

THE ROLE OF PROMOTION AND PREVENTION
ORIENTATIONS IN SECONDARY SCHOOL STUDENTS'
MOTIVATION TO STUDY: A QUALITATIVE ANALYSIS

BY

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Abstract

Students' motivation is a very important area of research. Promotion and prevention are two self-regulatory systems shaping human motivation. Individuals having promotion orientations are motivated to achieve their hopes and aspirations whereas individuals having prevention orientations are motivated to fulfil their duties and obligations (Higgins, 2012). The purpose of this research is to advance understanding of how essential aspects characterizing promotion and prevention orientations affect secondary students' motivation to study. Unlike many existing research studies involving promotion and prevention, which measured these constructs quantitatively, this research explored the effects of promotion/prevention orientations on students' motivation qualitatively. A total number of 15 students in year 12 or 13 from three different schools in Wellington area were involved in this research. Each of them took part in a 20-25 minute semi-structured interview. Analysis of the interview revealed several important findings. Firstly, students expect that important school tasks should be difficult or challenging. Second, students' responses related to the difference between achieving success and avoiding failure in school could be interpreted as indicating that thinking of achieving success was associated with setting maximal goals (i.e., promotion-related goals) whereas thinking of avoiding failure was related to adopting minimal goals (i.e., prevention-related goals). In addition, some interviewees said that achieving success was similar to avoiding failure. Third, when students thought about achieving success in difficult tasks, most of them noted that they would put more effort into their studies and become more persistent. Few students reported setting promotion and prevention focused goals regarding difficult tasks and employing eager and/or vigilant strategies during the goal pursuit. Eager strategies are associated with the presence of positive outcomes and the avoidance of errors of omission. In contrast, vigilant strategies relate to the absence of negative outcomes and the avoidance of making mistakes (Higgins, 2012). Fourth, when students thought about avoiding failure in difficult tasks, many of them stated that they would put more effort into their studies and become more persistent. Few students reported employing vigilant strategies when they thought about avoiding failure in difficult tasks. Additionally, results showed that for few students, thinking of avoiding failure in their studies might have negative

effect on their well-being. Fifth, after experiencing prevention success (i.e., after fulfilling duties and responsibilities), the majority of students had feelings related to promotion success; few participants reported feelings related to either prevention success or both promotion and prevention success. Most students reported feelings related to promotion failure after experiencing prevention failure (i.e., after failing to fulfil duties and responsibilities). In contrast, when interviewees thought about promotion success (i.e., achieving hopes and aspirations) or promotion failure (i.e., failing to achieve hopes or aspirations), most of them reported feelings related to promotion success (failure); few participants had feelings related to both promotion and prevention success (failure). Importantly, after experiencing promotion failure, some students had increased motivation whereas only one participant had decreased motivation. Sixth, the findings also showed that personal interests and students' peers' performance affect students' motivation to study. Implications of these findings for research and pedagogical practice and limitations of this research are discussed.

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Chapter 1: Introduction

The research reported in this thesis focuses on student motivation. Students' motivation plays an important role in their learning and studying. Many studies showed that when students' motivation toward their studies increased, they value the study outcomes more (Brodscholl, Kober, & Higgins, 2007), increase engagement in a task (Lee, Heeter, Magerko, & Medler, 2013) and have better performance in a task (Freitas, Liberman, & Higgins, 2002; Grimm, Markman, Maddox, & Baldwin, 2007; Miele, Molden, & Gardner, 2009).

In order to help students achieve maximal success in school, as well as future success, educators need to seek ways to create motivating learning environments (Theobald, 2006). According to Daniels (2010), educators have created motivating learning environments for students when students perceive that they have control over their choices, thoughts, and actions in studies. In addition, students feel motivated and are more likely to study in motivating learning environments, as they feel that they have made their own choice (Anderman & Anderman, 2010). As a result, the research on students' motivation is important and could enhance educators' understandings of students' motivation and assist them to effectively construct motivating learning environments.

The specific topic targeted in my research is studying the effect that the regulatory focus orientations of promotion and prevention have on secondary students' motivation to study. The reason I focused on secondary students' motivation is that these students' academic motivation decreases from the young period into adolescence (Eccles & Wigfield, 2002). Thus, it is important to conduct research to investigate secondary students' motivation in order to understand better the causes of this decline.

The reason why I focused on the role that regulatory focus orientations play in secondary students' motivation is that, according to the regulatory focus theory (Higgins, 1997, 2012), two self-regulatory systems (i.e., promotion and prevention) influence motivations. Specifically, individuals have enduring (i.e., chronic) promotion and prevention orientations, which are shaped by upbringing and cultural influences. Some external factors (e.g., external incentives of a promotion or prevention nature) can temporarily prime or activate individuals' promotion or prevention orientations (Förster, Grant, Idson, & Higgins, 2001; Higgins, 2014).

People having a strong promotion orientation are motivated to achieve personal aspirations, ideals and hopes. They are sensitive to the presence or absence positive outcomes and strive for accomplishments and improvement (Higgins, 1997). Promotion focused individuals prefer to use eager strategies (e.g., ensuring the presence of positive outcomes) to achieve their hopes and aspirations (Crowe & Higgins, 1997; Higgins, Roney, Crowe, & Hymes, 1994). In contrast, individuals who have a strong prevention orientation are concerned with safety and responsibility. They treat others' (e.g., teachers or parents) expectations of them as their own duties and obligations and are motivated to fulfil these obligations and duties (Higgins, 1997). Prevention focused individuals prefer to employ vigilant strategies (e.g., ensuring correct rejections) to fulfil their duties and obligations (Crowe & Higgins, 1997; Higgins et al., 1994).

When individuals achieve their hopes and aspirations, they experience promotion success and have elation-related feelings (e.g., happiness). After experiencing promotion failure, that is, when failing to achieve their hopes and aspirations, they have dejection-related feelings (e.g., disappointment). In contrast, when individuals fulfil their duties and obligations, they experience prevention success and have feelings of quiescence (e.g., relaxation). After experiencing prevention failure, they have agitation-related feelings (e.g., fear) (Higgins, 1997, 2012).

According to Higgins (1997, 2012), individuals experience regulatory fit when the way in which they engage in a goal pursuit matches their regulatory focus orientation. For example, when individuals having promotion (prevention) orientations employ eager (vigilant) strategies during the goal pursuit, they experience regulatory fit. When individuals having promotion (prevention) orientations employ vigilant (eager) strategies during the goal pursuit, they experience regulatory non-fit.

Two research questions were investigated in this thesis. The first research question was: How does having a sense of duty/responsibility/obligation influence students' motivation to study? The second research question was: How does striving to attain own ideals and aspirations influence students' motivation to study? The main interview questions are included in Appendix 1. Answering these research questions helps enhance understanding of the influences of regulatory focus orientations on secondary students' motivation to study. This is why, one

important aspect investigated in this thesis involves the types of affective reactions students have after experiencing promotion/prevention success or failure. This part of the research highlights the importance of considering the interaction between chronic motivational orientations and situational factors when examining the role of regulatory focus in students' learning; thus it could be beneficial to future research on students' motivation.

In addition, answering these research questions could be beneficial to pedagogical practice. More specifically, by understanding the effects of regulatory focus orientations on students' motivation to learn, educators could be able to construct motivating learning environments (e.g., where students experience regulatory fit in their studies) that are likely to support learners' motivation (Higgins, 2012; Molden & Miele, 2008). For example, some researchers suggested that when students need to master new and pivotal information, it would be more advantageous to provide students with incentives and feedback that can activate their prevention concerns (e.g., by emphasizing students' duties or by providing negative feedback when students are not sufficiently engaged). In contrast, when educators require students to extend new information creatively, it would be more advantageous to provide students with incentives and feedback which can activate their promotion concerns (e.g., by emphasizing students' hopes or by providing positive feedback to encourage students) (Molden & Miele, 2008).

Last but not least, when learners understand the influence of regulatory focus orientations on their motivations to study, this might help them be sensitive to the motivational demands of various tasks and, subsequently, balance their promotion and prevention concerns. It is important to balance individuals' promotion and prevention concerns in the goal pursuit, since research (Förster, Higgins, & Bianco, 2003; Higgins, 2014; Molden & Miele, 2008) showed that when individuals' promotion and prevention motivational forces work together effectively, they seem to achieve optimal success. Case in point, as Molden and Miele (2008) suggested, when students write an essay, it may work best if they have a promotion focus in the beginning so they could quickly finish a first draft. Afterwards, these authors suggested that it may work well for students to shift to a prevention focus to evaluate and correct the first draft. As a result, the information unearthed in this study to answer these research questions might help learners achieve maximal success in their goal pursuits.

Chapter 2: Literature Review

A. Review of Key Theoretical Accounts

(a) What is individuals' motivation? According to Higgins (2012), motivated individuals make choices in order to be effective in life pursuits. More specifically, individuals want to achieve desired outcomes successfully (i.e., have value effectiveness). With regard to the outcomes of goal pursuit, they want to have “benefits versus costs, pleasure versus pain or biological needs satisfied versus unsatisfied” (Higgins, 2012, p. 49). Additionally, individuals want to have truth effectiveness, that is, they want to be successful in finding and establishing truth (i.e., knowing what is real). Moreover, individuals also want to have control effectiveness, which means that they want to manage successfully required procedures, competencies or resources during goal pursuit (Higgins, 2012). In my thesis study, I focus only on individuals' strivings for value effectiveness.

The self-discrepancy theory (Higgins, 1987, 1997) suggests that even when individuals have the same goals, the goals (i.e., self-guides) directing or guiding self-regulation, can be either represented as ideals (i.e., ideal self-guides) or oughts (i.e., ought self-guides). Strong ideals (oughts) are related to individual's own or other's hopes or aspirations (beliefs about duties and responsibilities) for them. The regulatory focus theory distinguishes “more broadly between two distinct systems of self-regulation concerned with either growth and nurturance (i.e., a promotion concern), or safety and security (i.e., a prevention concern)” (Higgins, 2014, p. 430).

(b) Individual's chronic promotion and prevention orientations.

According to the regulatory focus theory (Higgins, 1997, 2012), human motivation is shaped by two self-regulatory systems, termed promotion and prevention. There are inter-individual (e.g., chronic) differences in people's predominant regulatory focus. Upbringing and cultural influences shape the development of enduring promotion and prevention orientations (Molden & Miele, 2008). For example, caretaker-child interactions that make use of rewards (i.e., praise) to regulate children's behaviour and/or encourage children to overcome difficulties and pursue their ideals and aspirations, facilitate the development of children's promotion focus. In a promotion focus, which is characterized by a preoccupation to achieve positive outcomes, goals are often perceived as hopes and aspirations. People

having a strong promotion orientation are motivated to achieve personal aspirations, ideals and hopes. They are concerned with accomplishments and improvement (Higgins, 1997, 2012). In contrast, caretaker-child interactions that often withdraw rewards and/or use punishments when children are not successful or fail to fulfil their caretakers' hopes for them, contribute to the development of children's prevention focus (Higgins, 1997; Molden & Miele, 2008). In a prevention focus, which is characterized by a preoccupation to avoid losses, goals are often perceived as duties, responsibilities, or obligations. Individuals who have a strong prevention orientation are concerned with safety and responsibility. They treat others' (e.g., teachers' or parents') expectations of them as their own duties and obligations and are motivated to fulfil these obligations and duties (Higgins, 1997, 2012).

(c) The difference between promotion and prevention orientations.

Individuals having a promotion orientation approach desired end-states, which are related to growth, advancement and accomplishment. They strive to achieve their hopes and aspirations and are concerned with the presence of positive outcomes. In addition, promotion oriented individuals try to avoid undesired end-states (i.e., the absence of positive outcomes). In contrast, individuals having a prevention orientation strive for safety and the absence of negative outcomes. They aim to fulfil duties and responsibilities, including other's oughts and responsibilities for them as well as to avoid undesired end-states (i.e., the presence of negative outcomes) (Scholer & Higgins, 2008).

Even when individuals have the same desired/undesired goals, these goals can be represented differently in a promotion or prevention focus. Take the example of students who have the same desired end-state, which is to gain an "A" in a course. Students having a promotion focus perceive the grade "A" as an opportunity to improve their class rank. The desired end-state (i.e., the grade "A") is related to a gain for them. In contrast, students having a prevention concern perceive the grade "A" as an obligation that must be fulfilled, and thus, they guard against the loss of good standing in the class. The desired end-state (i.e., the grade "A") is associated with a non-loss for them. Regarding to an undesired end-state (e.g., earning a grade "C" in a course), individuals having a promotion orientation perceive the achievement of grade "C" as the loss of opportunities to improve the class rank. The undesired end-state (i.e., the grade "C") is related to non-gain for

them. In contrast, prevention focused individuals perceive the achievement of grade “C” as a threat to their future opportunities. Hence, the undesired end-state (i.e., the grade “C”) is associated with a loss for them (Molden & Miele, 2008).

As a result, when individuals experience promotion success, which means they achieve their hopes and aspirations, they have elated feelings such as happiness and cheerfulness. When people experience prevention success, which means that they fulfil their duties and responsibilities, they have feelings of quiescence such as relaxation or calmness. In contrast, when individuals experience promotion failure, that is, when they fail to achieve their hopes and aspirations, they have dejection-related feelings such as disappointment or sadness. When individuals experience prevention failure, which means that they fail to fulfil their duties and responsibilities, they have agitation-related feelings such as fear or nervousness (Higgins, 1997, 2012).

For promotion focused individuals, achieving a positive outcome has positive valence (i.e., a positive deviation “+ 1”) for them. For these individuals, maintaining a status quo “0” (characterized by not achieving a positive outcome) has negative valence (Higgins, 2014). In contrast, prevention focused individuals aim to maintain a status quo “0” characterized by the absence of negative outcomes. For prevention focused individuals, maintaining a status quo “0” has positive valence and failing to maintain a status quo “0” has negative valence (Higgins, 2014).

People having a strong promotion orientation focus on advancement and accomplishment, and are sensitive about the presence or absence of positive outcomes (Higgins, 1997). They prefer to employ eager strategies when striving to attain gains and fulfil their hopes and aspirations (Crowe & Higgins, 1997; Higgins et al, 1994) and when making decisions (Higgins & Molden, 2003). Eager strategies include seeking to ensure the presence of positive outcomes, and avoiding errors of omission (i.e., avoiding the absence of positive outcomes) (Higgins, 2000, 2012). Thus, promotion focused individuals are more likely to use approach tactics and have a risky bias (Friedman & Förster, 2001). In contrast, individuals having a strong prevention orientation focus on responsibilities and duties, and they are sensitive about the presence or absence of negative outcomes (Higgins, 1997). They prefer to use vigilant strategies to maintain a safe state and

guard against losses (Crowe & Higgins, 1997; Higgins et al., 1994) and use vigilant judgment strategies to make decisions (Higgins & Molden, 2003). Vigilant strategies include ensuring correct rejections and the absence of negative outcomes, avoiding making mistakes, and ensuring against the presence of negative outcomes (Higgins, 2000, 2012). Thus, prevention focused individuals are more likely to use avoidance tactics and have a conservative bias (Friedman & Förster, 2001). However, when prevention focused individuals are in an unsatisfactory state (i.e., “- 1”) and conservative tactics cannot help them back to the satisfactory state (i.e., “0”), they are more likely to use approach tactics and do everything in order to return to the satisfactory state (Higgins 2012).

According to Higgins (2014, p. 433) “all strong psychological forces have costs as well as benefits”. The costs of strong promotion include making impulsive and unrealistic decisions (Higgins, 2014). In contrast, the costs of having a strong prevention orientation include making compulsive and obsessive decisions. However, it is possible that people pursue some of their goals having active both promotion and prevention orientations (Higgins, 1997, 2012). This is because when individuals have activated both promotion and prevention orientations, the costs of each motivational force (i.e., promotion/prevention orientations) would be constrained. Thus, promotion and prevention motivational forces can work together effectively (Higgins, 2014). For example, a study (Förster et al., 2003) investigated the influence of promotion and prevention orientations on speed and accuracy efficiency in information processing. Promotion focused individuals (versus prevention focused individuals) showed faster information processing since they focused on maximal gains. Prevention focused individuals (versus promotion focused individuals) had high accuracy in information processing since they were concerned with correct rejections. Results in this research suggested that individuals having both strong promotion and prevention orientations had high speed and accuracy in information processing.

(d) Individual’s situationally/ temporally primed promotion and prevention orientation. People’s promotion and prevention orientations are independent and they can be temporarily primed or activated (Förster et al., 2001; Higgins, 2014). Although individuals possess both advancement and security needs, some situation might emphasize one of these concerns over the other one. As an

example, framing a learning task via gain or non-gain instructions activates promotion concerns. In contrast, framing a learning task via loss or non-loss instructions activates prevention concerns (Shah & Higgins, 1997). As a result, in a certain situation, individuals will have a temporarily primed promotion or prevention orientation on the pursuit of goals (Molden, Lee, & Higgins, 2008). Although individuals have both promotion and prevention concerns, when one orientation is much stronger than the other, the stronger orientation would predominate and determine an individual's motivational manifestations (Higgins, 2012). For example, when an individual's promotion concern is higher than the prevention concern in a particular context, this individual would have a primed promotion orientation.

Following I discuss some examples of situations that contribute to activate individuals' primed promotion or prevention orientations. Firstly, external incentives of a promotion or prevention nature can evoke a predominant promotion orientation or a predominant prevention orientation, respectively (Molden & Miele, 2008). For example, Förster et al. (2003) found that when a task offered students opportunities to gain and provided rewards for success, a promotion focus was activated. In contrast, when a task stressed the importance of protecting against potential losses, a prevention focus was activated. Thus, in an achievement situation, how students perceive a task influences whether a promotion or a prevention orientation is activated. In particular, promotion is likely to be primed when students believe that the outcome of a task is related to achieving gains, ideals, or aspirations. In contrast, when students believe that succeeding at a task helps them meet obligations or responsibilities, this could prime a prevention focus (Higgins, 1997).

Secondly, individuals' perceptions of whether a specific task or outcome is related to their ideal or ought self-standards also contribute to activate their promotion or prevention orientations (Higgins, 1997). Specifically, when individuals perceive themselves as striving to meet their ideal self-standards in a task, their promotion orientations can be activated. In contrast, when individuals perceive themselves as striving to meet their ought self-standards, their prevention orientations can be activated (Idson & Higgins, 2000; Molden et al., 2008; Shah & Higgins, 1997).

Thirdly, research (Aaker & Lee, 2001; Lee, Aaker, & Gardner, 2000) showed that individuals are more likely to focus on advancement and accomplishment in circumstances where their individuality is emphasized. In contrast, people are more likely to focus on security and safety in circumstances where social harmony and the fulfilment of responsibilities to others are emphasized. For example, a task involving independence (interdependence) and individual achievement (collective achievement) is more likely to activate individual's promotion (prevention) orientation (Molden & Miele, 2008).

Other general circumstances can also activate students' promotion and prevention concerns. More specifically, a promotion focus is activated when individuals are encouraged to strive for distant future gains. In contrast, a prevention focus is primed when people are encouraged to focus on minimal and specific goals (Förster & Higgins, 2005). For example, individuals are more likely to pursue their learning goals with a promotion orientation at the beginning of a term or when there is a long period before exams. Individuals are more likely to pursue their goals with a prevention orientation at the end of a term or near exams. In addition, individual's promotion (prevention) focus is activated when they are aware of others' positive (negative) expectations of them. For example, when students feel that they have been expected to have enough abilities to perform well, they are more likely to be promotion-focused. In contrast, when students feel that they have been expected to have fewer abilities to perform well, they are more likely to be prevention-focused (Molden & Miele, 2008).

(e) Regulatory fit. Individuals experience regulatory fit when the way in which they engage in a goal pursuit matches their regulatory focus orientation. The regulatory focus theory (Higgins, 1997) suggested that one way to experience regulatory fit is when individuals having a promotion (prevention) orientation use eager (vigilant) strategies in a goal pursuit. This is the case because promotion focused individuals focus on advancement and accomplishment and are sensitive about the presence or absence of positive outcomes. An eager strategy ensures hits and avoids the errors of omission, which means it ensures the presence of positive outcomes and guards against the absence of positive outcomes (Higgins, 2000). Using eager strategies in the pursuit of a goal sustains a promotion focus (Förster, Higgins, & Idson, 1998; Higgins, 2012; Shah, Higgins, & Friedman, 1998). In contrast, prevention focused individuals focus on responsibilities and duties. They

are sensitive about the presence or absence of negative outcomes (Higgins, 1997). A vigilant strategy ensures correct rejections and avoids making mistakes, which means it ensures the absence of negative outcomes and avoids the presence of negative outcomes (Higgins, 2000). Using vigilant strategies in goal pursuit sustains a prevention focus (Higgins, 2012; Förster et al., 1998; Shah et al., 1998). For example, in a promotion focus, some students want to gain an “A” in a course because they perceive this grade as an advancement and achievement. In a prevention focus, some students want to gain an “A” in a course because they perceive “A” as a responsibility or duty. Thus, striving to get an “A” by using eager strategies (i.e., reading material beyond what has been required), would be a regulatory fit for promotion focused individuals but would be a regulatory non-fit for prevention focused individuals. In contrast, using vigilant strategies such as ensuring to fulfil all the course requirements would be a regulatory non-fit for promotion focused individuals but would be a regulatory fit for prevention focused individuals.

Individuals having promotion orientations experience regulatory fit when they focus on goal attainment whereas individuals having prevention orientations experience regulatory fit when they focus on goal maintenance. For example, one study (Liberman, Idson, Camacho, & Higgins, 1999) showed that promotion focused individuals are more likely to choose goals associated with attaining new desirable outcomes. In contrast, prevention focused individuals are more likely to choose goals which involve maintaining their current desirable situation. Importantly, goal attainment requires achieving desired end-states not previously achieved, whereas goal maintenance means that individuals strive to sustain desired end-states which they have already achieved. This is why goal attainment is associated with the presence of positive outcomes and focusing on goal attainment maintains promotion orientations. Thus, individuals having promotion orientations and pursuing goal attainment, experience regulatory fit. In contrast, when individuals focus on goal maintenance, they strive for the absence of negative outcomes and the preservation of a satisfactory status quo. Hence, paying attention to goal maintenance sustains prevention orientations. As a result, individuals having prevention orientations and pursuing goal maintenance, experience regulatory fit.

(f) The consequences of experiencing regulatory fit. Regulatory fit has important implications for pedagogical practice. Firstly, individual's task engagement increases in conditions of fit versus non-fit. Secondly, regulatory fit could help strengthen how much people value the outcomes associated with pursuing school-related goals (Higgins, 2012). For instance, a study (Higgins, Idson, Freitas, Spiegel & Molden, 2003) showed that when individuals experienced regulatory fit (i.e., a match between promotion orientation and an eager strategy to pursue goals; a match between prevention orientation and a vigilant strategy to pursue goals), they valued the task outcome more than individuals experiencing regulatory non-fit (i.e., a mismatch between promotion orientation and vigilant strategy; a mismatch between prevention orientation and eager strategy).

Thirdly, when individuals experienced regulatory fit, their motivation increases during the goal pursuit and their performance is better than that of individuals experiencing regulatory non-fit (Higgins, 2000). It is important to note that regulatory fit helps to improve performance when individuals use a strategy that not only fits their goal orientations, but is also appropriate for the given task. Some tasks or activities involve inherent requirements about how to engage it with effectively (Higgins, 2012). For example, when a vigilant strategy is an effective strategy for engaging in the task, then individuals having prevention orientations who use vigilant strategy would have better performance than individuals having promotion orientations who use eager strategy in the task (Freitas & Higgins, 2002).

(g) The influence of regulatory focus on individual's learning and achievement. Regulatory focus plays an important role in an individual's learning and achievement (Molden & Miele, 2008). In particular, promotion and prevention influence the types of goals people select. Shah and Higgins (1997) suggested that individuals with a promotion focus want to maximize advancement. They are attracted to goals having both high value and expectations of success. In contrast, prevention focused individuals are concerned with security. They are attracted to goals having high security value, regardless of expectancy. For example, a study (Shah & Higgins, 1997) found that when a course had high value (e.g., a high grade related to the acceptance in an honors society), promotion focused students having high expectations of success (i.e., attaining a high grade) were more likely to enrol in the course. When a course had high security value (e.g., individuals

must have a try), prevention focused students were more likely to enrol in the course, regardless of their expectations of success.

With regard to problem solving, individuals having a strong promotion focus are concerned with accomplishment and improvement and adopt eager strategies of goal pursuit. In line with their promotion focus, these individuals are preoccupied not to miss correct and important information. This is the reason why they generate and consider large numbers of hypotheses for the problems at hand. In contrast, individuals having a strong prevention focus are concerned to avoid mistakes, and they adopt vigilant strategies of problem solving. Thus, they narrow down the number of hypotheses they take into account, because considering a reduced number of hypotheses helps them decrease the likelihood of making wrong choices (Molden & Higgins, 2005). As a result, promotion focused individuals have increased chances to identify more hypotheses and to avoid missing important information compared with prevention focused individuals (Molden et al., 2008).

Individuals often have to try to strike a balance between the speed and the accuracy of their information processing. Specifically, because promotion focused individuals try to maximize potential gains (i.e., review all available information), they are more likely to use strategies that prioritize the speed of information processing. In contrast, individuals having a strong prevention focus are likely to prefer strategies that prioritize accuracy and minimize “the possibility of misinterpreting the available information” (Molden & Miele, 2008, p. 105). For example, one study (Förster et al., 2003) suggested that individuals with a promotion orientation made decision faster but less accurate in a task which required them to connect dots with a pen. Individuals with a prevention orientation made decisions slowly but more accurately in the same task.

(h) Other theories used to interpret data in this thesis. According to self-efficacy theory (Bandura, 1977), a self-efficacy expectation is one’s belief that one can complete a given task. Four sources contribute to developing efficacy expectations. They are performance accomplishments, vicarious experiences, verbal persuasion and emotional arousal. Only vicarious experiences are relevant to my research. Having vicarious experiences means that individuals observe what others have achieved in a task and they persuade themselves that they can have similar achievement in the task (e.g., by means of putting more effort and spending

more time on the task). I used the concept of vicarious experiences for analysing and interpreting the influence of peers' performance on individual's motivation to study.

The expectancy-value theory (Eccles & Wigfield, 2002) suggested that expectancies of success and task-related value beliefs influence strongly behaviour in school settings. The theory proposed that four components (i.e., attainment value, intrinsic value, utility value and cost) constitute task value. Only utility value is relevant to my thesis. The theory suggested that when a task supports an individual's present and/or future goals, he/she experiences utility value in doing the task. I focused on utility value for interpreting one of the reasons why students continue to do difficult tasks.

The self-determination theory suggested that individuals can be motivated by autonomous and/or controlled motivation. "Autonomous motivation encompasses intrinsic motivation and identified/integrated extrinsic motivation, whereas controlled motivation comprises external control and introjected regulation" (Deci & Ryan, 2012, p. 422). Only intrinsic motivation is relevant to my research. In learning settings, intrinsic motivation means that individuals are motivated by internal needs to gain knowledge. I focused on intrinsic motivation for analysing the influence of personal interests on motivating students to study.

An achievement goal can be conceptualized as the aim for engaging in achievement behaviour. Two major types of achievement goals are mastery goals and performance goals. Mastery goals can be further divided into self-related goals and task-related goals (Elliot, Murayama, & Pekrun, 2011). Only task-based goals and performance goals were relevant to my thesis. Elliot et al. (2011) suggested that task-based goals are associated with the achievement of task-based competence (e.g., aiming to answer questions correctly). Individuals having task-based goals strive to achieve the absolute requirements of the task. In contrast, performance goals relate to the demonstration of individual's competence through comparing with a normative standard of competence. Thus, individuals having performance goals strive to achieve a normative standard of competence and try to do better than others. I focused on individuals' task-based goals for analysing students' reasons for doing difficult tasks; I used the framework of performance goals for interpreting the influence of peers' performance on students' motivations to study.

B. Review of the Relevant Substantive Literature

(a) The influence of regulatory focus on salient cognitive processes.

Several studies investigated the influence of regulatory focus on individual's decision making. They found that regulatory focus affects individuals' strategic inclination in goal pursuit (Crowe & Higgins, 1997) and key features of help-seeking behaviour (Komissarouk & Nadler, 2014).

Crowe and Higgins (1997) investigated the influence of regulatory focus on individual's strategic inclinations in goal pursuits. Across two studies, a total of 203 undergraduate students from a US university were involved. In study 1, participants completed a task rating questionnaire gauging participant's liked and disliked tasks. Participants were required to complete five exercises: characteristic listing, counting backwards, sorting, embedded figures and anagrams. More specifically, in the characteristic listing task, participants were given 1 ½ minutes to write down all of the characteristics of each of eight objects. The numbers of characteristics that participants listed for each item were averaged across items to obtain a measure of fluency. Greater fluency means increased numbers of characteristics listed for each item. In the counting backwards task, participants were given a number and they were asked to count backwards from that number. There were two trials; the second trial was harder than the first one. In the sorting task, participants were required to categorise items into subgroups by using a self-designed criterion. In addition, participants were asked to list as many criteria as possible that could be used to categorise the items. In the embedded figures task, participants were asked to locate a simple figure within a larger figure. Participants were given seven embedded figures. One of embedded figures was in black and white, which was supposed to be the most difficult. In the anagrams task, participants completed four anagrams, one of which was unsolvable.

After completing the five exercises, all participants were told that they would have a final task. Participants were randomly assigned to one of five framing conditions, namely promotion working, promotion not-working, prevention working, prevention not-working and non-contingent framing condition. In the non-contingent framing condition, participants were told that after completing five exercises, they would be randomly given either their liked task or their disliked task as the final task. In the promotion working condition,

participants were told that they would be given their liked task rather than the other task as the final task if they performed well on the previous five exercises. In the promotion non-working condition, participants were instructed that if they did not perform well on the previous five exercises, they would be given the other task instead of their liked task as the final task. In the prevention focus working condition, participants were told that they would be given the other task rather than their disliked task as the final task if they did not perform badly on the previous five exercises. In the prevention not-working condition, participants were announced that they would have to do their disliked task as the final task if they performed badly on the previous five exercises.

Results from study 1 showed that when the task became difficult, individuals with a promotion orientation were more likely to perform better than prevention focused individuals. In addition, prevention focused individuals were more likely to quit difficult tasks than promotion focused individuals. Additionally, in a task which required participants to generate numbers of alternative sorts, promotion focused individuals were more likely to create more alternatives, compared with prevention focused individuals, the latter were more likely to create few and repetitive alternatives. These findings suggest that promotion focused individuals tend to use eager strategies to gain and avoid missing any opportunities to gain in the task. In contrast, prevention focused individuals were more likely to vigilantly ensure correct rejections and avoid making errors in the task.

In study 2, participants completed a recognition memory task which included three trials. In the first two trials, participants were shown 20 nonsense words and they identified letters for each word as either vowels or consonants. Subsequently, in the third trial, they were required to identify the 20 nonsense words included in the previous trial from 40 nonsense words. Afterwards, participants were told that they would be given a second task. As in study 1, before the first trial started, participants were randomly assigned to different framing conditions. In the non-contingent framing condition, participants were told that after completing the word recognition memory task, they would randomly be given either their liked task or their disliked task as the second task. In promotion working condition, participants were told that they would be given their liked task rather than other task as the second task if they performed well on the word recognition memory task. In the promotion non-working condition, participants

were instructed that if they did not perform well on the word recognition memory task, they would be given the other task instead of their liked task as the second task. In the prevention working condition, participants were told that they would be given the other task rather than their disliked task as the second task if they did not perform badly on the word recognition memory task. In the prevention non-working condition, participants were announced that they would have to do their disliked task as the second task if they performed badly on the word recognition memory task.

The results from a regression analysis showed that in the promotion focus condition, individuals had a bias to state that they had seen the nonsense words from the previous trials, even though the nonsense words were new in the third trial. In contrast, in the prevention focus condition, individuals had a bias to state that they had not seen the nonsense words, even though the nonsense words were from the previous trials. In addition, in the negative valence conditions, individuals had a better recognition accuracy score than individuals in the positive valence condition. This finding could be due to the fact that in the prevention not-working condition, individuals had very high accuracy scores. These findings are consistent with the fact that promotion focused individuals focused on achieving gains. They were more likely to take a risk of making mistakes and avoid missing the opportunities to identify nonsense words from previous trials. In contrast, prevention focused individuals focused on safety and security. They were more likely to have a conservative bias to insure correct rejections and avoid making mistakes. In conclusion, findings from Crowe and Higgins (1997) suggested that regulatory focus affects individuals' decision-making in the task. More specifically, individuals with a promotion orientation were more likely to use eager strategies. They focused on achieving gains and tried to avoid missing opportunities to gain in the task. In contrast, individuals with a prevention orientation were more likely to use vigilant strategies and focused on ensuring correct rejections.

Komissarouk and Nadler (2014) investigated the influence of the interaction between self-construals and regulatory focus on help-seeking behaviour. Across three studies, 352 undergraduate psychology students from an Israeli university were involved. In study 1 and 2, participants completed a math test including five questions and an affect scale measuring the influence of time pressure on emotional states during the verbal and math tasks. Participants were

asked to choose three options for each of five math questions. These three options reflect three help-seeking styles, namely autonomy-oriented style, dependency-oriented style and avoidant style. Autonomy-oriented help-seeking involves asking for help and learning to fix a problem. Dependency-oriented help-seeking means asking a specialist to help fix a problem. In the avoidant style individuals do not ask for help and try to solve a problem by themselves. The authors only assessed the help-seeking styles of two unsolvable problems. At the end of the experiment, participants were asked to answer 20 questions about themselves. Following, their cognitions were assessed as independent, interdependent or irrelevant. Independent cognitions include individual's personal qualities, attitudes and beliefs. Interdependent cognitions refer to individual's quality of friendship, belonging and responsiveness to other people. Irrelevant cognitions include some other information which belongs to neither independent nor interdependent cognitions.

Participants completed a different verbal task in study 1 and study 2. More specifically, in study 1, participants were randomly assigned to either an independent or to an interdependent priming condition by means of completing a verbal task. In study 2, participants were randomly assigned to three conditions, namely promotion, prevention and control condition. In the promotion condition, participants were asked to write an essay describing the extent to which they advance eagerly to fulfil their hopes and aspirations in their life. In the prevention condition, participants were asked to write an essay about describing the extent that they use vigilant strategies in order to fulfil their duties and responsibilities in their life. In the control condition, participants completed an essay about a neutral topic. In study 3, participants' chronic regulatory focus was identified by means of the Regulatory Focus Questionnaire (Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2001). In addition, participant's self-construal, autonomy-orientation, and dependency-orientation were measured.

The authors used repeated measures analysis of covariance (ANCOVA) for analysing data in studies 1 and 2. The results from study 1 showed that participants with primed interdependent self-construal were likely to choose dependent help-seeking, while individuals with primed independent self-construal were likely to choose autonomous help-seeking and no-help options. The results from study 2 showed that individuals with a primed prevention orientation preferred dependent help more than their counterparts with a primed promotion orientation, while

individuals with a primed promotion orientation preferred autonomous help more than their counterparts with a primed prevention orientation. The authors used mediation analyses in study 3. The results showed that independent self-construal predicted autonomous help-seeking, through affecting promotion focus. In contrast, interdependent self-construal predicted dependent help-seeking, through affecting prevention focus. In addition, there were negative relationships between independent self-construal and prevention focus and between dependent help-seeking and promotion focus, respectively. In conclusion, findings from Komissarouk and Nadler (2014) suggested that the interaction between regulatory focus and self-construal affects help-seeking style. More specifically, promotion focused individuals with an independent self-construal prefer autonomy-oriented help. In contrast, prevention focused individuals with an interdependent self-construal prefer dependency-oriented help.

(b) The effects of regulatory focus on key aspect of motivation. Some studies showed that regulatory focus has effects on individual's intrinsic motivation (Smith, Wagaman, & Handley, 2009). Other studies indicated that regulatory focus influences approach and avoidance motivation (Förster et al., 1998). Specifically, when promotion focused individuals received success feedback, their approach motivation increased. In contrast, when prevention focused individuals receive failure feedback, their avoidance motivation increased (Förster et al., 2001).

Smith et al. (2009) investigated the influence of regulatory focus on task variation (i.e., varying a boring task to increase motivational experience) and intrinsic motivation. Across three studies, a total of 244 undergraduate students from psychology or communication classes were involved. In study 1, participants were randomly assigned to receive a maze picture and then their regulatory focus was manipulated via completion of the maze task. In the prevention-focus condition, they received a picture with an owl and a mouse. In the promotion-focus condition, they received a picture with a mouse and cheese. In the no-focus condition, they received a picture with dots and finish points. The subtle pictures of a mouse avoiding the owl (approaching cheese) can be used to activate individuals' concepts of avoiding loss (obtaining gains) (Friedman & Förster, 2001). Participants completed a repetitive and boring task involving three letter-matrix sheets. Individual's intrinsic motivation was measured by means of asking them to

fill out a request indicating how many (0-3) boring task sheets they volunteered to bring home.

In study 2, participants were randomly assigned to one of four conditions. In three of all conditions (i.e., promotion condition, prevention condition, and no-focused condition), individuals completed the same boring task used in the study 1. Before the task, in the promotion condition, participants were asked to list five of their hopes about their current goals in the semester. In the prevention condition, participants listed five of their duties about their current goals in the semester (Higgins et al., 2003). Following, individuals completed the same boring task used in the study 1. In the fourth condition, an interesting task was provided. Participants' intrinsic motivation was measured with five items gauging their interest in and enjoyment of the task.

In study 3, the authors employed the same boring and interesting tasks used in study 2. In addition, participant's intrinsic motivation was measured by the same method used in study 2. Participants were randomly assigned into a promotion-focused, prevention-focused or no-focused group. In the promotion focused group, participants were told that they receive one ticket for completing the task and they will have the chance to gain one more ticket if they complete an evaluation after the task. In the prevention group, participants were told that they receive two tickets for completing the tasks but they may lose one ticket if they do not provide an evaluation after the task. Results of ANOVA showed that promotion orientation was related to an enhanced intrinsic motivation and more task variation, compared with prevention orientation. In addition, Smith et al. (2009) suggested that regulatory focus directly and indirectly affected intrinsic motivation. More specifically, promotion orientation correlated positively with enhanced intrinsic motivation in the task. In addition, individuals with a promotion orientation were more likely to strategically change a boring task to make it more interesting, which indirectly increased their intrinsic motivation. In contrast, prevention orientation was related to lower levels of intrinsic motivation. The plausible explanation for these findings is that although prevention-focused individuals tried to make a boring task less boring, they did not alter the task enough to make it interesting.

Förster et al. (1998) investigated the influence of regulatory focus on the strength of approach and avoidance strategic motivation during pursuing goals. Only study 3 was relevant to my thesis. In this study, a number of 77 US

undergraduate students were involved. Their chronic regulatory focus was measured by means of a computer questionnaire. Participants were asked to list three attributes describing their ideal (e.g., the person they hoped or aspired to be) and ought selves (e.g., the person they believed they ought to be when they considered obligations or responsibilities). Following, participants rated the extent to which they ideally would like to (ought to) possess and they actually possessed the attributes of their ideal (ought) selves. The time participants spent on listing and rating attributes was recorded; faster response time indicated stronger ideal or ought self-guide. Afterwards, participants were randomly assigned to two framing conditions: promotion framing condition and prevention framing condition. In the promotion framing condition, participants were told that they would be given 8 dollars and they would gain one more dollar if they score at or above the 70th percentile; however if they score below the 70th percentile, they would not gain the extra dollar. In the prevention framing condition, participants were told that they would be given 9 dollars and they would not lose a dollar if they score at or above the 70th percentile; however if their scores were below the 70th percentile they would lose a dollar. Participants completed a set of 5 green and 5 red anagrams. For green anagrams, all participants were told that if they found all words, they would gain one point. However, they would not gain one point if they would not find all words. With regards to red anagrams, the participants were announced that if they found all words, they would not lose a point. However, they would lose a point, if they would not be able to find all words. The time spent on solving each anagram was recorded as a measure of participant's persistence in the task. While participants were solving the anagrams, their arm pressure (i.e., motivational strength) was measured. In previous research arm flexion has been shown to be related to approach and arm extension has been shown to be related to avoidance (Cacioppo, Priester, & Berntson, 1993). Participants were randomly assigned to two different arm position conditions: arm flexion condition and arm extension. In the arm flexion condition, participants pressed the plate of a machine on the bottom of a table. In the arm extension condition, participants pressed the plate of a machine on the top of a table. The result from a repeated measures ANOVA showed that promotion focused individuals were more likely to spend more time on later versus earlier green anagrams. In contrast, prevention focused individuals were more likely to spend more time on later versus earlier red anagrams. The

results from two multiple regression analyses indicated that when individual's prevention orientations increased, the avoidance gradient (i.e., arm extension pressure) was more likely to be steeper (i.e., rising) than the approach gradient (i.e., arm flexion pressure). In contrast, when individuals' promotion orientations increased, the approach gradient was more likely to be steeper than the avoidance gradient. As the avoidance gradient indicated the strength of avoidance and the approach gradient indicated the strength of approach, the findings from Förster et al. (1998) suggest that a promotion orientation increased approach strategic motivation (i.e., increased eagerness) when individuals pursued their goals, compared with a prevention orientation. In contrast, a prevention orientation versus a promotion orientation increased avoidance strategic motivation (i.e., increased vigilance) when individuals pursued their goals.

Förster et al. (2001) investigated how regulatory focus moderates the relationships among success/failure feedback, expectancies and approach/avoidance. Only study 2 was relevant to my thesis. In study 2, a number of 109 US undergraduate students were involved. Participants were randomly assigned to either a promotion or a prevention framing condition. In the promotion framing condition, participants were told that they would gain \$4 for each completed set of anagrams and if they perform at or above the 70% level, they would be able to gain one more dollar; otherwise they would not gain the extra dollar. In the prevention framing condition, participants were told that they would be given \$5 for each completed set of anagrams and if they perform below the 70% level, they would lose one dollar; otherwise they would not lose the one dollar.

Participants completed two sets of anagrams including 10 red anagrams and 10 green anagrams. For each of the green anagrams, participants were told that if they found all solutions, they would gain one point. Otherwise they would not gain one point. For each of the red anagrams, participants were told that if they found all solutions, they would not lose one point. Otherwise they would lose one point. After completing the first set of anagrams, participants received either success feedback (which indicated that their performance was at the 79th percentile), or failure feedback (which indicated that their performance was at the 61st percentile). Afterwards, they completed the second set of anagrams.

The result from a repeated measure ANOVA showed that promotion focused individuals were more likely to spend more time on later versus earlier

green anagrams. In contrast, prevention focused individuals were more likely to spend more time on later versus earlier red anagrams. The result from a *t*-test showed that after success feedback, the approach gradient was most positive for individuals with a promotion orientation versus a prevention orientation. Approach gradient indicated the strength of approach (i.e., eagerness). In contrast, after failure feedback, the avoidance gradient was most positive for individuals with a prevention orientation versus a promotion orientation. Avoidance gradient indicated the strength of avoidance (i.e., vigilance).

According to the goal looms larger effect, an individual's motivation increases when she/he gets closer to achieve a goal (Förster et al., 1998). Findings from Förster et al. (2001) suggested that in green anagrams tasks, which were tasks with gain or non-gain instructions, the goal looms larger effect was significant for individuals with a promotion orientation, especially after success feedback. In other words, when pursuing a task in which positive (negative) outcomes were associated with gains (non-gains) and after receiving success feedback, approach motivation (i.e., eager strategies) increased for individuals having a promotion orientation. In contrast, in red anagrams tasks, which involved loss or non-loss instructions, the goal looms larger effect was significant for individuals with a prevention orientation. In other words, when pursuing a task in which positive (negative) outcomes were associated with non-losses (losses) and after failure feedback, avoidance motivation (i.e., vigilant strategies) increased for individuals having a prevention orientation.

(c) Regulatory fit between regulatory focus orientations, strategic means, and incentives. Some research (Higgins et al., 2001; Shah et al., 1998) suggested that there is a natural fit between promotion orientation, employment of eager strategies and some types of task incentives (i.e., gain-related). Moreover, there is also a natural fit between prevention orientations, usage of vigilant strategies and other types of task incentives (i.e., loss-related).

Higgins et al. (2001) investigated the influence of promotion/prevention pride on achievement strategies in different tasks. Promotion pride is defined as a history of success with promotion related eagerness. Prevention pride is defined as a history of success with prevention related vigilance. Across five studies, a total of 425 undergraduate students from a US university were involved

Participant's chronic regulatory focus was assessed by means of completing the RFQ (in studies 1a, 1b, 2, 3 and 4). In study 1a, participants were asked to imagine they bought a \$100 ticket to Michigan and a \$50 ticket to a more enjoyable destination (e.g., Wisconsin); these trip tickets were for the same week and participants would not be able to sell or return either ticket. Participants were required to explain which ticket they would like to choose. In study 1b, participants completed a new decision-making task. They were told to imagine that they invested money into a research project about building a plane, but when the project was 90% completed, another company started to market a better plane. Participants were asked to decide (and explain) whether they would like to invest the last 10%. The results from study 1a showed that individuals with a higher promotion pride (versus higher prevention pride) were more likely to choose the Wisconsin trip; this indicates individuals having a strong promotion focus were more likely to use eager strategies than their prevention-focused counterparts. In addition, the results from study 1b showed that individuals with a higher prevention pride (versus higher promotion pride) were more likely to choose not to invest; this indicates that prevention focused individuals were more likely to use vigilant strategies than promotion-focused individuals.

In study 2, participant's chronic regulatory focus was assessed by means of completing the RFQ and the Selves Questionnaire (Higgins, Bond, Klein, & Strauman, 1986). In addition, participants completed the Goals Inventory, which is a paper-and-pencil instrument used for measuring their goals and the approaches to achieve each goal. The results of multiple regression showed that individuals with a strong promotion pride were more likely to use eager strategies to approach a new task, while individuals with a strong prevention pride were more likely to use vigilant strategies to approach a new task.

In study 3, participants completed the Self-Control Strategies Scale (SCSS; Ayduk, 1999). More specifically, participants were asked to imagine they were on a diet but they were tempted by a slice of pizza. Participants were given 6 effective and 5 ineffective self-control strategies and they were asked to rate these strategies on a scale from 1 (not descriptive of me at all) to 9 (extremely descriptive of me). Ineffective self-control strategies impeded the diet maintenance goal (e.g., thinking of the taste of the pizza) whereas effective strategies were useful to achieve the diet maintenance goal (e.g., thinking of health). The results of multiple regression

showed that individuals with a high promotion (versus prevention) scores were more likely to use effective strategies, while individuals with a high prevention (versus promotion) were less likely to use ineffective strategies. The outcomes indicated that individuals with a high promotion pride were more likely to use eager strategies to achieve the goal, while individuals with high prevention pride were more likely to use vigilant strategies to do so.

In study 4, participants completed a paper-and-pencil motivational frequency questionnaire in which they rated the frequency of experiencing motivation states (i.e., eagerness-related items or vigilance-related items) in the pursuit of activities during the past week. The results of separate multiple regression analyses showed that higher promotion scores were positively associated with the frequency of feeling eager during the past week, while higher prevention scores were positively related to the frequency of feeling vigilant during the past week.

As in study 2, in study 5, participants completed the Goals Inventory to measure their goals and the approaches to achieve each goal. Participants were randomly assigned to four groups, namely promotion success (or failure) and prevention success (or failure). Participants described their experienced promotion success in the promotion success group, promotion failure in the promotion failure group, prevention success in the prevention success group or prevention failure in the prevention failure group. The results of ANOVA showed that in the promotion success (versus failure) condition, individuals were more likely to list more approaches per goal. In the prevention success (versus failure) condition, individuals were more likely to list fewer approaches per goal. These results indicated that promotion success (versus failure) generated eagerness orientations, while prevention success (versus failure) generated vigilance orientations. In sum, findings from Higgins et al. (2001) suggested that individuals with a promotion pride generally used eager strategies (while individuals with a prevention pride generally used vigilant strategies) in their goal pursuits.

Shah et al. (1998) investigated the influence of the interaction between chronic regulatory focus, task incentives (i.e., gains/nongains or losses/nonlosses) and eager/vigilant strategies on task performance. Across two studies, a total of 197 US undergraduate students were involved. In study 1, the Self-Guide Strength measure (Higgins, Shah, & Friedman, 1997) was used to assess participant's

ideal/ought strengths. More specifically, participants were asked to list five attributes describing their ideal (e.g., the person they hoped or aspired to be) and ought selves (e.g., the person they believed they ought to be when they considered obligations or responsibilities). Following, participants rated the extent to which they ideally would like to (ought to) possess and they actually possessed the attribute of their ideal (ought) selves. The time participants spent on listing and rating ideal (respectively ought) attributes was recorded and then transformed by means of a natural logarithmic function. The values of the transformed variables were added for the first three ideal (respectively ought) attributes to calculate ideal (ought) strength. After that participants were randomly assigned to one of two different framing conditions to do an anagram task. In the promotion framing condition, participants were told that they would gain one extra dollar if they found 90% or more of the possible words. If they failed to meet the requirement, they would not receive the extra dollar. In the prevention framing condition, participants were told that they would not lose one dollar if they don't miss more than 10% of the words. However, if they missed more than 10% of the words, they would lose one dollar. The results from separate regression analyses showed that ideal strength was positively related to anagram performance when individuals were in the promotion framing condition versus in the prevention framing condition. In contrast, ought strength was positively related to anagram performance when individuals were in the prevention framing condition. In addition, ought strength was negatively related to anagram performance when individuals were in the promotion framing condition.

In study 2, participant's ideal/ought strengths were measured by means of completing the self-guide strength measure as in study 1. Subsequently, participants were randomly assigned to either the promotion framing condition or the prevention framing condition. All participants were asked to solve six red and six green anagrams. For each of the green anagrams, participants were told that they would gain a point if they found all possible words. Otherwise they would not gain a point. For each of the red anagrams, participants were told that they would not lose a point if they find all of the possible words. Otherwise they would lose a point. In the promotion framing condition, participants were told that they would be given \$4 and if they completed the task with four or more points, they would gain an extra dollar. Otherwise, they would not gain the dollar. In the

prevention framing condition, participants were told that they would be given \$5 and they would not lose a dollar, if they completed the task with four or more points. Otherwise, they would lose a dollar. The results from separate regression analyses supported the findings from study 1. Specifically, ideal strength was positively related to anagram performance when individuals were in the promotion framing condition versus in the prevention framing condition. In turn, ought strength was positively correlated with anagram performance when individuals were in the prevention framing condition. Ought strength was negatively related to anagram performance when individuals were in the promotion framing condition. In addition, the result showed that only for individuals in the promotion framing condition, ideal strength was positively related to individual's performance on green anagrams (approach gain framing tasks) versus on the red anagrams (avoid loss framing task). Similarly, only when individuals were in the prevention framing condition, ought strength was positively related to individual's performance on red anagrams versus on the green anagrams. The findings from Shah et al. (1998) suggested that the match among individual's chronic regulatory orientation, task incentives, and eager/vigilant strategies was associated with increased motivation and better performance. More specifically, when promotion focused individuals used eager strategies in a task which emphasized a goal of gain, their motivation and performance increased. When prevention focused individuals used vigilant strategies in a task which emphasized a goal of avoiding losses, their motivation and performance increased.

(d) The consequence of experiencing regulatory fit and regulatory non-Fit. Some studies suggested that after experiencing regulatory fit, individuals assign more value to outcomes (Brodscholl et al., 2007), as well as experience (i) a positive value transfer to subsequent evaluations of the importance of selected objects and subsequent object evaluations (Higgins et al., 2003), (ii) increased engagement in a task (Lee et al., 2013), and (iii) increased task enjoyment (Freitas & Higgins, 2002).

Brodscholl et al. (2007) investigated the different strategies of self-regulation in goal attainment versus goal maintenance conditions. A total of 230 undergraduates from a US university were involved in the study. Participants' chronic regulatory focus was identified by the Selves Questionnaire (Higgins, Klein, & Strauman, 1985) (study 1 and 2). In study 1, participants completed a

homonym task in which they identified the same or different sound of a pair of words. Participants were randomly assigned to the attainment or maintenance condition. At the end of this task, each participant was told that they had completed the task successfully and were given 100 tokens. After that, participants completed the second task (i.e., solved anagrams). More specifically, in the attainment condition, participants were told that they couldn't use the tokens they had received from the first task in exchange for a mug and were given opportunities to gain new tokens which they could exchange for a mug. In contrast, in the maintenance condition, participants were told that they work in the task to maintain the tokens they gained from the first task and then they could use those tokens to buy a mug. In addition, participants completed pencil and paper questionnaires which were designed to assess their valuations of the mug as well as their mood and beliefs about the price of the mug. In study 2, participants completed the same homonym and anagrams tasks used in study 1.

Unlike study 1, in the anagrams tasks in the study 2, participants were randomly assigned into a promotion framing condition and a prevention framing condition. In the promotion framing condition, participants were told that if they gain 70 or more tokens they would gain the prize (i.e., the mug) at the end of the task. In the prevention framing condition, participants were told that they would gain the prize if they maintained 70 or more tokens. In the second study, participants also answered some questions measuring their valuations of the mug, mood, beliefs about the desirability of the mug as a reward for success and the efficiency of the means used to gain the mug.

The results of repeated measures ANOVA showed that in the maintenance condition, chronic prevention focused participants valued the mug as a prize of success more highly and were more likely to buy the mug than chronic promotion participants. In contrast, in the attainment condition, participants with a chronic promotion orientation valued the mug more highly than their counterparts with a chronic prevention orientation. In addition, participants with a primed promotion orientation versus a primed prevention orientation were willing to pay more to buy the mug when they were asked to attain tokens (i.e., in the attainment condition). In contrast, participants with a primed prevention orientation were willing to pay more to buy the mug when they were asked to maintain tokens (i.e., in the maintenance condition). The findings from Brodscholl et al., (2007) suggested that

an attainment task evoked the use of eager approach strategies, while a maintenance task evoked the use of vigilant avoidance strategies. In addition, in the maintenance condition, chronic or induced prevention oriented individuals valued the mug as a reward of success more and they were likely to pay more for the mug, compared with their counterparts with a chronic or induced promotion orientation. In contrast, in the attainment condition, chronic or induced promotion oriented individuals valued the mug more and they were likely to pay more for the mug, compared with their counterparts with a chronic or induced prevention orientation. The findings were consistent with regulatory fit theory (Higgins, 2000). More specifically, when people use strategies that fit (i.e., sustain) their regulatory focus orientations (e.g., an eager approach fits a promotion orientation; vigilant avoidance fits a prevention orientation), they value the outcomes more compared to when they employ strategies that do not sustain/fit or disrupt their regulatory focus orientations.

Higgins et al. (2003) investigated the influence of regulatory fit on value transfer from a task to the later evaluation of the importance of chosen objects. Across five studies, in total of 537 undergraduate students from two US Universities were involved.

In study 1, the Self-Guide Strength measure (Higgins et al., 1997) was used for assessing participant's chronic regulatory focus. Participants were told that they could choose either a mug or an inexpensive disposable pen as a reward for their participation. Participants were randomly assigned to an eager-gain condition or a vigilant-not lose condition. In the eager-gain condition, participants were instructed to think about what they would gain by choosing the mug or the pen. In the vigilant-not lose condition, participants were told to consider what they would lose by not choosing the mug and the pen. For the participants who chose the mug, the authors offered a new expensive pen, told them that the price of this pen is \$3 and asked participants to guess the price of the mug. The results of regression analyses showed that participants with a higher promotion chronic orientation assigned a higher price to the mug in the eager-gain condition than in the vigilant-not lose condition. In contrast, participants with higher prevention chronic orientation assigned a higher price to the mug in the vigilant-not lose condition than in the eager-gain condition.

In study 2, the authors used the same procedure as in study 1. The difference was that instead of asking participants to guess the price of the mug, participants had an opportunity to own it. Participants were given \$5 and an envelope which included the price of the mug. If participants wanted to get the mug, they needed to guess the price of the mug and pay for it. If the price they offered to pay was more than or equal to the real price, which was included in the envelope, they would get the mug. Otherwise, if their offered price was lower than the real price, they would not get the mug. Participant's regulatory focus was assessed by means of completing the Self-Guide Strength measure (Higgins et al., 1997). In addition, participants were also assigned to an eager-gain condition or a vigilant-not lose condition (as in study 1). The results of regression analyses showed that individuals with a higher promotion orientation were more likely to pay higher prices for the mug in the eager-gain framing condition and to pay lower prices in the vigilant-not lose condition. Individuals with a prevention orientation were more likely to pay higher prices for the mug in the vigilant-not loses condition and to pay lower prices in the eager-gain framing condition.

In study 3, the authors used similar procedures as in studies 1 and 2. The Self-Guide Strength measure (Higgins et al., 1997) was used for measuring individual's regulatory focus. In addition, participants completed a questionnaire including mood items and price items. Participants rated their feeling in terms of eight mood items (i.e., good, happy, dejected, relaxed, positive, cheerful, tense and content) and were given an envelope that included a more expensive pen compared with the original pen. They were told the price of this pen was \$3. Individuals choosing a mug (versus a pen) were asked to guess the price of the mug and the price of the original pen. The results of regression analyses showed that participants with a higher promotion chronic orientation assigned higher prices to the mug and the pen in the eager-gain condition than in the vigilant-not lose condition. In contrast, participants with higher prevention chronic orientation assigned a higher price to the mug and the pen in the vigilant-not lose condition than in the eager-gain condition. Across three studies, the results of a meta-analysis of the regression models showed that in the eager-gain condition, promotion orientation was related to positive value transfer (i.e., increased value of the outcomes) while prevention orientation was related to negative value transfer (i.e., decreased value of the outcomes). In the vigilant-not lose condition, promotion

orientation was related to negative value transfer while prevention orientation was related to positive value transfer. Findings of studies 1 to 3 indicate that when individuals experienced regulatory fit (non-regulatory fit), this generates a positive value transfer (negative value transfer). In other words, when individuals' regulatory focus orientations match the strategies they use to pursue goals, this fit is associated with a feeling of correctness and importance which, in turn, transfers to later positive evaluations of the importance of chosen objects.

In study 4, participants completed a regulatory fit manipulation (Freitas & Higgins, 2002). More specifically, in the promotion primed condition, participants were asked to think about a current hope and aspiration. In the prevention primed condition, participants were asked to think about a duty or obligation. Participants listed either five eagerness-related plans (e.g., some strategies for helping them to realize their hope or duty) or vigilant plans (e.g., some strategies for helping participants to avoid anything which could stop them from realizing their hope or duty). Participants rated three black-and-white photographs of dogs about the extent of the dog's good-natured look. The results of ANOVA showed that individuals generating eager strategies evaluated the dogs as more good-natured in the promotion primed condition than in the prevention primed condition. In contrast, individuals generating vigilant strategies evaluated the dogs as more good-natured in the prevention primed condition versus in the promotion primed condition.

In study 5, participant's regulatory focus was measured by means of the Self-Guide Strength measure (Higgins et al., 1997). Participants were asked to give suggestions to improve transition from elementary school to middle school. Half of participants were asked to propose eager strategies (i.e., considering student's gain during this transition) to improve the transition. Half of participants were asked to propose vigilant strategies (i.e., considering student's need to avoid negative experiences during this transition). Subsequently, participants were asked to evaluate the importance of middle school experiences. More specifically, they needed to rate the extent of perceived effectiveness and efficiency of the strategy for improvement, and the extent of the influence of people's middle school experiences on their later development. The results of regression analyses showed that when individuals were in regulatory fit conditions (i.e., eager strategies with promotion orientations, vigilant strategies with prevention orientations), they rated

more highly to the importance of middle school experiences compared with their counterparts in the regulatory non-fit condition. The outcome from studies 4 and 5 indicated that regulatory fit facilitated a transfer of value to the subsequent object evaluation experience. More specifically, regulatory fit increased the subsequent object evaluation while regulatory non-fit decreased subsequent object evaluation.

Lee et al. (2013) investigated the influence of regulatory focus on the engagement in games. They collected data from 93 undergraduates from a US University. Participants' chronic promotion and prevention orientations were measured by means of the RFQ (Higgins et al., 2001). Participants were randomly assigned to one of three conditions, namely eager condition, vigilant condition and control condition. In the eager condition, in which gain was emphasized, participants were required to win as many prestige points as possible. In the vigilant condition, in which non-loss was emphasized, participants were required to reduce the chance of losing prestige points. Results of analysis of covariance (ANCOVA) showed that in the regulatory fit conditions (i.e., individuals with a chronic promotion orientation in the eager condition; individuals with a prevention orientation in the vigilant condition), participants' performances did not differ significantly from those of the participants in non-regulatory fit conditions (i.e., individuals with a chronic promotion orientation in the vigilant condition; individuals with a prevention orientation in the eager condition). However, participants for whom the learning game fit their chronic regulatory focus spent more time engaged in the game than their counterparts who did not experience regulatory fit. In addition, participants experiencing regulatory fit versus non-fit spent more time on the learning-related behaviour of reading amendments and learning feedback, that is, participants spent more time in learning-related tasks and in learning feedback which is able to help them to correct their actions. Positive feedback enhanced task interest for promotion oriented participants, but not for prevention oriented ones. In contrast, negative feedback did not have any influence for promotion oriented or prevention oriented participants. Findings from Lee et al. (2013) suggested that individuals' performance outcome did not differ in the regulatory fit versus regulatory non-fit conditions. However, regulatory fit affected individual's behaviour in pursuing a task. More specifically, when individuals experienced regulatory fit, they tended to engage more in the task and in learning-related behaviour, compared to when they experienced regulatory non-

fit. This finding is in line with both theoretical propositions and empirical evidence pertaining to regulatory fit theory (Higgins, 2000).

Freitas and Higgins (2002) investigated the relationship between regulatory fit and individual's task enjoyment. Across three studies, a total of 256 undergraduate students were involved. In study 1, participant's regulatory focus was manipulated by means of asking them to complete a regulatory focus priming procedure (Higgins et al., 1994). More specifically, participants were assigned randomly to one of two conditions. In the ideal priming condition, participants completed an essay describing how their hopes and aspirations had changed. In the ought priming condition, participants completed an essay describing the change of their duties and obligations. Subsequently, participants completed a purportedly unrelated task. Half of the participants read five eager strategies terms. These five eager strategies terms were "complete schoolwork promptly; attend all classes; spend more time at the library; be prepared for tests; increase motivation to earn high GPA (p. 2)". The rest read five vigilant strategies terms. These five vigilant strategies terms were "stop procrastinating; avoid missing any classes; spend less time at social gatherings/parties; avoid being unprepared for tests; do not lose motivation to earn high GPA (p. 2)". After that, each participant rated to what extent carrying out these strategies was enjoyable. The results of a *t*-test showed that in the ideal priming condition, participants rated anticipated eager strategies as more enjoyable than vigilant strategies ($d = .78$).

In study 2, participants completed one of four versions of the experimental questionnaire combining randomly one of the regulatory states and one strategy type. Regulatory states included the ideal manipulation and the ought manipulation. Strategy types included five eagerness-related plans and five vigilance-related plans. More specifically, in the ideal manipulation, participants were asked to list one of their current hopes or aspirations. In the ought manipulation, participants listed a duty or obligation which they would like to complete. Following, participants listed either their eager plans (i.e., plans helping them to realize their hope (duty) in the ideal (ought) scenarios and to ensure everything goes well) or vigilant plans (i.e., plans helping them to avoid that anything goes wrong and to avoid anything that might impede them to realize their hope or duty). At the end of this study, participants rated how much they enjoyed performing each strategy. The results of a *t*-test showed that in the ideal regulatory state, participants showed

greater anticipated action enjoyment when they generated eager strategies ($d = .75$). In contrast, in the ought regulatory state, participants showed greater anticipated action enjoyment when they generated vigilant strategies ($d = .56$). The outcomes from study 1 and 2 provided evidence to show that regulatory fit affects how much individuals' enjoy anticipated action. In particular, when individuals have activated an ideal self-regulation, eager strategies enhance the enjoyment of anticipated actions. In contrast, when individuals have activated an ought self-regulation, vigilant strategies enhance the enjoyment of anticipated actions.

In study 3, participant's regulatory state was manipulated in the same way as in study 1. Participants completed a novel laboratory task. Half of the participants were assigned randomly to an eagerness framing condition in which achievement was emphasized in the task. The rest of them were assigned into a vigilance priming condition in which duty was emphasized in the task. At the end of the task, participants were asked to answer questions related to the assessment of task enjoyment, perceived task success and their willingness of repeating the task. The results of a *t*-test and ANOVA showed that in the ought priming condition, participants completing the vigilance-framed task versus the eagerness-framed task showed greater enjoyment ($d = .86$), greater perceived task success ($d = .92$) and more willingness to try the task again ($d = .88$). In contrast, in the ideal priming condition, participants completing the eagerness-framed task versus the vigilance-framed task showed more willingness to try the task again ($d = .68$).

(e) The influence of regulatory fit on individual's task performance.

Some studies (Freitas, et al., 2002; Grimm, et al., 2007; Miele, et al., 2009) suggested that regulatory fit improves performance when individuals use strategies that not only fit individuals' regulatory focus orientations but also are effective for the specific task.

Grimm et al. (2007) investigated the interaction between regulatory focus and task reward structure on task performance. Across two experiments, the authors obtained data from 138 undergraduates studying at a US university. In both studies, regulatory focus was induced situationally. Participants were assigned randomly to either a promotion or a prevention condition. In the promotion condition, participants were able to gain one ticket for each task completed successfully. In the prevention condition, participants were given one ticket for each task and were told that they would lose a ticket for every failed task.

Participants completed two category learning tasks, namely a rule-based task and an information-integration task (in study 1 and 2). In study 1, the two tasks were set up as gain tasks, whereas in study 2, the two tasks were set up as loss tasks. The result of ANOVA showed that in the rule-based task, for which performance is enhanced when flexible strategies are employed, regulatory fit (e.g., promotion and gain structure or prevention and loss structure) was associated with a better performance than regulatory non-fit. In contrast, in the information-integration task, for which performance is negatively affected by the employment of flexible strategies, regulatory mismatch (e.g., prevention and gain structure or promotion and loss structure) was associated with a better performance than regulatory match. Grimm et al. (2007) suggested that there is an interaction among task, regulatory fit and reward structural. They indicated that regulatory fit encourages the using of flexible strategies to solve a given task. When the flexible processing is beneficial, regulatory fit leads to a better performance. However, when the flexible processing is not beneficial, regulatory fit leads to worse learning.

Miele et al. (2009) investigated how the regulatory focus affects individuals' selection of strategies used to regulate comprehension. Across two experiments, 167 undergraduate students from a US university provided data. In both experiments, participants were asked to read a text and then answer multiple-choice questions. In study 1, individuals' motivation orientations were induced. In the promotion condition, participants were told that they were given a chance to gain entry into a lottery with a \$50 prize if their score was higher than the average score of other students answering the same test questions in the same school. In contrast, in the prevention condition, participants were given the opportunity to enter into the lottery first, but they were told that they might lose the opportunity if their score was lower than the average score of other students answering the same test questions in the same school. In study 2, students' regulatory focus was recorded by means of a description task. Specifically, participants were asked to list three attributes which they felt that they ought to possess and other three attributes which they felt that they would ideally possess. Afterwards, participants were asked to rate these thoughts on a scale of 1 (not at all) to 4 (very much). The time spent on listing and rating these attributes was recorded and assessed. Individuals with a promotion orientation spent more time on reporting attributes which they felt that they would ideally possess. In contrast, individuals with a

prevention orientation spent more time on reporting attributes which they felt that they ought to possess. In study 2, two versions of a brief text were created, namely an ambiguous text condition and a contradictory text condition. In the ambiguous text condition, some sentences made previous information seem ambiguous. In contrast, in the contradictory text condition, some sentences directly contradicted previous information. The result of a Poisson regression analysis showed that participants with strong chronic or induced prevention orientations were more likely to use a rereading strategy to solve the source of their confusion. In addition, the result of simple-slope analyses showed that prevention oriented individuals showed similar performance in both text conditions, whereas promotion oriented participants performed better in the contradictory text condition than in the ambiguous text condition. Overall, in the ambiguous text condition, prevention oriented individuals performed better than promotion oriented individuals. In addition, findings from Miele et al. (2009) suggest that an individual with a prevention orientation is more likely to use (a) rereading strategy to solve comprehending questions, and (b) prevention focused individuals performed better than their promotion focused counterparts in the ambiguous text condition. A plausible explanation for this pattern of results is that in the ambiguous text condition useful information could be obtained by re-reading previous paragraphs. Thus, the strategy preferred by prevention oriented individuals was appropriate. Promotion-oriented individuals performed better in the contradictory than in the ambiguous text condition because their preferred strategy was more appropriate for the contradictory than for the ambiguous context. Specifically, these individuals perceived incomprehension as a missed opportunity to achieve an ideal level of understanding and used a waiting strategy (i.e., reading ahead) to achieve clarity. In the contradictory text condition, when new information contradicted previous information and confusion cannot be easily eliminated, this strategy should be more effective than the rereading strategy.

Freitas et al. (2002) investigated the effect of the interaction between the ability to avoid obstacles and regulatory fit on task enjoyment and performance. Across two studies, a total of 213 undergraduate students from US were involved. In study 1, participant's regulatory focus was manipulated by means of completing a message decryption task. More specifically, in the promotion task framing, participant detected and accepted messages by using the rule 'more odd numbers

than vowels'. In the prevention task framing, participants used the same rule to mark messages for rejection. Participants completed 12 test trails. Half of participants received a distraction (i.e., video clips) at the beginning of each test trail. Afterwards, participants rated their task performance and their experiences of task enjoyment. The results of *t*-tests showed that when there was no distraction, promotion focused individuals showed greater task enjoyment than their counterparts in the primed prevention condition ($d = .65$). When distraction was present, promotion focused and prevention focused individuals showed similar levels of task enjoyment. Prevention focused individuals showed greater task enjoyment when they tried to avoid video clips distraction compared with prevention focused individuals who were not exposed to distraction.

In study 2, participant's regulatory focus was manipulated by means of asking them to describe their personal standards (Higgins et al., 1994). In the ideal group, participants described how their hopes and aspirations changed after they grew up. In the ought condition, participants described how their duties and obligations changed after they grew up. Subsequently, all participants completed nine math tasks; half of the participants received the distraction of video clips at the beginning of each math task. Afterwards, as in study 1, participants rated their experiences of task enjoyment and task performance. The results of regression analyses showed that when they were not exposed to distractions, promotion focused individuals showed marginally greater task enjoyment compared with their counterparts with a prevention orientation. However, when they were exposed to distractions, individuals with an induced prevention orientation showed a greater performance and task enjoyment on the math task, compared with their counterparts with an induced promotion orientation. In conclusion, findings from Freitas et al., (2002) suggested that prevention (versus promotion) focused individuals showed greater task performance when distractions were present. The authors suggested that this might have been the case because prevention focused individuals prefer to use vigilant strategies when pursuing goals. Thus, avoiding obstacles to task completion (e.g., distractions) should fit individuals with a prevention orientation rather than individuals with a promotion orientation.

(f) Other important studies related to the influence of individual's regulatory orientations on learning. Grimm, Markman and Maddox (2012) suggested that individuals have a predominant promotion focus in the beginning of

the semester and a predominant prevention focus at the end of the semester. Franks, Chen, Manley and Higgins (2015) indicated that individuals having a high promotion pride are more likely to regulate challenge efficiently, compared to individuals having a low promotion pride.

Grimm et al. (2012) investigated the influence of situational regulatory fit on test performance. Across two studies, 154 undergraduate students were involved. They were enrolled at an elite university in the US. Nearly half of the students were investigated in the first 2 weeks and the rest of the students were examined in the last 2 weeks of an academic semester. At each time, half of the participants were randomly assigned to either the gains or losses GRE math task. In the gains condition, participants were told that they would be given 0 points for each incorrect answer and 2 points for each correct answer and their goal was to reach 36 points. In the losses condition, participants were told that they would lose 3 points for each incorrect answer and 1 point for each correct answer, and their target was to lose no more than 24 points (in study 1 and study 2). In study 1, participants' chronic regulatory focus was measured with the RFQ (Higgins et al., 2001). In study 2, before writing down five thoughts about the semester and to rate their thoughts as negative or positive participants completed other materials or learnt anything about their study (i.e., ensuring participants had experienced gains or losses before the investigation in the beginning of the semester). Participant's motivation orientation was coded as either promotion orientation or prevention orientation.

The result of ANOVA showed that in both studies, at the beginning of the semester, individuals performed better in the gains GRE condition than in the loss GRE condition. In contrast, at the end of the semester, participants performed better in the loss condition than in the gain condition. In addition, findings from study 2 suggested that in the beginning of the semester, more of participants' thoughts were identified as having a promotion focus while at the end of the semester, more of participants' thoughts were identified as having a prevention focus. Taken together, the findings in this article demonstrated that the interaction between the time of semester at which the performance was assessed and students' motivational orientations influenced their levels of performance. Interpreting these findings, Grimm et al. (2012) argued that there is a fit between the beginning of the semester and promotion, and a fit between the end of the semester and prevention.

Franks et al. (2015) investigated the relationship between promotion pride (i.e., promotion focus-related success) and challenge regulation, that is, the ability to manage challenges. Across three studies, 227 individuals completed an online survey through Amazon's Mechanical Turk. In study 1, promotion/prevention pride was measured by the RFQ (Higgins et al., 2001). Afterwards, participants rated a version of the Profile of Mood States (McNair, Lorr, & Droppleman, 1981) used to assess the frequency of the change of their various moods (e.g., depressed mood and anxious mood) in the past week. Then participants were asked to describe the number of challenges in their life by rating a scale ranging from too few challenges (e.g., -3) to just right challenges (0) to too many challenges (+3). The result from linear regression analysis showed that individuals with a high promotion pride tended to state that they have the near right number of challenges in life, compared with individuals with a low promotion pride. The results from *t*-tests showed that depressed mood (i.e., promotion failure related mood) versus anxious mood (i.e., prevention failure related mood) was related to challenge dysregulation (i.e., failure to regulate challenges). In addition, the result from another linear regression analysis showed that greater amount of boredom was related to too few challenges. In contrast, the least amount of boredom was reported by people who reported having slightly too many challenges.

In study 2, participants completed the Centre for Epidemiological Studies Depression Scale (Radloff, 1977) to assess the frequency of their experienced depressive symptoms in the past week. In addition, participants recorded the number of challenges in their life as in study 1. The result from a linear regression analysis showed that depressive symptoms increased when individuals had too many challenges or too few challenges, compared with just the right number of challenges. In addition, the result also showed that the least amount of boredom was reported by people who reported having slightly too many challenges.

In study 3, half of participants listed the challenges in their life in the last 2 weeks and half of participants listed the challenges in their life in the last 24 hours. All of the participants recorded the number of challenges in their life as in study 1. Afterwards, participants completed the Depression Anxiety Stress Scale (Lovibond & lovibond, 1995). The result from a linear regression analysis showed that too few challenges versus too many challenges related to the greatest sum of depressive symptomatology. There was no relationship between anxiety and the

number of challenges. The result also showed that the least amount of boredom was reported by people who reported having slightly too many challenges.

Findings from Franks et al. (2015) suggested that challenges were related to the promotion system rather than prevention system. More specifically, individuals having high levels of promotion versus high levels of prevention or low levels of promotion were more likely to regulate challenge efficiently by reporting having the near right number of challenges in their life. In addition, results in this article showed that few challenges were related to the strongest feeling of depression. Given that depression is an affective outcome related to promotion failure, when promotion focused individuals experience too few challenges that might be harmful for their well-being.

Chapter 3: Methodology

This chapter overviews the methods I used for conducting this study. To this end, I describe the procedures of recruiting participants, conducting interviews, collecting data and analyzing data. I start this chapter by discussing the importance of conducting a qualitative research and the benefits of using semi-structured interviews to collect data.

A. General Research Perspective and the Research Type Used In This Thesis

Most existing research studies involving promotion and prevention have either measured these constructs quantitatively, through self-reports (e.g., The Regulatory Focus Questionnaire; Higgins et al., 2001; the General Regulatory Focus Measure; Lockwood, Jordan, & Kunda, 2002) or manipulated these orientations experimentally (e.g., by priming). Although quantitative research has advanced knowledge of promotion and prevention in important ways, it also has some shortcomings. Quantitative research often uses a narrow-angle lens, which means a quantitative research focuses on only one or few factors simultaneously. For example, Smith et al. (2009) investigated the effect of regulatory focus on task variation (i.e., varying a boring task to increase motivational experience) and intrinsic motivation. Participants' regulatory focus was manipulated. Afterwards, they were required to complete a repetitive and boring task. The results showed that promotion orientation was related to an enhanced intrinsic motivation and more task variation, compared with prevention orientation. In this study, researchers investigated the effect of regulatory focus on task variation and intrinsic motivation from a narrow-angle lens, that is, students' promotion/prevention orientations. As a result of adopting this narrow-angle lens, it is unclear why and how students' promotion/prevention orientations affected task variation and intrinsic motivation. This example illustrates that using a narrow-angle lens cannot provide a comprehensive understanding of the research theme. In addition, in quantitative research, data collection mainly relies on surveys or questionnaires which might have some potential operationalization and measurement problems. For example, participants might misunderstand a question and provide an irrelevant response. These problems, in turn, might weaken the validity of data collection (Kelle, 2006).

I conducted a qualitative research to advance understanding of how essential aspects characterizing promotion and prevention orientations affect students' motivation to study. Specifically, my first goal was to expand understanding of how students' sense of duty, responsibility or obligation influences their motivation to study. My second goal was to advance knowledge about how students' motivation to study is influenced by their own ideals and aspirations. Conducting a qualitative research of these aspects might be valuable, as a qualitative approach is beneficial to learn and explore a topic or phenomenon about which people know little. More specifically, a qualitative research uses a wide-and deep angle lens to examine human choice and behavior. This contributes to having the ability to explore in more details people's choices and behaviors (Johnson & Christensen, 2008). For example, the regulatory focus theory (Higgins, 2012) suggested that individuals having promotion orientations strive to ensure the presence of positive outcomes (i.e., achieving success) and avoid the absence of positive outcomes (i.e., avoiding failure). As a result, they are more likely to set maximal goals (i.e., to gain maximal achievement, such as merit or excellence). In contrast, individuals having prevention orientations strive to ensure the absence of negative outcomes (i.e., achieving success) and avoid the presence of negative outcomes (i.e., avoiding failure). As a consequence, they are more likely to adopt minimal goals (i.e., to meet minimal requirements, such as earn a pass). In this context, researchers conducting a qualitative investigation are able to explore students' perceptions of the differences between achieving success and avoiding failure. As a result, researchers are able to understand (i) what kinds of goals students adopt; (ii) what types of strategies they employ when thinking about achieving success or avoiding failure in their studies; and (iii) the reasons behind these choices. In turn, a comprehensive understanding of students' perceptions about the difference between achieving success and avoiding failure in school settings is beneficial to future research and pedagogical practice.

In addition, research approaches used in qualitative research are more likely to contribute to the valid completion of data collection compared with research approaches employed in quantitative research. For example, the method of interview (i.e., a qualitative research approach) allows researchers to check and correct respondents' understandings of the questions during their conversation in the interview. Thus, the data collected from interviews is more likely to be valid

compared with the data collected from questionnaires or surveys, in which researchers do not have chance to check respondents' understanding of the questions (Mutch, 2005). In sum, conducting a qualitative research is beneficial to expand understanding of the role that promotion and prevention orientations play in students' motivation to study.

In this research, I conducted a qualitative investigation using data collected via semi-structured interviews. This approach has important advantages. The method of semi-structured interviews is the most common qualitative strategy used for discovering important and hidden facets of human behaviour (Qu & Dumay, 2011). In addition, it is also the most effective qualitative strategy of exploring and gathering new information relating to the research objectives (Cohen & Manion, 1994; Kvale & Brinkmann, 2009). More specifically, the semi-structured interview is the basis of human conversation and it allows interviewers to shape the interview style and the ordering of questions (Qu & Dumay, 2011). In addition, by using semi-structured interviews, interviewers could collect and analyze data immediately as well as explore unusual responses with interviewees (Merriam, 2002). Thus, interviewers are likely to get rich and valid responses from interviewees. In addition, the semi-structured interview involves prepared and open interview questions, which is beneficial to guide the conversation toward the targeted topics which researchers want to learn about. This benefits the efficiency of data collection. In sum, using this method provides access to information that contributes to advancing understanding of the roles that promotion/prevention orientations play in students' motivation in school settings.

B. The Research Participants

For this thesis study, I contacted (via email) three schools in the Wellington area to obtain permission to interview students about what motivates them to study and their experience with studying. As part of my initial contact, I sent principals information sheet and consent forms in electronic format. Principal information and consent forms are listed in the Appendix 2. By signing the consent form, the principals confirmed that they agreed to all the clauses in the information sheet (i.e., that students are free to decide whether or not they want to participate in an in-depth semi-structured interview regarding what motivates them to study and their experience with studying; that the interview will be organized by the researcher, that students who participate in the study will be given the opportunity to review

the transcript of their own interview for accuracy; that students who agree to do so will be asked to provide an email address to receive the electronic copy of their transcript from the researcher; that the results of the research will be written up in the form of reports, journal publications, and professional conference presentations; that reports from this research will not identify the individual participants or schools at any time; that the data will be destroyed seven years after the conclusion of the research; that the purpose of the research project has been discussed with them as Principals; that they agree to allow the researcher to approach students from their school to ask for participation in this study). Once I had received the principals' signed consent forms I began recruiting year 12 and 13 students from the given schools.

In one school, I randomly recruited seven students (year 12 or 13) who were doing self-study in a common study room that is used only by year 12 and 13 students. In the other two schools, principals delivered the details of my research information to students and told students that 3-5 students would be interviewed. In the end, the first five students agreeing to join in one school were recruited; three other students from the last school were interviewed. In total, I interviewed 15 students in year 12 or 13. In this thesis, each participant's name is fictitious in order to preserve confidentiality. Thus, participants are named as participant H1, 54, 55, 56, 57, 58, 59, 62, 63-65, 66, 67-68, 69, 70, 71 and 72. Participants' gender and ethnicity are not discussed in this research. This is the case because the motivation orientations that I am studying have been shown to be universal (Higgins, 2012; Higgins et al., 2003; Lockwood et al., 2002; Scholer, Ozaki, & Higgins, 2014). Therefore, variables such as gender and ethnicity are not expected to play a significant role.

C. The Data Collection Procedures

The interviews took place in comfortable and relaxing rooms in the three schools. There were no other people able to hear the conversation between the researcher and interviewee. I interviewed each participant separately. Each interview took approximately 20-25 minute; the interview was semi-structured. I used open questions in each interview. The specific questions that I asked are listed in the Appendix 3. Before starting each interview, I provided participants with a detailed and accurate description of the study. All the relevant information was included in an information sheet that was written at a level accessible for these

students. Student information and consent forms are listed in the Appendix 4. The participants were asked to give written consent that they agreed to participate in the interview and they allowed the content of the interview to be used for the purpose of this research and subsequent publications. They were told that they had the opportunity to review the transcript of their own interview for accuracy. If they agreed to do so, they were (a) asked to provide an email address to receive the electronic form of the transcript and (b) to email their comments/suggestions to me within seven days of receiving the transcript. I informed participants that the content of the interview will only be used in an anonymous form (via pseudonyms). Participants had ample time to think about the topic of the conversation and clarify any questions they had about it. The interview did not start until the interviewees fully understood the meaning of the questions, and were ready to start talking about them. Each interview conversations were tape-recorded. In the next section, I described the way how I analysed data in this thesis.

D. Data Analysis

I fully transcribed each interview recording. To ensure the reliability and validity of my findings, I sent each transcript to the corresponding interviewee so that they could check it and make sure that I have interpreted their viewpoints correctly. No one made comments on the transcript. This strategy contributes to the interpretive validity of the qualitative research, since participant feedback could help researchers identify inaccuracies and work off areas of miscommunications, ensuring participants agree with what researchers have said about their conversations (Johnson & Christensen, 2008).

Three stages were involved in the process of coding the interview transcripts. The first stage was to determine the unit of analysis. Because the aim of this research is to study the effect that the regulatory focus orientations of promotion and prevention have on secondary students' motivation to study, I focused on questions mapping key aspects of regulatory focus theory (Higgins, 1997, 2012). Hence, the interview questions targeting these important aspects of regulatory focus theory are the unit of analysis. For example, one of the interview questions asked students about the influence of their duties/responsibilities/obligations on their studies. This interview question aimed to help understanding the role that prevention orientations play in students' study.

The second stage was to identify all of the relevant statements in the interview transcripts. These statements included those that touched on relevant aspects of regulatory focus theory and/or used regulatory focus theory relevant terms (Higgins, 1997, 2012), such as individuals' promotion/prevention concerns, feelings related to promotion/prevention success or failure, and promotion/prevention related goals and strategies. Cases in point, when interviewees reported feelings of disappointment, these dejection-related feelings were coded as promotion-failure (i.e., failing to achieve hopes and aspirations) related feelings (Higgins, 2012). In order to ensure the validity of the data coding, my supervisor read all the transcripts as well as assisted with refining the definition of what constitutes a regulatory focus theory-related statement and identifying relevant statements.

After all of the regulatory focus-related responses had been identified, I began the third stage of coding process, that is, classifying the statements into categories. I compared all the units of information and looked for patterns across the data. I coded and refined these patterns as the analysis proceeded (Merriam, 2002). The analysis of data included the identification of themes that have emerged from each of the research questions. For example, one of the interview questions was: "In your view, is there any difference between achieving success in your studies and avoiding failing in your studies?" From this interview question, one main theme that emerged involved the specific similarities or differences between achieving success and avoiding failure that students reported. Additional meaningful groupings (sub-themes) that emerged were also identified in the research. Specifically, similar responses within an overarching theme were summarised together as a sub-theme. For example, under the main theme titled "The difference between achieving success and avoiding failure", three sub-themes emerged; they were "the difference between maximal goals and minimal goals", "the difference between positive feelings and negative feelings", and "achieving success was similar to avoiding failure". I illustrated each theme and/or sub-theme with direct quotes from the participants. In addition, for themes or sub-themes that emerged across answers from several interviewees were coded and analyzed even when they were not related to regulatory focus theory.

I used the strategy of theory triangulation (Johnson & Christensen, 2008) in interpreting data. More specifically, I compared findings across participants and interpreted my findings within the framework of the regulatory focus theory

(Higgins, 1997, 2012). For instance, I used the regulatory focus theory (Higgins, 1997, 2012) to analyse and interpret individuals' different affective outcomes after experiencing prevention failure. In addition, some theories such as self-efficacy theory (Bandura, 1977), expectancy-value theory (Eccles & Wigfield, 2002), self-determination theory (Deci & Ryan, 2012), and achievement goal theory (Elliot et al., 2011) were also used to interpret my results.

Chapter 4: Findings

Following, I discuss the seven main themes that emerged. The first theme involved students' perceptions of important school tasks. They thought an important school task should be either difficult or challenging. Sub-themes summarised and interpreted interviewees' reasons why important school tasks should be difficult or challenging.

A. Students' Perception of Important School Is Influenced by How Difficult Challenging Tasks Are

When I asked participants whether important school tasks should be difficult, nine participants agreed. Among the students who did not agree, three participants thought an important school task should be challenging rather than difficult. Students' answers regarding this theme are summarised along two sub-themes, namely important school tasks should be difficult and important school tasks should be challenging.

A1. Important school tasks should be difficult. Three of the nine students who believed that important school tasks should be difficult, provided some reasons to support their answers. Case in point, one student thought that important school tasks were similar to difficult school tasks: "since it is important like and it is difficult" (Participant H1).

Two other students reported that through doing difficult school tasks, they were more likely to value them as worthwhile. For example, when students were asked about the reason why they think important tasks have to be difficult, participant 70 stated: "if you work hard and it is difficult, it is actually you can see why it would be worth it, because it is something that is difficult but it is very important so". Similarly, when participant 66 was asked about the importance of success at a difficult school task, she answered: "it is quite important, because I need to feel that I accomplish something". When participant 66 was asked why she thought important school tasks have to be difficult, she noted: "just because it makes it feel more worthwhile". Participant 66 thought important school tasks should be difficult since she felt that engagement in difficult school tasks was associated with enhanced valuation of school tasks.

A2. Important school tasks should be challenging. Even though nine students agreed that an important school task should be difficult, three participants

stated that important school tasks should be challenging instead of difficult. For example, participant 71 noted: “I won’t say that school things have to be difficult to be important, I won’t say that at all. I think it just challenge really”. Similarly, interviewee 62 said: “I think all tasks should be challenging”. In the same vein, participant 63-65 reported: “It should be enough to challenge people”.

Two participants mentioned some reasons why they thought that important school tasks should be challenging. For example, participants 62 stated: “I think all tasks should be challenging. Not difficult but if you are not challenging yourself, it is kind of what the point is doing it”. For this participant, important tasks should be challenging since she regarded challenging tasks as worthwhile. In addition, participant 63-65 reported: important school tasks “should be enough to challenge people. Because like if it doesn't challenge you, then rarely show what you understand, what you capable of”. This participant considered that an important school task should be challenging, because she believed that a good way to demonstrate her capability would be to engage in challenging tasks.

To sum up the results pertaining to interviewees’ answers regarding this theme, the majority of students stated that important school tasks should be difficult. From their interview data, three possible reasons for this point of view emerged. First, one student considered that difficult tasks were similar to important tasks. Second, two students suggested that when important tasks were difficult working on difficult tasks helped them to realize the value of the important tasks. However, three participants thought important school tasks should be challenging instead of difficult. One of these interviewees stated that challenging tasks were more worthwhile to do whereas another reported that through doing challenging tasks she was able to demonstrate her capability levels.

The second theme included reasons/motivations/goals for doing/continuing to do difficult tasks. Four sub-themes summarise the reasons reported by interviewees for continuing to do difficult tasks.

B. Reasons/Motivations/Goals for Doing/Continuing to Do Difficult Tasks

Students’ answers regarding what motivates them to continue to work on a difficult task can be summarised along four sub-themes: promotion-related reasons, prevention-related reasons, adopting task-based goals, and the perceived utility value of engaging in, or doing/continuing to do, difficult tasks. Following I will interpret and analyse each sub-theme.

B1. Promotion-related reasons for doing/continuing to do difficult tasks. Three students mentioned that promotion-related reasons motivated them to continue to work on difficult tasks. For example, participant 56 noted: “my aspirations and ideals”. According to Higgins (1997), ideals and aspirations are key components of a promotion focus. People who have a strong promotion orientation are motivated to achieve personal aspirations, ideals and hopes. Thus, this participant had an activated a promotion goal when he was thinking about continuing to do difficult tasks.

Similarly, participants 67-68 and 63-65 also gave some promotion-related reasons as motivating them to continue to work on difficult tasks. Participant 67-68 said: “I think just like the goal...I like the goal. I want to achieve the goal. Like: getting excellence.” In the NCEA scoring system, if students gain achieved in their subjects, they can have 2 points for each credit and they are able to enroll in university. If students obtain excellence in their subjects, they can get 4 points for each credit. Thus gaining achieved is a minimal goal for students who want to enroll in university while obtaining excellence is a maximal goal for these students. According to Higgins (2012), individuals having a promotion orientation focus on achievement and accomplishment and strive for maximal goals. Thus, this participant had a promotion goal motivating him to continue to work on difficult tasks.

Participant 63-65 stated: “just the thought like doing well in a difficult test like if it is difficult then the things like I will be more happier to do well on it”. Happiness is an affective outcome related to promotion success (Higgins, 1997). For this participant, after achieving her goal, she had feelings (i.e., happy) related to promotion success. Hence, it is likely that she had a promotion goal motivating her to continue to work on difficult tasks.

B2. Prevention-related reasons for doing/continuing to do difficult tasks. Only participant 55 was motivated to continue to work on difficult tasks solely by prevention-related reasons. She said: “I think I have the responsibility to learn the stuff that I don’t know.” According to Higgins (1997), duties and responsibilities are central components of a prevention focus. Individuals who have a strong prevention orientation are concerned with safety and responsibility. They treat other’s (e.g., teachers or parents) expectations of them as their own duties and obligations and are motivated to fulfil these obligations and duties. This

participant adopted a prevention goal (i.e., “have the responsibility to learn the stuff”) which motivated her to continue to do difficult tasks.

B3. Students adopt task-based goals for doing/continuing to do difficult tasks. Three participants talked about that they want to prove that they are capable of doing difficult tasks. For example, participant H1 said: “I want to prove that I can do math”. Participant 70 and 62 gave similar responses. Interviewee 70 said: “definitely want to prove that you know you can do it yourself, if something is getting hard”. Participant 71 said: “I want to prove myself that I found it difficult but it is always possible of getting pass that hurdle and accomplish it at the end, kind of thing. Like the fact that I reached obstacle but through my hard work, I am able to overcome it, kind of thing.” According to Elliot et al. (2011), individuals adopting a task-based goal focus on achieving the absolute requirements of the task (e.g., getting an answer correct). High (low) competence is attained when individuals do well (poorly) on completing the task requirements. As these participants wanted to complete the task and prove their capabilities when they thought about doing or continuing to do difficult tasks, it is likely that the activation of task-based goals motivated them.

B4. The perceived utility value of engaging in doing/continuing to do difficult tasks. Two students reported that their future concerns motivated them to do difficult tasks. For example, participant 66 noted: “I just like trying to get good grades and the fact that overall it is gonna help me get to university and get a good job”. Participant 57 gave a similar response; she said: “my future job, my future life just everything that relies on the credits so I can go to university so I can get a good job”. According to Eccles and Wigfield (2002), individuals attach high utility value to a task when this task is associated with their current and future goals. For example, individuals value doing an activity when this activity supports an important present and/or future goal. For these two participants, engaging in difficult tasks helped them achieve current goals (e.g., get good grades, participant 66; or gain credits, participant 57). In addition, they perceived also potential future benefits of engaging in difficult tasks (e.g., admission to university, getting good jobs). Thus, for these students, working on difficult tasks was associated with elevated perceptions of utility value.

The third main theme summarised students’ responses about similarities and differences between achieving success and avoiding failure. The first two sub-

themes explored the students' answers regarding differences between achieving success and avoiding failure. The third sub-theme explored the similar ways in which some students perceived achieving success and avoiding failure.

C. The Difference or Lack of Thereof Between Achieving Success and Avoiding Failure

When I asked students about the difference between achieving success and avoid failing in their studies, four respondents stated that achieving success means to try one's best, to gain excellence or to achieve more knowledge. In contrast, they stated that avoiding failure means to pass the minimum requirements. Two students reported that achieving success was related to positive feelings whereas avoiding failure was related to negative feelings. Three other interviewees stated that there was no difference between achieving success and avoiding failure.

C1. Achieving success is associated with maximal goals whereas avoiding failure is associated with minimal goals. Four participants reported that achieving success was related to try one's best or get excellence and avoiding failure was related to passing. In other words, when these students thought about achieving success, they thought about attaining maximal goals (i.e., to gain maximal achievement, such as excellence). In contrast, when they thought about avoiding failure, they thought about attaining minimal goals (i.e., to meet minimal requirements). According to Förster and Higgins, (2005), a promotion focus is activated in situations where independence and individual achievement are emphasized, when individuals are encouraged to strive for distant future gains and when they are aware of others' positive expectations of them. In contrast, a prevention focus is primed in situations where interdependence and collective achievement are emphasized, when people are encouraged to focus on minimal and specific goals, and when they become aware of negative expectations of them. As a result, when participants thought about achieving success, they had maximal goals and their promotion focus was activated. In contrast, when participants thought about avoiding failure, they had minimal goals and their prevention focus was activated.

For example, participant 63-65 said: "achieving success is more like a positive thing and like trying to be the best you can be whereas like avoiding failing is like more negative and you just try to escape through". For this participant, achieving success means to try to achieve her very best, which was her

maximal goal. In contrast, for her avoiding failure means to just pass, which was her minimal goal. A similar pattern of response was recorded for participant 72 who said: “I guess there is difference, depending on how competent you are in the subject, if you bad at subject, I guess you try to pass, if you good at it, see how far you can go in that subject”. Thus, for participant 72, achieving success was related to maximal achievement, which was her maximal goal. In contrast, avoiding failure means passing which was her minimal goal. Importantly, this participant’s perceived competence played an important role in helping her to select maximal versus minimal goals. Specifically, when her perceived competence was high, she thought about achieving success and adopted maximal goals. In contrast, when her perceived competence was low, she thought about avoiding failure and adopted minimal goals. Thus, perceptions of competence played an important role in whether she adopted maximal (vs. minimal) goals and, hence, in activating a promotion (vs. prevention) focus.

In the same vein, participant 69 said: “achieving success would be getting excellence. Avoiding failure would be more getting just achieved, or merit”. In the NCEA scoring system, students need to have 80 credits and gain a certain rank score to achieve university entrance. If students get achieved in their subject, they will gain 2 points for each credit for enrolling in university. If students get merit or excellence, they will gain 3 or 4 points for each credit for university entrance, respectively. Higher rank scores give students more opportunities to choose their major in the university. For this participant, achieving success was related to getting excellence, which in the NCEA system is a maximal goal. In contrast, he reported that avoiding failure was related to getting just achieved, which is a minimal goal.

Similarly, participant 71 also stated that achieving success was related to getting excellence whereas avoiding failure was related to passing.

Getting achieve on something is almost I passed, I achieved the test but it almost like I haven’t done my best on it still even I haven’t fail... I don't achieve success at it. It still feels like I failed, because I haven’t done my best. I didn't get that excellence you know or even that merit, I didn't get that top grade (71).

For all of these participants, achieving success meant trying their best and attaining maximal goals. In contrast, avoiding failure meant passing that is, attaining minimal goals.

C2. The difference in experienced feelings associated with achieving success versus avoiding failure. Students reported experiencing different feelings when achieving success versus avoiding failure. Four participants reported that achieving success was related to positive feelings and avoiding failure was related to negative feelings. For example, participant 62 said: “when you try to achieve something, you tend to put effort if you happy about doing it... When you try to avoid failure, it is more like negative feeling”. As feelings such as “happy” and “great” are indicative of promotion success (i.e., individuals achieved their hopes), it follows that this participant experienced feelings of promotion-related success.

Participant 63-65 also mentioned that achieving success was related to positive feelings while avoiding failure was related to negative feelings; she said: “achieving success is more like a positive thing and like trying to be the best you can be whereas like avoiding failing is like more negative”. As this participant did not elaborate on the specific nature of these feelings, it is not possible to evaluate whether they pertained to promotion/prevention-related success.

C3. Achieving success was similar to avoiding failure. Three students stated that there was no difference between achieving success and avoiding failure. For example, participant 57 said: “I guess when you try to achieve success is the same as avoiding failure”. Similarly, participant 54 said that avoiding failure was the same as achieving success. He reported: “I mean passing, achieving success, is good. And it is pretty simply, passing is good... (Avoiding failing) the same like passing”. For this participant, his maximal goal (i.e., achieving success) was the same as his minimal goal, that is, to pass. Participant 56 likewise said: “achieve everything for the best of my ability and that means not failing”. For this participant, his maximal goal (i.e., to try his best to achieve) was the same as his minimal goal (i.e., to avoid failing). Thus, for these three participants, their maximal goals were identical to their minimal goals.

In sum, with regard to the difference (or lack of thereof) between achieving success and avoiding failure, some students responses could be interpreted as suggesting that achieving success was related to maximal goals and avoiding failure was related to minimal goals. Importantly for one participant, perceived

competence regarding task completion played an important role in adopting maximal versus minimal goals. In addition, some students reported that achieving success generated positive feelings; for one respondent these positive feelings could be linked to promotion success. On the other hand, some students thought that there was no difference between achieving success and avoiding failure. Responses from three interviewees indicated that they had identical maximal goals and minimal goals when they thought about achieving success and avoiding failure.

The fourth theme I identified pertained to the consequences of thinking about achieving success in respondents' studies. Four sub-themes described how thinking about achieving success affected students' motivation to study.

D. The Consequences of Thinking about Achieving Success in Students' Studies

When I asked students to reflect on how thinking of achieving success in their studies influences the way they study, the majority of respondents reported that they put more effort into studies and had strong persistence. Moreover, when students thought about achieving success in difficult tasks, two reported employing both eager and vigilant strategies. Furthermore, one interviewee set promotion and prevention focused goals when he thought about achieving success regarding difficult tasks.

D1. Students put more effort into studies when they thought about achieving success in difficult tasks. When students discussed how thinking about achieving success in their school tasks influenced their study, seven of them reported that they would put more effort into their school work. For example: participant 59 said: "I probably put more effort into my school work". Three students stated that this thinking would make them try hard to study. For example, participant 71 stated: "when I think about like achieving something, like achieving a test, getting like a good grade on test, knowing that I have to study for it, I will definitely study for it really hard". When this participant, thought about achieving success, she had a promotion focus (i.e., to get a good grade on her test). As a result, she put more effort into her study. Similarly, participant 57 said: "I think about what I need to do to get my success which might motivate me to try harder and study". Participant 54 likewise reported: "I suppose I am thinking about achieving success, like try really hard thing. I mean I am more likely to try if I enjoy and I will study hard".

Three students mentioned that they would devote more time to their studies. For example, participant 67-68 said: “I try my best and spend more time”. Similarly, participant 56 stated: “it influences me to work harder, I put more time”. Participant 69 reported: “things like if I am not happy with my work and I am working through weekend, I might work through the whole weekend and get like 5 hours sleep”. Thus, when these students thought about achieving success in their studies, they engaged more with their school work, as they spent more time on their school tasks.

D2. Students have strong or increased persistence when thought about achieving success in difficult tasks. When students discussed how thinking about achieving success in their school works influenced their study, especially when their school tasks become difficult, eleven of them claimed that they would be more persistent. For example, participant 59 said: “when it is difficult, even I leave it for a while and then I go back to it”. Participant 63-65 said: “I say sometimes I am persistent and sometimes I am not. It just depends like sometimes I give up quite easily, but then I like come back to it”. Also, participant 66 stated: “maybe I have a day off because I am feeling a bit stress but I go back to it next day and try focus more on it”. These student reported strong persistence when they thought about achieving success. Hence, even though their studies became difficult, they did not seem to give up.

Two possible reasons for this increased persistence could be highlighted in two students’ statements. For example, participant 54 said: “I will really persistent, because I wanna it done and thinking about getting pretty good mark”. Importantly, aiming to get a “pretty good mark” could be interpreted as setting a maximal goal. According to Higgins (2012) individuals having promotion orientations are sensitive about the presence of positive outcomes. They experience regulatory fit when they focus on achieving their maximal goals. After experiencing regulatory fit, individuals’ task engagement increase. For participant 54, she had activated promotion focus which was to achieve success. As a result, the regulatory fit between activated promotion orientations and maximal goals could be one possible reason contributing to his increased persistence. In addition, participant 57 reported that she would not give up since she valued the subject. She said: “the graphic is the subjects I need almost all of them so how difficult it is, I just keep going at it”. This student continued to engage with the subject because she perceived it as

having high utility value. As a result, the perceived utility value could be a reason contributing to increase persistence for participant 54.

D3. Students use eagerness and vigilant strategies in difficult tasks when thinking about achieving success in difficult tasks. When students thought about achieving success in their studies and when their studies became difficult, the majority of them stated that they would invest more effort into their studies and become more persistent. Apart from that, two students reported that they employed some strategies in their school works. For example, participant 57 said: “talk to the teachers, ask questions. Find out what I need to do to pass it, to get checks my work and stuff like that”. Some of these strategies (e.g., ask teachers questions) are eager strategies because they serve to ensure the presence (versus absence) of positive outcomes (Higgins, 1997). The strategy of checking work is a vigilant type of strategy. This is the case because vigilant strategies center on ensuring correct rejections (i.e., ensuring the absence (versus presence) of negative outcomes) (Higgins, 1997). Therefore, when participant 57 thought about achieving success in her studies, she employed both promotion-related (i.e., eager strategies) and prevention-related strategies (i.e., vigilant strategies). Similarly, participant H1 said: “it is kind of like staying on the top of all work and not getting behind”. Trying to stay on the top of all work is an eager strategy because it serves to ensure the presence of positive outcomes. Attempting not to get behind is a vigilant strategy, because it focuses on the presence of negative outcomes (Higgins, 2012). In sum, participant H1 also used both eager strategies and vigilant strategies when she thought about achieving success in difficult tasks.

D4. Students set promotion and prevention focused goals regarding difficult tasks when thinking about achieving success. Participant 56 said that when he had a difficult school task and when he was thinking about achieving success, he wanted to pass. However, when the task was important, he adopted a different goal, which was to try his best. He said: “If it becomes hard, I finish it until I think it gonna pass, and if it is something that is really important, I do it to the best of my ability, but if it is something that is not so important than I will just do it so I pass it”. For this participant, the importance of the tasks influenced the types of goals he adopted. More specifically, when he was thinking about achieving success with regard to a difficult task that was not important to him, he set a minimal goal (i.e., to pass the task). As minimal goals are characteristic for a

prevention focus, when this participant was thinking about achieving success in a difficult but unimportant task, he adopted a prevention-related goal. However, when the difficult task was important to him, he set a maximal goal, which was to try his best to achieve. As maximal goals are characteristic for a promotion focus, when this participant was thinking about achieving success for difficult but important tasks, he set a promotion-related goal.

In sum, when students were thinking about achieving success in their studies, they engaged more in their school work. In particular, they were more likely to try hard to study and put more time and effort into their school work. In addition, students were more persistent when they were thinking about achieving success. Two possible reasons contributed to students' increased persistence, namely activated promotion orientation and perceived utility value for difficult tasks. When students thought about achieving success in difficult tasks, some used both eager and vigilant strategies. The importance of a task played a crucial role in helping interviewees to set promotion-related (versus prevention-related) goals.

The fifth theme centered on the consequences of thinking about avoiding failure in student's school works. Three sub-themes were identified with regard to this theme: Students put more effort into studies and had strong or increased persistence; they used vigilant strategies; thinking of avoiding failure might have negative effect on individual's well-being

E. The Consequences of Thinking about Avoiding Failure in Students' School Works

When I asked students to discuss how thinking of avoiding failure in their studies influences the way they study, respondents reported that they would put more effort into school work and become more persistent. Moreover, three participants reported employing vigilant strategies in difficult tasks. Apart from these, three interviewees reported that they had negative feelings when they were thinking about avoiding failure.

E1. Students put more effort into studies and had strong or increased persistence when they thought about avoiding failure in difficult tasks. Five respondents reported that when they thought about avoiding failure in their studies, they put more effort. Six interviewees said that they would be more persistent when they thought about avoiding failure in their school works. For example, participants 71 and 69 gave a strong affirmative response that they would

definitely study harder as results of thinking about avoiding failure in their studies. Participant 71 noted: “A lot, a lot effort I think, because I don't like failing”. Participant 69 said: “If I am considering failure is not passing, and then I definitely put a lot more effort”.

Three participants stated that they would be more persistent as a result of thinking about avoiding failure in their studies. For example, participant H1 said: “I just have to think about trying like motivate myself to keep go on, so that I don't fail. It is like school work and being persistent with study, just keep on task things like that”. Similarly, when I asked participant 62 about how persistent she was in difficult school tasks, she stated that when she thought about avoiding failure near the due date, she was very persistent. She said: “I get close to the due date, it is more relevant and it would make me become persistent until I get it done”. Participant 55 said: “I might do something else regarding to the task. For example, I have a difficult task about music, I might just leave it for a while and do some singing, because I guess while I am singing I might find out a good way to solve the difficult task, and then when I come back to the difficult task, I might solve the problem more easily”. When this participant was thinking about avoiding failure, she had increased persistence (e.g., come back to the difficult task). In addition, she used an eager type of strategy (e.g., finding out a good way to solve the difficult task while she was doing other tasks). This is the case as the participant wanted to find a solution for the difficult task (i.e., ensure positive hits) and she did something else regarding to the task in order to find out a good way to solve it. Therefore, she strived to avoid missing opportunities to find the solution (i.e., avoid the errors of omission), which is an important characteristic of eager strategies (Higgins, 1997; Molden et al., 2008).

Three participants reported that they would both put more effort in their studies and be more persistent when thinking about avoiding failure. For instance, participant 54 said: “I guess I probably put more effort when I think about avoiding failure, because I guess I don't really wanna appear failure at school and I guess I will more persistent as well... if I think about avoiding failure, I guess I decide to study like 99% of time”. Similarly, participant 59 reported: “I probably put more effort into my school work, or like keep going I guess, when it is difficult, even I leave it for a while and then I go back to it”.

E2. Students used vigilant strategies when thinking about avoiding failure in difficult school tasks. Three students mentioned that thinking about avoiding failure when their school tasks became difficult, prompted them to avoid doing other things and focus on their studies. For example, participant 62 said: “avoiding failure makes me just know I gonna to do it. I have to do it, so I don't tend to think about doing other things”. Similarly, participant 66 noted that: “if I am struggling, I definitely need to do that and I know I need to not do other stuff, I need to study”. Participant 69 said something similar: “if it is dangers I am gonna fail, I don't do anything else, I study”. According to Scholer and Higgins (2008), vigilant strategies used during goal pursuit involve avoiding mismatches to desired end-states. These participants employed the vigilant strategies of avoid thinking about or doing other things and solely focused on studying when they considered avoiding failure in difficult school tasks.

E3. Thinking of avoiding failure in individual's studies might have negative effect on individual's well-being. Three students mentioned that they did not think about avoiding failure in their studies because doing so was related to negative feelings. For example, participant 70 mentioned that thinking of avoiding failure distracted her concentration, which led to bad grades. She said: “if I am thinking about avoiding failure...because I am so busy worrying about failing that I can't concentrate properly, which then make to bad grades”. This participant worried when she thought about avoiding failure. According to Higgins (2012), when prevention focused individuals experience failure, they have agitation-related emotions such as worry and anxiety. Thus, participant 70 had feelings related to prevention failure. Two other students stated that they had negative feelings when they thought about avoiding failure in their studies. For example, when I asked student 62 about the difference between achieving success and avoid failure, she said that “when you try to avoid failure, it is more like negative feeling, you have to do it. You should be doing it now. You should not be enjoying your sports. You should be doing it”. When I asked her about the importance of avoiding failing in her studies, she said: “when the assessments are coming close to the due date that does tend to motivate me but it also makes me feel really bad”. Also, participant 63-65 said: “avoiding failing is like more negative”. When students thought about avoiding failure, they were more likely to have negative feelings which might have detrimental effects on their welling-being.

To sum up, when students thought about avoiding failure in their studies, this led to both positive and negative outcomes. For example, students put more effort into their studies and tended to have strong persistence. In addition, when some students thought about avoiding failure in difficult school tasks, they reported employing vigilant strategies to reach their goals. However, some students did not tend to think about avoid failure in their studies. They were more likely to think about achieving success and thus, adopted a promotion orientation. Three students reported experiencing negative feelings after thinking about avoiding failure in their studies; one of them noted that she did not think about avoiding failure because doing it distracted her concentration. These aspects suggest that although there were some positive outcomes associated with thinking about avoiding failure, not all individuals engaged in this thinking. This might be the case because, for some individuals, thinking about avoiding failure was associated with negative feelings and, thus, had negative effects on well-beings.

The sixth theme centered on emotional consequences of success/failure of prevention and promotion. Sub-themes include students' affective reactions after experiencing prevention success, prevention failure, promotion success and promotion failure.

F. Emotional Consequences of Success/Failure of Prevention and Promotion

When students thought that they fulfilled their duties and responsibilities, two of them felt relieved. Eleven interviewees felt happy or good. In contrast, when interviewees failed to fulfil their duties and responsibilities, six students reported that they felt disappointed or upset. Three of them felt guilt. In addition, when respondents thought that they achieved hopes and aspirations, the majority of them felt good, happy or proud; only one felt happy and relieved. In contrast, when students failed to achieve their hopes and aspirations, seven interviewees felt disappointed. Other two interviewees felt disappointed and stressed or scared. The remaining students did not report emotional consequences after experiencing promotion failure.

F1. Emotional consequences after experiencing prevention success.

When students thought that they fulfilled their duties and responsibilities about studies, some of them (i.e., participant 62 and H 1) stated that they felt relieved. For example, participant 62 said: "I feel a lot better, like a weight off my shoulders". Prevention focused individuals focus on duties and responsibilities.

When individuals fulfill their duties and responsibilities, they experience prevention success (Higgins, 2012). The fact that after fulfilling her duties and responsibilities, this student felt relieved is consistent with regulatory focus theory; this theory stated that when individuals experience prevention success, they feel relieved and calm (Higgins, 2012). Similarly, participant H1 stated: “I feel really uplifted and relieved”. After achieving prevention success, this student had a theoretically expected feeling of relief, which is a feeling of prevention success. In addition, she felt uplifted. The feeling of uplift is similar to feelings of cheerfulness. According to Higgins (2012), when individuals achieve hopes and aspirations, they experience promotion success and have feelings of cheerfulness. As a result, participant H1 had feelings related to both prevention and promotion success when she achieved prevention success.

A number of eleven students stated that they had delighted feelings such as happy, great and good, when they successfully fulfilled their duties and responsibilities. For example, participant 58 reported that achieving duties “make me feel good and happy actually”. Similarly, participant 71 said: “I feel great, I feel like I have done well”. According to the regulatory focus theory (Higgins, 2012), when individuals experience promotion success, they feel cheerful. Hence, these individuals had feelings related to promotion success when they achieved prevention success.

F2. Emotional consequences after experiencing prevention failure.

When thinking that they did not fulfil their duties and responsibilities regarding their studies, three students experienced feelings of guilt. For example, participant 71 said that she felt she hasn’t tried her best and she blamed herself about that: “I feel quite negative about myself and that I didn't try my hardest, I should done better... I get quite upset with myself and I don't blame anybody but me”. Similarly, participant 62 noted: “I feel like I haven’t done enough, like I haven’t tried”. These negative feelings (e.g., guilt) were similar to feelings of disappointment and sadness. Other six students also reported that they felt disappointed or upset. For example: participant 69 said he felt “disappointed”. Participant 63-65 noted: “I guess I might feel upset”. Participant 70 said: “no good, you feel like you let yourself down”. The negative feeling (e.g., let yourself down) was similar to feelings of disappointment and sadness. According to regulatory focus theory (Higgins, 2012) when individuals fail to fulfill their duties and

responsibilities, they experience prevention failure and have agitation-related emotions such as anxiety and worry. In contrast, when individuals fail to attain their hopes and aspirations, they experience promotion failure and have dejection-related emotions. Thus, although these students thought about failure regarding prevention, they experienced feelings related to promotion failure.

F3. Emotional consequences after experiencing promotion success.

When I asked students how they felt after they achieved their aspirations and hopes, eight of them reported that they felt happy or good. For example, participant 56 said: “I feel good. I do feel good when I get the grades that I wanna get”. Similarly participant 58 reported: “when I achieve things, I always do feel happy. I do achieve things I feel pretty good for myself. I feel like I have done a lot of things. It is really good achievement when I have done that. Really happy about it, really good”. Regulatory focus theory (Higgins, 2012) states that hopes and aspirations are key components of promotion focus. Hence, when individuals achieve their hopes and aspirations, they experienced promotion success. Consistent with this theory, when these participants achieved their hopes and aspirations, they experienced feelings of cheerfulness. In addition, four students reported that they felt proud when they achieved their aspirations and hopes. For example, when participant 70 was asked about her feelings after achieving her ideals and aspirations, she reported: “I feel really proud”. Similarly, participant 54 said: “if I get good grades, I mean I feel proud”.

One student (i.e., participant 63-65) reported that she had feelings of both relief and happiness after achieving her hopes and aspirations: she felt “quite relieved and happy... I am not gonna let myself down and my parents down”. This participant had feelings related to promotion success (i.e., happy) when she thought about achieving her hopes, which is consistent with the regulatory focus theory (Higgins, 2012). In addition, she had feelings related to prevention success (i.e., relieved). This might be the case because she also focused on avoiding letting herself and her parents down. Thus, this participant had also adopted a prevention goal. When she achieved her prevention goal, she had feelings related to prevention success. This pattern is consistent with regulatory focus theory (Higgins, 2012). In sum, when this participant experienced promotion success, she had feelings related to both promotion and prevention success, presumably because she had activated both promotion and prevention goals.

F4. Emotional consequences after experiencing promotion failure.

When students reported their feelings after failing to achieve their aspirations and hopes, seven participants said that they felt disappointed. For example, participant 66 noted: “I feel like I haven’t done enough. I need to keep working on it but disappointed”. Similarly, participant 71 reported: “I guess when study, I can’t do it, then I feel like I can never do it, like I never achieve that”. This participant had feelings of disappointment (i.e., she felt that she was not capable of achieving her goals any more) after failing to achieve her hopes. Thus, when participants 71 and 66 experienced promotion failure, they had feelings related to promotion failure. Participant 66 reported that she wanted to keep working on achieving her aspirations and hopes after failure. This indicates that her motivation increased after promotion failure. In contrast, participant 71 stated that she felt she could never achieve her hopes. This indicates that her motivation decreased after promotion failure. To sum up, after experiencing promotion failure, both students had promotion failure related feelings (i.e., felt disappointed). However, participant 66 showed increased motivation, but participant 71 showed decreased motivation. These findings suggest that experiencing promotion failure could have both positive (e.g., increasing motivation) and negative (e.g., decreasing motivation) effects on individuals’ motivation to study.

In addition, two students reported they experienced feelings associated with both promotion-related and prevention-related failure when they failed to achieve their aspirations and hopes. For instance, participant 69 said he felt “stressed and disappointed”. Agitation-related feelings such as worry and stress are related to prevention failure, whereas dejection-related feelings such as disappointment are related to promotion failure (Higgins, 2012). Similarly, participant H 1 reported that it is “kind of scary that I won’t have the future for me. So I have to do something else. Or I can re-try. But that is gonna be harder, especially when you felt disappointed about yourself not being able to achieve goals”. When this participant could not achieve her promotion goals, she felt scared and disappointed. Feeling scared is related to unsafety, which is associated with prevention failure. Feeling disappointed is related to dejection, which is associated with promotion failure (Higgins, 2012). Consequently, when participants H1 and 69 could not achieve their aspirations and hopes, they experienced negative feelings related to both promotion and prevention failure.

In conclusion, when students experienced prevention (promotion) success, some of them noted that they had feelings related to prevention (promotion) success. However, over half of the interviewees said that they had feelings related to promotion success after prevention success; one student had feelings related to both promotion and prevention success after promotion success. When some respondents experienced prevention failure, they reported that they only had feelings related to promotion failure. In contrast, when some students experienced promotion failure, seven of them had feelings related to promotion failure whereas other two interviewees had feelings related to both promotion and prevention failure. These findings suggested that individuals might simultaneously adopt both promotion and prevention goals in their studies.

The seventh theme summarised the influence of additional motivational factors on students' motivation to study. Sub-themes included two factors affecting students' motivation to do school work. They are personal interests and peers' performance.

G. The Influence of Additional Motivational Factors on Student's Motivation to Study

When students thought about other factors that affect their motivation to study, two of them reported that their interests motivated them. In addition, four interviewees stated that their peers' performance was an important motivation for them.

G1. The influence of personal interests. Two students reported that personal interests affect their motivations to study. They stated that if they are interested in the tasks, they are more likely to engage in them. For example, when participant 59 was asked about what motivates him to study, he said: "whether I am passionate about it. Because like I have done a couple of internals on animal rights...because I am passionate about that, it is so easy for me to work on, so I am more motivate to write about that rather than something that I don't really care about". Similarly, participant 69 said: "how much fun I gonna have". According to the Self-determination Theory (Deci & Ryan, 2012, p. 417), "the human organism is evolved to be inherently active, intrinsically motivated, and oriented toward developing naturally through integrative processes". For these participants, their personal interests helped them be intrinsically motivated to study.

G2. The influence of peers' performance. Four students stated that the people around them also affected their motivations to study. For example, participant H1 said: "it is like also my peers, how about they do at school, it kind of motivates to do like I got my smart friends like get good grades, I wanna like achieve that and like prove them that I can do that and push myself that I can do that." This participant was motivated by proving her peers that she can perform well in school.

Similarly, participant 69 said: "Peer succeeding is pretty good motivation. Because I mean if they can do it, you also get the feeling I should be doing that too...I feel like if they can do it, it is within my capacity too, I am not saying I am above them, but I feel I am at the level I should be achieving that level too". According to Bandura (1997), self-efficacy expectations influence positively how much effort individuals put into tasks and the amount of time they spend engaged in tasks. One important source of self-efficacy expectations is vicarious experience (Bandura, 1997). Through observing what others have achieved in a task, individuals persuade themselves that they are capable of achieving similar improvement as their peers' (or at least achieving some improvement) by means of putting more effort and spending more time on the task. For this participant observing his peers' success raised his self-efficacy expectations.

Peers' performance affected the motivation to study for both participants H1 and 69. Specifically, seeing their peers' performance in school-related tasks, both of them engaged more in such tasks. However, participant H1 focused on achieving good grades to prove her capability whereas for participant 69, his peers' performance was instrumental in increasing his self-efficacy expectations which, in turn, motivated him to study.

Participant 57 also reported that peers' performance affected the way she studied: "Probably my family...I feel proud that I succeeded. Be more successful than my sister, it is kind of competition between us". Individuals strive to be competent and they use different standards to evaluate competence. For example, a normative standard of competence involves comparing individual's own and their peers' performance. Individuals having a performance approach goal strive to achieve a normative standard of competence and to do better than their peers (Elliot & Moller, 2003; Elliot et al., 2011). Participant 57 strived to achieve a normative standard of competence which was developed by comparing her own

performance with her sister's performance; in addition, she wanted to perform better than her sister. In this light, it appears that participant 57 adopted a performance-approach goal, which, in turn, motivated her to study.

In addition, by noting their peers' performance, students evaluated tasks as difficult for everyone or difficult for only themselves and then they set minimal or maximal goals for themselves, respectively. For example, when participant 71 thought about how important is to avoid failure on a difficult school task, she said:

“I think it is quite important, I think if it was really difficult for everyone in the class or something, I would be happy with getting a not so great grade on it because I guess everyone find it difficult, but if it was something that only I find difficult and a lot people didn't, I would be quite annoyed that I couldn't get it, you know, can't get the answer right”.

She distinguished between tasks that were difficult for both her and her peers versus tasks that were difficult only for her. When she found a task was difficult for everyone, she was happy with just passing even when the grade she obtained was not great. That means that when the task was difficult for everyone, she was happy to adopt minimal goals, which is a characteristic of having a prevention focus (Higgins, 2012). When she found a task was only difficult for her but not for others, she wanted to “get the answer right”. In other words, she wanted to achieve her maximal goals, which is a characteristic of having a promotion focus. For this participant, her peers' performance affected the way she adopted promotion versus prevention goals.

Chapter 5 Discussion

Overall, several themes emerged from the interviews. Firstly, the majority of students (i.e., nine of them) stated that important school tasks should be difficult. However, few participants (i.e., three of them) noted that important school tasks should be challenging instead of difficult. With regard to reasons/motivations/goals for doing/continuing to do difficult tasks, three students were motivated by promotion-related reasons and one was motivated by prevention-related reasons. In addition, three participants adopted task-based goals for doing/continuing to do difficult tasks. Two interviewees attached high utility value to difficult tasks when they engaged in doing/continuing to do these tasks.

When I asked students whether there is a difference between achieving success and avoiding failure, four responses could be interpreted as suggesting that achieving success was related to setting maximal goals and avoiding failure was related to adopting minimal goals. Importantly, for one participant, perceived competence regarding task completion played an important role in adopting maximal versus minimal goals. In addition, some students reported that achieving success produced positive feelings. On the other hand, some students stated that there was no difference between achieving success and avoiding failure. Responses from three interviewees indicated that their maximal goals and minimal goals were identical when they thought about achieving success and avoiding failure.

Interviewees' answers suggest that when students were thinking about achieving success in their studies, they were more likely to try hard to study, put more time and effort into their school work and be more persistent. When students thought about what they do to achieve success in difficult tasks, some reported using both eager and vigilant strategies. The importance of a task played a crucial role in helping interviewees to set promotion-related (versus prevention-related) goals.

When students thought about avoiding failure in their studies, they reported both positive and negative outcomes. For example, students put more effort into their studies and tended to have strong persistence. In addition, when some students thought about avoiding failure in difficult school tasks, they reported employing vigilant (i.e., prevention-related) strategies to reach their goals. However, some students said that they did not think about avoiding failure in their

studies. They were more likely to think about achieving success and thus, adopted a promotion orientation. Three students reported that they had negative feelings after thinking about avoiding failure in their studies; one of them noted that she did not think about avoiding failure because doing it distracted her.

When students experienced prevention (promotion) success, some of them noted that they had feelings related to prevention (promotion) success. However, half of the interviewees reported feelings related to promotion success after experiencing prevention success; one student had feelings related to both promotion and prevention success after promotion success. When some respondents experienced prevention failure, they reported that they only had feelings related to promotion failure. In contrast, when some students experienced promotion failure, seven of them had feelings related to promotion failure whereas other two interviewees had feelings related to both promotion and prevention failure. The remaining students did not report specific emotional consequence after promotion failure.

Another theme that emerged pertained to the influence of additional motivational factors on student's motivation to study. Specifically, two students reported that personal interests affect their motivations to study; four students stated that their peers' performance was an important motivation for them. Following, I will discuss all of these findings in details.

A. The Role That Difficult/Challenging Tasks Play in Students' Studies

Important school work should be challenging. The results in this thesis showed that more students considered that important school tasks should be difficult rather than challenging. Only three students stated that they preferred important school tasks to be challenging. One student (i.e., participant 62) reported that through doing challenging school tasks she was more likely to value them. Another student (i.e., participant 63-65) stated that through doing challenging school tasks she was able to demonstrate her capability levels. These findings suggested that because some students seem to value challenging tasks, educators could make important tasks challenging for some students to encourage them to engage in important school work. One study (Franks et al., 2015) investigated the relationship between promotion pride (i.e., promotion focus-related success) and challenge regulation, that is, the ability to manage challenges. The results showed that few challenges were related to the strongest feeling of depression. When

promotion focused individuals experience too few challenges that might be harmful for their well-being. Thus, educators could make important school work challenging for individuals having strong promotion focus, which might be beneficial for their studies.

Important school work should be difficult. Nine students reported that important school work should be difficult. One student (Participant H1) thought that important school tasks were similar to difficult school tasks. Through doing difficult school tasks, students were more likely to regard them as worthwhile. For example, when student 70 discussed why important tasks have to be difficult, she said that working hard on these difficult tasks made her value them.

When students thought about achieving success in difficult tasks, seven of them reported that they put more effort into studies and eleven of them stated that they became more persistent. For instance, when students were asked about how thinking about achieving success in their difficult school tasks influenced their study, participant 59 said that when a task becomes difficult, she would keep trying to overcome difficulties. Similarly, when students thought about avoiding failure in difficult tasks, five of them reported that they would put more effort and six said that they would be more persistent. These findings are important since they indicated that when school tasks became difficult, students tended to regard these tasks as more worthwhile. As a result, they were likely to put more effort and be more persistent in their studies when they thought about achieving success (avoiding failure) on these difficult tasks. Hence, students' task engagement might increase when doing difficult school tasks. To understand this aspect, more future research is needed on the relationship between difficult school tasks and students' task engagement.

Students had prevention or/and promotion-related reasons for doing/continuing to do difficult school tasks. Results showed that three students had promotion-related reasons motivating them to continue to work on difficult tasks. For example, participant 56 stated that achieving his aspirations and ideals motivated him to do difficult tasks. This indicated that participant 56 might have accessible promotion concerns when doing difficult tasks. This is the case because regulatory focus theory (Higgins, 1997) showed that people who have strong promotion orientations aim to achieve personal aspirations, ideals and hopes. Results also showed that another student (i.e., participant 55) had prevention-

related reasons for doing difficult tasks, namely that she had responsibilities to learn the things that she didn't know. This indicated that participant 55 might have activated prevention concerns when doing difficult tasks, as individuals who have a strong prevention orientation are concerned with safety and responsibility and aim to fulfil their obligations and duties (Higgins, 1997). These findings indicate that students had activated either promotion or prevention concerns for doing/continuing to do difficult tasks.

Students' activated promotion (prevention) concerns in doing/continuing to do difficult school work could also be reflected in the strategies they employed. More specifically, when students were asked about how they approach their studies when they thought about achieving success in difficult school tasks, the results showed that two students employed both eager and vigilant strategies. Case in point, participant 57 said that she would talk to teachers and ask them questions to find out how she would pass the task. At the same time, she would check out her own work. The strategy of asking teachers questions is an eager strategy because it serves to ensure the presence (versus absence) of positive outcomes (Higgins, 1997). The strategy of checking work is a vigilant type of strategy. This is the case because vigilant strategies focus on ensuring the absence (versus presence) of negative outcomes (Higgins, 1997).

The help-seeking behaviour of asking for help and learning to fix a problem are types of autonomy-oriented help. Komissarouk and Nadler (2014) investigated the influence of the interaction between self-construals and regulatory focus on help-seeking behaviour. Their results showed that promotion focused individuals with an independent self-construal prefer autonomy-oriented help. Thus, consistent with these finding when participant 57 thought about achieving success in difficult task, she might have activated promotion concerns which resulted in using eager strategies, which involved seeking autonomy-oriented help. Work conducted by Miele and Wigfield (2014), suggested that prevention focused individuals prefer to engage in careful, deliberate and convergent processing. Similarly, Rosenzweig and Miele, (2016, study 1) found that prevention oriented individuals were more likely to use revisiting strategy (e.g., revisiting previous questions) when working on the mathematics section of the SAT. Taking these aspects into account, given the fact that participant 57 also used accuracy-oriented strategies, it may be the

case that she had active both promotion and prevention concerns when she tried to achieve success in difficult tasks.

The results also showed that three students employed vigilant strategies when they thought about avoiding failure in difficult tasks. For example, student 69 reported that he would only focus on study rather than on anything else when he thought about avoiding failure in difficult school tasks. Vigilant strategies used during goal pursuit involve avoiding mismatches to desired end-states (Scholer & Higgins, 2008). Thus, this student used vigilant strategies when he thought about avoiding failure in difficult tasks. When he explained the difference between achieving success and avoiding failure in his studies, he noted that avoiding failure was related to getting just achieved or merit. In the NCEA scoring system, gaining achieved is a minimal goal for students who want to enroll in university. Individuals having prevention orientations are more likely to have minimal goals (Higgins, 2012). This is why, it is likely that participant 69 had a minimal goal (i.e., a prevention-related goal) when he thought about avoiding failure. These activated prevention concerns prompted him to report using vigilant strategies when he thought about avoiding failure in difficult school tasks.

These findings are important as they suggest that when individuals are doing/continuing to do difficult tasks, they could have activated either prevention or promotion concerns or both and could employ eager and/or vigilant strategies during goal pursuit. In contrast, when they think about avoiding failure in doing difficult tasks, it is more likely that students have activated prevention concerns and employ vigilant strategies.

These findings suggest that educators should ensure that promotion-related (e.g., emphasizing a goal of attaining gains) and prevention-related (e.g., emphasizing a goal of avoiding losses) incentives are available to students engaged in difficult tasks. For instance, educators could provide students chance to gain extra credit in writing tasks. In the meantime, educators could give penalties for students who submit late or fail to complete essays (Markman, Baldwin, & Maddox, 2005). This strategy is likely to be beneficial because studies (Förster et al., 1998; Shah et al., 1998) showed that when promotion focused individuals used eager strategies in a task framed with promotion-related incentives, their motivation and performance increased. Similarly, when prevention focused individuals used vigilant strategies in a task framed with prevention-related

incentives, their motivation and performance increased. Although both promotion and prevention-related incentives are available in a task framing, studies (Molden & Higgins, 2005; Kunda, 1990) showed that individuals only respond to the aspects that are relevant to their motivation focus and thus, “would benefit from this type of multiple framing” (Molden & Miele, 2008, p. 102). Given the fact that students had activated either promotion or prevention concerns in doing/continuing to do difficult tasks, when educators provide both promotion-related and prevention-related incentives to students engaged in difficult tasks, this might be beneficial for all students.

B. Emotional Consequences after Experiencing Prevention Success and Prevention Failure

In this thesis, two interviewees (i.e., participants H1 and 62) reported that they had feelings related to prevention success, such as feeling relieved, after experiencing prevention success (i.e., after fulfilling their duties and responsibilities). This finding is consistent with the regulatory focus theory (Higgins, 2012). Studies (Higgins et al., 1997; Strauman & Higgins, 1988) also showed that when prevention was successful, participants had feelings of quiescence. However, after perceived prevention success, student H1 also reported feeling uplifted, which is an emotion related to promotion success. Furthermore, after experiencing prevention success, a number of eleven respondents only reported feelings related to promotion success, such as feeling happy, great or good. These feelings are elation-related feelings and, thus are typically associated with promotion success (Higgins, 2012). Thus, these elation-related feelings reported by interviewees after experiencing prevention success were discrepant given the regulatory focus of the experience they were associated with.

One possible reason for this counterintuitive finding (i.e., reporting feelings related to promotion success after experiencing prevention success) might be that some students had been motivated by both promotion and prevention concerns at the same time. For example, when participant H1 was asked about her family’s hopes and aspirations for her, she reported: “my family hopes that I put enough to my study to pass my external exams coming up...pretty much get the base grade that I can”. Since prevention focused individuals treat parents’ expectations of them as their own duties (Higgins, 1997, 2012), for this participant, her duties were to pass external exams and get the base grade. Achieving base grade was the

minimal goal set up by her family. According to Higgins (2012), individuals having a prevention orientation strive for minimal goals. Thus, she is likely to have activated prevention concerns when she thought about prevention success. In addition, after she reported her feelings (i.e., uplift) associated with fulfilling her duties, she said: “because I know stuff and I can use it in the future knowledge”. When this participant fulfilled her duties, it seems that she focused on the presence of positive outcomes (i.e., learning things that she could use in the future). According to Higgins (2012), individuals having a promotion orientation are sensitive to the presence/absence of positive outcomes. As participant H1 had both promotion and prevention concerns when she thought about prevention success, it is not surprising that she experienced feelings related to both promotion success (i.e., she felt uplift) and prevention success (i.e., she felt relieved) after successfully attaining her goals.

Similarly, when interviewee 66 was asked about the reasons why she wanted to fulfil her families’ hopes for her, she said: “because they just want the best for me. And I just know that by doing that, that would be all that I want to achieve in life”. Thus, participant 66 reported both a prevention concern (i.e., to fulfil her duties) and a promotion concern (i.e., achieving her hopes). As a result, when she described her feelings after fulfilling her duties, she reported elation-related feelings which were associated with the fact she achieved what she wanted. Similarly, when participant 67-68 was asked about how his duties and obligations influence the way he approached studying, he reported that he will try his best. In addition, he reported that when he thought about his duties, he put a lot of effort in his school work as he aimed to get excellence. Thus, he had maximal goals such as trying his best and getting excellence. Considering these aspects, it is likely that this respondent had a strong promotion focus, which explains why he had feelings related to promotion success (i.e., he felt good) after experiencing prevention success.

Some students only reported feelings related to promotion success after experiencing prevention success perhaps because for them, promotion concerns dominated in strength prevention concerns. More specifically, when participant 66 was asked what her family’s hopes and aspirations for her, she answered: “just try my best...do as much as I can do, do as well as I can do”. For this participant, her duties were to try her best. When she had prevention concerns to fulfil her duties,

she adopted maximal goals. Individuals having a promotion concern have maximal goals which are related to hopes and aspirations (Brendl & Higgins, 1996). When participant 66 thought achieving her maximal goals successfully, she had strong promotion concerns. As a result, her promotion concerns may have dominated her prevention concerns. Therefore, when she experienced prevention success, she reported feelings only related to promotion success. Similarly, when participant 67-68 was asked about his family's hopes and aspirations for him, he answered that they wanted him to try his best and achieve excellence. For this participant, trying his best and getting excellence were maximal goals. When he thought about his family's hopes and aspirations for him, he actually had achieving maximal goals in mind and, thus, had strong promotion concerns. Consequently, he also reported feelings only related to promotion success after experiencing prevention success.

According to regulatory focus theory (Higgins, 2012), after experiencing prevention failure, individuals have agitation-related emotions such as worry and anxiety. In contrast, after experiencing promotion failure, individuals have dejection-related emotions such as disappointment and feeling upset. Intriguingly, nine students felt guilty, disappointed or upset when they thought about failures regarding prevention. These feelings are dejection-related feelings, which are theoretically related to promotion failure. Thus, these dejection-related feelings reported by interviewees after experiencing prevention failure were discrepant in relation to the regulatory focus of the experience they were associated with.

One plausible reason for this finding might be that promotion concerns rather than prevention concerns were more likely to be active even when students thought about failing with regard to their duties and responsibilities. Case in point, participant 69 had dejection-related feelings (i.e., a feeling related to promotion failure) after thinking about prevention failure. When he was asked to think about whether he has the duty to try and fulfil his family's hopes and aspirations for him, he said: "not so much because they hope for it, but more because I want that too". As this participant had strong promotion concerns, he focused more on these concerns (rather than on the prevention-related concerns) when he thought about his duties. Similarly, when participant 70 was asked to think about her feelings when she cannot fulfil her duties, she reported dejection-related feelings, which are theoretically associated with promotion failure. When respondent 70 was asked about how her duties and obligations influence the way she approached studying,

she reported that she was more likely to be motivated by her hopes (e.g., she wanted to do well) rather than by her obligations. Thus, this participant was more likely to be motivated by her promotion concerns. This is why, when she thought about her duties, she may have had active promotion concerns rather than prevention concerns; as a result, she reported feelings related to promotion failure after prevention failure.

When some students thought about preventing failure, their promotion concerns were more likely to be active than their prevention concerns. The reason for this might be found in participant 62's statement. Participant 62 had feelings related to promotion failure (i.e., guilt) when she thought about failure regarding prevention. When she was asked about what duties she has regarding studying, she said she wanted to achieve excellence. Getting excellence was a maximal goal, which is a promotion goal. Similar to participants 69 and 70, participant 62's promotion concerns (rather than prevention concerns) were activated when she thought about her duties. When she was asked how thinking about her duties regarding studying influences the way she approached studying, she said: "if I start thinking about how I have to do it, I am actually less likely to want to do it... I think I have to do this, if I don't do this, I won't get good job... then it tends pressing more than I would". This account suggests that for this participant, promotion concerns rather than prevention concerns were more likely to be activated, mainly because when she had prevention concerns she felt stressed and less inclined to do her school work.

These findings suggest that individuals do not have feelings only related to prevention success (failure) after experiencing prevention success (failure), which is what is suggested by the regulatory focus theory (Higgins, 2012). Instead, they could have feelings related only to prevention success, feelings related only to promotion success, or feelings related to both promotion and prevention success after thinking about prevention success (failure). One possible explanation for these counterintuitive findings is that when students thought about prevention success (failure), some of them had active not only prevention concerns but also promotion concerns; moreover, for some respondents, promotion concerns dominated in strength prevention concerns.

These findings suggest that it is important to consider the joint influence of chronic regulatory focus and situational factors when examining the role of

regulatory focus in students' learning. This is because individuals' promotion and prevention orientations can be temporarily primed or activated in some situation (Förster et al., 2001; Higgins, 2014). For example, Förster and Higgins (2005) suggested that when people strived for distant future gains, their promotion orientations were more likely to be activated. In contrast, when people strived for minimal goals, their prevention orientations were more likely to be activated. To advance understanding of these aspects, more research is needed on the relationship between individuals' activated promotion (prevention) concerns and the experience of prevention success or failure in educational settings.

C. Emotional Consequences after Experiencing Promotion Success and Promotion Failure

Twelve students had elation-related feelings (e.g., they felt good, happy or proud), that is, feelings related to promotion success after experiencing promotion success (i.e., after achieving hopes and aspirations). This is consistent with the regulatory focus theory (Higgins, 1997, 2012). Results from some studies (Higgins et al., 1997; Strauman & Higgins, 1988) also showed that when individuals achieve their hopes or aspirations, they had feelings of cheerfulness.

However, one participant (63-65) reported that she felt relieved and happy after fulfilling her hopes and aspirations. Thus, after experiencing promotion success, she had feelings related to promotion success (i.e., happy). This is consistent with regulatory focus theory (Higgins, 2012). In addition, after thinking about promotion success, she had feelings related to prevention success (i.e., relieved), which is discrepant in relation to regulatory focus theory. The fact that participant 63-65 had simultaneously active both promotion and prevention concerns might be the reason for this finding. When she was asked to explain the specific meaning of her feelings after experiencing promotion success (i.e., relieved), she noted that she did not want to let herself and her parents down. According to Higgins (2012), in a prevention focus, individuals strive for the absence of negative outcomes. Thus, participant 63-65 tried to avoid negative outcomes (i.e., letting herself and her parents down), which means that she also had active prevention concerns when she thought about promotion success. Consequently, the participant reported feelings related to both promotion and prevention success after experiencing success regarding promotion.

Seven interviewees reported feelings related to promotion failure (e.g., feelings of disappointment) after experiencing promotion failure. This is consistent with the regulatory focus theory (Higgins, 2012). When promotion was not working, which means they experienced promotion failure, participants had dejection-related feelings (Higgins et al., 1997; Strauman & Higgins, 1988). However, two of them (i.e., participants 69 and H1) reported feelings related not only to promotion failure but also to prevention failure. Specifically, after experiencing promotion failure, participant 69 had feelings of stress and disappointment; participant H1 felt scared and disappointed. Their reports of feelings related to prevention failure (i.e., feeling stressed or scared) when they thought about promotion failure are discrepant with the regulatory focus theory.

One plausible reason for experiencing feelings related to both promotion and prevention failure after promotion failure might be that these students had active both promotion and prevention related goals at the time when they thought about promotion failure (i.e., failing to achieve hopes and aspirations). Case in point, when participant H1 was asked what her important ideals and aspirations are, she answered: “just pretty much pass level 3”. In the NCEA system, when students achieve a certain number of credits to pass level 3, they are able to gain a level 3 NCEA certificate. When students have high achievement, their level 3 NCEA certificates can be endorsed with merit or excellence. Hence, she adopted passing level 3 as her minimal goal. In a prevention focus, individuals have minimal goals which are related to duties and responsibilities (Brendl & Higgins, 1996). When participant H1 thought about failing to achieve her hopes and aspirations, she not only had active promotion concerns, but also had active prevention concerns. As a result, she reported feelings related to both promotion and prevention failure after experiencing promotion failure. Another example, when participant 69 was asked about what he wanted to achieve, he said: “I want to pass as well as I can, just achieve the much suppose I can”. He had, thus, minimal goals, which reflected his prevention concerns (i.e., passing). In addition, he had maximal goals, which illustrated his promotion concerns (i.e., achieving). Thus, it is not surprising that when he thought about promotion failure, he reported feelings related to both promotion and prevention failure.

These findings expand researchers’ and educators’ understanding of students’ emotional reactions after experiencing promotion success (failure). The

results suggest that, on the one hand, individuals have feelings related to promotion success (failure) after experiencing promotion success (failure), which is what regulatory focus theory suggests (Higgins, 2012). On the other hand, some students could have feelings related to both promotion and prevention success (failure) when they thought about promotion success (failure). Consistent with the discussion of the emotional consequences of experiencing prevention success (failure), a possible reason for these novel findings might be that individuals had active both promotion and prevention concerns when they thought about promotion success (failure). Importantly, consistent with the regulatory focus theory, the findings suggested that most students had promotion concerns when they thought about promotion success (failure); only few students had both promotion and prevention concerns after experiencing promotion success (failure). These findings emphasize the importance of considering the interaction between chronic motivational orientations and situational factors when researchers examine the role of regulatory focus in students' learning. This is because all students could have activated promotion or prevention concerns regardless of their chronic motivational orientations (Molden & Miele, 2008). For example, Grimm et al., (2012) found that students had a predominant promotion focus in the beginning of the semester and a predominant prevention focus at the end of the semester. In addition, these findings suggest that researchers need to investigate the relationship between individuals' activated promotion (prevention) concerns and experiencing promotion success or failure regarding school tasks.

The findings discussed above (i.e., emotional consequence after experiencing prevention/promotion success or failure) showed that most students had feelings related to promotion success after thinking about promotion or prevention success. The majority of them had feelings related to promotion failure after thinking about promotion or prevention failure. These results suggest researchers and educators that individuals were more likely to have active promotion concerns in their studies when they experienced success or failure related to either promotion or prevention. In addition, fewer interviewees had feelings related to both promotion and prevention success after thinking about prevention/promotion success. Some respondents reported feelings related to both promotion and prevention failure when thought about promotion failure. These results indicate that some individuals might simultaneously adopt both promotion

and prevention goals after experiencing promotion (prevention) success or promotion failure. These findings suggest that it is important to provide both promotion and prevention-related feedback to students after experiencing promotion (prevention) success or failure. For example, educators could provide students with explicit feedback on the area in which students had good and poor performance (Markman et al., 2005). In turn, providing suitable feedback benefits students' motivation. For example, Förster et al. (2001) suggested that after success feedback, individuals having a promotion orientation had increased motivation in the task which was framed as gain or non-gain instructions. In contrast, after failure feedback, individuals having prevention orientation had increased motivation in the task which was framed with loss or non-loss instructions.

D. Individual's Changes in Motivation after Experiencing Promotion Failure

One student reported having decreased motivation after experiencing promotion failure. When participant 71 was asked about her feelings if she failed to achieve her hopes and aspirations, she said that she felt she could never achieve it. Thus, failing to achieve her hopes and aspirations had decreased her motivation to do her school work. According to Higgins (2006) when individuals having promotion orientations fail to attain desirable outcomes, this is likely to reduce their eagerness, which sustains and fits the promotion system. As a result, these individuals have decreased engagement in tasks and decreased value of goals and activities. Empirical research (Higgins et al., 2001) also supported this theorizing. Thus, consistent with both theory and prior research, after experiencing promotion failure, participant 71 reported decreased motivation, perhaps because of her reduced eagerness.

In contrast, after experiencing promotion failure, five students reported having increased motivation. For example, when participant 58 was asked about his feelings after experiencing promotion failure (i.e., failing to achieve hopes and aspirations), he said that he felt he let himself down and he would try to re-do the previously failed task. Similarly, participant 70 reported that she felt she let herself down but she wanted to do better next time. After experiencing promotion failure, these participants showed that they wanted to keep working on achieving their aspirations and hopes, which indicated that their motivation increased. An explanation of these findings might be that participants had active prevention concerns when they thought about promotion failure. Case in point, when

participant 58 was asked about what his ideals and aspirations were, he answered: “I want to pass my level 3 in school NCEA at the moment”. In NCEA system, passing level 3 (versus gaining merit or excellence) is a minimal goal for students to gain a level 3 NCEA certificate. Hence, participant 58 adopted a minimal goal, which presumably activated his prevention concerns, when he thought about failure regarding to promotion. According to Higgins (2006), when individuals having prevention orientations imagine failing to attain desirable outcomes, they are more likely to maintain their vigilance, which sustains and fits the prevention system. In turn, they have increased engagement in tasks and increased value of goals and activities. As a result, after experiencing failure, participant 58 having prevention concerns showed increased motivation, which might due to his increased vigilance. Similarly, participant 70 also had a prevention concern when she thought about her hopes and aspirations regarding her study. Specifically, when she reported how thinking of her ideals influence the way she approach her studying, she said that she wanted to get through the year and if she did not study, her grades would slip. Aiming to get through the year is a minimal goal, which might activate prevention concerns. In addition, according to Higgins (2012) individuals having prevention orientations focus on the absence/presence of negative outcomes. Therefore, when participant 70 thought about promotion failure, it is likely she had activated prevention concerns. Thus, similar to participant 58, after participant 70 experienced failure, she showed increased motivation; this might have been the case because she had strong prevention concerns and experiencing failure increased her vigilance.

These findings advance understanding of how students’ motivation changes after experiencing failure with regard to promotion. Specifically, the results indicated that the experiencing of promotion failure could have negative effects on some individual’s motivation to study. For example, one interviewee had decreased motivation after experiencing promotion failure. This might be due to her decreased eagerness when she thought about failing to achieve her hopes and aspirations and is consistent with Förster et al., (1998) who suggested that promotion failure is a non-fit for individuals having promotion orientations.

In contrast, experiencing promotion failure could have positive effects on some other individuals’ motivation to study. Five participants had increased motivation after failure regarding to promotion. One possible explanation/reason

for these results might be that after experiencing promotion failure, these students had activated prevention concerns, increased their vigilance, and thus, experienced regulatory fit and had increased motivation and engagement in tasks (Higgins, 1997; Lee et al., 2013). Considering all of these aspects suggests that future motivation research on how people's motivation changes after experiencing promotion failure needs to take into account a potentially influential factor, namely individuals' prevention concerns.

E. Some Individuals Set Promotion-Related Goals (e.g., Maximal Goals)

When They Thought about Achieving Success: The Role of Promotion Concerns, Task Importance and Perceived Competence

Four individuals reported that when they thought about achieving success in their studies, they would try their best. For example, when asked about the difference between achieving success and avoiding failure, interviewee 63-65 reported that achieving success was related to try one's best. This participant had a maximal goal that is, trying her best, when she thought about achieving success. Similarly, student 69 noted that achieving success was associated with getting excellence. As in the NCEA system, getting excellence is a maximal goal, this participant also had a maximal goal when he thought about achieving success.

According to Higgins (2012) adopting maximal goals is characteristic for a promotion focus. Hence, these four individuals had promotion-related goals when they thought about achieving success in their studies. This was the case perhaps because they had promotion concerns activated by thinking about achieving success. For instance, when participant 69 was asked about his hopes and aspirations, he said: "just achieve the much suppose I can". When he was asked about what he had in mind when he thought about achieving success, he answered: "basically the whole I am able to achieve what I said myself". This participant had promotion concerns to achieve as much as he could in his studies. This is why, when he thought about achieving success, he is likely to have had strong promotion concerns. Participant 56 also had promotion concerns when he thought about success. He reported that his ideals and aspirations were to be a film director or producer. When he was asked about what he had in mind when he thought about achieving success, he answered: "like I said just the big picture, what I want to do later on, this all ends up to that I guess". According to regulatory focus theory (Higgins, 2012), individuals having promotion orientations focus on achieving

positive outcomes. As a result, they are likely to set promotion-related goals, that is, maximal goals, and strive to reach positive outcomes. Förster et al., (2003) also suggested that promotion focused individuals focus on maximal gains. As a result, when these interviewees thought about achieving success, their promotion concerns might have contributed to the fact that they adopted maximal goals (i.e., promotion-related goals).

In addition, when participant 56 was asked about the influence of thinking about achieving success on approaching difficult tasks in his studies, he said that he would try his best on something which is really important. According to Eccles and Wigfield (2002), individuals attach utility value to a task when this task is associated with their current and future goals. This participant regarded the task as being important when task achievement was worthwhile for him (i.e., when the task had utility value to him). Thus, for this participant, setting maximal goals (i.e., promotion-related goals) might have been associated with elevated perceptions of utility value.

When participant 72 was asked about the difference between achieving success and avoiding failure, she reported that achieving success means to try her best when she felt she is competent. Thus, this participant adopted maximal goals (i.e., “see how far you can go in that subject”) when she had high competence and thought about achieving success. According to self-efficacy theory (Bandura, 1977), a self-efficacy expectation is one’s belief that one can complete a given task. When this participant thought about achieving success and felt competent, she likely had strong self-efficacy expectations. In turn, when she thought about achieving success, her strong self-efficacy expectations might have prompted her to adopt maximal goals (i.e., promotion-related goals).

In sum, when individuals thought about achieving success, some of them reported that they set maximal goals, that is, promotion-related goals. One possible reason explicating this finding was that some students had promotion concerns when they thought about achieving success. According to Higgins (2012), when individuals having promotion concerns use eager strategies in the goal pursuit, they experience regulatory fit. After experiencing regulatory fit (versus regulatory non-fit), individuals’ task engagement increases, they value the task outcome more, their motivation increases, and their performance is better. This finding is important because educators are able to suggest students to use different types of

learning strategies. For example, teachers could encourage students to employ eager learning strategies (e.g., read beyond assigned materials) or vigilant strategies (e.g., testing their understanding of the assigned materials) (Higgins et al., 2003). Thus, when educators are aware of students' promotion (versus prevention) concerns and help them choose fitting, that is, eager (versus vigilant) learning strategies, they can help create a motivational learning environment that is likely to support students' motivation.

In addition, the findings suggested that when students thought about achieving success, two other reasons may have prompted the adoption of promotion-related goals: individuals' perceptions of utility value and self-efficacy expectations. This finding shows that it is likely that students have activated/accessible promotion concerns after thinking about achieving success at tasks for which they have elevated perceptions of utility value or strong self-efficacy. As a result, for these kinds of tasks or assignments, educators could help students choose eager learning strategies and then provide them with suitable learning support (e.g., promotion-framed feedback).

F. Individuals Set Minimal Goals (i.e., Prevention-Related Goals) When They Thought about Avoiding Failure

Four individuals reported that when they thought about avoiding failure, they had goals related to passing. For example, when participant 54 was asked about the difference between achieving success and avoiding failure, he reported that avoiding failure was associated with passing. Thus when he thought about avoiding failure, he had minimal goals, that is, passing his studies. Similarly, participant 71 adopted minimal goals, that is, passing everything, when she thought about avoiding failure.

When participant 71 was asked about how does the thought of avoiding failure in her studies influence the way her study, she noted: "I think I always have that thing in my mind I can't fail this, I can't fail". According to regulatory focus theory (Higgins, 2012), individuals having prevention orientations are sensitive to the presence or absence of negative outcomes and strive to avoid negative outcomes. Participant's 71 answers suggested that when she thought about avoiding failure in her studies, she focused on the absence of negative outcomes (i.e., failure). Thus, she had activated prevention concerns, which explains her adoption of minimal goals. This inference is consistent with the regulatory focus

theory (Higgins, 2012). In addition, when interviewee 72 was asked about the difference between achieving success and avoiding failure, she reported that if her competence was low, she set the goal to pass her studies. According to self-efficacy theory (Bandura, 1977), repeated failure can reduce the strength of self-efficacy. Therefore, when participant 72 thought about avoiding failure in school subjects that she was not good at, her lower competence might be interpreted as reduced self-efficacy expectations. Hence, adoption of minimal goals in those subjects might be associated both with her reduced strength of self-efficacy expectations and with her failure-induced prevention focus.

On a different note, when participant 71 thought about how important is to avoid failure on a difficult school task, she noted that if her peers found a task was difficult, she was more likely to set the goal to pass. Thus, for participant 71, her peers' performance affected her adoption of a minimal goal (i.e., a prevention-related goal).

In sum, when students thought about avoiding failure, some of them adopted minimal goals, that is, prevention goals. One possible reason for this might be that individuals had prevention concerns when they thought about avoiding failure. This hypothesis is in line with regulatory focus theory (Higgins, 2012). Thus, this result suggests that when educators are aware of students' prevention concerns after thinking about avoiding failure, they could help students choose fitting, that is, vigilant strategies and provide them with suitable learning support (e.g., prevention-framed feedback).

Two other possible reasons for the adoption of prevention-related goals were related to individual's reduced strength of self-efficacy and peers' performance. These findings advanced the understanding of the factors which contributed to setting prevention-related goals when individuals thought about avoiding failure.

Chapter 6: Conclusion, Future Research, and Limitation

A. Key Findings in This Research

This research has revealed some key findings. Firstly, the majority of students stated that important school tasks should be difficult. However, few participants reported that important school tasks should be challenging instead of difficult. Interviewees' responses regarding to reasons/motivations/goals for doing/continuing to do difficult tasks provided useful information to understand these findings. Secondly, students' responses regarding the difference between achieving success and avoiding failure could be interpreted as suggesting that a) achieving success was related to adopting maximal goals (i.e., promotion-related goals) and avoiding failure was related to setting minimal goals (i.e., prevention-related goals); b) achieving success was associated with experiencing positive feelings and avoiding failure was associated with experiencing negative feelings. However, three interviewees stated that achieving success was similar to avoiding failure. One plausible explanation for this finding might be that these participants had identical maximal goals and minimal goals when they thought about achieving success and avoiding failure. Thirdly, participants' responses showed that when students were thinking about achieving success (avoiding failure) in difficult tasks, they were more likely to try hard to study, put more time and effort into their school work and have strong persistence. Fourthly, when students thought about achieving success in difficult tasks, some of them set promotion and prevention focused goals and employed both eager and vigilant strategies during the goal pursuit. In contrast, when students thought about avoiding failure in difficult tasks, some of them used vigilant strategies during the goals pursuit. Intriguingly, three students stated that they did not think about avoiding failure in their studies. Responses from these students indicated that when they thought about avoiding failure, they were more likely to have negative feelings, which might have detrimental effects on their welling-being. Fifthly, after experiencing prevention success, the majority of students had feelings related to promotion success; few of them reported feelings related to either prevention success or both promotion and prevention success. After prevention failure, most students reported feelings related to promotion failure. Sixthly, when interviewees thought about promotion success (failure), most of them reported feelings related promotion success

(failure); few participants had feelings related to both promotion and prevention success (failure). Importantly, after experiencing promotion failure, five students had increased motivation whereas one of them had decreased motivation. Seventhly, the findings showed that personal interests and peers' performance affected students' motivations to study.

B. Implications of the Findings for Future Research and Pedagogical Practice

Findings regarding how engagement in difficult/challenging tasks influences students' motivation suggest that, firstly, educators could make important tasks challenging for students having a promotion focus; in turn, this might be beneficial for students' learning of important school tasks. Secondly, some students seemed to have increased task engagement in doing difficult tasks, valued more difficult tasks, put more effort into them, and had more persistence. In turn, these results suggest that researchers need to investigate the relationship between difficult school tasks and students' motivation and task engagement in future motivation research. Thirdly, some students had either activated promotion or prevention-related reasons for doing/continuing to do difficult tasks or both. These findings suggest that future work could investigate productive ways to provide both promotion (i.e., emphasizing a goal of gain) and prevention-related incentives (i.e., emphasizing a goal of avoiding losses) to students engaged in doing/continuing to do difficult school work in order to help increase their motivations.

This research has advanced understanding of students' emotional manifestations after experiencing promotion (prevention) success and failure. Some novel findings were that after experiencing prevention success, the majority of students had feelings related to promotion success and one of them had feelings related to both prevention and promotion success. After experiencing prevention failure, more than half of the students had feelings related to promotion failure. In contrast, after experiencing promotion success (failure), the majority of students had feelings related to promotion success (failure) and few students had feelings both related to promotion and prevention success (failure). Some possible explanations for these results would be that, firstly, after students experienced prevention success, they might have had activated both promotion and prevention concerns, with the former dominating in strength the latter. Secondly, it may have been the case that when students experienced prevention failure, their promotion

concerns versus prevention concerns were more likely to be activated. Thirdly, after experiencing promotion success or failure, some students probably have had activated both promotion and prevention concerns. Taken together, these aspects suggest that it is important for future research to consider the interaction of chronic regulatory focus and situational factors when examining the role of regulatory focus in students' emotional reactions in learning settings.

Experiencing promotion failure had positive and negative effects on some students' motivation. More specifically, when individuals experienced promotion failure, one student had decreased motivation whereas five of them had increased motivation. Some possible reasons for this latter result might be that after experiencing promotion failure, individuals having promotion orientations are more likely to have decreased eagerness and thus, report decreased engagement in tasks (Higgins, 2006). In this case, a student's decreased motivation might be due to the reduced eagerness sustaining his/her promotion. In contrast, the findings pertaining to increased motivation after promotion failure suggest that some students might have active prevention concerns after experiencing promotion failure. As individuals having strong prevention orientations are more likely to have increased vigilance after experiencing failure, it is likely that they also experience increased engagement in tasks (Higgins, 2006). Hence, for these students, increased motivation might be due to the increased vigilance supporting their prevention. These results suggest that future research on how people's motivations change after experiencing promotion failure needs to take into account individuals' prevention concerns.

When individuals thought about achieving success (avoiding failure), some students set promotion-related (prevention-related) goals. The results showed three possible reasons for these findings. Firstly, students might have activated promotion (prevention) concerns when they thought about achieving success (avoiding failure). These suggest that when students think about achieving success (avoiding failure) in their studies, educators could help students to choose eager (vigilant) learning strategies and provide them with suitable learning support, such as promotion-framed (prevention-framed) feedback. Two other possible reasons for the adoption of promotion-related (prevention-related) goals that emerged from the interviews were related to individuals' utility value (peers' performance) and strong self-efficacy expectations (reduced strength of self-efficacy). These findings

advance understanding of the factors that contribute to setting promotion-related (prevention-related) goals when individuals think about achieving success (avoiding failure). The findings also suggest that it would be productive to investigate the interactions between (a) promotion concerns, individuals' utility value beliefs, strong self-efficacy expectations and the adoption of promotion-related goals; and (b) promotion focus, peers' performance, reduced strength of self-efficacy and the adoption of prevention-related goals in learning settings.

C. Limitations of the Research Study

Some limitations exist in this research. More specifically, the lack of method triangulation might limit to some extent the understanding of participants' diverse experiences. Specifically, the present interview guidelines and questions may have led participants to provide focused answers. For example, I asked interviewees about the effect of their ideals/aspirations on their studies and prompted them to think about the effort they put in their studies and the extent of their persistence in difficult tasks. As a result, this choice is likely to have focused students' answers regarding the influence of ideals/aspirations on their studies onto two aspects (i.e., effort and persistence). To overcome this limitation, future research could employ focus groups for data collection, in addition to semi-structured interviews. This is because the method of focus groups does not include pre-constructed interview guidelines/questions. In addition, group discussions are beneficial to explore individuals' diverse experiences (Morgan, 1997). Moreover, Kaplowitz and Hoehn (2001) stated that individual interviews and group focus are complementary in techniques and using multiple methods is beneficial to generate a comprehensive understanding of phenomena (Patton, 1999). As a result, for future research on motivation, it would be important to employ multiple methods, such as individual interviews and group focus in a qualitative investigation. Case in point, researchers could employ group focus before using individual interviews. Through group discussions, researchers might be able to enhance their understanding of the influences of key aspects related to a promotion/prevention orientation on students' motivation and school engagement. Consequently, researchers could extend and refine their interview questions and get more comprehensive and rich data in later individual interviews.

In addition, the lack of data source triangulation could be another limitation of this work. Since the qualitative strategy of data source triangulation is beneficial

to ensure the validity in the qualitative research (Carter, Bryant-Lukosius, Dicenso, Blythe, & Neville, 2014), it is important to ensure data source triangulation in future motivational research. For instance, when researchers conduct a qualitative study to investigate how people's motivations change after experiencing promotion failure, they could interview students, parents, teachers, and/or peers to collect data. In this way, researchers could compare information from different data sources and test the validity of the student's conclusions/findings (Carter et al., 2014).

The fact that I used the method of semi-structured interviews to collect data might have resulted in some additional limitations. Firstly, I collected data via face to face interviews (versus an anonymous survey or questionnaire). This might have led to a possibility that interviewees were less likely to honestly discuss their school related motivation. Secondly, the analysis of interview data is less objective compared with the analysis of survey or experimental data (Urdan & Mestas, 2006).

In order to overcome these limitations, it might be beneficial to conduct mixed research on motivation in future research. This is the case because mixed methods combine both quantitative and qualitative research methods. Through using a mixed-method approach, researchers are able to employ wide-angle, narrow-angle and deep-angle viewpoints and, thus, could understand human behaviour more fully (Johnson & Christensen, 2008). For example, when researchers conduct a mixed research on investigating the interaction among promotion concerns, individuals' utility value, strong self-efficacy expectation, and the adoption of promotion-related goals, they could manipulate these factors experimentally to test the influence of each factor on the adoption of promotion-related goals. Afterwards, researchers could use a qualitative method (e.g., in depth interviews) to explore and verify understandings of how these factors affect the adoption of promotion-related goals. In this way, researchers would be able to get a comprehensive understanding of the influences of the interactions among these factors on the adoption of promotion-related goals.

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Appendix 1

Research Question 1 (RQ1): How does having a sense of duty/responsibility/obligation influence students' motivation to study?

Some questions tapping into RQ1:

RQ1_a): With regard to studying, what are your family's hopes and aspirations for you?

RQ1_b): Do you feel that you have the duty/responsibility/obligation to try and fulfill their hopes and aspirations for you?

RQ1_c): Please tell me how thinking of these duties/responsibilities/obligations influence the way you approach studying? (e.g., how much effort you put in your school work; how persistent you are when studying becomes difficult; how you decide whether to study or do something else).

RQ1_d): How do you feel when you are successful in your studies?

RQ1_e): How do you feel when you are not successful in your studies?

Research Question 2 (RQ2): Do students perceive that studying helps them to attain their own ideals and aspirations? How do these types of perceptions influence their motivation to study?

Some questions tapping into RQ2:

RQ2_a): What are some of your most important ideals and aspirations?

RQ2_b): Do you think that studying helps you to attain your ideals and aspirations?

RQ2_c): Please tell me how thinking of these ideals/aspirations influence the way you approach your studying? (e.g., how much effort you put in your school work; how persistent you are when studying becomes difficult; how you decide whether to study or do something else).

Appendix 2

Information Sheet for School Principals

The Role of Promotion and Prevention Orientations in Secondary School Students' Motivation to Study: A Qualitative Analysis

Dear Principal,

This research, which is my thesis study, aims to extend knowledge on what motivates secondary school students to study. This area of research is an important one as enhancing knowledge on student motivation could help educators create effective learning environment that fit students' motivation outlooks. I (Yi Li) am a master student of Victoria University of Wellington. My supervisor is Dr Flaviu Hodis from Victoria University of Wellington.

Students Interviews

In this research, I aim to collect data form 6-8 students in year 12-13. Students who are 16 years of age or older and will agree to participate will be invited to answer some questions regarding what motivates them to study and their experience with studying. Participants in the study will be given the opportunity to review the transcript of their own interview for accuracy; those who agree to do so will be asked to provide an email address to receive the electronic copy of their transcript me.

Voluntary participation

All schools and students have the right to refuse to take part in the study. In addition, in case individual students want to withdraw their data from the study after they have been interviewed, they can email the researcher with their decision to withdraw within 3 days, starting from the date in which they were interviewed. Upon receiving their requests their interview data will be deleted from the study's data base. There will be absolutely no consequences for students and schools who choose not to participate or to withdraw from the research.

Confidentiality

The identities of the schools and students participating would remain confidential To this end, research data including electronic data, will be locked (print) or stored in a password-protected computer (electronic files). All data will be destroyed 7 years after the conclusion of the research.

The results from this study will be published and presented at conferences. In addition, I will provide participants and their schools with the summary of findings of this research. In none of these materials I will use participant's real name or the relevant school's name. The reports from this research will not identify either students or their school at any time. If you agree to allow me to try to recruit students from your school to participate in this research, I would invite students to do an in-depth semi-structured interview in 2015. Students will be asked to answer some questions as well as talk about what motivates them to study and their experience with studying. The interview will be organized by the researcher and should not take longer than 25 minutes. The interview will be individual and will take place at a time that is suitable to the participants and in a place that is convenient to them.

Year 12 or 13 students who agree to participate in the study will read the Student Information Form and sign the Student Consent Form before the beginning of the interview.

None of this work is possible without the support of your school and the students themselves. I sincerely appreciate these contributions.

If you have any questions about this research or you need additional information, please feel free to me: Yi Li, Cell Phone: [REDACTED] Email: Lizzie.Li@vuw.ac.nz. My supervisor's contact details are: phone: 04-463-9550; Email: flaviu.hodis@vuw.ac.nz

All procedures for this work have been reviewed and approved by the Victoria University of Wellington Human Ethics Committee. If you have any concerns about the conduct of this research please contact A/Prof Susan Corbett, Convenor of the Victoria University of Wellington Human Ethics Committee: susan.corbett@vuw.ac.nz

Sincerely yours,

Yi Li

Consent Form for School Principals

The Role of Promotion and Prevention Orientations in Secondary School Students' Motivation to Study: A Qualitative Analysis

This consent form refers specifically to the involvement of the school in the research project described in the information sheet provided.

I understand that students are free to decide whether or not they want to participate in an in-depth semi-structured interview regarding what motivates them to study and their experience with studying.

I understand that the interview will be organized by the researcher, Yi Li.

I understand those students who participate in the study will be given the opportunity to review the transcript of their own interview for accuracy; those who agree to do so will be asked to provide an email address to receive the electronic copy of their transcript from the researcher, Yi Li.

I understand that the results of the research will be written up in the form of reports, journal publications, and professional conference presentations.

I understand that reports from this research will not identify either me or my school at any time.

I understand that the data will be destroyed 7 years after the conclusion of the research

I agree the purpose of the research project has been discussed with me as Principal.

I agree to allow the researcher to approach students from this school to ask for participation in this study.

I agree to nominate

(please write the name and email of the nominated person above) to liaise with the researcher for the course of this research.

I agree to provide an email address to receive a summary finding of this

research_____

____(please write the email address above)

Name of School: _____

Name of Principal: _____

Signature: _____

Date: _____

Appendix 3

Warm up questions

1. What are your interests both school-related and outside of school?
2. What do you like to do in your spare time?
3. Do you like to play sports and/or take part in cultural activities?
4. What other extra-curricular activities do you often participate in?
5. Do you have a dream you want to achieve in life?
6. What are some of the things you plan to do in order to achieve your dream?

Interview questions

1. With regard to studying, what are your family's hopes and aspirations for you?
2. Do you feel that you have the duty/responsibility/obligation to try and fulfil their hopes and aspirations for you?
3. How do you feel when you fulfill your duties/responsibilities/obligations regarding studying?
4. How do you feel when you cannot fulfill your duties/responsibilities/obligations regarding studying?
5. Please tell me how thinking of your duties/responsibilities/obligations regarding studying influences the way you approach studying? (e.g., how much effort you put in your school work; how persistent you are when studying becomes difficult; how you decide whether to study or do something else).
6. What are some of your most important ideals and aspirations?
7. Do you think that studying helps you to attain your ideals and aspirations?
8. Please tell me how thinking of these ideals/aspirations influence the way you approach your studying? (e.g., how much effort you put in your school work; how

persistent you are when studying becomes difficult; how you decide whether to study or do something else).

9. How do you feel when you achieve your ideals and aspirations regarding (or related to) studying?

10. How do you feel when you cannot achieve your ideals and aspirations regarding (or related to) studying?

11. When your school tasks feel difficult, do you often think that your efforts may be better spent elsewhere?

12. Do you think that important school tasks have to be difficult?

13. When you work on a school task that feels difficult how important for you is to avoid failing at it?

14. When you work on a school task that feels difficult how important for you is to succeed at it?

15. When you feel that a school task is difficult what motivates you to continue to work on it?

16. When you feel that a school task is difficult what motivates you to stop doing it and start doing something else?

17. In your view, is there any difference between achieving success in your studies and avoid failing in your studies?

18. What exactly do you have in mind when you are thinking about achieving success in your studies?

19. What exactly do you have in mind when you are thinking about avoiding failing in your studies?

20. How does thinking about achieving success in your studies influence the way you study?(e.g., how much effort you put in your school work; how persistent you

are when studying becomes difficult; how you decide whether to study or do something else).

21. How does thinking about avoiding failure in your studies influence the way you study?(e.g., how much effort you put in your school work; how persistent you are when studying becomes difficult; how you decide whether to study or do something else).

22. Apart for what I asked you so far, is there anything else that influences your motivation to study or not to study? If this is the case, can you, please, talk about what it is and how it influences you?

23. How do you feel when you are successful in your studies?

24. How do you feel when you are not successful in your studies?

Appendix 4

Information Sheet for Students

The Role of Promotion and Prevention Orientations in Secondary School Students' Motivation to Study: A Qualitative Analysis

Dear student,

I am inviting you to participate in an important research on what motivates secondary school students to study. This research is part of my thesis study. I (Yi Li) am a master student from Victoria University of Wellington. My supervisor is Dr Flaviu Hodis from Victoria University of Wellington.

Interview

In this study, I aim to collect data from 6-8 students in year 12 or 13. I invite you to answer some questions regarding what motivates you to study and your experience with studying. Our discussion should not take longer than 25 minutes. This interview will be individual and will take place at a time that is suitable to you and in a place that is convenient to you. Apart from our conversation, no data will be requested about you. If you participate in this study you will have the opportunity to review the transcript of your interview for accuracy; if you agree to do it you will be asked to provide an email address to receive the electronic copy of your transcript from me.

Voluntary participation

Your participation in this research is voluntary, so your decision to take part in this study or not will not impact your education. I would really appreciate your help with this study. However, if you do not wish to participate you don't need to do anything. In case you decide to withdraw from the study after you have been interviewed, you need to email me within 3 days from the date you were interviewed. In the email, you need to announce your decision to withdraw from the research, so that your data can be deleted from the study's data base. There are absolutely no consequences for students choosing not to participate or withdraw.

Confidentiality

The results from this study will be published and presented at conferences. In addition, I will provide you and your school with the summary of findings of this research. In none of these materials I will use your real name or your school's name. I really hope you are willing to give your permission to be part of this study by signing the Consent Form attached.

If you have any questions about this research or you need additional information, please feel free to contact me: Yi Li, Cell phone: [REDACTED], Email: Lizzie.Li@vuw.ac.nz. My supervisor's contact details are: phone: 04-463-9550; Email: flaviu.hodis@vuw.ac.nz

All procedures for this work have been reviewed and approved by the Victoria University of Wellington Human Ethics Committee.

If you have any concerns about the conduct of this research please contact A/Prof Susan Corbett, Convenor of the Victoria University of Wellington Human Ethics Committee: susan.corbett@vuw.ac.nz

Sincerely yours,

Yi Li

Consent Form for Students

The Role of Promotion and Prevention Orientations in Secondary School Students' Motivation to Study: A Qualitative Analysis

After you read the information below please write your name and sign this form if you consent to participate in this research.

I am 16 years or older

I have read the Information Sheet for Students and I am willing to participate in this research.

I understand my participation is voluntary.

I understand that my participation will consist of answering some questions regarding what motivates me to study and my experience with studying.

I agree to review the transcript of my interview for accuracy. If I have any comments and suggestions I will email them to the researcher within 7 days of receiving the electronic copy of my transcript.

I understand that I need to provide an email address in order to receive the electronic copy of the transcript of my interview and a summary of the research findings from the researcher. (Please write your email address below:

_____)

I understand that reports from this research will not identify either me or my school at any time.

I understand and agree that the results from this study will be published and presented at conferences

Please fill in this section

First and Last names (please print clearly):

Your Signature
