Cognitive and Behavioural Emotion Regulation and Risky Behaviours in Adolescence: Gender Differences

Samira S.L. Moumne

Department of Educational and Counselling Psychology

McGill University, Montreal

August 2013

A thesis submitted to McGill University in partial fulfillment of the

requirements of the degree of

Master of Arts in School/Applied Child Psychology

Table of Contents

Abstract

The present study examines gender differences in adolescent self-reported use of adaptive and maladaptive cognitive and behavioural emotion regulation strategies, as well as gender differences in the relationship between adolescent emotion regulation and engagement in broad-based risky behaviours. Fifty male and fifty female adolescents from eight Montreal high schools completed the Risky Behavior Questionnaire for Adolescents (RBQ-A; Auerbach, & Abela, 2008), the Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski, Kraaij, & Spinhoven, 2002), and the Regulation of Emotions Questionnaire (REQ; Phillips & Power, 2007). Gender differences were found in adolescent use of emotion regulation strategies, whereby females reported significantly greater use of the cognitive emotion regulation strategies of rumination, acceptance, and putting into perspective, and males reported significantly greater use of maladaptive behavioural strategies. Furthermore, gender differences were found in the relationship between adolescent use of cognitive and behavioural emotion regulation strategies, and engagement in risky behaviours. Specifically, only maladaptive behavioural emotion regulation significantly predicted risky behaviour engagement for males, and only maladaptive cognitive emotion regulation significantly predicted risky behaviour engagement for females. Future directions for research and clinical implications for the gender differences found in the relationship between emotion regulation and risky behaviours in adolescence are discussed.

Résumé

Cette étude examine les différences entre les stratégies cognitives et comportementales fonctionnelles et dysfonctionnelles des adolescents en fonction de leur sexe. De plus, les différences entre les garçons et les filles au niveau de la relation entre la régularisation d'émotions et l'adoption de comportements à risque sont explorées. Cinquante adolescents et 50 adolescentes provenant de huit écoles secondaires de la région de Montréal ont rempli le Risky Behavior Questionnaire (RBQ-A; Auerbach, & Abela, 2008), le Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski, Kraaij, & Spinhoven, 2002) et le Regulation of Emotions Questionnaire (REQ-2; Phillips & Power, 2007). Des différences entre les sexes ont été notées au niveau des stratégies de régularisation d'émotions, indiquant que les adolescentes sont plus portées à utiliser des stratégies cognitives, telles que ruminer, accepter et mettre en perspective, alors que les adolescents utilisent davantage des stratégies comportementales. De plus, la relation entre la régularisation d'émotions et l'adoption de comportements à risque diffère entre les garçons et les filles. Plus précisément, seules les stratégies comportementales dysfonctionnelles de régularisation d'émotions ont prédit les comportements à risque chez les adolescents, alors que seules les stratégies cognitives dysfonctionnelles de régularisation d'émotions ont prédit les comportements à risque chez les adolescentes. Les implications cliniques en ce qui a trait à la différente relation entre la régularisation d'émotions et les comportements à risque chez les garçons et les filles sont abordées.

Acknowledgements

I would like to first thank my supervisor, Dr. Steven Shaw, for the numerous opportunities he has given me throughout my studies to develop as both a researcher and clinician. My deepest appreciation also goes to my lab mates Anthony Claro and Melissa Stern, for allowing me the opportunity to examine these data and their support throughout my Master's degree. To my best friend Melanie Joly, I thank you for your constant reassurance and camaraderie; this journey would certainly not be the same without you! And finally to my parents, Ibrahim Moumne and Dorinda Kelly, and my siblings, Sarah and Ahmad, thank you all for your enduring love and endless support that continues to encourage me in pursuit of my goals.

List of Tables

List of Appendices

Cognitive and Behavioural Emotion Regulation and Risky Behaviours in Adolescence: Gender Differences

Adolescence is a critical period for decision-making on issues with the potential to affect lifetime mental and physical health trajectories (Hessler & Katz, 2010; Reyna & Casillas, 2009; Sher & Zalsman, 2005). Despite the increased need for effective regulation in accordance with long-term goals, research also points to adolescents as disproportionately responsible for risky, goal-inconsistent behaviour including substance abuse, smoking, alcoholism, violent crime, reckless driving, unsafe sex, and unhealthy eating, among others (Albert & Steinberg, 2011; Hessler & Katz, 2010; Irwin, Igra, Eyre, & Millstein, 1997; Reyna & Casillas, 2009; Reyna & Farley, 2006; Steinberg, 2005). Adolescents engaging in these risky behaviours are at significantly greater risk for continued personal difficulties with their physical, psychological, and socioemotional adjustment, and present additional challenges for nationwide law enforcement, public health, and public policy (Reyna & Farley, 2006).

The last decade of research on adolescent risk behaviour has emphasized the development of theory addressing why this developmental period particularly coincides with such a peak in risky behaviour engagement (Albert & Steinberg, 2011; Reyna & Casillas, 2009). Brain development studies have provided insight about this link, demonstrating that adolescence is a phase of significant and continual change in neural structure and function particularly in brain regions related to executive function and emotion regulation (Paus, 1999; Steinberg, 2005). Effectively organized and controlled emotional and cognitive executive

functions are typically established only later in development, leaving adolescent regulatory systems with relatively greater opportunity for various suboptimal developmental trajectories compared to children and adults (Keating, 2004; Steinberg, 2005). The emerging psychological literature on emotion regulation (ER) in adolescence supports the neurocognitive research demonstrating that relative to childhood and adulthood, adolescence is also associated with more ineffective use of strategies to regulate their emotions (Steinberg, 2005; Zeman, Cassano, Perry-Parish, & Stegall, 2006).

Exacerbating the psychological effects and potentially life-long consequences of these maturational delays, adolescence is also a life-stage associated with heightened and more frequent experiences of emotional arousal provoked by novel physical, psychological, and social transformations (Hessler & Katz, 2010; Silk, Steinberg, & Morris, 2003). The adolescent experience of heightened and more frequent negative emotionality, combined with brain maturational delays and ineffective use of ER strategies may well create a disastrous situation in which the adolescent "is starting an engine without yet having a skilled driver behind the wheel" (Steinberg, 2005, p.70).

Despite the heightened vulnerability of this life-stage, research on adolescent ER is still in its early stages compared to the available research on ER in childhood and adulthood. The relatively few studies that exist on adolescent ER have been primarily limited to populations with clinically significant internalizing and externalizing problems (Auerbach, Claro, Abela, Zhu, & Yao, 2010; Silk et al., 2003), and of the studies using non-clinical samples, only two thus far

examined adolescents' relative use of both cognitive and behavioural strategies (e.g., Phillips & Power, 2007; Stern, 2012). Furthermore, while the literature on adolescent engagement in specific risky behaviour engagement is abundant, only few studies have examined the relation between adolescent ER and broad-based risky behaviours (e.g., Auerbach et al., 2010; Stern, 2012). Finally, gender differences remain an important variable to be considered in the relationship between ER strategies and engagement in broad-based risky behaviours. While gender differences have been identified in cognitive ER strategy use (Bender, Reinholdt-Dunne, Esbjørn, & Pons, 2012; McRae, Ochsner, Mauss, Gabrieli, & Gross, 2008; Zlomke & Hahn, 2010) and adolescent engagement in specific risky behaviours such as self-harm (Kirchner, Ferrer, Forns, & Zanini, 2011), eating disordered behaviour (Pascual, Etxebarria, Ortega, & Ripalda, 2012), aggression (Steketee, Junger, & Junger-Tas, J, 2013), smoking (Okoli, Greaves, & Fagyas, 2013), and drug use (Sheehan, Rogers, Williams, & Boardman, 2013), no single study thus far has investigated gender differences in the relation between cognitive and behavioural ER, and engagement in broad-based risky behaviours. Understanding gender differences in the relation between cognitive and behavioural ER presents a novel avenue through which more tailored, gender-specific, ER strategies can be developed to more effectively promote adolescent ER and ultimately aid in reducing their engagement in risky behaviours.

Given the present gaps in the literature, the current study has three overarching goals: (a) to investigate the relationship between ER and broad-based risky behaviour engagement in a non-clinical sample of adolescents; (b) to

understand gender differences in the use of cognitive and behavioural ER strategies within this sample; and (c) to investigate the possibility of gender differences in the relationship between adaptive and maladaptive cognitive and behavioural ER, and broad-based risky behaviour engagement in adolescence. The following sections will review the current literature on risky behaviours and ER in adolescence.

Risky Behaviour Engagement in Adolescence

Adolescents engage in a greater variety and higher frequency of risky behaviours relative to both children and adults (Auerbach, Kertz, & Gardiner, 2012). Statistics indicate that adolescents are disproportionately responsible for engagement in several risky behaviours including substance use, smoking, alcoholism, violent crime, reckless driving, unsafe sex, and unhealthy eating, among others (Hessler & Katz, 2010; Reyna & Farley, 2006). Corresponding with this increase in risky behaviours, adolescence is also a period in which the prevalence of various forms of psychopathology associated with emotion dysregulation considerably increases (Silk et al., 2003). Given the increased potential for significant negative long-term social, physical, and psychological consequences for the adolescents experiencing ER difficulties and engaging in these risky behaviours, research investigating the correlates of these constructs within this age-group is critical (Auerbach et al., 2012).

The experience of negative emotion and risky behaviour engagement.

Researchers investigating various specific types of risky behaviours have demonstrated a link between the experience of negative emotions and subsequent

engagement in risky behaviours (Hessler & Katz, 2010). Tension Reduction Theory (Conger, 1956) is a widely proposed model to explain the relation between engagement in multiple specific risky behaviours and the experience of negative emotion. For example, in the literature on alcohol consumption, Tension Reduction Theory proposes that people drink to reduce tension and escape from negative emotional states (Cappell & Greeley, 1987; Cooper, Wood, Orcutt, & Albino, 2003). Similar theories have been proposed to explain the relation between negative emotion and illicit drug and tobacco use (Cooper et al., 2003; Frone, Cooper, & Russell, 1994; Wills, 1986), engagement in risky sexual behaviour (Cooper et al., 2003), and self-harming behaviour such as non-suicidal self-injury (Bolen, Winter, & Hodges, 2013) and eating disorders (Farber, 2008). The link between negative emotion and risky behaviour engagement in adolescence is further supported by a substantial literature on the association between clinically diagnosed mood disorders and increased engagement in multiple risky behaviours including substance use, truancy, theft, vandalism, sexual promiscuity, reckless behaviours, and comorbid conduct disorder, oppositional defiant disorder, and borderline personality disorder (Cooper et al., 2003).

Risky behaviour engagement as emotion regulation. A common theme in the research citing Tension Reduction Theory (Conger, 1956) is that negative emotional states increase engagement in risky behaviours because the risky behaviour provides an attractive, quick, albeit short-term strategy for the relief of negative emotion (Auerbach et al., 2010; Cooper, Agocha, & Sheldon, 2000;

Cooper et al., 2003; Hessler & Katz, 2010; Mikolajczak, Petrides, & Hurry, 2009). Importantly however, not all individuals who experience negative emotion turn to risky behaviours (Cooper et al., 2003). The stress-vulnerability hypothesis may be used to offer a more nuanced perspective on the relation between the experience of negative emotion and risky behaviour engagement (e.g., Hessler & Katz, 2010). Specifically, the stress-vulnerability hypothesis posits that following the stress of an aversive event, adolescents who lack appropriate ER strategies for dealing with the negative emotional experience are more vulnerable to engagement in risky behaviour as an alternative strategy to cope with or avoid negative affect (Cooper et al., 2003; Hessler & Katz, 2010). The extent to which individuals develop dysfunctional patterns of ER or use maladaptive ER strategies may thus be a more significant predictor of risky behaviour engagement than the sole experience of negative emotion (Cooper et al., 2003).

Supporting the stress-vulnerability hypothesis, maladaptive ER strategies explain the link between the experience of negative emotion and increased substance abuse (Cooper, Russell, & George, 1988), risky sexual behaviour engagement (Cooper, Shapiro, & Powers, 1998), non-suicidal self-injury (Farber, 2008), and disordered eating behaviours (Farber, 2008). This moderating effect of emotion regulation was replicated for broad-based risky behaviour engagement in a sample of Chinese adolescents, whereby adolescents reporting higher levels of maladaptive coping strategies reported greater risky behaviour engagement following an adverse event than adolescents who reported fewer maladaptive coping strategies (Auerbach, Abela, Zhu, & Yao, 2007b). Furthermore, theories

of both child and adult psychopathology have conceptualized maladjustment in terms of difficulty regulating emotion following the experience of a stressful event (Silk, et al., 2003; Steinberg & Avenevoli, 2000). Increasing the use of adaptive and decreasing use of maladaptive ER strategies thus presents an important avenue for providing adolescents with the necessary skillset for regulating their emotions and modulating their engagement in risky behaviours (Hessler & Katz, 2010; Magar, Phillips, & Hosie, 2007).

Engagement in specific v.s. broad-based risky behaviours. Researchers have primarily limited their focus to adolescent engagement in specific risky behaviours such as drug and alcohol use, risky sex, aggression, self-harm, and purging/binging. However, important research suggests that adolescents who engage in one risky behaviour are also likely to engage in clusters of other risky behaviours that fluctuate over time as a function of environmental factors, age, financial means, and social reinforcement (Auerbach, Abela, & Ho, 2007a; Auerbach et al., 2010; Auerbach et al., 2012; Jessor et al., 2003). Jessor and Jessor's (1997) Problem Behaviour Theory has been used to explain the significant intercorrelations found among multiple problem behaviours including drug use, alcohol consumption, risky sexual behaviour, aggression, and delinquency in youth (Racz, McMahon, & Luthar, 2013). Specifically, the theory posits that the general tendency of some youth towards clusters of problem behaviours are the result of a common cause, often stemming from underlying ER difficulties (Racz et al., 2013). Given the significant fluctuation in number and type of adolescent risky behaviours over time and the proposed underlying

emotional cause, a better representation of the relation between ER and adolescent risky behaviour engagement is through the measurement of broad-based, rather than specific, risky behaviours (Auerbach et al., 2012; Racz et al., 2013).

Emotion Regulation

Emotion regulation refers to the myriad of automatic or controlled physiological, cognitive, and behavioural processes one takes for the purpose of maintaining, enhancing, or mitigating the occurrence, form, intensity, or duration of emotional arousal (Eisenberg & Spinrad, 2004; Gross, 1998; Izard et al., 2011; Phillips & Power, 2007; Thompson, 1994). The broad construct of ER has been studied on multiple levels of analysis including neurophysiological, social, attentional, cognitive, and behavioural levels (Garnefski et al. 2002; Zamen et al., 2010). ER research has burgeoned within each of these levels of analyses over the last decade, and has yet to be assimilated into a cohesive body of literature (Eisenberg, 2000; Garnefski et al., 2002; Gross, 1999). Given the myriad of angles from which one can study ER, it is proposed that empirical researchers demonstrate a clear focus on narrowly defined aspects of the construct at a time (Garnefski et al., 2002). As such, the current study will focus only on specific and conscious ER strategies adolescents report to employ in response to negative, stressful events. Such specific and conscious strategies have been primarily categorized in the literature and within this study according to two dimensions: adaptive-maladaptive, and cognitive-behavioural. These dimensions will also be interchangeably referred to as functional-dysfunctional and internal-external.

Although the ability to regulate emotion is widespread, significant individual differences exist in the conscious strategies individuals employ in response to negative stressors (Garnefski et al., 2002). While it is possible that the same ER strategies may be adaptive or maladaptive depending on social context, recent research suggests that there are generally functional and dysfunctional styles of ER that can be empirically defined by their constancy over time and across situations (Garnefski et al., 2002; John & Gross, 2004; Phillips & Power, 2007; Southam-Gerow & Kendall, 2002; Zamen et al., 2010). Thus far, researchers have primarily focused on identifying the cognitive strategies that contribute to adaptive and maladaptive ER. Although researchers are increasingly investigating adolescent use of adaptive and maladaptive behavioural strategies in response to negative events (e.g., Phillips & Power, 2007; Stern, 2012), no studies thus far have investigated gender differences in relative use of cognitive and behavioural ER strategies.

Cognitive Emotion Regulation. Cognitive ER refers to a subset of conscious, specific, and cognitive coping strategies one thinks of in response to stressful events for the purpose of managing emotional arousal (Garnefski, Kraaij, & Spinhoven, 2001; Thompson, 1991). Importantly, cognitive ER strategies are assessed by asking people what they think, not what they do, immediately following an experience of negative emotion. Through the development of the Cognitive Emotion Regulation Questionnaire (CERQ) by Garnefski and colleagues (2001), nine conceptually distinct cognitive ER strategies have been identified and cited in ER literature. The nine strategies are divided into two

categories in the questionnaire and the literature; five adaptive cognitive ER strategies and four maladaptive cognitive ER strategies.

Adaptive cognitive emotion regulation strategies. The five adaptive cognitive ER strategies are: putting into perspective, positive refocusing, positive reappraisal, acceptance, and refocus on planning. Putting into perspective refers to the cognitive effort to understand what has happened to oneself in context and downplay the magnitude of a negative experience by comparing it to the possibility of other potentially more serious events (Garnefski et al., 2001). Positive refocusing is the diversion of ones thoughts towards other more pleasant experiences rather than the actual event (Garnefski et al., 2001). This differs from refocus on planning, which instead refers to the cognitive development of potential steps to take in response to the negative event (Garnefski et al., 2001). Importantly, refocus on planning only refers to the initial cognitive part of action-focused coping, not the actual carrying out these steps. Acceptance is acknowledgment of the reality of what has happened, and finally positive reappraisal refers to the re-evaluation of a negative event in terms of its potential to contribute towards positive personal growth (Garnefski et al., 2001).

Maladaptive cognitive emotion regulation strategies. The four maladaptive cognitive ER strategies are: self-blame, other-blame, rumination, and catastrophizing. Self-blame is the cognitive attribution of the responsibility for negative events towards characterological or behavioural aspects of the self (McGee, Wolfe, & Olson, 2001). On the other hand, other-blame is the tendency to attribute the cause of negative events to external factors (McGee et al., 2001).

Rumination refers to the repetitive cognitive focus on the thoughts and feelings experienced during a negative event without direct environmental prompting (Garnefski et al., 2001; Michl, McLaughlin, Shepherd, & Nolen-Hoeksema, 2013). Finally, catastrophizing refers to the explicit cognitive exaggeration of the negative aspects of a stressful experience (Garnefski et al., 2001).

Cognitive emotion regulation and adolescent mental health. While the use of adaptive cognitive emotion regulation strategies has been linked to positive psychological outcomes, the use of maladaptive cognitive emotion regulation strategies has been linked to multiple disorders, syndromes, and symptoms of internalizing and externalizing problems in adolescence (Garnefski et al., 2001). For example, differential relations between self- and other- blame have been identified whereby self-blame is more significantly related to internalizing disorders such as anxiety and depression and other-blame is more related to externalizing disorders, anger, and aggression (McGee et al., 2001). Similarly, rumination and catastrophizing have been linked to decreased psychological well-being (Michl et al., 2013; Sullivan, Bishop & Pivik, 1995).

One study by Garnefski, Kraaij, and van Etten (2005) examined cognitive emotion regulation strategies in adolescents with internalizing problems, externalizing problems, comorbid internalizing and externalizing problems, and a no internalizing or externalizing problems control group. They found that adolescents with both pure and comorbid internalizing problems reported significantly higher use of the maladaptive emotion regulation strategies of self-blame and rumination than the pure externalizing problem or control group.

Multiple regression analyses revealed specific relationships between internalizing problems and self-blame, rumination and lack of positive reappraisal, and externalizing problems and lack of positive refocusing. They also found that cognitive emotion regulation strategies explained more of the variance in internalizing problems than externalizing problems suggesting that cognitive emotion regulation difficulty is more strongly related to internalizing than externalizing problems.

A second study by Garnefski and Kraaj (2006) further investigated cognitive emotion regulation strategies in five samples of early adolescents, late adolescents, adults, psychiatric patients, and the elderly. In the study, early adolescents reported significantly less use of cognitive emotion regulation strategies than late adolescents and adult and late adolescents reported significantly less use of cognitive emotion regulation strategies than adults on six of the nine strategies. Together, these results suggest that the use of cognitive ER strategies increases from adolescence into adulthood. This finding is in line with developmental research on emotion regulation, which suggests that internalizing of cognitive strategies to regulate emotion increases from adolescence to adulthood (Phillips & Power, 2007, Zemen et al., 2006).

Gender differences in cognitive emotion regulation strategy use. Gender differences have been identified in adolescent use of specific ER strategies (Garnefski, Teerds, Kraaj, Legerstee, & Van den Krommer, 2004; Martin & Dahlen, 2005). In general, researchers have found that females report significantly higher use of ER strategies than males (Garnefski & Kraaj, 2006). Gender

differences are most pronounced for the regulation strategies of rumination, positive refocusing, and catastrophizing whereby females report significantly greater reliance on these strategies than males (Garnefski et al., 2004; Martin & Dahlen, 2005). Although differences exist in relative use of ER strategies, the relationship between ER and mental health outcomes for men and women remains the same such that what is an adaptive or maladaptive strategy for females is similarly an adaptive or maladaptive strategy for males (Garnefski et al., 2004).

While gender differences in the relation between cognitive ER and internalizing and externalizing problems such as depression (Garnefski et al., 2004), worry (Martin & Dahlen, 2005), anxiety (Bender et al., 2012), aggression (Herts, McLaughlin, & Hatzenbuchler, 2012), and anger (Martin & Dahlen, 2005) have been identified, no research thus far has been conducted on gender differences in the relation between adolescent reported use of specific cognitive ER strategies and engagement in broad-based risky behaviours.

Behavioural Emotion Regulation. While significant research exists investigating cognitive ER strategies, less research has focused on behavioural ER strategies and furthermore, little research has investigated gender differences in adolescent behavioural ER. This lack of research is surprising given that researchers investigating the development of ER have generally described a gradual shift from the use of external and behavioural strategies towards internal and cognitive strategies (Phillips & Power, 2007; Zeman et al., 2010). Adolescence thus represents a developmental period in which the relative importance of behavioural and cognitive strategies remains dubious and warrants

further study to improve adolescent ER strategies during this critical period (Eisenberg, 2005). Furthermore, while females tend to use of cognitive ER strategies more than males, gender differences in adaptive and maladaptive behavioural ER has yet to be explored.

Behavioural ER refers to a subset of conscious, specific, and behavioural coping strategies one employs in response to stressful events for the purpose of managing emotional arousal (Phillips & Power, 2007). Importantly, behavioural ER strategies are executed external to the self, and are assessed by asking people what they actually do immediately following an experience of negative emotion. The Regulation of Emotions Questionnaire (REQ) developed by Phillips and Power (2007) is the only questionnaire for adolescents that investigates both cognitive and behavioural adaptive and maladaptive ER. While the internal-functional and internal-dysfunctional categories correspond to cognitive-adaptive and cognitive-maladaptive strategies already described, external-functional and external-dysfunctional strategies are interchangeable with behavioural-adaptive and behavioural-maladaptive strategies and will be described below.

Adaptive behavioural regulation strategies. The adaptive behavioural ER strategies described by Phillips and Power (2007) include use of social resources such as seeking physical contact from friends or family, talking to others about feelings, or actively seeking advice. Social support is a common behavioural regulation strategy employed by adolescents and provides an important source of control for ER development (Bell & McBride, 2010). Adolescents may also use leisure as a behavioural strategy to manage emotion, such as doing something

energetic like playing a sport, or going out to do something nice (Phillips & Power, 2007).

Maladaptive behavioural regulation strategies. The maladaptive behavioural ER strategies described by Phillips and Power (2007) include the deliberate act of taking out feelings on others either verbally or physically, taking out feelings on objects, or harming or punishing oneself in some way. These behavioural strategies are investigated by explicitly asking adolescents the extent to which they use this particular strategy in response to a negative emotion and thus represent ER strategy rather than risky behaviour.

Behavioural emotion regulation and adolescent mental health. While adaptive behavioural ER strategies have been linked to positive psychological outcomes, the use of maladaptive behavioural ER strategies has been linked to greater severity of emotional symptoms, behavioural problems, hyperactivity, peer problems and psychosomatic health problems in adolescence (Phillips & Power, 2007). The strongest relationship exists between external dysfunctional ER and externalizing problems (Phillips & Power, 2007). On the other hand, frequent use of adaptive behavioural ER strategies is associated with greater prosocial behaviour and positive peer relationships, as well as better overall quality of life (Phillips & Power, 2007).

Gender differences in behavioural emotion regulation. Unlike the research on the specific cognitive ER strategies previously described, no studies thus far have examined gender differences in adaptive and maladaptive behavioural ER as conceptualized by Phillips & Power (2007). The current

investigation is the first known study examining gender differences in the relative use of cognitive and behavioural, adaptive and maladaptive ER strategies in adolescence using the REQ and CERQ. Furthermore, no research thus far has examined gender differences in the relation between adolescent reported use of behavioural ER and engagement in broad-based risky behaviours.

Cognitive and Behavioural Emotion Regulation and Risky Behaviour

Thus far, only one study has been conducted examining cognitive ER, behavioural ER, and broad-based risky behaviour engagement in a sample (n = 78; *male* = 48; *female* = 30) of adolescents (Stern, 2012). Stern (2012) found that although adolescents were more likely to report using adaptive behavioural strategies than cognitive strategies in response to negative events, it was the use of adaptive cognitive ER strategies that were most significantly associated with a lower incidence of risky behaviour engagement. In fact, adaptive behavioural strategies were not related to adolescent engagement in risky behaviours (Stern, 2012). Although Stern (2012) found that males reported to engage in a greater frequency of risky behaviours than females, she did not report on gender differences in the relation between cognitive and behavioural ER strategies and broad-based risky behaviour.

The Current Study

The experience of negative emotion and difficulty regulating these emotions has been linked to adolescent engagement in multiple specific risky behaviours. However, three major limitations exist in this literature that are overcome in this study. First, there is a general lack of research demarcating the

relative use cognitive and behavioural ER strategies in adolescence. Second, the majority of studies investigating risky behaviour engagement only look at specific risky behaviour engagement, which may be misrepresentative of the true nature of adolescents' tendency to engage in clusters of risky behaviours. It is proposed that a study of broad-based risky behaviour engagement may overcome this limitation. Finally, although gender differences in cognitive ER strategies have been demonstrated in past research, gender differences in behavioural ER and the relative use of cognitive and behavioural ER among males and females remain to be explored. Understanding the differential roles of cognitive and behavioural ER strategies for adolescent males and females presents a novel avenue for more tailored intervention and prevention methods with the potential to protect these youth against engagement in risky behaviours and significantly affect their long term mental, physical, and social health.

Given the gaps in the literature, the current study has four primary objectives. The first objective is to examine gender differences in reported use of specific cognitive ER strategies. It is expected that the current study will replicate previous findings that females report significantly greater reliance on the ER strategies of rumination, positive refocusing, and catastrophizing than males (Garnefski & Kraaj, 2006). Extending the literature on gender differences in specific cognitive ER strategy use, a second objective of the current study is to investigate potential gender differences in the relationship between specific cognitive ER strategy use and engagement in broad-based risky behaviours. No gender differences in this relationship are expected, as previous research has

demonstrated that although gender differences exist in relative use of ER strategies, the relationship between ER and mental health outcomes for men and women remains the same (Garnefski et al., 2004). Thus, it is hypothesized that ER strategies that are adaptive or maladaptive for male risky behaviour engagement will similarly be adaptive or maladaptive for female risky behaviour engagement.

The third objective of this study is to examine gender difference in adolescent use of adaptive and maladaptive cognitive and behavioural strategies. While research on behavioural ER strategies is less clear, a more established finding is that females engage in greater use of cognitive ER strategies than males (Garnefski et al., 2004). As such, it is hypothesized that females will report greater use of adaptive and maladaptive cognitive ER strategies than males. Although there is a less clear relation in the literature, it is predicted that males will report use of adaptive and maladaptive behavioural ER strategies beyond females, possibly as compensation for their relatively lower use of cognitive ER strategies. This hypothesis is also supported by literature indicating small but significant gender differences in emotional expression with males showing more externalizing emotion than females (Chaplin & Aldao, 2013).

The final objective of this study is to examine gender difference in adolescents' reported relative use of adaptive and maladaptive cognitive and behavioural ER strategies and their relation to risky behaviour engagement. Consistent with the stress-vulnerability hypothesis it is expected that only maladaptive cognitive and behavioural ER strategy use will predict risky behaviour engagement following the experience of a negative emotion (Cooper et

al., 2003; Hessler & Katz, 2010)**.** Furthermore, given that researchers have found that females report a greater reliance on cognitive strategies than males, it is expected that females will demonstrate a stronger relation between cognitive ER strategy use and risky behaviour engagement than males, and finally, males will demonstrate a stronger relation between behavioural ER strategy use and risky behaviour engagement than females.

Method

Description of Sample

The total sample comprised 100 participants, of whom 50 were male (50%) and 50 were female (50%). Participants ranged in age from 12 to 19 years old (M = 15.11, SD =1.54). Participants were recruited from eight English Montreal high schools based on their identification as at-risk for academic failure by their teachers. Based on highest level of paternal education, participants were primarily from families of lower and middle socioeconomic status. Specifically, 16.3% reported that their father had completed some high school, 25.6% reported their father had completed high school, 14.0% reported their father had completed some college or technical school, 4.7% reported their father had completed some university courses, and 11.5% reported their father had a university degree. 27.9% of participants did not respond or reported they did not know their fathers highest level of education.

Measures

Background demographics. Participants were given a demographics form comprised of questions regarding gender, age, ethnicity, language used most

often, country of birth, average grades, school retention, employment status, criminal history, psychopathology, parents marital status, and parents highest level of education.

Risky Behavior Questionnaire for Adolescents (RBQ-A). The Risky Behavior Questionnaire for Adolescents (RBQ-A; Auerbach and Abela, 2008) was administered to assess the adolescents reported frequency of engagement in risky behaviours. The RBQ-A is a 20-item self-report measure that assesses risky behaviour over the past month across six subscales: (1) unsafe sexual practices; (2) aggressive and/or violent behaviours; (3) rule-breaking; (4) dangerous, destructive, and/or illegal behaviours; (5) self-injurious behaviours; and (6) alcohol and/or drug use. Examples of questions include: “Have you used illegal drugs”, “Have you purged or binged, and “Have you been in a physical fight”. Participants respond on a 5-point scale indicating how often they have engaged in the behaviour indicated over the past one month. Responses range from: never (0 times), almost never (once per month), sometimes (2-4 times per month), almost always (2-3 times per week), and always (4 or more times a week). The total risky behaviour score is derived by summing the participant responses across subscales, and provides a score indicative of adolescent broad-risky behaviour engagement. Previous research has found engagement in risky behaviour as measured by the RBQ-A to be associated with lower ER and higher levels of depressive and anxious symptoms (Auerbach et al., 2007a; Auerbach et al., 2010; Auerbach, Kertz, Gardiner, 2012). Previous studies have also demonstrated discriminant

validity to impulsiveness and maladaptive coping strategy measures with a Cronbach's alpha ranging from 0.81 to 0.85 (Auerbach et al., 2010).

Cognitive Emotion Regulation Questionnaire (CERQ). The Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski et al., 2001) was used to assess the cognitive ER strategies of the participants in response to negative life events. The CERQ is a 36-item self-report measure that includes nine distinct scales of conceptually distinct ER strategies: (1) self-blame, (2) acceptance, (3) rumination, (4) positive refocusing, (5) refocus on planning, (6) positive reappraisal, (7) putting into perspective, (8) catastrophizing, and (9) blaming others. Total scores for each scale represents a sum of four items relating to that specific ER strategy, with item responses ranging from one (almost never) to five (almost always). Scale total scores thus range from a minimum of 4 to a maximum of 20, with higher scores indicating greater use of the cognitive ER strategy in response to negative life events. The nine subscales have a Cronbach's alphas ranging from 0.68 to 0.83 and test-retest correlations after 5 months ranging from 0.41to 0.59 (Garnefski et al., 2001). The CERQ-Adaptive scale sums participant scores for the acceptance, positive refocusing, refocus on planning, positive reappraisal, and putting into perspective scales, and thus ranges from a minimum of 20 to a maximum of 100. The CERQ-Maladaptive scale sums participant scores for the self-blame, rumination, catastrophizing, and blaming others scales, and thus ranges from a minimum of 16 to a maximum of 80.

Regulation of Emotions Questionnaire (REQ). The Regulation of Emotions Questionnaire (REQ; Phillips & Power, 2007) was used to assess the

frequency in which adolescents report use of ER strategies that are both internal to the individual (cognitive) and/or external (behavioural). The REQ is a 21-item self-report measure that includes four distinct scales for ER strategies: (1) internal-dysfunctional; (2) internal-functional; (3) external-dysfunctional; and (4) external-functional. Each item contains a statement that the individual must rate in terms of the extent to which s/he feels it applies to them on 5-point Likert scale with possible responses ranging from never, seldom, often, very often, to always. Examples of items pertaining to each scale include: "I harm or punish myself in some way (internal-dysfunctional); "I review/rethink my beliefs" (internal-functional); "I take my feelings out on other people verbally or physically" (external-dysfunctional); "I talk to someone about how I feel" (external-functional). Higher total scores on the scale indicate greater use of that strategy. The REQ has a Cronbach's alpha ranging from 0.66 to 0.76 and demonstrates validity in relation to other emotional and behavioural problems (Phillips & Power, 2007).

Procedure

Two research assistants attended the classroom of students at each school to explain the purpose of the research and distribute consent forms to be signed by the students' parents. The research assistants returned the following week and brought students who had returned their completed consent forms to the school library to participate in the study. Participants were reminded of the purpose of the research and their rights to decline participation at any point during the study or leave questions blank without penalty. Furthermore, the research assistants

explained the participants' rights to confidentiality, except in the cases where responses indicate a potential threat of harm to themselves or others. Finally, the participants were given instructions for completing the 15 to 20 minute questionnaire package containing the RBQ, REQ, CERQ, and demographics form, and were informed that compensation for their participation would be a raffle ticket to win a prize of an iPod or one of ten pairs of movie tickets.

Statistical Analysis Overview

All statistical analyses were performed using IBM SPSS Statistics Version 20 (IBM Corp., Armonk NY). Differences between males and females in the sample were found with regard to mean age, $t(98) = 2.04$, $p = .04$, whereby females ($M = 15.42$, $SD = 1.30$) were on average older than males ($M = 14.80$, $SD = 1.71$). As such, participant age was controlled for in all statistical analyses. First, two multivariate analyses of covariance (MANCOVA) were performed to investigate the effects of gender on the use of specific cognitive ER strategies and the effects of gender on the use of internal and external ER strategies, controlling for the effects of age. An ANCOVA was also performed to investigate gender differences for engagement in risky behaviours, controlling for the effects of age. Then, two correlation analyses were performed examining the relation between risky behaviours and ER in males and females separately. Finally, three hierarchical multiple regressions were performed to investigate the ability of internal/external ER to predict risky behaviours for the total sample, males, and females, separately, consistent with statistical analyses of similar variables in previous research (Bender et al., 2012; Garnefski et al., 2004).

Results

Data Screening Procedures

Before conducting the analyses, the distributions of scores for all study variables for both males and females were examined and prepared for multivariate analysis.

Univariate and multivariate outliers. Five univariate outliers were detected using a z-score cut-off of 3.29, $p < .001$ (Tabachnick & Fidell, 2001). The first univariate outlier was a case identified for a female on the CERQ-Catastrophizing variable, ($Z = 4.28$, $p < .001$). The value of the univariate outlier score was replaced using the mean plus two standard deviations method, decreasing the Z-score to a value of 2.69, $p > .001$ (Field, 2009). Replacing this score changed the mean and standard deviation of CERQ-Catastrophizing for females from $M = 8.40$ $SD = 2.71$, to $M = 8.28$, $SD = 2.29$. The second univariate outlier was a case identified for a male on the REQ-ExternalDysfunctional variable, $Z = 3.74$, $p < .001$. The value of the univariate outlier score was replaced using the mean plus two standard deviations method, decreasing the Z-score to a value of 2.74, $p > .001$ (Field, 2009). Replacing this score changed the mean and standard deviation of REQ-ExternalDysfunctional for males from $M = 9.04$, $SD = 3.19$, to $M = 8.92$, $SD = 2.83$. The final three outliers were cases on the RQB-Total scale, $Z = 3.61$, Z = 3.47, Z = 3.40 $p < .001$. The value of the univariate outlier scores were each replaced using the mean plus two standard deviations method, decreasing the Z-score to a values to 2.56, 2.22, and 2.56, respectively (Field, 2009). Replacing these scores changed the mean and standard deviation of

RBQ-Total from $M = 15.74$, $SD = 11.62$, to $M = 15.40$, $SD = 10.62$ for males, and $M = 8.92$, $SD = 9.45$, to $M = 8.36$, $SD = 7.68$ for females. No multivariate outliers were identified using Mahalanobis distance *X2* distribution, with a conservative probability estimate of $p < .001$ (Tabachnick & Fidell, 2001).

Normality. All of the study variables were normally distributed according to calculated skewness statistics of < 3.2. One variable, CERQ-catastrophizing, initially had a positive kurtosis of 4.82 ($SE = .656$), however the kurtosis became insignificant when the univariate outlier was corrected, changing to a kurtosis of -.096 ($SE = .662$).

Descriptive Statistics

Descriptive statistics and calculated skewness and kurtotis for all study variables in the total sample, as well as for males and females separately, are presented in Table 1, 2, and 3, respectively.

Table 1

Descriptive Statistics for Study Variables for Total Sample (N = 100)

Study variable		*SD*	Min	Max	Skew (*SE* = 0.24)	Kurtosis (*SE* = 0.48)
Acceptance	12.24	3.33	4	20	0.02	-0.52
Positive refocusing	10.64	4.03	4	19	0.22	-0.69
Refocus on planning	11.77	3.64	4	20	0.04	-0.12
Positive reappraisal	11.92	3.80	4	20	-0.02	-0.41
Putting into perspective	12.42	3.69	4	20	-0.02	-0.40
Self-blame	10.46	3.39	4	19	0.41	-0.13
Other-blame	8.17	2.93	4	20	1.32	3.23
Rumination	10.99	3.19	4	18	-0.05	-0.43
Catastrophizing	9.03	3.21	4	20	0.73	0.92
Internal dysfunctional	8.97	3.37	4	20	0.87	0.59
Internal functional	11.27	2.97	5	20	0.31	-0.04
External dysfunctional	8.17	2.50	5	15	0.66	-0.29
External functional	16.78	4.32	7	26	-0.18	-0.58
Risky behaviours	11.88	9.88	0	39	0.90	0.06
Age	15.11	1.54	12	19	0.17	-0.62

Table 2

Descriptive Statistics for Study Variables for Males Only (n = 50)

Study Variable	*M*	*SD*	Min	Max	Skew (*SE* = 0.34)	Kurtosis (*SE* = 0.66)
Acceptance	11.44	2.91	4	18	-0.19	-0.07
Positive refocusing	10.60	4.01	4	19	0.02	-0.67
Refocus on planning	11.48	3.91	4	20	-0.04	-0.11
Positive reappraisal	11.40	3.86	4	20	-0.22	-0.34
Putting into perspective	11.02	3.25	4	19	0.16	0.25
Self-blame	10.08	3.28	4	18	0.02	-0.45
Other-blame	8.60	3.46	4	20	1.27	2.28
Rumination	10.02	2.60	4	15	0.27	-0.08
Catastrophizing	9.78	3.80	4	20	0.48	0.05
Internal dysfunctional	8.60	3.57	4	20	1.09	1.04
Internal functional	10.76	2.87	5	20	0.80	0.98
External dysfunctional	8.92	2.83	5	15	0.20	-0.90
External functional	16.30	3.73	7	23	-0.42	-0.57
Risky behaviours	15.40	10.62	0	39	0.61	-0.62
Age	14.80	1.71	12	19	0.53	-0.45

Table 3

Descriptive Statistics for Study Variables for Females Only (n = 50)

Study Variable	*M*	*SD*	Min	Max	Skew (*SE* = 0.34)	Kurtosis (*SE* = 0.66)
Acceptance	13.04	3.56	6	20	-0.10	-0.91
Positive refocusing	10.68	4.09	4	19	0.41	-0.68
Refocus on planning	12.06	3.37	5	20	0.26	-0.29
Positive reappraisal	12.44	3.71	6	20	0.23	-0.75
Putting into perspective	13.82	3.58	5	20	-0.37	-0.18
Self-blame	10.84	3.48	5	19	0.72	-0.14
Other-blame	7.74	2.23	4	15	0.55	1.03
Rumination	11.96	3.45	5	18	-0.35	-0.57
Catastrophizing	8.28	2.29	4	14	0.15	-0.10
Internal dysfunctional	9.34	3.15	4	18	0.71	0.42
Internal functional	11.78	3.01	5	19	-0.14	-0.18
External dysfunctional	7.42	1.85	5	13	0.91	0.74
External functional	17.26	4.83	7	26	-0.19	-0.77
Risky behaviours	8.36	7.68	0	28	1.04	0.53
Age	15.42	1.295	13	18	-0.08	-0.60

Gender Differences in Use of Specific Cognitive Emotion Regulation Strategies

A one-way multivariate analysis of covariance (MANCOVA) was performed to determine the effects of gender on adolescent use of specific cognitive ER strategies, controlling for the effects of age. Gender differences for nine specific cognitive ER strategies were assessed, as measured by the CERQ: acceptance, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, self-blame, other-blame, rumination, and catastrophizing.

No multicollinearity was found among the variables, and scatterplots revealed approximately linear relationships between the variable scores for each gender. The assumption of homogeneity of variance-covariances matrices was met as assessed by Box's M test of equality of covariance matrices ($p > .001$). Levene's tests revealed the assumption of equality of variance was met for all but two dependent variables at $\alpha = .05$, namely CERQ-Catastrophizing ($F(1,98) = 12.75$, $p = .001$) and CERQ-OtherBlame ($F(1,98) = 4.02$, $p = .048$). Given the violation of this assumption, a more conservative critical alpha level of 0.01 rather than the conventional 0.05 was used to determine the significance of the F-test for these two variables only (Tabachnick & Fidell, 2001).

Results of the MANCOVA revealed a significant gender difference for the combined dependent variables, $F(9,89) = 4.23$, $p = .000$, Wilks $\Lambda = .70$. Follow-up tests of univariate effects controlling for age revealed that females reported significantly more use of acceptance, putting into perspective, and rumination than males. Table 4 provides a summary of the MANCOVA results.

Table 4

Gender Differences in Reported Use of Specific Cognitive Emotion Regulation Strategies (N = 100)

Strategy	*M* Male	*M* Female	*df*	df_{error}	*F*	*Partial* η^2	Power
Acceptance	11.44	13.04	1	97	4.83*	0.05	.585
Positive refocusing	10.60	10.68	1	97	0.00	0.00	.050
Refocus on planning	11.48	12.06	1	97	0.12	0.00	.064
Positive reappraisal	11.40	12.44	1	97	0.89	0.01	.154
Putting into perspective	11.02	13.82	1	97	14.48**	0.13	.065
Self-blame	10.08	10.84	1	97	0.73	0.01	.136
Other-blame	8.60	7.74	1	97	1.86	0.02	.271
Rumination	10.02	11.96	1	97	7.27**	0.07	.761
Catastrophizing	9.78	8.28	1	97	5.58	0.05	.647

Notes: Scores for each strategy are from the CERQ

* $p < .05$, ** $p < .01$

Gender Differences in Use of Internal and External Emotion Regulation Strategies

A one-way MANCOVA was performed to determine the effects of gender on adolescent use of internal and external ER strategies, controlling for the effects of age. Gender differences for four dependent variables were assessed: internal-functional, internal-dysfunctional, external-functional, and external-dysfunctional.

No multicollinearity was found among the variables, and scatterplots revealed approximately linear relationships between the variable scores for each gender. The assumption of homogeneity of variance-covariance matrices was met as assessed by Box's M test of equality of covariance matrices ($p > .001$). Levene's tests revealed the assumption of equality of variance was met for all but two dependent variables at $\alpha = .05$, namely REQ-ExternalDysfunctional ($F(1,98) = 10.47$, $p = .002$) and REQ-ExternalFunctional ($F(1,98) = 4.75$, $p = .032$). Given the violation of this assumption, a more conservative critical alpha level of 0.01 rather than the conventional 0.05 was used to determine the significance of the F-test for these two variables only (Tabachnick & Fidell, 2001).

Results of the MANCOVA revealed a significant difference between males and females on the combined dependent variables, $F(4,94) = 3.680$, $p = .008$, Wilk's $\Lambda = .865$; partial $\eta^2 = .135$, power = .866. Follow-up ANCOVA tests of univariate effects controlling for age revealed that males reported using significantly more external-dysfunctional strategies to regulate emotions than females. Table 5 provides a summary of the MANCOVA results.

Table 5

Gender Differences in Reported Use of Internal/External Emotion Regulation Strategies (N = 100)

Dependent Variable	*M* Male	*M* Female	*df*	df_{error}	*F*	Partial η^2	*Power*
Internal dysfunctional	8.60	9.34	1	97	1.33	0.01	.207
Internal functional	10.76	11.78	1	97	1.91	0.02	.277
External dysfunctional	8.92	7.42	1	97	8.87**	0.08	.839
External functional	16.30	17.26	1	97	1.38	0.01	.214

Notes: $p < .01$. Scores for each variable are from the REQ.

Gender Differences in Risky Behaviour Engagement

To examine gender differences in risky behaviour engagement a one-way ANCOVA was performed with gender as the independent variable, total risky behaviour score (RBQ-A Total) as the dependent variable, and age as a covariate.

Levene's tests revealed the assumption of equality of variance was violated, $F(1,98) = 7.57$, $p = .007$. Given the violation of this assumption, a more conservative critical alpha level of 0.01 rather than the conventional 0.05 was used to determine the significance of the F-test (Tabachnick & Fidell, 2001).

Results of the ANCOVA indicated a significant difference between males and females in risky behaviour engagement, $F(1,97) = 12.94$, $p = .001$, partial $\eta^2 = .118$. Specifically, males ($M = 15.40$, $SD = 10.62$) reported significantly higher levels of risky behaviour engagement than females ($M = 8.36$, $SD = 7.68$).

Gender-Specific Correlations Among Study Variables

Separate correlation matrices for males and females were produced to examine gender differences in the relations between risky behaviour engagement, specific ER strategy use, and internal/external ER strategy use. Table 6 and 7 illustrate the correlation matrix of the study variables for males and females, respectively.

Risky behaviours and specific cognitive emotion regulation strategy use. For males, significant correlations were found between risky behaviours and the specific cognitive ER strategies of refocus on planning ($r(48) = -.37$, $p < .01$, $R^2 = .14$), positive reappraisal ($r(48) = -.34$, $p < .05$, $R^2 = .11$), and catastrophizing ($r(48) = .29$, $p < .05$, $R^2 = .09$). For females, a significant correlation was found between risky behaviours and the specific cognitive ER strategy of positive refocusing ($r(48) = -.38$, $p < .01$, $R^2 = .14$).

Risky behaviours and internal/external emotion regulation strategy use. A significant correlation was found between risky behaviours and external dysfunctional ER for both males ($r(48) = .52$, $p < .01$, $R^2 = .27$) and females ($r(48) = .32$, $p < .05$, $R^2 = .10$). Risky behaviours was also significantly correlated with internal dysfunctional ER for females only ($r(48) = .48$, $p < .01$, $R^2 = .23$).

Table 6

Correlations Among Study Variables, Males Only (n = 50)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	-															
2.	0.14	-														
3.	0.28	.62**	-													
4.	.30*	.55**	.77**	-												
5.	0.15	.43**	.63**	.68**	-											
6.	.50**	-0.06	0.12	0.07	-0.06	-										
7.	0.05	.31*	0.22	0.15	0.17	-0.01	-									
8.	.55**	.35*	.46**	.40**	0.17	.63**	0.08	-								
9.	0.22	0.14	0.1	0.07	0.16	.53**	.32*	.42**	-							
10.	0.18	-0.06	-0.12	-0.2	-0.13	.57**	0.01	.30*	.39**	-						
11.	-0.02	.43**	.51**	.37**	.36*	0.09	0.01	0.27	-0.08	0.26	-					
12.	-0.07	-0.09	-.29*	-.38**	-0.2	0.09	.29*	0.01	.42**	.39*	-0.07	-				
13.	-0.16	0.24	.35*	0.24	0.27	-0.1	0.16	0.22	0.1	0.11	.30*	-0.09	-			
14.	-0.01	-0.18	-.37**	-.34*	-0.18	0.12	0.2	-0.2	.29*	0.24	-0.26	.52**	-0.22	-		
15.	0.19	0.1	.32*	.28*	0.1	0.2	-0.12	.340*	-0.09	-0.06	.31*	-0.13	-0.11	-0.08	-	
16.	.45**	.76**	.89**	.89**	.77**	0.13	0.25	.56**	0.17	-0.10	.46**	-0.28	0.27	-.297*	0.26	-
17.	.43**	.29*	.33*	0.24	0.19	.73**	.51**	.68**	.84**	.47**	0.14	.317*	0.14	0.15	0.10	.38**

Note. 1 = Acceptance, 2 = Positive refocusing, 3 = Refocus on planning, 4 = Positive reappraisal, 5 = Putting into perspective; 6 = Self-blame, 7 = Other-blame, 8 = Rumination, 9 = Catastrophizing, 10 = Internal dysfunctional, 11 = Internal functional, 12 = External dsyfunctional, 13 = External functional, 14 = Risky behaviours, 15 = Age, 16 = CERQ-Adaptive, 17 = CERQ Maladaptive

* $p < .05$, ** $p < .01$

Table 7

Correlations Among Study Variables, Females Only (n = 50)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	-															
2.	0.19	-														
3.	.34*	.50**	-													
4.	.30*	.54**	.65**	-												
5.	.51**	.33*	.36**	.54**	-											
6.	.42**	-0.04	.33*	0.11	0.01	-										
7.	0.22	-0.08	.30*	0.18	0.22	0.18	-									
8.	.58**	0.24	.49**	.34*	.39**	.47**	.51**	-								
9.	.28*	0.06	0.15	0.03	0.07	0.22	.30*	0.26	-							
10.	.38**	-0.19	0.14	-0.05	0.13	.53**	.32*	.49**	0.2	-						
11.	.33*	0.16	0.22	.29*	0.2	0.2	0.12	.49**	-0.05	0.22	-					
12.	-0.07	-0.25	-0.18	-0.2	-0.15	0.06	0.18	0.08	0.11	.43**	-0.12	-				
13.	0.00	0.09	0.05	0.11	0.15	-0.06	0.07	0.17	-0.09	-0.01	.51**	-0.08	-			
14.	0.05	-.38**	-0.12	-0.19	-0.18	0.16	0.07	-0.01	-0.07	.48**	-0.09	.32*	-0.12	-		
15.	0.02	0.05	0.06	0.12	0.11	0.03	0.13	0.16	0.25	-0.01	-0.01	0.14	0.01	0.00	-	
16.	0.63**	0.72**	0.77**	0.82**	0.74**	0.21	0.22	0.55**	0.16	0.10	0.32*	-0.24	0.11	-0.23	0.10	-
17.	0.57**	0.10	.46**	0.26	0.25	0.71**	0.65**	0.83**	0.59**	0.58**	0.31*	0.14	0.05	0.05	0.20	.43**

Note. 1 = Acceptance, 2 = Positive refocusing, 3 = Refocus on planning, 4 = Positive reappraisal, 5 = Putting into perspective; 6 = Self-blame, 7 = Other-blame, 8 = Rumination, 9 = Catastrophizing, 10 = Internal dysfunctional, 11 = Internal functional, 12 = External dsyfunctional, 13 = External functional, 14 = Risky behaviours, 15 = Age, 16 = CERQ-Adaptive, 17 = CERQ Maladaptive

* $p < .05$, ** $p < .01$

Prediction of Adolescent's Engagement in Risky Behaviours by Use of Internal/External Emotion Regulation Strategy

Three hierarchical multiple regressions were performed on the data. First an hierarchical multiple regression was performed on the total sample, investigating the predictive value of internal and external ER (internal-functional, external-functional, internal-dysfunctional, external-dysfunctional), on risky behaviour total scores (RBQ-Total), controlling for the effects of age and gender. To examine whether the same variables predicted risky behaviours in males and females, the total sample was divided into only males and only females and two addition regression analyses were run for each gender with age entered in step 1 and the four types of strategies entered in step 2.

Examination of multiple regression assumptions. Preliminary analyses were conducted to ensure the assumptions for each of the three multiple regressions were met. The assumption of independence of residuals was met, as assessed by a Durbin-Watson statistic of 2.29, 2.18, and 2.80 for the total sample, males only, and females only, respectively. The assumptions of linearity, normality, and homoscedasticity were met for all three analyses as assessed by partial regression scatterplots of the studentized residuals against the unstandardized predicted values. Multicollinearity was assumed for each analysis as assessed by tolerance and VIF statistics (Tabachnick & Fidell, 2007). Casewise diagnostics revealed one case for females to be a potentially unusual data point, with a standardized residual of 3.42, $p < .001$. No unusual data points were identified for males only or the total sample. Given no cases had high leverage

points and Cooks Distance test for influential points emerged non-significant, all cases were preserved in the analyses.

Results for the regression on total sample (*N = 100*). Age and gender were entered in step one to control for these covariates, and the four internal and external regulation strategies (REQ-InternalFunctional, REQ-ExternalFunctional, REQ-InternalDysfunctional, REQ-ExternalDysfunctional) were entered in step two. The model summary indicates that age and gender entered in block one significantly predicted 13% of the variance in risky behaviours (R^2 = .13, F(2,97) = 7.30, p = .001). Specifically, Gender accounted for 12% of the variance in risky behaviours in step one (ß = -.34, t(99) = -3.60, p = .00), while age did not make a significant contribution to the model. The four types of ER strategies entered in step two explained an additional 25% of the variance in risky behaviours after controlling for age and gender (ΔR^2 = .25, ΔF(4, 93) = 9.21, p = .00), with the overall model significantly predicting 38% of the variance in risky behaviours (R^2 = .38, F(6,93) = 9.40, p = .00).

An analysis of the specific contributions of the four variables in the overall model indicated that REQ-ExternalDysfunctional contribute most significantly to the prediction of risky behaviours in the total sample and uniquely explained 9% of the variation in risky behaviour scores (ß = .34, t(49) = 3.57, p = .00). Gender was also significant, explaining 7% of the variation in risky behaviour scores (ß = -.25, t(49) = -2.72 p = .01). Finally, REQ-InternalDsyfunctional was also significant, and explained 4% of the variation in risky behaviour scores (ß = .24, t(49) = 2.56, p = .01). Age, REQ-InternalFunctional, and REQ-ExternalFunctional

did not emerge as significant predictors of risky behaviours. Table 9 provides a summary of the regression results for the total sample.

Table 9

Regression Predicting Risky Behaviours From Internal and External Emotion Regulation Strategies for Total Sample (N = 100)

		B	*SE B*	β	Sig.	Partial Corr
Step 1	(Constant)	27.11	9.25		0.00	
	Age	-0.33	0.62	-0.05	0.60	-0.05
	Gender	-6.84	1.90	-0.35**	0.00	-0.34
Step 2	(Constant)	11.34	9.59		0.24	
	Age	-0.02	0.55	0.00	0.98	0.00
	Gender	-4.81	1.77	-0.25**	0.01	-0.27
	Internal Dysfunctional	0.70	0.27	0.24**	0.01	0.26
	Internal Functional	-0.58	0.33	-0.18	0.08	-0.18
	External Dysfunctional	1.33	0.37	0.34**	0.00	0.35
	External Functional	-0.15	0.21	-0.07	0.47	-0.07

Notes: Dependent variable = total risky behaviours (RBQ-Total)

R^2 = .13, $F(2,97) = 7.30$ for Step 1 (p = .001), Δ R^2 = .25, $\Delta F(4, 93) = 9.21$ for Step 2 (p = .00), R^2 = .38, $F(6,93) = 9.40$ for overall model (p = .00)

*$p < .05$, **$p < .01$

Result for regression on males only (*n* = 50). Age was entered in step one to control for this potential covariate, and the four internal and external regulation strategies (REQ-InternalFunctional, REQ-ExternalFunctional, REQ-InternalDysfunctional, REQ-ExternalDysfunctional) were entered in step two. The model summary indicates that age entered in step one did not significantly predict variance in risky behaviours (R^2 = .01, F(1,48) = .33, p = .57). The four types of ER strategies entered in step two explained an additional 36% of the variance in risky behaviours after controlling for age (ΔR^2 = .36, ΔF(4, 44) = 6.13, p = .00), with the overall model significantly predicting 36% of the variance in risky behaviours (R^2 = .36, F(5,44) = 5.00, p = .00).

An analysis of the specific contributions of the four variables in the overall model indicated that only REQ-ExternalDysfunctional emerged as a significant predictor of risky behaviours for males, and uniquely explained 17% of the variation in risky behaviour scores for males (ß = .44, t(49) = 3.40, p = .00). Table 10 provides a summary of the regression results for males only.

Table 10

Regression Predicting Risky Behaviours From Internal and External Emotion Regulation Strategies for Males Only (n = 50)

		B	*SE B*	β	Sig.	Partial Corr
Step 1	(Constant)	23.01	13.28		0.09	
	Age	-0.51	0.89	-0.08	0.57	-0.08
Step 2	(Constant)	7.14	14.54		0.63	
	Age	0.32	0.82	0.05	0.70	0.06
	Internal Dysfunctional	0.52	0.40	0.18	0.20	0.19
	Internal Functional	-0.95	0.52	-0.26	0.08	-0.27
	External Dysfunctional	1.66	0.49	0.44**	0.00	0.46
	External Functional	-0.34	0.37	-0.12	0.36	-0.14

Notes: Dependent variable = total risky behaviours (RBQ-Total)

R^2 = .01, $F(1,48)$ = .33, for Step 1 (p = .57), ΔR^2 = .36, $\Delta F(4, 44)$ = 6.13 for Step 2 (p = .00), R^2 = .36, $F(5,44)$ = 5.00, for overall model (p = .00)

*p < .05, **p < .01

Result for the regression on females only (*n* = 50). Age was entered in step one to control for this potential covariate, and the four internal and external regulation strategies (REQ-InternalFunctional, REQ-ExternalFunctional, REQ-InternalDysfunctional, REQ-ExternalDysfunctional) were entered in step two. The model summary indicates that age entered in step one did not significantly predict variance in risky behaviours (R^2 = .00, F(1,48) = .00, p = .99). The four types of ER strategies entered in step two explained an additional 28% of the variance in risky behaviours after controlling for age (ΔR^2 = .28, ΔF(4, 44) = 4.17, p = .01), with the overall model significantly predicting 28% of the variance in risky behaviours (R^2 = .28, F(5,44) = 3.34, p = .01).

An analysis of the specific contributions of the four variables in the overall model indicated that only REQ-InternalDysfunctional emerged as a significant predictor of risky behaviours for females, and uniquely explained 16% of the variation in risky behaviour scores for females (ß = .48, t(49) = 3.14, p = .01). Table 11 provides a summary of the regression results for females only.

Table 11

Regression Predicting Risky Behaviours From Internal and External Emotion Regulation Strategies for Females Only (n = 50)

		B	*SE B*	β	Sig.	Partial Corr
Step 1	(Constant)	8.47	13.25		0.53	
	Age	-0.01	0.86	0.00	0.99	0.00
Step 2	(Constant)	1.45	12.92		0.91	
	Age	-0.07	0.77	-0.01	0.93	-0.01
	Internal Dysfunctional	1.16	0.37	0.48**	0.00	0.43
	Internal Functional	-0.45	0.41	-0.18	0.28	-0.16
	External Dysfunctional	0.39	0.62	0.09	0.53	0.09
	External Functional	-0.02	0.24	-0.02	0.92	-0.02

Notes: Dependent variable = total risky behaviours (RBQ-Total)

R^2 = .00, $F(1,48)$ = .00 for Step 1 (p = .99), ΔR^2 = .28, $\Delta F(4, 44)$ = 4.17 for Step 2 (p = .01), $R2$ = .28, $F(5,44)$ = 3.34 for overall model (p = .01)

*p < .05, **p < .0.01

Discussion

The current study first investigated gender differences in adolescent reported use of cognitive ER strategies employed following an adverse event. Specifically, the analysis indicated that females were more likely than males to report employing the adaptive cognitive ER strategies of acceptance and putting into perspective, as well as the maladaptive cognitive ER strategy of rumination following the experience of a negative event. The study also investigated gender-specific correlations between adolescent reported cognitive ER strategies and their engagement in risky behaviours. For males, significant negative correlations were found between the adaptive cognitive ER strategy of refocus on planning and positive reappraisal whereby as their use of these adaptive strategies increased, their reported engagement in broad-based risky behaviours decreased. A significant positive correlation between catastrophizing and risky behaviour engagement for males also emerged, indicating that as their use of the maladaptive strategy of catastrophizing increased so did their reported engagement in broad-based risky behaviours. For females, a significant negative correlation was only found for positive refocusing, indicating that as their use of this adaptive cognitive ER strategy increased, their engagement in broad-based risky behaviours decreased. The current study also investigated gender differences in adolescent reported use of cognitive and behavioural ER strategies employed following an adverse event. The findings indicated that males were more likely than females to report using maladaptive behavioural ER strategies following the experience of an adverse event. Finally, the current study investigated gender differences in the relationship between adolescent reported uses of cognitive and

behavioural ER strategies following an adverse event, and their engagement in broad-based risky behaviours. Gender differences were identified for this relationship, whereby only maladaptive behavioural strategies for males, and only maladaptive cognitive strategies for females, significantly predicted broad-based risky behaviour engagement.

The current study provides support for the hypothesis of gender differences in adolescent reported use of cognitive ER strategies. Previous research has demonstrated gender differences in the cognitive ER strategies of positive refocusing, rumination, and catastrophizing whereby females report greater use of the cognitive ER strategies than males (Garnefski & Kraaj, 2006). The current study replicated this finding for rumination, however not for positive refocusing or catastrophizing. Instead, the current study found females also reported greater use of acceptance and putting into perspective. The current findings indicate that while gender differences in rumination are more salient, gender differences in the use of other cognitive ER strategies are less clear. Future research continuing to investigate gender differences in adolescent use of cognitive ER strategies as measured by the CERQ is needed to better understand gender differences in the use of other cognitive ER strategies.

Gender differences were also identified in the relation between adolescent reported cognitive ER strategy use and engagement in broad-based risky behaviours. For males, as their use of the adaptive cognitive strategies of refocus on planning and positive reappraisal increased, their reported engagement in broad-based risky behaviours decreased. For females, a significant negative

correlation was only found for the adaptive strategy of positive refocusing whereby as their use of this adaptive cognitive ER strategy increased, their engagement in broad-based risky behaviour decreased. In line with my hypothesis, the direction of the relation between the cognitive ER strategies with engagement in broad-based risky behaviours remained the same for males and females. Specifically, what was considered an adaptive or maladaptive strategy for male risky behaviour engagement was similarly an adaptive or maladaptive strategy for female risky behaviour engagement. This finding corroborates previous research indicating that the relationship between ER and mental health outcomes for men and women remain the same (Garnefski et al., 2004).

Gender differences were also found for adolescent reported use of adaptive and maladaptive cognitive and behavioural ER strategies, whereby males reported significantly greater use of maladaptive behavioural strategies following a negative event compared to females. Contrary to my hypothesis, females did not significantly differ in their reported use of adaptive and maladaptive cognitive strategies. However, gender differences were found in the predictive relationship between ER strategies and engagement in broad-based risk behaviours. As predicted, it was found that maladaptive behavioural ER strategies most significantly predicted broad-based risky behaviour engagement in males, and maladaptive cognitive ER strategies most significantly predicted broad-based risky behaviour engagement in females. Adaptive cognitive and/or behavioural er strategies did not emerge as significant predictors of broad-based risky behaviour engagement for males or females. This finding is important for two reasons. First,

it is consistent with the stress-vulnerability hypothesis of adolescent engagement in risky behaviour, whereby only adolescents who report an underlying vulnerability of maladaptive ER following the stress of an adverse event are also significantly more likely to engage in risky behaviour (Cooper et al., 2003). Supporting previous research, the current study also points to difficulty regulating emotion as a central feature of risky behaviour engagement in adolescence (e.g., Cooper et al., 2003; Eisenberg et al., 1995; Hessler & Katz, 2010).

The current study extends the literature by implicating which types of ER difficulties are most important for males and females. Specifically, the current study points to behavioural ER difficulties as most pertinent for males, and cognitive ER difficulties as most pertinent for females' engagement in broad-based risky behaviours. Based on Problem Behaviour Theory (Jessor & Jessor, 1997), which states that the expression of adolescent problem behaviour is the result of an underlying emotional cause, it is proposed that the differential relations between ER difficulties and risky behaviour engagement found in this study are due to differences in the type of underlying emotional difficulties experienced between males and females. This view is supported by a meta-analysis examining 555 effect sizes of 166 studies on emotional expression that found a small yet significant gender difference in emotional expression, whereby females tend towards internalizing and males tend towards externalizing expressions of emotion (Chaplin & Aldao, 2013). Further research examining the behavioural, cognitive, and biological causes for underlying gender differences in emotional difficulties and ER is needed to clarify this relation.

Clinical Implications

The heightened stress and vulnerability associated with adolescence calls for the immediate development of strategies to aid these youth through the tumultuous psychological, social, and biological transitions characteristic of this life-stage. The results of the current study suggest ER plays a critical role in easing the transitions of adolescence, and in particular, mitigating adolescent engagement in a variety of risky behaviours that have the potential to significantly affect short- and long-term trajectories. It is critical that clinicians and researchers focus their efforts on the identification of youth at-risk for these problem behaviours, the development of intervention strategies for youth currently engaging in risky behaviours, and on prevention.

The current study suggests that adolescents reporting maladaptive ER strategies following the experience of a negative event are at heightened risk for engagement in risky behaviours. Building upon previous research, the current study also implicates gender differences in this relation, whereby maladaptive cognitive strategies for females, and maladaptive behavioural strategies for males, are most significantly associated with increased risky behaviour engagement. For clinicians, this is important information that highlights the need to delineate between and address both cognitive and behavioural strategies, and their differential importance for males and females. Assessing both adolescent cognitive and behavioural strategies gives clinicians a wider picture of true adolescent ER capacity, and increases the accuracy of identifying youth at risk for engagement in risky behaviours.

As identification methods using both cognitive and behavioural ER as indicators of adolescent difficulty improve, clinicians can also use these findings to develop more focused intervention programs. Specifically, the findings suggest that intervention programs aimed at reducing risky behaviour in adolescence should target both cognitive and behavioural aspects of ER, and tailor these interventions to the gender of the audience. Teaching adolescents to identify stress, to understand their maladaptive cognitive and behavioural reactions to stress, and providing them with new adaptive cognitive and behavioural strategies to manage their emotional reactions to stress should be key components of programs aimed at improving emotional regulation and reducing adolescent risky behaviours.

Finally, the current study also points to preventative education for pre-adolescents in schools as an avenue for addressing the stress of adolescence early. Besides teaching these youth adaptive ER strategies to employ following stress, clinicians may also aid by teaching stress management skills to help adolescents manage and reduce environmental stressors. Preparing youth for the stressors of adolescence, helping them understand their role in contributing to and/or mitigating their stress, and providing them with adaptive ER strategies to manage this stress is critical to prevent the development or exacerbation of unnecessary stress, maladaptive ER, and risky behaviour engagement.

Limitations and Future Directions

There are several limitations to the current study. First, in order to assess gender, participants were only asked whether they are male or female. Measures

beyond biological sex that investigate adolescent gender norm adherence may provide valuable information about how adolescent's emotion regulation is also influenced by personal gender identity. Future research in ER may consider a clearer delineation of human sex and gender identity differences to understand their separate roles for ER and their relation with risky behaviour engagement.

A second limitation to the current study is the use of self-report measures. For example when reporting on risky behaviour engagement, adolescents may be driven to over- or under-report engagement in different risky behaviours depending on their perception of peer and/or sociocultural pressures. Self-report ratings of ER strategies are similarly vulnerable to over or under report depending on the adolescent's level of self-awareness. To avoid response bias associated with self-report measures, future research may consider corroborating self-report with ratings from parents, teachers, or peers, or direct observation. Future studies may also consider asking participants to report on their risky behaviour and/or ER strategy use at multiple time points and in shorter intervals to improve accuracy of response and allow for an examination of risky behaviour and ER longitudinally.

More accurate data on ER strategies may also be obtained by using experience-sampling data collection, whereby adolescents are prompted immediately following the experience of negative emotion to report the strategy they feel most fits with their cognition or behaviour at that moment. Furthermore, more research is needed investigating the nature of the stressors and negative events that trigger particular maladaptive ER strategies, and later risky behaviour engagement. A better understanding of the nature of these stressors would further

aid in refining prevention and intervention strategies improving ER and mitigating risky behaviour engagement.

The current study is also limited in that it only investigated gender differences in specific cognitive ER strategies, and not specific behavioural strategy differences. Research in the field would benefit from the development of a behavioural ER strategy questionnaire in a similar format to the CERQ. The development of such a questionnaire would allow a more thorough investigation of specific behavioural ER strategy use, and their relation to risky behaviours.

Conclusion

The present study is the first to investigate gender differences in the relationship between adolescent use of behavioural and cognitive ER strategies. Furthermore, it is the first to investigate gender differences in the relationship between ER and adolescent engagement in risky behaviours. The findings indicate significant gender differences in adolescent self-report of cognitive and behavioural ER strategies, whereby males reported significantly greater engagement in maladaptive behavioural strategies than females. Furthermore, gender differences were found in the relationship between ER and engagement in risky behaviours, whereby only maladaptive behavioural ER significantly predicted risky behaviour engagement for males, and only maladaptive cognitive ER significantly predicted risky behaviour engagement for females. Future research directions include identifying the types of stressors that are most likely to trigger maladaptive ER strategy use for male and female adolescents, and the development of a behavioural ER strategy questionnaire for adolescents similar to

those available for cognitive ER strategies. The clinical implications of the current study are that both cognitive and behavioural ER strategies are important to consider when targeting adolescent risky behaviour, and that knowledge of gender differences in this relationship is critical to more effectively contribute to the identification, intervention, and prevention of maladaptive ER and risky behavior engagement in adolescence.

References

Albert, D., and Steinberg, L. (2011). Judgment and decision making in adolescence. *Journal on Research on Adolescence, 21*(1), 211-224. doi: 10.1111/j.1532-7795.2010.00724.x

Auerbach, R. P., Abela, J. R. Z., & Ho, M. R. (2007a). Responding to symptoms of depression and anxiety: Emotion regulation, neuroticism, and engagement in risky behaviours. *Behaviour Research and Therapy, 45*, 2182–2191. doi: 10.1016/j.brat.2006. 11.002

Auerbach, R. P., Abela, J. R. Z., Zhu, X., & Yao, S. (2007b). A diathesis-stress model of engagement in risky behaviours in Chinese adolescents. *Behaviour Research and Therapy, 45,* 2850–2860. doi: 10.1016/j.brat.2007.05.005

Auerbach, R. P., Claro, A., Abela, J. R. Z., Zhu, X., & Yao, S. (2010). Understanding risky behaviour engagement amongst Chinese adolescents. *Cognitive Therapy and Research*, *34*(2), 159–167. doi:10.1007/s10608-009-9238-x

Auerbach, R. P., Kertz, S., & Gardiner, C. K. (2012). Predicting adolescent risky behaviour engagement: The role of cognitive vulnerability and anxiety. *International Journal of Cognitive Therapy*, *5*(3), 300–315. doi:10.1521/ijct.2012.5.3.300

Bell, C. C., & McBride, D. F. (2010). Affect regulation and prevention of risky behaviours. *American Medical Association*, *304*(5), 565–566. doi: 10.1001/jama.2010.1058.

Bender, P. K., Reinholdt-Dunne, M. L., Esbjørn, B. H., & Pons, F. (2012). Emotion dysregulation and anxiety in children and adolescents: Gender differences. *Personality and Individual Differences*, *53*(3), 284–288. doi:10.1016/j.paid.2012.03.027

Bolen, R. M., Winter, V. R., & Hodges, L. (2013). Affect and state dysregulation as moderators of the relationship between childhood sexual abuse and nonsuicidal self-injury. *Journal of interpersonal violence*, *28*(1), 201–28. doi:10.1177/0886260512448844

Cappell, H., & Greeley, J. (1987). Alcohol and tension reduction: An update on research and theory. In H. T. Blane & K. E. Leonard (Eds.), *Psychological theories of drinking and alcoholism* (pp. 15–54). New York: Guilford Press.

Chaplin, T. M., & Aldao, A. (2013). Gender differences in emotion expression in children: A meta-analytic review. *Psychological bulletin*, *139*(4), 735–765. doi:10.1037/a0030737

Conger, J. J. (1956). Reinforcement theory and the dynamics of alcoholism. *Quarterly Journal of Studies on Alcohol,* 17, 296–305.

Cooper, M. L., Agocha, V. B., & Sheldon, M. S. (2000). A motivational perspective on risky behaviours: The role of personality and affect regulatory processes. *Journal of Personality, 68*, 1059-1088. doi: 10.1111/1467-6494.0012

Cooper, M. L., Russell, M., & George, W. H. (1988). Coping, expectancies, and alcohol abuse: a test of social learning formulations. *Journal of Abnormal Psychology, 97,* 218–230. doi:10.1037/0021-843X.97.2.218

Cooper, M. L., Shapiro, C. M., & Powers, A. M. (1998). Motivations for sex and sexual behaviour among adolescents and young adults: a functional perspective. *Journal of Personality and Social Psychology, 75*, 1528–1558. doi: 10.1037/0022-3514.75.6.1528

Cooper, M. L., Wood, P. K., Orcutt, H. K., & Albino, A. (2003). Personality and the predisposition to engage in risky or problem behaviours during adolescence. *Journal of Personality and Social Psychology, 84,* 390-410. doi:10.1037/0022-3514.84.2.390

Eisenberg, N. (2000). Emotion, regulation, and moral development. *Annual Review of Psychology, 51,* 665–697. doi: 10.1146/annurev.psych.51.1.665

Eisenberg, N., & Spinard, T. L. (2004). Emotion related regulation: Sharpening the definition. *Child Development, 75*(2), 334–339. doi: 10.1111/j.1467-8624.2004.00674.x

Eisenberg, N., Fabes, R. A., Murphy, B., Maszk, P., Smith, M., & Karbon, M. (1995). The role of emotionality and regulation in children's social functioning: A longitudinal study. *Child Development, 66,* 1360–1384. Retrieved from http://www.jstor.org/stable/1131652

Farber, S. K. (2008). Dissociation, traumatic attachments, and self-harm: Eating disorders and self-mutilation. *Clinical Social Work Journal*, *36*(1), 63–72. doi:10.1007/s10615-007-0104-6

Frone, M. R., Cooper, M. L., & Russell, M. (1994). Stressful life events, gender, and substance use: An application of Tobit regression. *Psychology of Addictive Behaviours, 8*, 59–69. doi: 10.1037/0893-164X.8.2.59

Garnefski, N., & Kraaij, V. (2006). Relationships between cognitive emotion regulation strategies and depressive symptoms: A comparative study of five specific samples. *Personality and Individual Differences*, *40*(8), 1659–1669. doi: 10.1016/j.paid.2005.12.009

Garnefski, N., Kommer, T. Van Den, Kraaij, V., Teerds, J., Legerstee, J., & Onstein, E. (2002). The relationship between cognitive emotion regulation strategies and emotional problems: Comparison between a clinical and a non-clinical sample. *European Journal of Personality*, *16*, 403–420. doi: 10.1002/per.458

Garnefski, N., Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and emotional problems. *Personality and Individual Differences*, *30*(8), 1311–1327. doi:10.1016/S0191-8869(00)00113-6

Garnefski, N., Kraaij, V., & van Etten, M. (2005). Specificity of relations between adolescents' cognitive emotion regulation strategies and internalizing and externalizing psychopathology. *Journal of Adolescence, 28*(5), 619–631. doi: 10.1016/j.adolescence.2004.12.009

Garnefski, N., Teerds, J., Kraaij, V., Legerstee, J., & Van den Kommer, T. (2004). Cognitive emotion regulation strategies and depressive symptoms: differences between males and females. *Personality and Individual Differences*, *36*(2), 267–276. doi:10.1016/S0191-8869(03)00083-7

Gross, J. J. (1998). Antecedent- and response-focused emotion regulation: Divergent consequences for expression, experience, and physiology. *Journal of Personality and Social Psychology*, 24,224–237. doi: 10.1037/0022-3514.74.1.224

Gross, J. J. (1999). Emotion and emotion regulation. In Pervin, L.A., & John, O.P. (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 525 – 552). New York: Guilford.

Herts, K. L., McLaughlin, K. A, & Hatzenbuehler, M. L. (2012). Emotion dysregulation as a mechanism linking stress exposure to adolescent aggressive behaviour. *Journal of abnormal child psychology*, *40*(7), 1111–22. doi:10.1007/s10802-012-9629-4

Hessler, D. M., & Katz, L. F. (2010). Brief report: Associations between emotional competence and adolescent risky behaviour. *Journal of Adolescence, 33*, 241-246. doi:10.1016/j.adolescence.2009.04.007

IBM Corp. Released 2011. IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.

Irwin Jr., C.E., Igra, V., Eyre, S., and Millstein, S. (1997). Risk-taking behaviour in adolescents: The paradigm. *Adolescent Nutritional Disorders: Prevention and Treatment*, 817, 1-35. doi: 10.1111/j.1749-6632.1997.tb48193.x

Izard, C. E., Woodburn, E. M., Finlon, K. J., Krauthamer-ewing, E. S., Grossman, S. R., Woodburn, E. M., Finlon, K. J., et al. (2011). Emotion knowledge, emotion utilization, and emotion regulation. *Emotion Review*, *3*(1), 44–52. doi:10.1177/1754073910380972

Jesssor, R., Turbin, M. S., Costa, F. M., Dong, Q., Zhang, H., & Wang, C. (2003). Adolescent problem behaviour in China and the United States: A cross-national study of psychosocial protective factors. *Journal of Research on Adolescence, 13,* 329–360. doi: 10.1111/1532-7795.1303004.

John, O. P., & Gross, J. J. (2004). Healthy and unhealthy emotion regulation: Personality processes, individual differences, and lifespan development. *Journal of Personality, 72,* 1301–1334. doi: 10.1111/j.1467-6494.2004.00298.x

Keating, D. P. (2004). Cognitive and brain development. In Lerner, R.J, and Steinberg, L.D. (Eds.), *Handbook of Adolescent Psychology* (2nd ed., pp. 45–84). New Jersey: John Wiley & Sons Inc

Kirchner T., Ferrer L., Forns M., Zanini D. (2011). Self-harm behavior and suicidal ideation among high school students. Gender differences and relationship with coping strategies. *Actas Esp Psiquiatr*, 39(4), 226-235.

Magar, E. C. E., Phillips, L. H., & Hosie, J. A. (2008). Self-regulation and risk-taking. *Personality and Individual Differences*, *45*(2), 153–159. doi: 10.1016/j.paid.2008.03.014

Martin, R. C., & Dahlen, E. R. (2005). Cognitive emotion regulation in the prediction of depression, anxiety, stress, and anger. *Personality and Individual Differences*, *39*, 1249–1260. doi: 10.1016/j.paid.2005.06.004

McGee, R., Wolfe, D., & Olson, J. (2001). Multiple maltreatment, attribution of blame, and adjustment among adolescents. *Development and psychopathology*, *13*(4), 827–46. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11771910

McRae, K., Ochsner, K. N., Mauss, I. B., Gabrieli, J. J. D., & Gross, J. J. (2008). Gender Differences in Emotion Regulation: An fMRI Study of Cognitive Reappraisal. *Group Processes & Intergroup Relations*, *11*(2), 143–162. doi:10.1177/1368430207088035

Michl, L. C., McLaughlin, K. A., Shepherd, K., & Nolen-Hoeksema, S. (2013). Rumination as a mechanism linking stressful life events to symptoms of depression and anxiety: Longitudinal evidence in early adolescents and adults. *Journal of Abnormal Psychology*, *122*(2), 339–352. doi:10.1037/a0031994

Mikolajczak, M., Petrides, K. V., & Hurry, J. (2009). Adolescents choosing self-harm as an emotion regulation strategy: The protective role of trait emotional intelligence. *The British Journal of Clinical Psychology, 48,* 181-193. doi: 10.1348/014466508X386027

Okoli, C., Greaves, L., & Fagyas, V. (2013). Sex differences in smoking initiation among children and adolescents. *Public health*, *127*(1), 3–10. doi:10.1016/j.puhe.2012.09.015

Pascual, A., Extebarria, I., Ortega, I., & Ripalda, A. (2012). Gender differences in adolescence in emotional variables relevant to eating disorders. *International Journal of Psychology and Psychological Therapy*, *12*(1), 59–68. Retrieved from http://www.ijpsy.com/volumen12/num1/317/gender-differences-in-adolescence-in-emotional-EN.pdf

Paus, T., et al. (1999) Structural maturation of neural pathways in children and adolescents: in vivo study. *Science, 283*, 1908–1911. doi: 10.1126/science.283.5409.1908

Phillips, K. F. V, & Power, M. J. (2007). A new self-report measure of emotion regulation in adolescents: The Regulation of Emotions Questionnaire. *Clinical Psychology and Psychotherapy*, *14*, 145–156. doi:10.1002/cpp

Racz, S. J., McMahon, R. J., & Luthar, S. S. (2013). Risky behaviour in affluent youth: Examining the co-occurrence and consequences of multiple problem behaviours. *Journal of Child Family Studies*, *20*(1), 120–128. doi:10.1007/s10826-010-9385-4.Risky

Reyna, V. F., and Casillas, W. (2009). Chapter even: Development and dual processes in moral reasoning: A uzzy-trace theory approach. *Psychology of Learning and Motivation*, 50. doi: 10.1016/S0079-7421(08)00407-6

Reyna, V. F., and Farley, F. (2006). Risk and rationality in adolescent decision making: Implications for theory, practice, and public Policy. *Psychological Science in the Public Interest, 7*(1), 1-44. doi:10.1111/j.1529-1006.2006.00026.x

Sheehan, C. M., Rogers, R. G., Williams, G. W., & Boardman, J. D. (2013). Gender differences in the presence of drugs in violent deaths. *Addiction*, *108*(3), 547–55. doi:10.1111/j.1360-0443.2012.04098.x

Sher, L., & Zalsman, G. (2005). Alcohol and adolescent suicide. *International Journal of Adolescent Medicine and Health, 17*, 197–203. doi: 10.1515/IJAMH.2005.17.3.197

Silk, J. S., Steinberg, L., & Morris, A. S. (2003). Adolescents' emotion regulation in daily life: Links to depressive symptoms and problem behaviour. *Child Development, 74,*1869-1880. doi:10.1046/j.1467-8624.2003.00643.

Southam-Gerow, M. A., & Kendall, P. C. (2002). Emotion regulation and understanding. Implications for child psychopathology and therapy. *Clinical Psychology Review, 22,* 189–222. doi: 10.1016/S0272-7358(01)00087-3

Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in Cognitive Sciences, 9,* 69-74. doi:10.1016/j.tics.2004.12.005

Steinberg, L., & Avenevoli, S. (2000). The role of context in the development of psychopathology: A conceptual framework and some speculative propositions. *Child Development, 71*, 66 – 74. PMID: 10836559

Steketee, M., Junger, M., & Junger-Tas, J. (2013). Sex differences in the predictors of juvenile delinquency: Females are more susceptible to poor environments; males are influenced more by low self-control. *Journal of Contemporary Criminal Justice*, *29*(1), 88–105. doi: 10.1177/1043986212470888

Stern, M. (2012). Storm and stress: An investigation of adolescents' use of behavioural and cognitive emotion regulation strategies and their engagement in risky behaviours. (Master's thesis). Retrieved from McGill Library Dissertations and Theses. (Thesis file number. [114437])

Sullivan, M. J. L., Bishop, S. R., & Pivik, J. (1995). The pain catastrophizing scale: development and validation. *Psychological Assessment, 7,* 524–532. doi: 10.1037/1040-3590.7.4.524

Thompson, R. A. (1994), Emotion regulation: A theme in search of definition. Monographs of the Society for Research in Child Development, 59(2), 25–52. doi: 10.1111/j.1540-5834.1994.tb01276.x

Wills, T. A. (1986). Stress and coping in early adolescence: Relationships to substance use in urban school samples. *Health Psychology, 5,* 503–529. PMID: 3492372

Zeman, J., Cassano, M., Perry-Parrish, C., & Stegall, S. (2006). Emotion regulation in children and adolescents. *Journal of Developmental and Behavioural Pediatrics, 27*, 155-168. doi: 10.1097/00004703-200604000-00014

Zlomke, K. R., & Hahn, K. S. (2010). Cognitive emotion regulation strategies: Gender differences and associations to worry. *Personality and Individual Differences, 48*(4), 408–413. doi:10.1016/j.paid.2009.11.007

Appendix A

RESEARCH CONSENT FORM

Institution:	Faculty of Education, McGill University
Title of Project:	Understanding the Influence of Emotion Regulation on Adolescents' Engagement in Risky Behaviors
Researchers:	Melissa Stern, M.A. Student School/Applied Child Psychology & Anthony Claro, M.A., PhD Student School/Applied Child Psychology
Project Supervisor:	Steven Shaw, PhD

Dear parent or legal guardian,

What is the purpose of the study?
The purpose of this study is to understand how adolescents' ability to control their emotions following a negative event is related to their participation in problem behaviors, which range from mild behaviors, such as lying to a friend or family member, skipping class, to more serious behaviors, such as bullying a peer, as well as aggressive behaviors. Your child's participation is this study is entirely voluntary and your child is allowed to refuse to participate in this task, decline to answer any question, or withdraw at any point from the project without penalty. In addition, your child's participation will have no effect on their academic performance at school.
The findings stemming from this study will be disseminated to a range of professionals including educators and psychologists through a Master's and a doctoral thesis, presentation at both national and international conferences, and article(s) in peer-reviewed, scientific journals.

What will my child be required to do?
Upon your written consent, your child will be asked to complete four questionnaires that pertain to their ability to regulate their emotions as well as their engagement in problem behaviors. The questionnaires will take approximately 25 minutes to complete and your child's participation will take place in their classroom during class time.
In order to compensate your child for their participation, their name will be entered into a draw to win one of several prizes including one iPod and ten movie passes.

Privacy and Confidentiality
To ensure confidentiality, your child will be assigned a file number, and all materials collected from your child will be labeled with only the case number. A list of the participant's names with their assigned file numbers will be kept separately from the collected materials and stored in a locked cabinet at our research unit on the McGill University campus. Only the principal investigator (Melissa Stern), co-investigator (Anthony Claro), the research supervisor (Dr. Steven Shaw), and designated undergraduate research assistants will have access to this information. If and when the data is included in future academic presentations and publications, no mention of your child's identity will be made and only group results will be reported.
However, should your child's responses indicate that they are either a danger to themselves or others, the school-based mental health professionals will be notified and consulted about the situation. Parents will also be informed.

Benefits, Potential Harms and Risk
Your son/daughter's participation will help us to better understand how adolescents' emotions influence engagement in problem behaviors. In addition, these findings will later inform interventions.
There is minimal risk associated with completing these questionnaires and your child does not have to complete any questionnaires or questions at any point that he/she does not feel comfortable answering. However, due to the nature of the questions asked, it is possible, that they may elicit an emotional reaction from the individuals participating in the study. In the case that the questions do trigger an emotion reaction, your child will be provided with information on psychological services available to them in the school and community should they be necessary.

Declaration of the parent or legal guardian:
I have read the above description and have been fully informed about the procedures, demands, risks and benefits of the study. I freely and voluntarily consent for my child to participate in this study.

_____

Name of participant Signature of parent/legal guardian Date

_____

Date of birth of participant

_____

Name of investigator Signature of investigator Date

If you have any other questions or concerns please feel free to contact one of the research team members by using the information indicated below. Should you have any questions or concerns about your rights as a volunteer in this project you may contact the McGill Research Ethics Officer at 514-398-6831.

We thank you kindly for considering this request and hope that we can have your participation in this study.

Sincerely,

Melissa Stern
Master's Student, School/Applied Child Psychology
Faculty of Education, McGill University
3700 Rue McTavish, Room 614
Montreal, Quebec, H3A1Y2

Contact Information:

Melissa Stern
Email: melissa.stern@mail.mcgill.ca
Telephone: (514) 398-5833

Steven Shaw, PhD
Email: steven.shaw@mcgill.ca
Telephone: (514) 398-4143

Anthony Claro, M.A.
Email: anthony.claro@mail.mcgill.ca
Telephone: (514) 398-5833

Appendix B

RESEARCH ASSENT FORM

Institution:	Faculty of Education, McGill University
Title of Project:	Understanding the Influence of Emotion Regulation on Adolescents' Engagement in Risky Behaviors
Researchers:	Melissa Stern, M.A. Student School/Applied Child Psychology & Anthony Claro, M.A., PhD Student School/Applied Child Psychology
Project Supervisor:	Steven Shaw, PhD

What is the purpose of the study?
The purpose of this study is to understand how adolescents' ability to control their emotions following a negative event is related to their participation in problem behaviors, which range from mild behaviors, such as lying to a friend or family member, skipping class, to more serious behaviors, such as bullying a peer, as well as aggressive behaviors. The findings stemming from this study will be disseminated to a range of professionals including educators and psychologists through a Master's and a doctoral thesis, presentation at both national and international conferences, and article(s) in peer-reviewed, scientific journals.

What will I be required to do?
With my written permission, I will be asked to complete four questionnaires that pertain to my ability to regulate my emotions as well as my participation in a variety of behaviors. The questionnaires will take approximately 25 minutes to complete and my participation will take place in my classroom during class time.
My participation is this study is entirely voluntary and I am allowed to refuse to participate in this task, decline to answer any question, or withdraw at any point in time without penalty. Whether or not I choose to participate in this research study will have no effect on my academic performance.
In addition, in order to compensate me for my participation, my name will be entered into a draw to win one of several prizes including one iPod and ten movie passes.

Privacy and Confidentiality
To ensure confidentiality, I will be assigned a file number, and all materials collected from me will be labeled with only the case number and not any of my personal information, such as my name or birth date. A list of the participant's names with their assigned file numbers will be kept separately from the collected materials and stored in a locked cabinet at our research unit on the McGill University campus. Only the principal investigator (Melissa Stern), co-investigator
(Anthony Claro), the research supervisor (Dr. Steven Shaw), and designated undergraduate research assistants will have access to this information. If and when the data is included in future academic presentations and publications, no mention of my identity will be made and only group results will be reported.
However, should my responses indicate that I am a danger to myself or others, the school-based mental health professionals will be notified and consulted about the situation. My parents will also be informed.

Benefits, Potential Harms, and Risks
Your participation will help us to better understand how adolescents' emotions influence engagement in problem behaviors.
There is minimal risk associated with completing these questionnaires and you do not have to complete any questionnaires or questions at any point that you do not feel comfortable answering.
However, due to the nature of the questions asked, it is possible, that they may elicit an emotional reaction from the individuals participating in the study. In the case that the questions do trigger an emotion reaction, you will be provided with information on psychological services available to you in the school and community should they be necessary.

Declaration of assent from the participant:
I have read the above description with one of the investigators. I have been fully informed about the procedures, demands, risks and benefits of the study. I understand that I may withdraw from this study at any time without any penalty. I freely and voluntarily assent to participate in this study.

_____

Name of participant Signature of participant Date

_____

Date of birth of participant

_____

Name of investigator Signature of investigator Date

If you have any other questions or concerns please feel free to contact one of the research team members by using the information indicated below. Should you have any questions or concerns about your rights as a volunteer in this project you may contact the McGill Research Ethics Officer at 514-398-6831.

We thank you kindly for considering this request and hope that we can have your participation in this study.

Sincerely,

Melissa Stern
Master's Student, School/Applied Child Psychology
Faculty of Education, McGill University
3700 Rue McTavish, Room 614
Montreal, Quebec, H3A1Y2

Contact Information:

Melissa Stern
Email: Melissa.stern@mail.mcgill.ca
Telephone: (514) 398-5833

Steven Shaw, PhD
Email: steven.shaw@mcgill.ca
Telephone: (514) 398-4143

Anthony Claro, M.A.
Email: anthony.claro@mail.mcgill.ca
Telephone: (514) 398-5833

Appendix C

CERQ

How do you cope with events?

Everyone gets confronted with negative or unpleasant events now and then and everyone responds to them in his or her own way. By the following questions you are asked to indicate what you generally think, when you experience negative or unpleasant events.

	(almost) never	**Some-times**	**Regu-larly**	**Often**	**(almost) always**
1. 1 feel that I am the one to blame for it	1	2	3	4	5
2. I think that I have to accept that this has happened	1	2	3	4	5
3. I often think about how I feel about what I have experienced	1	2	3	4	5
4. I think of nicer things than what I have experienced	1	2	3	4	5
5. I think of what I can do best	1	2	3	4	5
6. I think I can learn something from the situation	1	2	3	4	5
7. I think that it all could have been much worse	1	2	3	4	5
8. I often think that what I have experienced is much worse than what others have experienced	1	2	3	4	5
9. I feel that others are to blame for it	1	2	3	4	5
10. I feel that I am the one who is responsible for what has happened	1	2	3	4	5
11. I think that I have to accept the situation	1	2	3	4	5
12. I am preoccupied with what I think and feel about what I have experienced	1	2	3	4	5
13. I think of pleasant things that have nothing to do with it	1	2	3	4	5
14. I think about how I can best cope with the situation	1	2	3	4	5
15. I think that I can become a stronger person as a result of what has happened	1	2	3	4	5
16. I think that other people go through much worse experiences	1	2	3	4	5
17. I keep thinking about how terrible it is what I have experienced	1	2	3	4	5
18. I feel that others are responsible for what has happened	1	2	3	4	5
19. I think about the mistakes I have made in this matter	1	2	3	4	5
20. I think that I cannot change anything about it	1	2	3	4	5
21. I want to understand why I feel the way I do about what I have experienced	1	2	3	4	5
22. I think of something nice instead of what has happened	1	2	3	4	5
23. I think about how to change the situation	1	2	3	4	5
24. I think that the situation also has its positive sides	1	2	3	4	5
25. I think that it hasn't been too bad compared to other things	1	2	3	4	5
26. I often think that what I have experienced is the worst that can happen to a person	1	2	3	4	5
27. I think about the mistakes others have made in this matter	1	2	3	4	5
28. I think that basically the cause must lie within myself	1	2	3	4	5
29. I think that I must learn to live with it	1	2	3	4	5
30. I dwell upon the feelings the situation has evoked in me	1	2	3	4	5
31. I think about pleasant experiences	1	2	3	4	5
32. I think about a plan of what I can do best	1	2	3	4	5
33. I look for the positive sides to the matter	1	2	3	4	5
34. I tell myself that there are worse things in life	1	2	3	4	5
35. I continually think how horrible the situation has been	1	2	3	4	5
36. I feel that basically the cause lies with others	1	2	3	4	5

Thank you for filling out the questionnaire!

Appendix D

Regulation of Emotions Questionnaire

We all experience lots of different feelings or emotions. For example, different things in our lives make us feel happy, sad, angry and so on…

The following questions ask you to think about **how often** you do certain things **in response to your emotions**. You do not have to think about specific emotions but just how often you **generally** do the things listed below.

Please tick the box corresponding to the answer that fits best. We all respond to our emotions in different ways so there are no right or wrong answers.

In GENERAL how do you respond to your emotions?	Never	Seldom	Often	Very Often	Always
1. I talk to someone about how I feel	○	○	○	○	○
2. I take my feelings out on others verbally (e.g., shouting, arguing)	○	○	○	○	○
3. I seek physical contact from friends or family (e.g., a hug, hold hands)	○	○	○	○	○
4. I review (rethink) my thoughts or beliefs	○	○	○	○	○
5. I harm or punish myself in some way	○	○	○	○	○
6. I do something energetic (e.g., play sport, go for a walk)	○	○	○	○	○
7. I dwell on my thoughts and feelings (e.g., It goes round and round in my head and I can't stop it)	○	○	○	○	○

In GENERAL how do you respond to your emotions?	Never	Seldom	Often	Very Often	Always
8. I ask others for advice	○	○	○	○	○
9. I review (rethink) my goals or plans	○	○	○	○	○
10. I take my feelings out on others physically (e.g., fighting, lashing out)	○	○	○	○	○
11. I put the situation into perspective	○	○	○	○	○
12. I concentrate on a pleasant activity	○	○	○	○	○
13. I try to make others feel bad (e.g., being rude, ignoring them)	○	○	○	○	○
14. I think about people better off and make myself feel worse	○	○	○	○	○
15. I keep the feeling locked up inside	○	○	○	○	○
16. I plan what I could do better next time	○	○	○	○	○
17. I bully other people (e.g., saying nasty things to them, hitting them)	○	○	○	○	○
18. I take my feelings out on objects around me (e.g., deliberately causing damage to my house, school or outdoor things)	○	○	○	○	○
19. Things feel unreal (e.g., I feel strange, things around me feel strange, I daydream)	○	○	○	○	○
20. I telephone friends or family	○	○	○	○	○
21. I go out and do something nice (e.g., cinema, shopping, go for a meal, meet people)	○	○	○	○	○

Thank you for your help!

Appendix E

School:
Participant ID:

Date: _____

RBQ-A

In this questionnaire we are interested in whether certain events have happened to you in the **PAST MONTH**. Please indicate how often the following events have happened to you in the **PAST MONTH**.

Scale: (0) Never
(1) Almost Never (1 Time Per Month)
(2) Sometimes (2-4 Times Per Month)
(3) Almost Always (2-3 Times Per Week)
(4) Always (4 or More Times Per Week)

PAST MONTH

		Never	Almost Never **1/month**	Sometimes **2-4/month**	Almost Always **2-3/week**	Always **4+/week**
1.	Have you destroyed property (other than your own)?	(0)	(1)	(2)	(3)	(4)
2.	Have you been unfaithful to your boyfriend or girlfriend?	(0)	(1)	(2)	(3)	(4)
3.	Have you been in a physical fight?	(0)	(1)	(2)	(3)	(4)
4.	Have you bullied, threatened, or intimidated a peer(s)?	(0)	(1)	(2)	(3)	(4)
5.	Have you been binge drinking and/or drinking to get drunk?	(0)	(1)	(2)	(3)	(4)
6.	Have you used illegal drugs?	(0)	(1)	(2)	(3)	(4)
7.	Have you sold illegal drugs?	(0)	(1)	(2)	(3)	(4)

		Never	Almost Never **1/month**	Sometimes **2-4/month**	Almost Always **2-3/week**	Always **4+/week**
8.	Have you skipped class (or entire days of school)?	(0)	(1)	(2)	(3)	(4)
9.	Have you cheated or plagiarized?	(0)	(1)	(2)	(3)	(4)
10.	Have you shoplifted?	(0)	(1)	(2)	(3)	(4)
11.	Have you stolen money?	(0)	(1)	(2)	(3)	(4)
12.	Have you had unsafe sex?	(0)	(1)	(2)	(3)	(4)
13.	Have you verbally harassed someone?	(0)	(1)	(2)	(3)	(4)
14.	Have you made attempts to cut or burn yourself?	(0)	(1)	(2)	(3)	(4)
15.	Have you purged or binged?	(0)	(1)	(2)	(3)	(4)
16.	Have you gambled?	(0)	(1)	(2)	(3)	(4)
17.	Have you lied to your family members (e.g,, grandparents, parents, siblings)?	(0)	(1)	(2)	(3)	(4)
18.	Have you driven (a bicycle, a moped, and/or a car) recklessly (e.g,, at fast speeds, under the influence of a substance)?	(0)	(1)	(2)	(3)	(4)
19.	Have you used cigarettes?	(0)	(1)	(2)	(3)	(4)
20.	Have you engaged in acts of revenge?	(0)	(1)	(2)	(3)	(4)