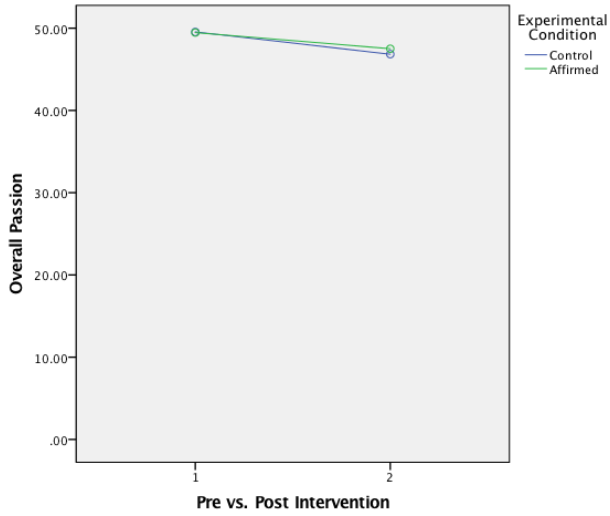

Figure 10. Graph illustrating participants' overall passion for both affirmed and control conditions.

***Hypothesis 2*.** Unlike what was hypothesized, an independent samples t-test showed that self-affirmation writing did not enhance students' capacity to understand the presented materials in the psychoeducation (M = 4.23, SD = .98) compared to those in the control group (M = 4.24, SD = .96), $t(176) = .07$, $p = .94$. This is likely due to the simplicity of presented materials in the psychoeducation. As shown by the high mean values exhibited by both groups and that approximately half of the students (50.6%) answered five or all of the questions correctly (there were six questions in total).

Table 14 displays the results for means comparison between experimental conditions for reaction and level of threat towards materials presented in the psychoeducation. The Reaction questions were worded in such a way that gauged students' general feelings toward the materials

presented in the psychoeducation. The Threat questions on the other hand, asked students to respond specifically to the suggestion that asked them to spend less time studying and more time engaging in leisure activities. The responses for Threat questions were reverse coded where appropriate to reflect an increase in level of threat, and the items were reworded in Table 12 to match this effect. Although the relative magnitude of the means between control and affirmed groups were consistent with what was expected (i.e., more positive reaction and lower felt level of threat for those in the affirmed group), no results reached statistical significance. Although no statistical significant findings were found, it should be noted that the first two Reaction items had medium effect sizes, which likely suggests that statistical significant results may have been possible if sample size was increased.

Table 14. *Means Comparison Between Experimental Conditions for Reaction and Level of Threat Towards Psychoeducation*

	Experimental condition				Means comparison	Effect size	Confidence interval (95%)	
	Control		Affirmed					
	Mean	SD	Mean	SD	*t*	*d*	Lower	Upper
Reaction								
Confident in following recommendations	4.61	1.42	4.96	1.30	-1.70	.26	-.75	.06
Found recommendations appealing	5.03	1.14	5.33	1.16	-1.72	.26	-.63	.04
Agree that following recommendations is a good idea	5.40	1.20	5.54	1.28	-.73	.11	-.50	.23
Threat								
Thinks the suggestion[a] is not a good idea	4.39	.81	4.35	.78	.33	-.05	-.20	.28
Worry that following the suggestion[a] will negatively affect grades	3.75	.85	3.71	1.05	.23	-.04	-.25	.32
Do not intend to try the suggestion[a] in the coming month	4.14	.80	4.10	.75	.34	-.05	-.19	.27
Not confident in engaging in the suggestion[a] in the coming month	4.60	.87	4.50	.84	.89	-.12	-.14	.37

[a]The specific suggestion referred to in these Threat questions is to "spend less time studying and more time engaging in leisure activities."

Note. All *t*-tests do not assume equal variances across groups, although as was indicated by Levene's test for homogeneity of variance, there were no significant differences of variances across groups. Therefore, the t-tests results for when equal variances were assumed were almost identical to results reported here. No *p*-value reported because none reached significance ($p > .05$).

In terms of the students' behavioural changes, the hypothesis that students in the affirmed writing group would engage in more leisure time activities was disconfirmed (see Table 15). In fact, students in the affirmed condition engaged in walking/bicycling/rollerblading (M = -18.15, SD = 27.32) significantly less frequently compared to their counterpart in the control condition (M = -7.17, SD = 27.42); $t(176) = 2.68$, $p = .008$ (a mean of 0 would denote no frequency change in the activity of question in the past month, a negative mean represents a decrease in frequency, whereas a positive mean represents an increase in frequency). Another activity in which affirmed students engaged significantly less frequently (M = 28.10, SD = 24.43) compared to students in the control condition (M = 20.40, SD = 26.76) was doing arts and crafts, $t(176) = 2.01$, $p = .023$). However, the above significant results disappeared when the same analyses were rerun on the subset of students whose essays were of good quality and without confounding the content with education related material.

There were no significant differences between the two experimental conditions on students' perceived changes made in accordance to the suggestions of the psychoeducation, measured with the three questions included in the Perceived Changes questionnaire. However, although the self-affirmation intervention did not produce a difference in students' self-reported number of hours spent studying across the two experimental conditions, $F(1, 176) = .28$, $p = .60$ (see Figure 11), a decrease in the number of hours spent studying was observed among those in the control condition. A paired samples t-test, which indicated that participants in the control condition endorsed a significant decrease in the number of hours they spent studying per week from baseline (M = 3.87, SD = 1.43) to follow-up (M = 3.66, SD = 1.45), $t(86) = 2.23$, $p = .046$.

Table 15. *Means Comparison Across Frequencies of Activity Engagement and Perceived Change in following Recommendations*

	Experimental condition				Means comparison	Effect size	Confidence interval (95%)	
	Control		Affirmed					
	Mean	SD	Mean	SD	*t*	*d*	Lower	Upper
Leisure Time Activities								
Watching TV	-9.76[b]	28.58	-13.22	24.72	.87	-.13	-4.43	11.36
Playing board/card/table games	-25.18	23.86	-23.70	23.66	-.42	.06	-8.51	5.55
Walking/bicycling/rollerblading[a]	-7.17	27.42	-18.15	27.32	2.68**	-.40	2.88	19.08
Reading books for pleasure	-17.46	27.30	-25.23	26.66	1.92	-.29	-.21	15.75
Playing sports	-18.56	27.21	-18.71	30.00	.04	-.01	-8.33	8.63
Going on family outings	-16.50	25.69	-14.67	25.20	-.47	.07	-9.32	5.74
Going to the movies	-17.53	26.78	-18.50	24.10	.25	-.04	-6.56	8.50
Visiting art galleries/museums	-29.15	23.00	-33.46	20.88	1.31	-.20	-2.18	10.81
Listening to music	22.76	24.26	21.86	25.48	.24	-.04	-6.47	8.27
Doing arts and crafts[a]	-20.40	26.76	-28.10	24.43	2.01*	-.30	.12	15.27
Attending events (sports, theatre, opera, ballet, etc.)	-20.77	25.72	-23.22	25.45	.64	-.10	-5.12	10.02
Surfing the web	12.76	24.80	8.01	30.79	1.13	-.17	-3.54	13.04
Studying for school	24.60	23.84	24.25	23.49	.10	-.01	-6.66	7.32
Spending time with friends	.98	28.06	-.49	26.32	.36	-.05	-6.57	9.52
Attending social events	-14.59	28.25	-16.41	25.92	.45	-.07	-6.19	9.83
Travel	-24.74	25.70	-29.70	24.02	1.33	-.20	-2.39	12.32
Shopping for pleasure	-7.59	29.66	-12.13	27.74	1.06	-.16	-3.95	13.04
Going to the gym (or home gym)	-14.20	25.95	-12.78	30.65	-.33	.05	-9.83	7.00
Self-care	-.32	27.74	2.50	28.08	-.67	.10	-11.08	5.44
Perceived Change								
Successful in seeking other fun activities	2.74	.87	2.81	.79	-.62	.08	-.32	2.74
Successful in studying in trunks	2.87	.71	2.86	.84	.14	-.01	-.21	2.87
Successful in connecting more with family and friends	3.02	.79	2.88	.85	1.16	-.17	-.10	3.02

[a]These significant results disappeared when analysis was rerun with the subsample that produced quality and non-education confounded essay samples.
Note. All *t*-tests do not assume equal variances across groups, although as was indicated by Levene's test for homogeneity of variance, there were no significant differences of variances across groups. Therefore, the t-tests results for when equal variances were assumed were almost identical to results reported here.
[b]Negative values indicate participants engaged in more of this activity during baseline compared to follow-up.
**$p < .01$; *$p < .05$.

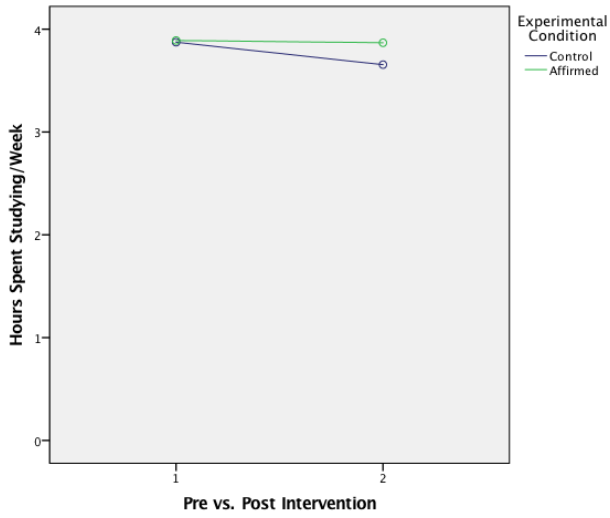

Figure 11. Graph illustrating participants' number of hours spent studying per week for both affirmed and control conditions.

Hypothesis 3. Simple mediation analyses revealed that baseline self-compassion, and psychological flexibility did not mediate the relationship between self-affirmation and change in passion. (As all results failed to reach significance or near-significance, no results will be reported due to a lack of meaningfulness.) Bias-corrected 95% bootstrap confidence interval for indirect effect based on 10,000 bootstrap samples also did not reveal any indications of a partial mediation effect, as both mediation models tested included zero. Finally, the self-affirmation intervention consistently demonstrated to have no significant direct effect on ΔRatio. Mediation analyses using res-OP and res-HP showed similar results, or lack thereof.

Hypothesis 4. Self-affirmation's impact on changes in passion was hypothesized to be moderated by baseline OP, self-compassion, and self-worth. Separate, simple moderation models were examined for each potential moderator permutated with each of the dependent variables (i.e., ΔRatio, res-OP, and res-HP). For those with conditional moderation effects of self-affirmation on the dependent variable, the Johnson-Neyman (J-N) significance region statistics

(Johnson & Fay, 1950) were used to identify the level of which the moderator variable diverged the dependence variable to non-significance vs. significance ($p < .05$) as a result of treatment. Interactions were also probed using a pick-a-point approach. Instead of using the default option of +/-1 SD of the mean, the percentile option based on the 10^{th} (Low), 25^{th} (Low-Moderate), 50^{th} (Moderate), 75^{th} (moderate-High), and 90^{th} (High) percentile values of the moderator was selected to provide more points of observation. Variables were mean-centered prior to analysis to facilitate interpretation. No significant results emerged from the above analyses.

Hypothesis 5. A simple mediation analysis was also used to examine whether changes in passion mediated self-affirmation's effects on changes in passion-related traits such as perfectionism, achievement goals, burnout, self-compassion, leisure-time satisfaction, life satisfaction, and psychological flexibility. The ΔRatio score was used as the mediator, and a residual score was used as an indicator of change for all the trait variables just listed for the same reason regarding simple change scores explained earlier. Where subscales were present, a separate residual score was obtained for each of the subscales and analyzed separately. The results revealed that changes in passion had no indirect effect in influencing how self-affirmation affected these traits tested. Because these models did not produce any significant mediation relationships, results are therefore, not reported here.

Discussion

Main Findings

The findings for this study showed that none of the hypotheses proposed were fully supported by the results. Self-affirmation did not successfully establish a healthier balance between harmonious and obsessive passions, and it also did not promote a more constructive reaction in receiving the recommendations of the psychoeducation. However, some partial

support did emerge suggesting that the self-affirmation intervention did result in some effects consistent with what was hypothesized. Although these results did not reach statistical significance, one should bear in mind that lack of statistical significance does not necessarily mean that it was clinically unimportant.

The number of hours per week of studying was measured at both time points to observe for any changes during follow up and between experimental groups. This variable was created and measured as a way to indicate whether students that were self-affirmed were more amenable to follow the recommendations provided during the psychoeducation compared to those in the control group. If this hypothesis was confirmed, a decrease in number of hours of studying would be observed among students that were in the self-affirmation writing group. Unlike what was hypothesized, however, the results revealed that those affirmed maintained a similar number of hours per week of studying. On the contrary, students who completed the control writing experienced a significant decrease in the amount of time they spent studying per week relative to baseline, as well as in comparison to those that were self-affirmed. In the absence of other supporting evidence, this decrease in the amount of studying among students within the control group may not indicate an improvement in the students' levels of obsessive passion, but instead, could be seen as "giving-up." It is also unclear what these students did using the extra few hours they no longer devoted to their studies, as an assessment in behavioural changes did not reflect an increase in more time spent on hobbies or self-care activities. As such, no meaningful conclusions can be made from this single finding given the ambiguousness of what it might mean for this group of students to have decreased their studying time without other findings to provide further support.

Moreover, the maintained level of studying time from baseline to follow-up for those who were self-affirmed could be a result of the increased demands of the academic term. In other words, the increased academic demands may have worked against the effects of self-affirmation. Specifically, Mass Testing took place in late September to early October, roughly three to four weeks into the school year. It is common knowledge that academic demands are typically lighter closer to the beginning of the year, especially for first year university students. At the University of Manitoba, the first week to two weeks after school year begins is usually filled with orientation activities, and class time during these weeks are typically spent on reviewing course syllabi and some easy-to-understand introductory materials. Phase 2 of the study took place around mid- to late-November. For many classes in and around this time, students are typically busy with mid-term exams and major assignments, and for many, they may have just begun to feel the crunch for the soon-to-approach final exams, which typically begins around second week of December. All in all, the effects of self-affirmation may have been washed out by this change in academic demands, as students progressed through the academic semester. Therefore, unless academic demands are held constant, one cannot conclude that self-affirmation did not exert any effect on students' obsessiveness towards studying.

In fact, there was some indication that the self-affirmation intervention may have triggered some immediate effects. Specifically, when students were asked to evaluate their level of confidence in implementing, and how appealing they found, the recommendations, although the results did not reach statistical significance, medium effect sizes were found when those affirmed were compared to controls. As stated earlier in the Results section and earlier in this Discussion section, failing to reach statistical significance does not necessarily indicate an ineffective intervention, but rather, could be caused by a number of factors, including

confounding variables such as variable academic demands. As such, these results suggest that although long-term effects for self-affirmation in the studied context cannot be concluded, some propensity for immediate change may have precipitated. Further, two correlation sets (Phase 1 life satisfaction with Phase 2 socially-prescribed perfectionism, and Phase 1 psychological flexibility with Phase 2 performance-avoidance goals) did indicate opposite directions for controls versus self-affirmed. Although no hypothesis was made regarding these variables and these results in fact were hard to explain, these effects should be noted and explored in the future. More importantly, however, it was realized that OP was more closely tied to negative outcome variables for controls relative to self-affirmed, such that those that were self-affirmed were significantly less exhausted and had greater life satisfaction relative to controls. These results suggest that even though self-affirmation may not have significantly impacted participants' dispositional levels of OP, it nonetheless was successful in reducing the negative consequences associated with OP.

Anecdotally, I received an email from one of my participants approximately one and a half months after the start of the next academic semester (in and around mid-February of the following year, just after Reading Week and midterm exams). In her email, she thanked me for inviting her to participate in my study and indicated that she was "too afraid" to make the recommended changes described in the psychoeducation. She, however, disclosed that she made a point to herself to implement my recommendations in the new term, and decided to write to me after experiencing the benefits of these recommendations. Specifically, she felt "less burnt out" and her grades from the midterm exams were as good, if not better, than her grades in the previous semester – when she obsessively engaged in her studies. As I had not completed my data cleaning at this time, using her University of Manitoba email address, I was able to confirm

that she was indeed assigned to the self-affirmation writing group. It is possible that she is one of many among those that wrote the self-affirmation essay to receive such benefits but did not write to me. However, one cannot be overly confident and generalize from this one anecdotal feedback to completely attribute the benefits to self-affirmation intervention, as a student who was in the control writing may have equally benefitted from making the recommended changes when the new semester began, but simply did not write to me. Regardless of who benefitted from the psychoeducation, this is nonetheless evidence toward the ineffectiveness of obsessively pursuing an important activity.

Although firm conclusions cannot be made regarding the benefits of the self-affirmation exercise from this one participant's feedback, it does, however, speak to the potentially undesirable timing of my study similar to the argument made earlier about the increase in academic demands by Phase 2. Common sense tells me that it is much easier to "start fresh" when starting new than to change ways in the middle of something. A fellow colleague of mine, in her study of the effects of self-affirmation on social anxiety using a similar university sample, detected a trend of an increase in concreteness (or lowered self-construal) as the academic term progressed (O'Brien, 2017). Contrary to expectations, it was noted in her thesis that the supposition of an increase in stress over the course of the term that led to this undesirable shift in psychological flexibility was not supported by a carefully designed follow-up study to untangle this mystery. Although the current study did not show a significant change in psychological flexibility from baseline to follow-up, the trend nonetheless demonstrated the lowering of psychological flexibility later on in the term. According to Trope and Liberman's (2010) psychological distance theory, adopting a more rigid/concrete focus at the end of the term may indeed be beneficial. As such, to truly evaluate the effects, or lack thereof, of self-affirmation on

obsessive passion in studying, future research should repeat the current study beginning at different time points of the academic term or conduct the study entirely outside of the academic year to rule out the possible effects of academic demands and this term-related varying levels of psychological flexibility.

It is puzzling why self-affirmation did not produce the desired effect of reducing the level of obsessive passion in this student sample given that affirmed participants were significantly more likely to perceive the writing task to have affirmed personally important values relative to controls. One plausible explanation for the lack of findings is perhaps these students did not find the psychoeducation recommendations threatening, as both groups showed an average level of agreement to the Level of Threat items, which suggests that participants in both conditions were neither worried or willing to implement the psychoeducation recommendations. Given the research discussed earlier in this chapter that self-affirmation is only beneficial in the presence of perceived threat, it is then not surprising that self-affirmation was ineffective in establishing a healthier balance between harmonious and obsessive passions among the participants. Following this line of thinking, it is important to question then just why might these students not perceive the recommendations threatening?

Issues of control may be at the heart of one's perceived level of threat. For example, in a group of female rape victims, women who reported lower control perceptions reported more fear than their high control counterparts (Heath & Davidson, 1988). In fact, when these women with high control perception were exposed to low control messages, their perceived fear increased. Moreover, the associated negative affects diminished when control is affirmed among a group of people that felt ostracised (Lee & Shrum 2012; Zhou, Vohs, & Baumeister, 2009). These results show that high levels of feelings of control may help to reduce feelings of threat. In the field of

self-affirmation research specifically, Jessop and colleagues (2018) found that self-affirmation can precipitate negative responses to low control events within one's central life domain, complementing past self-affirmation research that tended to focus on high control events. These results suggest for the presence of an interaction effect between perceived control over the event or task in question and self-affirmation, and also insinuate that perhaps the participants in the current study felt an overall low level of control over their studying leading to this lack of responsivity to the intervention. Future research should consider administering a perceived control measure to clarify the role control plays in this context.

Another explanation that may also help to explain why participants in the current study may have not felt threatened lies within the coping literature. Primary and secondary cognitive appraisals are distinguished within this literature (Lazarus & Folkman, 1984). Primary appraisals are concerned with the degree of perceived threat in a given situation, and during secondary appraisals, which follows that of one's primary appraisals, the individual evaluates his or her resources or abilities to cope with that situation. In other words, primary appraisal helps one to decide whether the situation is indeed threatening, while secondary appraisal assesses the overall situation with the self as context in determining what one could do to cope with this threat.

In the current research, students' primary appraisal following exposure to the threatening situation may have resulted in one of two outcomes: not threatening vs. threatening. For those who perceived the recommendations to be non-threatening, self-affirmation undoubtedly would have not been effective. For those who felt threatened, according to the process of cognitive appraisals, students would then make a secondary appraisal to determine what they might do to cope or attenuate their feelings of threat. An easy solution in this context would have been to simply continue with their obsessively passionate habits of studying, particularly given the lack

of external pressure, hence the lack of behavioural changes. Although the mental health risks associated with prolonged engagement in their studies in an obsessively passionate manner is also potentially threatening, one is not likely to make changes when the changes could potentially cause more immediate distress and the outcome is perceived as uncertain (Emichaelson, Ede La Vega, Echatham, & Emunakata, 2013; Figner et al., 2010).

Although earlier research showed that self-affirmation increases receptiveness of risk information, as it was effective in offsetting defensiveness, more recent studies have detected some limits to its effectiveness in a few studies (Epton, Harris, Kane, Van Koningsbruggen, & Sheeran, 2015; Sweeney & Moyer, 2015). In an effort to identify moderating conditions under which self-affirmation inductions are less effective, Ferrer and colleagues (2017) tested emotions as one of such moderators in the context of receiving threatening health information. Consistently in their two-study publication, these authors found anger in particular hinder the expected effects of self-affirmation, in which those affirmed became more defensive when angry. The authors argue that those who enter a self-affirmation intervention in a negative emotional state may be less primed to make gains by making room for threatening information and in subsequently making behavioural changes. Although the current study falls largely within the realm of education and social psychology, the impact of persistent obsessive passion is said to lead to reduced mental health and wellbeing, and thus is, at least, indirectly related to one's health, similar to the context studied in Ferrer et al.'s study. As it pertains to the current study, the length of the survey may have precipitated some level of irritability within the participants. Those who worked at a faster pace also had to wait for students who took longer to get to the point of the intervention, as per my study design, which may have also put these swifter students'

patience to a test. The findings from Ferrer's study provides important information for testing the emotional state of participants prior to the delivery of the intervention in future research.

Limitations

The present study expanded the current areas of application of self-affirmation to include, and to shed light on, whether it is can reduce obsessive passion. A number of limitations are present, however. First, the single dose administration in our study may have been an important contributor to the lack of significant findings. If the amount of self-affirmation exercise was insufficient and given the recursive nature of self-affirmation that has been found in a number of studies (Sherman et al., 2013), then perhaps a simple solution moving forward would be to test if an increase in dosage (i.e., repeated delivery, prescribed as home practices, or longer follow-up) would produce the desired effect of establishing a healthier balance between harmonious and obsessive passions. If an increased exposure to self-affirmation yielded the same result as the current findings, the utility of self-affirmation as a clinical intervention strategy can reasonably be scrutinized, at least for the current sample of individuals. With that said, one should keep in mind that self-affirmation writing exercises delivered as a single administration have proven to be successful in numerous contexts (McQueen & Klein, 2006). There is, however, some assurance with the use of self-affirmation despite the lack of significant findings in the current study given that it was successful in reducing some of the negative consequences associated with obsessive passion, namely, exhaustion and low life satisfaction.

Secondly, the integrity of the responses (as mentioned that 33% of the data would need to be removed if a high rigor of data cleaning was applied) and quality of the writing samples may have contributed to the lack of findings. With respect to the quality of the writing samples specifically, although we did make the effort to allow participants to reflect more deeply on their

written value by asking them to provide two examples, as opposed to one, of when the value has proven to be meaningful, my review of the writing samples revealed that most students did not follow this instruction. For the most part, only one thoughtful example was provided within their writings. This was especially problematic for those that were randomly selected into the control group. It is understandably more difficult to consider how a value may be important to another student and moreover, the level of effort did not matter among students completing the control writing as long as they did not take the opportunity to reflect further on the importance of their education.

A third issue is related to the delivery of the psychoeducation. In reflecting on the recent finding reviewed earlier by Ferrer and colleagues on the potential moderating effect of participants' mood on the effectiveness of self-affirmation, the psychoeducation information was delivered towards the end of the research session, approximately 60-70 minutes into the session when participants were possibly annoyed with the length of the survey or having to wait for those that worked through the survey at slower pace than most, and possibly even eager to exit the study. Further, fatigue could have also made students less attentive to the recommendations delivered during the psychoeducation, and therefore, did not engage in reflective thinking leading to only a literal comprehension of the recommendations, as opposed to more advanced levels of comprehension like appreciative comprehension.

As a fourth area of limitation, the length of follow-up of one month may have been too long for the effect of self-affirmation induction to have persisted. A one-month follow-up period was initially chosen over the more common one-week interval for two major reasons: 1) many students have shown effects of self-affirmation for up to several months to even three years (e.g., Sherman et al., 2013), and 2) to provide students with the opportunity to make true behavioural

changes that can be somewhat considered as persistent. As I did not conduct a one-week follow-up to assess the presence or absence of students' immediate changes, I am unable to determine whether the intervention produced some short-term effects on students' studying habits or dynamic obsessive and harmonious passion changes. A shorter follow-up interval may have also facilitated the avoidance of the potentially confounding "term-effect" related to notable changes in academic demands or the "too-late-to change" or "wait-till-next-term" thinking patterns.

Finally, the less than desirable level of internal consistency (α-value < .70) again posed a threat to the reliability of various scales. Though similar to when this may have been a problem for Study 1, scales with low levels of internal consistency would have only negatively affected the analyses that involved the use of these measures.

Chapter IV: Conclusion

The objectives of the present work were, in the context of studying, to explore parenting style, more specifically authoritarian parenting style, as a potential source for the development of obsessive passion, and whether self-affirmation was an effective means of restoring a better balance between obsessive and harmonious passions among those assessed as having high levels of obsessive passion. Currently, researchers already seem to have a fairly good grasp of the detrimental effects associated with high obsessive passion levels. Therefore, the overarching goal of this research was to deepen the understanding of how best to prevent and intervene the development and maintenance of high obsessive passion levels and to move away from the outcome-focused studies of obsessive passions. Study 1 employed a cross-sectional design that asked university students with varying levels of obsessive passion to retrospectively report the main parenting style adopted by the parent that was most influential in their rearing and academic upbringing. Study 2 involved a mini-longitudinal (one month) experimental design to explore whether self-affirmation writing, relative to control writing, triggered some movement for those identified with high levels of obsessive passion to engage in their studies in a more flexible manner that is more consistent with a harmonious passionate style. Overall, although it is difficult to derive general conclusions from these two methodologically very different studies, the present chapter will attempt to do so and consider what they suggest for future research.

A first general theme from both studies is that many expected findings did not materialize, whereas a number of unexpected findings did. While this problem is not unique to this thesis, it is nonetheless somewhat surprising given the effort taken to ground the hypotheses in previous theory and findings. Noteworthy in this regard are the failures to find support for the main hypotheses for the two studies. Specifically pertaining to Study 1, the authoritarian

parenting style was not significantly positively associated with obsessive passion; and for Study 2, self-affirmation did not successfully establish a healthier balance between harmonious and obsessive passions. In this latter study, however, some evidence for the utility of self-affirmation as an effective intervention in reducing negative consequences associated with high levels of obsessive passion did emerge.

Another common theme running through the two studies concerns the adequacy of the measures used. For instance, in Study 1, the retrospective assessment of perceived parenting style certainly may have introduced some potential biases for its measurement. Using a retrospective measure assumes that parenting styles remain consistent across all ages of children's development. As some researchers have shown, parents may adopt a more directive approach during their children's younger years but would later relax their supervision to allow for some flexibility as the children age, or vice versa to impose greater structure when these older children are expected to behave more maturely (Garcia Coll, Meyer, & Brillon, 1995). There is also literature to suggest that retrospective assessment of parenting style by the child may be less reflective of the objective parenting style, but more so of the now grown child's mental health and personality (e.g., Shah & Waller, 2000). Another issue pertaining to the current manner in which parenting style was measured is related to objectivity. It is uncertain whether the students' *perception* of their parents' parenting style differs from that of the parents' perception, as well as if it had been rated by a neutral observer. Some researchers have already demonstrated that optimal parenting style changes depending on the culture (Garcia and Garicia, 2009). Given that the Parental Authority Questionnaire was developed some almost 30 years ago, perhaps it requires recalibration with a Canadian sample to assist with the conceptualization of which parenting style would likely promote the development of the healthier, harmonious

passion, versus the less healthy, obsessive passion. Study 2 also faced issues with inadequate measures, such as the use of an original instrument measuring studying efficiency in an effort to differentiate obsessive passion from a true lack of ability to learn. These measurement issues make it difficult to ensure accuracy of construct validity.

Another concern in both studies are confounds or procedural problems that may have affected the results. The positive relationship shared between authoritarian parenting and well-established correlates of obsessive passion, including performance-avoidance goals and low life satisfaction, lend some evidence that perhaps the mechanisms by which authoritarian parenting operates to influence obsessive passion could be better studied if some of the noise could be reduced in terms of measurement, which I have outlined above. With a multitude of potential measurement challenges, both due to the retrospective nature and the fluidity of parenting styles throughout the course of children's developmental years in some cultures (Garcia Coll, Meyer, & Brillon, 1995), it is reasonable to suspect that the participants may have reflected on different time periods of their academic upbringing, thus introducing complications to the measurement of the parenting style and an inconsistency across participants in the current research. Further, participants in Study 1 were "forced" to select the most influential parent to reflect upon, when some literature points to the importance of family configuration (i.e., single-parent vs. duo-parent) and its impact on children's academic achievement (e.g., Baker, 2014).

In Study 2, the integrity of the essay writing likely posed the biggest threat to the reliability of this research. It is undoubtedly more difficult to take another person's perspective and evaluate how a value might be important to another individual, and this difficulty possibly resulted in many students in the control condition to ultimately write about how the value is *not* important to them. Inadvertently, participants in the control condition may have been indirectly

self-affirmed. Deletion of a significant number of cases with integrity response issues would seriously harm the sample power and therefore, making it impossible to detect any significant effect. Another important issue with Study 2 that may have undermined the overall effectiveness of the intervention proposed pertains to the psychoeducation. The psychoeducation was intended to both provide information about the potential detrimental effects of obsessive passion, as well as to make recommendations to the obsessively passionate students to alter their behaviours to achieve better balance. Results showed that the students in both study conditions (self-affirmation and control) not only showed a similar level of response on the threat measure but were also generally not threatened by the recommendations. Therefore, based on the premise that self-affirmation is only effective in buffering against negative impact in the face of threat, it is not surprising that my study participants did not benefit from the self-affirmation intervention. The reason for the lack of felt threat may lie in the level of control over the activity at hand as discussed (Emichaelson, Ede La Vega, Echatham, & Emunakata, 2013; Jessop, Ayers, Burn, & Ryda, 2018).

Both studies made use of online data collection. Although Internet data collection facilitates the ease with which large quantities of data can be collected in a timely manner, research has also documented a number of issues with the overall quality relative to paper-pencil surveys (Cantrell & Lupinacci, 2007), including level of honesty for example (Hydock, 2017). In fact, some researchers have even demonstrated inconsistent psychometric properties for the same instrument when used in paper-pencil format versus online (Buchanan et al., 2005). Past findings have also indicated greater effort expenditure when research is conducted in a less anonymous context (e.g., Yang, Cho, Matthew, & Worth, 2011). Specifically pertaining to the writing component of Study 2, participants may have devoted more effort in reflecting on how a value

might be important to another individual if the research was carried out on an individual basis, as opposed to a group setting.

Despite the limited number of positive findings, the current study represents an important step in the growing area of research on harmonious and obsessive passions. Although not recognized as a diagnosable mental disorder, having high levels of obsessive passion is nonetheless associated with a host of mental health problems and may be a precursor to the development of a psychological disorder. Furthermore, even though authoritarian parenting style did not serve as a significant contributor to the development of passion in the current study, it does not nullify the significance of parenting styles on the development of passion if some of the limitations described above can be addressed. Future research should continue to probe the effect of parenting styles therefore, as a developmental source of obsessive passion in other activities and explore other sources to help understand and prevent this problematic approach to the pursuant of all other valued activities.

More specific to the current study, a surprise finding emerged with that of permissive parenting style and its relationship with both obsessive and harmonious passions. During the initial stages of conceptualization of this study, no hypothesis was made with regard to permissive parenting, as it was thought that the indulgent parenting style would be non-influential in the development of any type of passion. The results, however, showed otherwise. In fact, permissive parenting style was positively correlated with both obsessive and harmonious passions. Mediation analysis showed that permissive parenting is associated with a decrease in mastery goals and that this decrease in mastery goals in turn led to the development of obsessive passion, although these effects were very small. This finding raises the question whether the benefits and risks associated with permissive parenting found from earlier research continues to

apply today, or whether parenting, like many other social constructs, has shifted along with the changing culture. Further, the correlational relationship shared between the authoritarian parenting style and obsessive passion was consistent with that of the hypothesis, offering at least partial support, especially considering the shift away from using the *p*-value as an indicator of significant findings within the scientific community (Goodman, 2008). Both findings concerning the permissive and authoritarian parenting styles suggest that parenting style may play an important role in the development of passion and warrants further research.

In terms of Study 2, researchers have also yet to attempt testing intervention strategies to transform obsessive passion into harmonious passion. Neither have they explored the applicability of using self-affirmation to soften the rigidity associated with being obsessively passionate in any areas of activities, including studying. Given students' ever-increasing academic demands and the potential negativities associated with them, having a brief, easy to administer, intervention that could restore some balance in these students' lives may be extremely beneficial. It should be noted, that the intervention was somewhat successful in eliciting an immediate positive reaction from the affirmed participants relative to controls, providing some evidence that a significant finding may result with an increase in dose of the intervention. Further, the simplicity of self-affirmation writing exercises is a favourable aspect of the intervention and students are much more likely to adhere to its practice and more willingly to incorporate it into their already very busy schedules. Last but not least, a comparison of trait variables between the two experimental groups showed significant differences at Phase 2 (whereas such difference did not exist pre-intervention). These results suggest that even though passion levels may be more ingrained and difficult to change, it is possible to implement effective intervention strategies to help obsessively passionate individuals to cope, and that self-

affirmation does show some benefit in this regard. With more exploration along this line of thinking, additional intervention strategies should be tested in the future to observe for their respective effectiveness.

Though the results specific to my hypotheses did not materialize, given the possible under dosage and the demonstrated recursive effect of self-affirmation, it remains as a potentially fruitful intervention for future research to continue to explore. Accordingly, I offer a few suggestions for future researchers to consider. First, making changes in the middle of an academic semester is likely viewed as quite undesirable and possibly more threatening than the negative outcomes associated with long-term obsessive passionate practices. However, this needs to be explicitly measured to confirm this supposition. Academic demands also vary as the term progresses, and according to the psychological distance theory (Trope & Liberman, 2010), a more rigid approach to studying may be helpful when there is a high-demand. Given the foregoing, replicating the current research starting at various time points of the academic term may help to rule out these time-sensitive effects, offering a clearer understanding of whether the self-affirmation intervention is an effective way to reduce levels of obsessive passion. Second, self-affirmation researchers should also be careful with the format of the data collection process, as per the current findings, large groups appear to be contraindicated, as the quality of responding may diminish in a more anonymous setting. A final word of caution for future researchers attempting to explore alternative means to alter the level of obsessive passion is that interventions should take care to not lessen an individual's overall passion but to transform it from an obsessive to a harmonious form given the many benefits of passion nonetheless.

The novel idea of the exploration of the developmental source of obsessive passion and the identification of an intervention opens up new lines of inquiry into obsessive passion and

should be appreciated for the pioneering effort that it is. Specifically, the understanding of obsessive passion was furthered by the current study, wherein both studies appear to point to some evidence that the type of passion one possesses may be dispositional and personality based. As such, known correlates and effective intervention modalities for personality disorders could certainly be attempted.

In sum, the present study makes an important contribution to the literature as the first to attempt to identify the origins of obsessive passion and to explore the efficacy of an intervention in transforming obsessive passion into harmonious passion, which, had it been successful, would likely have resulted in a decrease in many negative effects (Bélanger, Lafrenière, Vallerand, & Kruglanski, 2013; Chang & Sanna, 2007; Vallerand et al., 2003). With hundreds of publications on the subject of obsessive passion largely focusing on correlates and outcomes, now is an opportune time to shift the focus to research aimed at better understanding how to prevent the development of obsessive forms of passion and on how to transmute them into harmonious forms so as to help these individuals lead a healthier lifestyle.

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Appendix A: Ethics Approval Certificate

UNIVERSITY OF MANITOBA | Research Ethics and Compliance
Office of the Vice-President (Research and International)

Human Ethics
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APPROVAL CERTIFICATE

September 25, 2015

TO: **Yunqiao Wang** (Advisor E. Johnson)
Principal Investigator

FROM: **Kelley Main, Chair**
Psychology/Sociology Research Ethics Board (~~PSREB~~)

Re: **Protocol #P2015:111**
"Obsessive Passion for Studying: Developmental Sources and Potential Resolutions"

Please be advised that your above-referenced protocol has received human ethics approval by the **Psychology/Sociology Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement (2). It is the researcher's responsibility to comply with any copyright requirements. **This approval is valid for one year only**.

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note:

- **If you have funds pending human ethics approval, please mail/e-mail/fax (261-0325) a copy of this Approval (identifying the related UM Project Number) to the Research Grants Officer in ORS in order to initiate fund setup. (How to find your UM Project Number: http://umanitoba.ca/research/ors/mrt-faq.html#pr0)**

- **if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.**

The Research Quality Management Office may request to review research documentation from this project to demonstrate compliance with this approved protocol and the University of Manitoba *Ethics of Research Involving Humans*.

The Research Ethics Board requests a final report for your study (available at: http://umanitoba.ca/research/orec/ethics/human_ethics_REB_forms_guidelines.html) **in order to be in compliance with Tri-Council Guidelines.**

Appendix B: Mass Testing Measures

Passion Scale for Studying

Adapted from The Passion Scale (Vallerand et al., 2003)

Instructions: While thinking about studying and using the scale below, please indicate your level of agreement with each item.

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

Self-Compassion Scale (SCS)

Neff (2003)

Instructions: Please read each statement carefully before answering. Indicate how often you behave in the stated manner, using the following scale:

Almost never				Almost always
1	2	3	4	5

1. I'm disapproving and judgmental about my own flaws and inadequacies. (R)
2. When I'm feeling down I tend to obsess and fixate on everything that's wrong. (R)
3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world. (R)
5. I try to be loving towards myself when I'm feeling emotional pain.
6. When I fail at something important to me I become consumed by feelings of inadequacy. (R)
7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.
8. When times are really difficult, I tend to be tough on myself. (R)
9. When something upsets me I try to keep my emotions in balance.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
11. I'm intolerant and impatient towards those aspects of my personality I don't like. (R)
12. When I'm going through a very hard time, I give myself the caring and tenderness I need.
13. When I'm feeling down, I tend to feel like most other people are probably happier than I am. (R)
14. When something painful happens I try to take a balanced view of the situation.
15. I try to see my failings as part of the human condition.
16. When I see aspects of myself that I don't like, I get down on myself. (R)
17. When I fail at something important to me I try to keep things in perspective.

18. When I'm really struggling, I tend to feel like other people must be having an easier time of it. (R)
19. I'm kind to myself when I'm experiencing suffering.
20. When something upsets me I get carried away with my feelings. (R)
21. I can be a bit cold-hearted towards myself when I'm experiencing suffering. (R)
22. When I'm feeling down I try to approach my feelings with curiosity and openness.
23. I'm tolerant of my own flaws and inadequacies.
24. When something painful happens I tend to blow the incident out of proportion. (R)
25. When I fail at something that's important to me, I tend to feel alone in my failure. (R)
26. I try to be understanding and patient towards those aspects of my personality I don't like.

Note: (R) denotes reverse scoring for computing overall self-compassion score.

Appendix C: Study 1 Measures

Study 1 Recruitment Script

UNIVERSITY OF MANITOBA

Call for Participation
Obsessive Passion: Developmental Sources

This study explores whether parenting style may be a potential contributor to the development of obsessive passion. You were chosen to participate in this study on the basis of responses you gave to a mass testing survey administered in your Introductory Psychology class earlier this term.

For this survey, you will be asked several basic demographic questions. As well, you will be asked to make judgments on a number of self-rated statements regarding your perception of your parents' parenting styles, your own characteristics, and behaviors.

Please reply to this email if you are interested in participating in the study. Once you indicate interest, the researcher will email you the link to the survey. You will have two weeks to complete the survey upon receiving the link. You will receive 2 research credits for your participation. The study is expected to take 30 to 60 minutes. If you do not complete the survey within the two weeks' time, you will be penalized for failure to participate.

If you are interested in participating, or would like further information, please contact the primary investigator: Yunqiao Wang (email contact provided here).

**This study is being conducted as part of Yunqiao Wang's PhD thesis under the supervision of Dr. Edward Johnson, with approval of the University of Manitoba Psychology/Sociology Research Ethics Board.

Study 1 Consent Form

UNIVERSITY OF MANITOBA

Study Name: Obsessive Passion – Developmental Sources

Principal Investigator: Yunqiao Wang, M.A., Ph.D. Candidate
PhD Student, Psychology
(Phone and email contact provided here)

Research Supervisor: Dr. Edward Johnson, Ph.D., C.Psych.
Associate Profession, Psychology
(Phone and email contact provided here)

Research Sponsorship: None

This consent form, *a copy of which you may save or print for your records and reference at this time (Note: this page will become unavailable once you move onto the next page)*, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. Participation is voluntary and declining to participate will have no negative consequences. If you would like more detail about anything described below, or information not included here, feel free to contact the principal investigator, Ms. Yunqiao Wang (see above for contact information). Please take the time to read this carefully and to understand any accompanying information.

Purpose of Study: Ms. Yunqiao Wang is conducting this study as part of her Ph.D. Thesis, under the supervision of Dr. Edward Johnson. The purpose of this research is to explore parenting style as a potential contributor to the development of obsessive passion. You were chosen to participate in this study on the basis of responses you gave to a mass testing survey administered in your Introductory Psychology class earlier this term. Using your UofM email address, some of your previous answers will be linked to the current survey. These responses that you provide will be analyzed to answer the research question stated above.

Procedure: For this survey, you will be asked several basic demographic questions. As well, you will be asked to make judgments on a number of self-rated statements regarding your perception of your parents' parenting styles, your own characteristics, and behaviors. Please read the instructions carefully before beginning each questionnaire. This survey should take approximately 30 to 60 minutes to complete.

Important: Once you begin the survey, you will have a maximum of 2 hours to complete it. We kindly ask you to complete the survey without distractions such as email, cellphone, or other forms of social media.

Voluntary Participation: Your participation in this study is completely voluntary. Although you may choose to omit responses to any items you do not wish to answer, excluding your email address, you will still receive two research credits for your attempt, we kindly ask you to respond to all statements.

Confidentiality: All responses will be kept completely confidential. We therefore ask you to respond honestly to all items. Any information you provide will be stored on the encrypted and password protected site, Qualtrics, which we used to generate the survey, as well as on password-protected computers in a locked office affiliated with Dr. Johnson's lab. The data may also be stored on an encrypted USB stick. Only the principal investigator, Ms. Wang, and her supervisor, Dr. Johnson, will have access to your data. Once all data for this research project has been collected and your research credits have been assigned, all identifying information will be stripped from the data and deleted to achieve complete anonymity. We expect to complete data collection and anonymize our dataset by January 2016. Once data has been completely anonymized, the dataset may not be kept under lock and key. Paper storage of the anonymous data may be kept up to five years post-publication of the results, and electronic storage of the anonymous data will be kept indefinitely. Results from this study will be included in Ms. Wang's Ph.D. thesis. We also may disseminate these results through presentations at scholarly conferences and through publication in academic journals. Only aggregate results will ever be presented. No individual responses will ever be reported under any condition.

The University of Manitoba routinely audits research protocols to ensure that the execution and storage of research are done in a safe and properly manner.

Risks: There are no expected risks for participation in this study beyond those that might be expected during day-to-day life.

Benefits: There may or may not be direct benefit to you from participation in this study. It is our hope, however, that through conducting this research that we learn important information about the development of obsessive passion.

Feedback and Study Results: Once you complete this survey, a written debriefing will be emailed to you within 48 hours, which will describe the psychological interest of the research in more detail. You may also contact Ms. Wang (see above for contact information) should you have any questions upon reading the debriefing. For those who indicate interest and provide email addresses to receive a summary of the results, the results of this study should become available by June 2016. Your email addresses will be compiled in a separate list, such that the email list cannot be linked with the responses that you provide.

Questions: Should you have any questions about this research, feel free to email or phone Ms. Yunqiao Wang (see above for contact information). This research has been approved by the Psychology/Sociology Research Ethics Board at the University of Manitoba. If you have any concerns or complaints about this project, you may contact the Human Ethics Secretariat at 204-474-7122, or by email at margaret_bowman@umanitoba.ca.

Statement of Consent: By clicking "Yes, I consent," at the bottom of this page, you indicate that you have fully understood the information regarding participation in the research project and agree to participate. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you would like to omit, without prejudice or consequence. If you wish to withdraw, simply close your browser at any time. Your continued participation should be as informed as your initial consent; hence, you should feel free to ask for clarification or new information.

We strongly encourage you to save or print a copy of this consent form now for your records, as it will become unavailable once you move onto the next page.

If you do not wish to participate in this study right now, please close your web browser. As your email address only grants you with a one-time access to the survey, if you wish to return to participate at a later date and time within the study period (before December 2015), please email Ms. Wang, whom will be in contact to grant you another access to the survey. Thank you for considering participating.

[ ] Yes, I consent [ ] No, I do not consent

Parental Authority Questionnaire

Buri (1991)

Instructions: For each of the following statements, circle the number of the 5-point scale (1 = strongly disagree, 5 = strongly agree) that best describes how that statement applies to you and the parent that was most influential in your educational development. Try to read and think about each statement as it applies to you and your chosen parent during your years of growing up at home. There are no right or wrong answers, so don't spend a lot of time on any one item. We are looking for your overall impression regarding each statement. Be sure not to omit any items.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

1. While I was growing up my father/mother felt that in a well-run home the children should have their way in the family as often as the parents do.*
2. Even if the children didn't agree with him/her, my father/mother felt that it was for our own good if we were forced to conform to what he/she thought was right.**
3. Whenever my father/mother told me to do something as I was growing up, he/she expected me to do it immediately without asking any questions.**
4. As I was growing up, once family policy had been established, my father/mother discussed the reasoning behind the policy with the children in the family.***
5. My father/mother has always encouraged verbal give-and-take whenever I have felt that family rules and restrictions were unreasonable.***
6. My father/mother has always felt that what his/her children need is to be free to make up their own minds and to do what they want to do, even if this does not agree with what their parents might want.*
7. As I was growing up my father/mother did not allow me to question any decision he/she had made.**
8. As I was growing up my father/mother directed the activities and decisions of the children in the family through reasoning and discipline.***
9. My father/mother has always felt that more force should be used by parents in order to get their children to behave the way they are supposed to.**
10. As I was growing up my father/mother did not feel that I needed to obey rules and regulations of behavior simply because someone in authority had established them.*

11. As I was growing up I knew what my father/mother expected of me in my family but I also felt free to discuss those expectations with my father/mother when I felt that they were unreasonable.***
12. My father/mother felt that wise parents should teach their children early just who is boss in the family.**
13. As I was growing up, my father/mother seldom gave me expectations and guidelines for my behavior.*
14. Most of the time as I was growing up my father/mother did what the children in the family anted when making family decisions.*
15. As the children in my family were growing up, my father/mother consistently gave us direction and guidance in rationale and objective ways.***
16. As I was growing up my father/mother would get very upset if I tried to disagree with him/her.**
17. My father/mother feels that most problems in society would be solved if parents would not restricted their children's activities, decisions, and desires as they are growing up.*
18. As I was growing up my father/mother let me know what behavior he/she expected of me, and if I didn't meet those expectations, he/she punished me.**
19. As I was growing up my father/mother allowed me to decide most things for myself without a lot of direction from him/her.*
20. As I was growing up my father/mother took the children's opinions into consideration when making family decisions, but he/she would not decide for something simply because the children wanted it.***
21. My father/mother did not view himself/herself as responsible for directing and guiding my behavior as I was growing up.*
22. My father/mother had clear standards of behavior for the children in our home as I was growing up, but he/she was willing to adjust those standards to the needs of each of the individual children in the family.***
23. My father/mother gave me direction for my behavior and activities as I was growing up and he/she expected me to follow his/her direction, but he/she was always willing to listen to my concerns and to discuss that direction with me.***

24. As I was growing up my father/mother allowed me to form my own point of view on family matters and he/she generally allowed me to decide for myself what I was going to do.*
25. My father/mother has always felt that most problems in society would be solved if we could get parents to strictly and forcibly deal with their children when they don't do what they are supposed to as they are growing up.**
26. As I was growing up my father/mother often told me exactly what he/she wanted me to do and how he/she expected me to do it.**
27. As I was growing up my father/mother gave me clear direction for my behaviors and activities, but he/she was also understanding when I disagreed with him/her.***
28. As I was growing up my father/mother did not direct the behaviors, activities, and desires of the children in the family.*
29. As I was growing up I knew what my father/mother expected of me in the family and he/she insisted that I conform to those expectations simply out of respect for his/her authority.**
30. As I was growing up, if my father/mother made a decision in the family that hurt me, he/she was willing to discuss that decision with me and to admit it if he/she had made a mistake.***

Note: The parental prototype represented by each item is denoted as follows: *permissive, **authoritarian, and ***authoritative.

Multidimensional Perfectionism Scale

Hewitt & Flett (1990)

Instructions: Listed below are a number of statements concerning personal characteristics and traits. Read each item and decide whether you agree or disagree & to what extent.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. When I am working on something, I cannot relax until it is perfect.
2. I am not likely to criticize someone for giving up too easily. (R)
3. It is not important that people I am close to are successful. (R)
4. I seldom criticize my friends for accepting second best. (R)
5. I find it difficult to meet others' expectations of me.
6. One of my goals is to be perfect in everything I do.
7. Everything that others do must be of top-notch quality.
8. I never aim for perfection on my work. (R)
9. Those around me readily accept that I can make mistakes too. (R)
10. It doesn't matter when someone close to me does not do their absolute best. (R)
11. The better I do, the better I am expected to do.
12. I seldom feel the need to be perfect. (R)
13. Anything that I do that is less than excellent will be seen as poor work by those around me.
14. I strive to be as perfect as I can be.
15. It is very important that I am perfect in everything I attempt.
16. I have high expectations for the people who are important to me.
17. I strive to be the best at everything I do.
18. The people around me expect me to succeed at everything I do.
19. I do not have very high standards for those around me. (R)
20. I demand nothing less than perfection of myself.
21. Others will like me even if I don't excel at everything. (R)
22. I can't be bothered with people who won't strive to better themselves.
23. It makes me uneasy to see an error in my work.
24. I do not expect a lot from my friends. (R)

25. Success means that I must work even harder to please others.
26. If I ask someone to do something, I expect it to be done flawlessly.
27. I cannot stand to see people close to me make mistakes.
28. I am perfectionistic in setting my goals.
29. The people who matter to me should never let me down.
30. Others think I am okay, even when I do not succeed. (R)
31. I feel that people are too demanding of me.
32. I must work to my full potential at all times.
33. Although they may not say it, other people get very upset with me when I slip up.
34. I do not have to be the best at whatever I am doing. (R)
35. My family expects me to be perfect.
36. I do not have very high goals for myself. (R)
37. My parent rarely expected me to excel in all aspects of my life. (R)
38. I respect people who are average. (R)
39. People expect nothing less than perfection from me.
40. I set very high standards for myself.
41. People expect more from me than I am capable of giving.
42. I must always be successful at school or work.
43. It does not matter to me when a close friend does not try their hardest. (R)
44. People around me think I am still competent even if I make a mistake. (R)
45. I seldom expect others to excel at whatever they do. (R)

Note: (R) denotes reverse scoring for computing overall self-compassion score.

Achievement Goal Questionnaire

Elliot & Church (1997)

Instructions: The following statements concern your attitudes toward learning and performance in your university classes. Please circle the number that most appropriately applies to you based on the following scale.

Not at all true of me						Very true of me
1	2	3	4	5	6	7

1. It is important to me to do better than the other students.*
2. My goal in school is to get a better grade than most of the students.*
3. I am striving to demonstrate my ability relative to others in school.*
4. I am motivated by the thought of outperforming my peers in school.*
5. It is important to me to do well compared to others in school.*
6. I want to do well in school to show my ability to my family, friends, advisors or others.*
7. I want to learn as much as possible from school.**
8. It is important for me to understand course contents as thoroughly as possible.**
9. I hope to have gained a broader and deeper knowledge of the subjects when I am done with the courses.**
10. I desire to completely master the material presented in my classes.**
11. I prefer course materials that arouse my curiosity, even if it is difficult to learn.**
12. I prefer course material that really challenges me so I can learn new things.**
13. I often think to myself, "what if I do badly in school?"***
14. I worry about the possibility of getting bad grades in school.***
15. My fear of performing poorly in school is often what motivates me.***
16. I just want to avoid doing poorly in school.***
17. I'm afraid that if I ask my TA or instructor a "dumb" question, they might not think I'm very smart.***
18. I wish classes were not graded.***

Note: The achievement goals prototype represented by each item is denoted as follows: *performance-approach, **mastery, and ***performance-avoidance.

Maslach Burnout Inventory-Student Survey (MBI-SS)

Schaufeli, Martinez, Pinto, Salanova, & Bakker (2002)

Instructions: While thinking about studying and using the scale below, please indicate your level of agreement with each item.

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. I feel emotionally drained by my studies.
2. I feel used up at the end of the day at university.
3. I feel tired when I get up in the morning and I have to face another day at the university.
4. Studying or attending a class is really a strain for me.
5. I feel burned out from my studies.
6. I have become less interested in my studies since my enrollment at the university.
7. I have become less enthusiastic about my studies.
8. I have become more cynical about the potential usefulness of my studies.
9. I doubt the significance of my studies.
10. I can effectively solve the problems that arise in my studies.
11. I believe that I make an effective contribution to the classes that I attend.
12. In my opinion, I am a good student.
13. I feel stimulated when I achieve my study goals.
14. I have learned many interesting things during the course of my studies.
15. During class I feel confident that I am effective in getting things done.

Leisure Time Satisfaction Measure (LTS)

Stevens Director et al. (2014)

Instructions: Over the past month, how satisfied are you with the amount of time you have been able to spend:

Not at all	A little	A lot
1	2	3

1. In quiet time by yourself?
2. Attending church or going to other meetings of groups or organizations?
3. Taking part in hobbies or other interests?
4. Going out for meals or other social activities?
5. Doing fun things with other people?
6. Visiting with family and friends?

Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS)

Seligson, Huebner, & Valois (2002)

Instructions: Using the scale below, please circle the number that best indicates how satisfied or dissatisfied you CURRENTLY are with each item below. There is no right or wrong answer.

Terrible	Unhappy	Mixed (about equally satisfied and dissatisfied)	Mostly Satisfied	Pleased	Delighted
1	2	3	4	5	6

1. I would describe my satisfaction with my family as…
2. I would describe my satisfaction with my friends as…
3. I would describe my satisfaction with my school as…
4. I would describe my satisfaction with myself as…
5. I would describe my satisfaction with my living environment as…
6. I would describe my satisfaction with my romantic relationships as…
7. I would describe my satisfaction with my physical appearance as…

Implicit Theories of Intelligence Scale

Dweck (1999)

Instructions: Using the scale below, indicate your agreement with each item by circling the appropriate number below each statement. Please respond openly and honestly in.

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
1	2	3	4	5	6

1. Everyone has certain amount of intelligence and we can't really do much to change it. (E)
2. People's intelligence is something about them that they can't change very much. (E)
3. No matter who someone is, he/she can significantly change his/her intelligence level. (I)
4. To be honest, people can't really change how intelligent they are. (E)
5. People can always substantially change how intelligent they are. (I)
6. Someone can learn new things, but he/she can't really change his/her basic intelligence. (E)
7. No matter how much intelligence people have, everyone can always change it quite a bit. (I)
8. Everyone can change even their basic intelligence level considerably. (I)

Note: (E) = Entity; (I) = Incremental.

Study 1 Debriefing

Obsessive Passion – Developmental Sources (Study 1)

Principal Investigator: Yunqiao Wang
Research Supervisor: Dr. Edward Johnson

Thank you for your participation in the Obsessive Passion – Developmental Sources study.

Introductory Psychology student who reported having a passion in studying were eligible to participate in this study. Specifically, there are two types of passion: harmonious and obsessive passion. Harmonious passion arises from an autonomous internalization of the activity, and as such, individuals who are harmoniously passionate engage in the beloved activity out of intrinsic enjoyment. Harmoniously passionate individuals tend to have control over the activity and are therefore more able to approach their activity with greater flexibility. Harmonious passion is typically associated with positive wellbeing, higher life, and leisure-time, satisfactions. Obsessive passion, on the other hand, is an impulsive engagement in the activity, where individuals pursue their beloved activity due to feelings obligation and pressure. Obsessively passionate individuals on the other hand, often find that other life domains are in conflict with the passionate activity. As such, these individuals tend to suffer from a number of problems, which include, but are not limited to, negative affect, psychological distress, burnout, and depression. Unfortunately, no study thus far has attempted to identify specific factors that lead to the development of obsessive passion.

Given the above, the primary aim of this study is to explore whether different parenting styles differentially contribute to the development of obsessive passion. Parenting style will be evaluated as a potential contributor to the development of obsessive passion for studying. Authoritarian parents refer to parents who have high expectations of their children and are very strict in imposing their rules. Authoritative parents also have high expectations of their children, but are flexible with their children. They listen to their children's concerns and provide reasoning and explanation to discipline their children. Authoritarian parenting style is hypothesized to promote the development of obsessive passion. Measures of perfectionism, self-compassion, achievement goals, and implicit theories of intelligence were included to explain the mechanisms by which certain parenting style(s) lead to the development of obsessive passion, and to confirm that indeed, individuals with higher levels of obsessive passion are more problematic on these traits as well as suffering from burnout, low life satisfaction, and leisure-time satisfaction.

We want to thank you sincerely for your participation in our study. If you have any questions, please contact Yunqiao Wang (phone and email contact provided here). For those who indicated interest in receiving a summary of the results of this study, these results are expected to be ready by June 2016.

Appendix D: Study 2, Phase 1 Measures

Study 2 Recruitment Script

UNIVERSITY OF MANITOBA

Call for Participation
Obsessive Passion: Potential Resolutions

You were invited to participate in this study on the basis of responses you gave to a mass testing survey administered in your Introductory Psychology class earlier this term. This study examines the effect of a simple writing exercise on obsessive passion and its associated features. There are two parts to this study. By signing up now, you are agreeing to participate in the first phase of the study, which will take place in-person on campus. The second phase is an online survey, which will take place between 28 to 32 days after your completion of the first phase. The researcher will contact potential participants for the second phase, and the researcher will sign those who wish to participate in the second phase up.

If you have any questions or would like further information, please contact the primary investigator: Yunqiao Wang (email contact provided here).

**This study is being conducted as part of Yunqiao Wang's PhD thesis under the supervision of Dr. Edward Johnson, with approval of the University of Manitoba Psychology/Sociology Research Ethics Board.

Study 2, Phase 1 Consent Form

UNIVERSITY OF MANITOBA

Study Name: Obsessive Passion – Potential Resolutions

Principal Investigator: Yunqiao Wang, M.A., Ph.D. Candidate
PhD Student, Psychology
(Phone and email contact provided here)

Research Supervisor: Dr. Edward Johnson, Ph.D., C.Psych.
Associate Profession, Psychology
(Phone and email contact provided here)

Research Sponsorship: None

This consent form, *a copy of which you may save or print for your records and reference at this time (Note: this page will be unavailable once you move onto the next page)*, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. Participation is voluntary and declining to participate will have no negative consequences. If you would like more detail about anything described below, or information not included here, feel free to contact the principal investigator, Ms. Yunqiao Wang (see above for contact information). Please take the time to read this carefully and to understand any accompanying information.

Purpose of Study: Ms. Yunqiao Wang is conducting this study as part of her Ph.D. Thesis, under the supervision of Dr. Edward Johnson. The purpose of this research is to examine the effect of a simple writing exercise on obsessive passion and its associated features. You were invited to participate in this study on the basis of responses you gave to a mass testing survey administered in your Introductory Psychology class earlier this term. Using your UofM email address, some of your previous answers will be linked to the current survey. These responses that you provide will be analyzed to answer the research question stated above. There are two phases to this study. This consent form pertains to the first phase of the study, Phase 1.

Procedure: For this survey, you will be asked several basic demographic questions. You will also be asked to make judgments on a number of self-rated statements regarding your own characteristics and behaviors. You will then be asked to write a short, but reflective, essay on a value. Your online portion of the survey will be interrupted after the writing portion, where the experimenter will conduct a brief psychoeducation session. Finally, the survey will conclude with a number of questions about your understanding and reactions to the psychoeducation. Please read the instructions carefully before beginning each questionnaire. This survey, including the psychoeducation session, should take up to 90 minutes to complete.

Important: We kindly ask you to complete the survey without distractions such as email, cellphone, or other forms of social media.

Voluntary Participation: Your participation in this study is completely voluntary. Although you may choose to omit responses to any items you do not wish to answer, excluding providing your email address, you will still receive three research credits for your attempt, we kindly ask you to respond to all statements.

Confidentiality: All responses will be kept completely confidential. We therefore ask you to respond honestly to all items. Any information you provide will be stored on the encrypted and password protected site, Qualtrics, which we used to generate the survey, as well as on password-protected computers in a locked office affiliated with Dr. Johnson's lab. The data may also be stored on an encrypted USB stick. Only the principal investigator, Ms. Wang, and her supervisor, Dr. Johnson, will have access to your data. Once all data for this research project has been collected and your research credits have been assigned, all identifying information will be stripped from the data and deleted to achieve complete anonymity. We expect to complete data collection and anonymize our dataset by January 2016. Once data has been completely anonymized, the dataset may not be kept under lock and key. Paper storage of the anonymous data may be kept up to five years post-publication of the results, and electronic storage of the anonymous data will be kept indefinitely. Results from this study will be included in Ms. Wang's Ph.D. thesis. We also may disseminate these results through presentations at scholarly conferences and through publication in academic journals. Only aggregate results will ever be presented. No individual responses will ever be reported under any condition.

The University of Manitoba routinely audits research protocols to ensure that the execution and storage of research are done in a safe and properly manner.

Risks: There are no expected risks for participation in this study beyond those that might be expected during day-to-day life.

Benefits: There may or may not be direct benefit to you from participation in this study. It is our hope, however, that the information learned from both phases of this research project will contribute to devising an intervention to lower the level of obsessive passion and to lessen the negative effects associated with having high levels of obsessive passion.

Feedback and Study Results: A partial debrief will be offered at the end of this phase. Once data collection for this study is complete in its entirety (both Phases 1 and 2), a written debriefing will be emailed to you within 48 hours of completing Phase 2, which will describe the psychological interest of the research in more detail. You may also contact Ms. Wang (see above for contact information) should you have any questions upon reading the debriefing. For those who indicate interest and provide email addresses to receive a summary of the results, the results of this study should become available by June 2016. Your email addresses will be compiled in a separate list, such that the email list cannot be linked with the responses that you provide.

Questions: Should you have any questions about this research, feel free to email or phone Ms. Yunqiao Wang (see above for contact information). This research has been approved by the

Psychology/Sociology Research Ethics Board at the University of Manitoba. If you have any concerns or complaints about this project, you may contact the Human Ethics Secretariat at 204-474-7122, or by email at margaret_bowman@umanitoba.ca.

Statement of Consent: By clicking "Yes, I consent," at the bottom of this page, you indicate that you have fully understood the information regarding participation in the research project and agree to participate. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you would like to omit (excluding providing your UofM email address), without prejudice or consequence. If you wish to withdraw, simply close your browser at any time. Your continued participation should be as informed as your initial consent; hence, you should feel free to ask for clarification or new information.

We strongly encourage you to save or print a copy of this consent form now for your records, as it will become unavailable once you move on from this page.

If you do not wish to participate in this study right now, please close your web browser. Thank you for considering participating.

[ ] Yes, I consent [ ] No, I do not consent

Acceptance and Action Questionnaire (AAQ-II)

Bond et al. (2011)

Instructions: Following is a list of statements. Rate how true each statement is for you by circling the number next to it. Use the scale below to make your choice.

Never true	Very rarely true	Seldom true	Sometimes true	Often true	Almost always true	Always true
1	2	3	4	5	6	7

1. My painful experiences and memories make it difficult for me to live a life that I would value.
2. I'm afraid of my feelings
3. I worry about not being able to control my worries and feelings
4. My painful memories prevent me from having a fulfilling life.
5. Emotions cause problems in my life.
6. It seems like most people are handling their lives better than I am.
7. Worries get in the way of my success.

Note: All items will be reverse coded.

Positive Feelings of Self-Worth

Adapted from the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965)

Instructions: Indicate your agreement with each of the following statements by providing an answer from 1 (completely disagree) to 7 (completely agree).

Completely Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Completely Agree
1	2	3	4	5	6	7

1. I feel that I am a person of worth, at least on equal basis with other UofM students.
2. Compare to the average UofM student, I feel that I have a number of good qualities.
3. Compare to the average UofM student, I am, all in all, inclined to feel that I am a failure. (R)
4. I am able to do things as well as most UofM student.
5. Compare to the average UofM student, I wish I could have more respect for myself. (R)
6. Compare to the average UofM student, I take a positive attitude toward myself.
7. Compare to the average UofM student, I am, on the whole, satisfied toward myself.
8. Compare to the average UofM student, I feel I do not have much to be proud of. (R)
9. Compare to the average UofM student, I certainly feel useless at times. (R)
10. Compare to the average UofM student, I, at times, think that I am no good at all. (R)

Note: (R) denotes reverse scoring.

Perceived Studying Efficiency

Instructions: Please circle the number that most appropriately applies to you based on the following scale.

Not at all true of me						Very true of me
1	2	3	4	5	6	7

1. I feel I am a pretty efficient student at learning new material quickly.
2. I have difficulty understanding new materials. (R)
3. I feel that my mind "stalls" when I am studying. (R)
4. It takes me a lot of study time to learn what I need for my courses. (R)
5. I seem to have to go back over my textbook and study notes repeatedly for the material to "sink in." (R)
6. It takes a lot study time and repeated review of material for me to feel confident that I "get it" and am prepared for a test or exam. (R)
7. Regardless of how much I have studied, I feel like more is always better. (R)
8. I feel like once I have studied the material for a test and feel prepared, I have done enough and do not need to study endlessly.

Note: (R) denotes reverse scoring.

Sources of Validation Scale

Harber (1995)

Instructions: Below is a list of characteristics and values, some of which may be important to you, some of which may be unimportant. Please rank these values and qualities in order of their importance to you, from 1 to 11 (1 = *most important item*, 11 = *least important item*). Use each number only once.

_____ Artistic skills/aesthetic appreciation

_____ Sense of humor

_____ Relations with friends/family

_____ Spontaneity/living life in the moment

_____ Social skills

_____ Athletics

_____ Musical ability/appreciation

_____ Physical attractiveness

_____ Creativity

_____ Business/managerial skills

_____ Romantic values

Self-affirmation Writing Manipulation

Cohen, Aronson, & Steele (2000); McQueen & Klein (2006)

Self-affirmation instructions: In the space provided below, please respond to the following questions about your *first-ranked value*.

1. Why is your first-ranked value important to you?
2. Please describe a couple of examples from your life when your first-ranked value has proved meaningful.

Control instructions: In the space provided below, please respond to the following questions about your *9th ranked value*.

1. Why might your 9th ranked value be important to another student at the University of Manitoba?
2. Please describe a couple of examples when your 9th ranked value might have proved meaningful for another student at the University of Manitoba.

Self-affirmation Manipulation Check

Napper, Harris, & Epton (2009)

Instructions: Please complete the following questions based on your experience during this writing task.

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

1. This exercise made me think about positive aspects of myself.
2. This exercise made me focus my attention on who I am.
3. This exercise made me aware of things I value about myself.
4. This exercise made me think about things personally important to me.
5. This exercise made me think about my values.

Psychoeducation – Outline

Because some of the responses you gave on the mass testing identified you as having an obsessive passion about academics, part of the study is to provide a bit of education about obsessive passion, why it may be harmful, and how it can be regulated.

Background information on obsessive passion:

Being passionate about something is typically thought of as a good trait, especially if you are passionate about your studies, you probably have decent grades, been told that you are a really good student, and even possibly been admired by some of your peers. However, if you are obsessively passionate about your studies, it can have some detrimental effects on your overall wellbeing.

Some signs that you are obsessively passionate about studying:

- You constantly think about your studies even when engaged in another activity.
- You feel that you have no control over your studying, rather, your studying is controlling you
- Even when you are not trying to be productive, you feel that you have to, or should, do activities related to your academics
- You do no, or very few, other activities besides studying

Some negative effects of being obsessively passionate:

- Academic burnout
- Low life satisfaction
- High stress level
- Low mood
- Poor relationships
- (Eventual) Poor physical health

Some ways to regulate your obsessive passion:

- Budget your time and dedicate some time for "fun" activities. Understand that the concept of diminishing returns suggests that beyond a certain optimal point, studying longer will result in greater costs than benefits. Hence, studying nonstop will not make you a more effective student.
- Connect with family and friends and share some *quality* time with them. These individuals can often help you de-stress.
- Although choosing to spend a little less time on studying may make you feel a little anxious at first, I encourage you to try it out for the next month to see if it is helpful. When you return to the lab for the conclusion of this study I will ask you about what you did differently and whether it was helpful.

If you find that you are experiencing levels of high stress and low mood that you are not able to amend yourself, seek professional help. I will provide a list of resources for these students.

Psychoeducation Understanding Check

What did the experimenter ask you to do? (Multiple select)

- Spend much less time studying
- Build some fun into life without completely tossing studying out
- Study in long stretches of time
- Break your studying into chunks
- Prioritize family and friends, and spend time as much as I can with them
- Connect with family and friends

Reaction to Psychoeducation

1. How confident are you in putting this into practice?
   1 = Very unconfident
   2 = Somewhat unconfident
   3 = A little unconfident
   4 = Neither unconfident nor confident
   5 = A little confident
   6 = Somewhat confident
   7 = Very confident
2. How much does this appeal to you?
   1 = Very unappealing
   2 = Somewhat unappealing
   3 = A little unappealing
   4 = Neither unappealing nor appealing
   5 = A little appealing
   6 = Somewhat appealing
   7 = Very appealing
3. How much do you agree that this is good idea?
   1 = Strongly disagree
   2 = Somewhat disagree
   3 = Slightly disagree
   4 = Undecided
   5 = Slightly agree
   6 = Somewhat agree
   7 = Strongly agree

Level of Threat

Instructions: Please rate your level of agreement to the following statements using the scale below.

Completely disagree	Mostly disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Mostly agree	Completely agree
1	2	3	4	5	6	7

1. I think the suggestion to spend less time studying and more time engaging in enjoyable activities is a good idea.
2. I worry that spending more time engaging in enjoyable activities and less time studying will negatively affect my grades. (R)
3. I intend to give the suggestion to spend less time studying and more time engaging in enjoyable activities a try in the coming month.
4. I am confident that I can spend less time studying and more time engaging in enjoyable activities in the coming month.

Note: (R) denotes reverse scoring for computing overall self-compassion score.

Study 2, Phase 2 Debriefing

Obsessive Passion – Potential Resolutions (Study 2)
Phase 1

Principal Investigator: Yunqiao Wang
Research Supervisor: Dr. Edward Johnson

Thank you for your participation in the Obsessive Passion – Potential Resolution study. The following is a partial description of the rationale and design of this research project. A final debrief will be available upon your completion of Phase 2 of this study, which will occur in a month's time.

There are two types of passion: harmonious and obsessive passion. Harmonious passion arises from an autonomous internalization of the activity, and as such, individuals who are harmoniously passionate engage in the beloved activity out of intrinsic enjoyment. Harmoniously passionate individuals tend to have control over the activity and are therefore more able to approach their activity with greater flexibility. Harmonious passion is typically associated with positive wellbeing, higher life, and leisure-time, satisfactions. Obsessive passion, on the other hand, is an impulsive engagement in the activity, where individuals pursue their beloved activity due to feelings obligation and pressure. Obsessively passionate individuals on the other hand, often find that other life domains are in conflict with the passionate activity. As such, these individuals tend to suffer from a number of problems, which include, but are not limited to, negative affect, psychological distress, burnout, and depression. The primary aim of this study is to examine the effect of an intervention on the negative effects associated with having high levels of obsessive passion. A number of measures were included to help explain the mechanisms by which the intervention proposed might be operating. As well, we have also included a number of mental health wellbeing assessment questionnaires that assesses one's level of burnout, life satisfaction, and leisure-time satisfaction.

This study is consisted of two phases. Introductory Psychology students who scored within the top 50% of the obsessive passion scale on the Passion Scale for Studying, which was administered during the mass testing at the beginning of the year, were invited to participate in this study. The psychoeducation, which Yunqiao has just verbally delivered introduces the risks of having high levels of obsessive passion if it is not managed, as well as some effective ways that would help you reduce your levels of obsessive passion. The next phase, Phase 2, which will take place in about a month's time, includes a number of follow-up self-report measures. Phase 2 will take place on-line. You will receive a link to the Phase 2 survey via email. You may complete Phase 2 at a computer of your choice. Once you begin the survey, you will have a maximum of 2 hours to complete it before the link expires.

We want to thank you sincerely for your participation in our study. If you have any questions, please contact Yunqiao Wang (phone and email contact provided here).

Free to Low-Cost University of Manitoba and community-based mental health resources:

- University of Manitoba Student Counseling and Career Centre: 204-474-8592
- University of Manitoba Psychological Service Centre: 204-474-9222
- Klinic 24-hour Crisis line: 204-786-8686
- Klinic Community Drop in Counselling: (Call the drop in line, 204-784-4067, or check their website, http://www.klinic.mb.ca/dropin.htm, to confirm current hours)
    a. Central/Downtown
       545 Broadway, R3C 0W3
       (Klinic on Broadway)
       Mondays & Wednesdays Noon – 7:00 p.m.
       Tuesdays, Fridays & Saturdays Noon – 4:00 p.m.
    b. Transcona/River East/Elmwood
       845 Regent Avenue West, R2C 3A9
       (Access Transcona)
       One block west of Plesis Road
       Tuesdays Noon – 7:00 p.m.

c. Ka Ni Kanichihk: 455 McDermot Avenue, Winnipeg, MB R3A 0B5
    - Various supports and services for first Nations & Métis people
    - Call (204) 986-5820 for enquiries

Appendix E: Study 2, Phase 2 Measures

Study 2, Phase 2 Consent Form

UNIVERSITY OF MANITOBA

Study Name: Obsessive Passion – Developmental Sources

Principal Investigator: Yunqiao Wang, M.A., Ph.D. Candidate
PhD Student, Psychology
(Phone and email contact provided here)

Research Supervisor: Dr. Edward Johnson, Ph.D., C.Psych.
Associate Profession, Psychology
(Phone and email contact provided here)

Research Sponsorship: None

This consent form, *a copy of which you may save or print for your records and reference at this time (Note: this page will become unavailable once you move onto the next page)*, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. Participation is voluntary and declining to participate will have no negative consequences. If you would like more detail about anything described below, or information not included here, feel free to contact the principal investigator, Ms. Yunqiao Wang (see above for contact information). Please take the time to read this carefully and to understand any accompanying information.

Purpose of Study: Ms. Yunqiao Wang is conducting this study as part of her Ph.D. Thesis, under the supervision of Dr. Edward Johnson. The purpose of this research is to examine the effect of a simple writing exercise on obsessive passion and its associated features. As well, this phase of the study will also assess whether you have made any changes to your lifestyle and activity engagement since the first phase. You were chosen to participate in this study on the basis of responses you gave to a mass testing survey administered in your Introductory Psychology class earlier this term as well as your completion of the first phase of this study approximately a month ago. Using your UofM email address, some of your previous answers will be linked to the current survey. These responses that you provide will be analyzed to answer the research question stated above. This is the second phase of two phases. This consent form pertains to the second phase of the study, Phase 2.

Procedure: For this survey, you will be asked to reflect and report on some of the potential changes you have made since Phase 1 of this study. You will also be asked to make judgments on a number of self-rated statements regarding your own characteristics and behaviors. Please

read the instructions carefully before beginning each questionnaire. This survey should take approximately 60 to 90 minutes to complete.

Important: Once you begin the survey, you will have a maximum of 2 hours to complete it. We kindly ask you to complete the survey without distractions such as email, cellphone, or other forms of social media.

Voluntary Participation: Your participation in this study is completely voluntary. Although you may choose to omit responses to any items you do not wish to answer, excluding providing your email address, you will still receive two research credits for your attempt, we kindly ask you to respond to all statements.

Confidentiality: All responses will be kept completely confidential. We therefore ask you to respond honestly to all items. Any information you provide will be stored on the encrypted and password protected site, Qualtrics, which we used to generate the survey, as well as on password-protected computers in a locked office affiliated with Dr. Johnson's lab. The data may also be stored on an encrypted USB stick. Only the principal investigator, Ms. Wang, and her supervisor, Dr. Johnson will have access to your data. Once all data for this research project has been collected and your research credits have been assigned, all identifying information will be stripped from the data and deleted to achieve complete anonymity. We expect to complete data collection and anonymize our dataset by January 2016. Once data has been completely anonymized, the dataset may not be kept under lock and key. Paper storage of the anonymous data may be kept up to five years post-publication of the results, and electronic storage of the anonymous data will be kept indefinitely. Results from this study will be included in Ms. Wang's Ph.D. thesis. We also may disseminate these results through presentations at scholarly conferences and through publication in academic journals. Only aggregate results will ever be presented. No individual responses will ever be reported under any condition.

The University of Manitoba routinely audits research protocols to ensure that the execution and storage of research are done in a safe and properly manner.

Risks: There are no expected risks for participation in this study beyond those that might be expected during day-to-day life.

Benefits: There may or may not be direct benefit to you from participation in this study. It is our hope, however, that the information learned from both phases of this research project will contribute to devising an intervention to lower the level of obsessive passion and to lessen the negative effects associated with having high levels of obsessive passion.

Feedback and Study Results: Once you complete this survey, a written debriefing will be emailed to you within 48 hours, which will describe the psychological interest of the research in more detail. You may also contact Ms. Wang (see above for contact information) should you have any questions upon reading the debriefing. For those who indicate interest and provide email addresses to receive a summary of the results, the results of this study should become available by June 2016. Your email addresses will be compiled in a separate list, such that the email list cannot be linked with the responses that you provide.

Questions: Should you have any questions about this research, feel free to email or phone Ms. Yunqiao Wang (see above for contact information). This research has been approved by the Psychology/Sociology Research Ethics Board at the University of Manitoba. If you have any concerns or complaints about this project, you may contact the Human Ethics Secretariat at 204-474-7122, or by email at margaret_bowman@umanitoba.ca.

Statement of Consent: By clicking "Yes, I consent," at the bottom of this page, you indicate that you have fully understood the information regarding participation in the research project and agree to participate. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you would like to omit (excluding providing your UofM email address), without prejudice or consequence. If you wish to withdraw, simply close your browser at any time. Your continued participation should be as informed as your initial consent; hence, you should feel free to ask for clarification or new information.

We strongly encourage you to save or print a copy of this consent form now for your records, as it will become unavailable once you move on from this page.

If you do not wish to participate in this study right now, please close your web browser. As your email address only grants you with a one-time access to the survey, if you wish to return to participate at a later date and time within the study period (before December 2015), please email Ms. Wang, whom will be in contact to grant you another access to the survey. Thank you for considering participating.

[ ] Yes, I consent [ ] No, I do not consent

Frequency of Activity Engagement

Activities	**Have you done this activity before?**		**Please indicate the change in frequency in which you engaged in the activity.**
Watching TV	No	Yes	Less Frequent---Unchanged---More Frequent
Playing board/card/tabletop games	No	Yes	Less Frequent---Unchanged---More Frequent
Walking/bicycling/rollerblading	No	Yes	Less Frequent---Unchanged---More Frequent
Reading books for pleasure	No	Yes	Less Frequent---Unchanged---More Frequent
Playing sports	No	Yes	Less Frequent---Unchanged---More Frequent
Going on family outings	No	Yes	Less Frequent---Unchanged---More Frequent
Going to the movies	No	Yes	Less Frequent---Unchanged---More Frequent
Visiting art galleries/museums	No	Yes	Less Frequent---Unchanged---More Frequent
Listening to music	No	Yes	Less Frequent---Unchanged---More Frequent
Doing arts and crafts	No	Yes	Less Frequent---Unchanged---More Frequent
Attending events (sports, theatre, opera, ballet, etc.)	No	Yes	Less Frequent---Unchanged---More Frequent
Surfing the web	No	Yes	Less Frequent---Unchanged---More Frequent
Studying for school	No	Yes	Less Frequent---Unchanged---More Frequent
Spending time with friends	No	Yes	Less Frequent---Unchanged---More Frequent
Attending social events	No	Yes	Less Frequent---Unchanged---More Frequent
Travel	No	Yes	Less Frequent---Unchanged---More Frequent
Shopping for pleasure	No	Yes	Less Frequent---Unchanged---More Frequent
Going to the gym (or home gym)	No	Yes	Less Frequent---Unchanged---More Frequent
Self-care	No	Yes	Less Frequent---Unchanged---More Frequent

Perceived Change

1. How successful were you in seeking other fun activities other than studying?
   1 = Very unsuccessful
   2 = Somewhat unsuccessful
   3 = Somewhat successful
   4 = Very successful
2. How successful were you in studying in trunks?
   1 = Very unsuccessful
   2 = Somewhat unsuccessful
   3 = Somewhat successful
   4 = Very successful
3. How successful were you connecting more with family and friends?
   1 = Very unsuccessful
   2 = Somewhat unsuccessful
   3 = Somewhat successful
   4 = Very successful

Obsessive Passion – Potential Resolutions (Study 2)
Phase 2

Principal Investigator: Yunqiao Wang
Research Supervisor: Dr. Edward Johnson

Thank you for your participation in the Obsessive Passion – Potential Resolution study. You completed the first phase approximately a month ago, where you received a partial description of the rationale and design of this research project. You now have completed the study in its entirety. This is the final debrief.

There are two types of passion: harmonious and obsessive passion. Harmonious passion arises from an autonomous internalization of the activity, and as such, individuals who are harmoniously passionate engage in the beloved activity out of intrinsic enjoyment. Harmoniously passionate individuals tend to have control over the activity and are therefore more able to approach their activity with greater flexibility. Harmonious passion is typically associated with positive wellbeing, higher life, and leisure-time, satisfactions. Obsessive passion, on the other hand, is an impulsive engagement in the activity, where individuals pursue their beloved activity due to feelings obligation and pressure. Obsessively passionate individuals on the other hand, often find that other life domains are in conflict with the passionate activity. As such, these individuals tend to suffer from a number of problems, which include, but are not limited to, negative affect, psychological distress, burnout, and depression. Introductory Psychology student who reported having a passion in studying and scored within the top 50% of the obsessive passion subscale were invited to participate in this study.

There is little research on what can help to decrease levels of obsessive passion and increase levels of harmonious passion. The aim of this study was to evaluate the efficacy of a self-affirming writing exercise in decreasing the level of obsessive passion while increasing the level of harmonious passion, as well as reducing the negative effects associated with having high levels of obsessive passion. Self-affirmation writing has been shown in a wide variety of studies to be an effective means of protecting people's self-integrity, which helps people to receive and accept feedback that are inconsistent with their belief or that may pose a threat to their self-identity. As such, the psychoeducation that you received during the last phase, which asked you to approach studying differently and to expand on other leisure activities may have been a threat to your identity, as studying is very important to all of you and many of you may identify yourselves as being "good student" as your first and foremost identity. All of you were randomly selected to either write about your most important value (self-affirmation group) or 9th important value (control group). It is believed that people who were self-affirmed are more able to absorb messages that are inconsistent with their own beliefs and more willing to try different things. We hoped to observe a change in your time allocation in the various activities that we surveyed at the beginning of this phase and hoped to see that you are less burnt-out, and more satisfied with your life and leisure-time activity.

We want to thank you sincerely for your participation in our study. If you have any questions, please contact Yunqiao Wang (phone and email contact provided here). For those who indicated

interest in receiving a summary of the results of this study, these results are expected to be ready by June 2016.