

UNIVERSITÉ DU QUÉBEC À MONTRÉAL

L'INFLUENCE LONGITUDINALE DE LA SÉCURITÉ D'ATTACHEMENT ENVERS  
LES PARENTS ET LES PAIRS À L'ADOLESCENCE SUR L'ADAPTATION DE  
L'INDIVIDU À L'ÂGE ADULTE

LONGITUDINAL INFLUENCE OF ADOLESCENT ATTACHMENT SECURITY  
TOWARDS PARENTS AND PEERS ON FUTURE ADAPTATION IN ADULTHOOD

THÈSE  
PRÉSENTÉE  
COMME EXIGENCE PARTIELLE  
DU DOCTORAT EN PSYCHOLOGIE

PAR  
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MARS 2012

UNIVERSITÉ DU QUÉBEC À MONTRÉAL  
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## ACKNOWLEDGEMENTS

I would like to start by thanking my Ph.D. co-supervisors, Drs. Ellen Moss and Chantal Cyr, who have been true mentors throughout my academic journey. Through the quality of their cutting-edge work, they have instilled in me their passion for research. I would like to thank Dr. Moss for her continuous support, her constructive comments, and mostly, for her belief in my ability to become a rigorous researcher. By allowing me to collaborate with her on various projects, I have gained a wealth of knowledge, and for that, I am sincerely appreciative. I would also like to acknowledge the impact Chantal Cyr has had on my academic journey. Through her words of encouragement and helpful advice, she has been a true source of strength, and I am forever grateful for her continuous presence in my academic development. I thank her for shaping me into the researcher I am today. I feel extremely privileged to have had the opportunity to be supervised by two extraordinary researchers. Learning from them has been an experience of a lifetime. I hope to have developed long-lasting collaborative bonds with both Ellen Moss and Chantal Cyr.

I would also like to thank my fellow lab colleagues for their support during my doctorate program. Without them, this experience would not have been the same. I would especially like to thank Magda, Vanessa, Catherine, and Michèle for their help with data collection. I sincerely appreciate your constant encouragement and I am very grateful for the friendships made throughout this journey. I am also very appreciative to Jean Bégin who thought me that empirical research is only as rigorous as the statistics applied to the data. I thank him for his expertise and for encouraging my passion for statistics. I would also like to thank Karine Dubois-Comtois for her presence throughout the years. I appreciate all the times you helped me with statistics and I thank you for inviting me to collaborate with you on different projects. I cherish the bond we have created.

To my mother and father who believed in me without fail, even when I was unsure of myself. I thank you from the bottom of my heart for your unconditional support. Thank you for encouraging me to pursue my goals (no matter how many years it would take) and for providing me the opportunities to do so. You have instilled in me the confidence to accomplish anything I set my mind to, and I am extremely grateful to have you as parents. I

wouldn't be the person I am today without you. You have been the secure base that has enabled me to explore and spread my wings.

To my husband, Rodney, words cannot express how your love and support have helped me through this process. You have been there for me every step of the way, and I could not have accomplished this without you. Thank you for your patience and your optimism. Thank you for the many times you lifted me up with your motivating and comforting words. Thank you for the late night snacks and midnight coffees, all your actions were noticed and appreciated. I share this accomplishment with you and my family.

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## SUMMARY

The overall aim of this thesis is to longitudinally examine the influence of adolescent attachment security towards parents and peers on future adult adaptation. In the first study, we examined whether attachment security towards parents and peers in adolescence predicted anxious and avoidant romantic attachment styles in young adulthood and whether the use of emotion regulation strategies mediated this association. In the second study, we investigated the longitudinal influence of adolescent attachment towards parents and peers and romantic attachment styles in young adulthood, on general symptoms of psychopathology in adulthood. The role of emotion regulation strategies in mediating these associations was also tested. At age 14, all study participants (1<sup>st</sup> article:  $n = 56$ ; 2<sup>nd</sup> article:  $n = 50$ ) completed the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987) as a measure of adolescent attachment. At 22 years of age, romantic attachment was evaluated with the Experience in Close Relationships questionnaire (Brennan, Clark, & Shaver, 1998), and emotion regulation strategies were assessed using both the Coping Inventory for Stressful Situations (Endler & Parker, 1994) and the Emotional Expressivity Scale (Kring, Smith, & Neale, 1994). At age 24, participants completed the Symptoms Checklist 90-Revised (Derogatis, 1983) in order to evaluate global symptoms of psychopathology, as well as the Revised NEO Personality Inventory (Costa & McCrae, 1992), as a measure of neuroticism.

Results of the first study revealed that attachment insecurity towards parents and peers in adolescence predicted greater self-reported anxious romantic attachment and emotion-oriented regulation strategies, 8 years later. Furthermore, analyses of concurrent measures in young adulthood indicated a positive association between anxious romantic attachment and the use of emotion-oriented strategies, whereas avoidant attachment was related to less emotional expressivity and support-seeking strategies. Analyses also identified emotion-oriented regulation strategies as a partial mediator of the association between adolescent attachment insecurity towards parents and anxious romantic attachment in young adulthood, as well as a complete mediator of the association between attachment insecurity towards peers and anxious romantic attachment. These findings support study hypotheses by demonstrating that adolescent attachment towards parents has a direct long-term impact on one's perceptions of experiences in romantic relationships, as it promotes a more anxious romantic attachment style in young adulthood. Moreover, results of mediation analyses suggest that insecure attachment models and emotion-oriented regulation strategies should be central themes in intervention programs with distressed couples, as they represent key determinants of one's future romantic attachment style.

Results of the second study showed that greater attachment insecurity towards parents in adolescence directly predicted greater symptoms of psychopathology in adulthood, 10 years later. This association was maintained after controlling for more proximal variables, such as anxious romantic attachment and the personality trait of neuroticism. In addition, the use of emotion-oriented regulation strategies in young adulthood predicted higher levels of psychopathology symptoms, 2 years later. Anxious romantic attachment was also associated with symptoms of psychopathology, although the use of emotion-oriented strategies mediated

this association. Lastly, adolescent attachment insecurity towards peers and avoidant romantic attachment in young adulthood were found to be unrelated to adult symptoms of psychopathology. Findings from this second study provide evidence for a 10-year developmental model in which adolescent attachment insecurity towards parents and the use of emotion-oriented regulation strategies in young adulthood promote greater overall symptoms of psychopathology in adulthood.

Taken together, results from this thesis show that, although adolescent attachment insecurity towards parents and peers influences later adaptation as it pertains to the use of more emotion-oriented regulation strategies, only attachment insecurity towards parents was identified as a direct predictor of greater anxious romantic attachment and symptoms of psychopathology. These findings highlight the unique negative impact of attachment insecurity towards parents in adolescence on future adaptation.

Keywords: parent-adolescent attachment; peer-adolescent attachment; adult romantic attachment, emotion regulation strategies; psychopathology

## RÉSUMÉ

L'objectif général de la présente thèse était d'évaluer le rôle longitudinal de l'attachement envers les parents et les pairs à l'adolescence sur l'adaptation future de l'individu, en ce qui concerne son style d'attachement amoureux adulte, ses stratégies de régulation émotionnelle et son degré global de symptômes psychopathologiques. Plus précisément, le but de la première étude était d'examiner l'influence de la sécurité d'attachement envers les parents et les pairs à l'adolescence sur le développement des styles d'attachement amoureux anxieux et évitant du jeune adulte, ainsi que le rôle médiateur des stratégies de régulation émotionnelle. Dans la deuxième étude, nous avons évalué l'influence de la sécurité d'attachement envers les parents et les pairs à l'adolescence, ainsi que les styles d'attachement amoureux anxieux et évitant du jeune adulte, sur la manifestation de futurs symptômes psychopathologiques à l'âge adulte. Le rôle médiateur des stratégies de régulation émotionnelle a également été évalué. À 14 ans, tous les participants (1<sup>er</sup> article:  $n = 56$ ; 2<sup>ème</sup> article:  $n = 50$ ) ont complété l'Inventaire de l'Attachement aux Parents et aux Pairs (IPPA; Arnsden & Greenberg, 1987). À 22 ans, l'attachement amoureux a été évalué à l'aide du Questionnaire sur les Expériences d'Attachement Amoureux (Brennan, Clark, & Shaver, 1998), et les stratégies de régulation émotionnelle ont été évaluées à l'aide de l'Inventaire de Gestion des Situations Stressantes (Endler & Parker, 1994) et de l'Échelle de l'Expressivité Émotionnelle (Kring, Smith, & Neale, 1994). À 24 ans, les participants ont complété l'Inventaire des Symptômes 90-Révisé (Derogatis, 1983) afin d'évaluer les symptômes psychopathologiques, ainsi que l'Inventaire de Personnalité NEO-Révisé (Costa, & McCrae, 1992) en tant que mesure de névrotisme.

Les résultats de la première étude ont démontré que l'insécurité d'attachement envers les parents et les pairs à l'adolescence prédit, 8 ans plus tard, un attachement amoureux plus anxieux, ainsi que des stratégies de régulation émotionnelle davantage centrées sur les émotions. De plus, les résultats ont indiqué une association positive concomitante entre l'attachement amoureux anxieux et les stratégies centrées sur les émotions à l'âge adulte, tandis que l'attachement amoureux évitant était associé à moins d'expressivité émotionnelle et de recherche de soutien social. En lien avec nos hypothèses, les résultats ont également identifié la stratégie de régulation centrée sur les émotions comme étant un médiateur partiel du lien entre l'attachement insécurisant envers les parents à l'adolescence et l'attachement amoureux anxieux à l'âge adulte, ainsi qu'un médiateur complet du lien entre l'attachement insécurisant envers les pairs à l'adolescence et l'attachement anxieux à l'âge adulte. Ces résultats soutiennent les hypothèses de l'étude en démontrant que l'attachement envers les parents à l'adolescence a un effet direct sur les perceptions de l'individu par rapport à ses relations amoureuses en favorisant le développement d'un style d'attachement amoureux plus anxieux. De plus, notre modèle de médiation suggère que l'attachement envers les parents et les stratégies de régulation centrées sur les émotions devraient être des cibles d'intervention pour les couples en détresse, car ils semblent représenter des déterminants importants dans le développement des styles d'attachement amoureux à l'âge adulte.

Les résultats de la deuxième étude ont démontré qu'un attachement insécurisant envers les parents à l'adolescence prédit un niveau de symptômes psychopathologiques plus élevé 10 ans plus tard. Cette association a été maintenue même en contrôlant pour l'attachement amoureux anxieux et le névrotisme. Les stratégies de régulation centrées sur les émotions ont aussi été identifiées comme un prédicteur du degré de symptômes psychopathologiques présentés 2 ans plus tard. Ces stratégies agissent également en tant que médiateur complet du lien entre l'attachement amoureux anxieux et les symptômes psychopathologiques. Finalement, les résultats de la deuxième étude montrent que l'attachement envers les pairs à l'adolescence et l'attachement amoureux évitant chez le jeune adulte n'étaient pas liés aux symptômes psychopathologiques à l'âge adulte. Les résultats de cette deuxième étude mettent ainsi en évidence un modèle développemental qui s'étale sur une période de 10 ans, où l'attachement insécurisant envers les parents et les stratégies de régulation émotionnelle centrées sur les émotions favorisent le développement de symptômes psychopathologiques à l'âge adulte.

En somme, les résultats de cette thèse montrent qu'un attachement insécurisant à l'adolescence envers les parents et les pairs influence l'adaptation future de l'individu en ce qui concerne sa façon de réguler ses émotions. Toutefois, seul l'attachement insécurisant envers les parents prédit de manière directe l'attachement amoureux anxieux et les symptômes psychopathologiques à l'âge adulte, soulignant l'impact majeur et unique de l'insécurité envers les parents à l'adolescence sur l'adaptation future de l'individu. Ces résultats sont d'autant plus renforcés par le devis longitudinal de la thèse.

Mots clés: attachement à l'adolescence envers les parents/pairs; attachement amoureux; régulation émotionnelle; psychopathologie

## CHAPTER 1

### INTRODUCTION

[...] those who are most stable emotionally and making the most of their opportunities are those who have parents who, whilst always encouraging their children's autonomy, are none the less available and responsive when called upon. Unfortunately, of course, the reverse is also true. (Bowlby, 1988, p. 12)

Young adulthood has been shown to be an important developmental transition period in which numerous life changes occur, including leaving home for university, entering the work force, making new social connections, and establishing serious romantic relationships. However, there are important individual differences in the quality of life experiences during this period. Some individuals function well on a socio-emotional level, whereas others show relationship dysfunctions and symptoms of psychopathology (Brennan, Clark, & Shaver, 1998; Fortuna & Roisman, 2008). Determining the developmental factors that influence adaptation in adulthood is important in order to facilitate early detection of socio-emotional problems and establish appropriate intervention plans. Attachment theory is a widely used framework for studying adult adaptation as it provides a model for explaining how different attachment styles lead to differences in functioning (Bowlby, 1988). In this study, adult adaptation was conceptualized to include three major dimensions: emotion regulation strategies, romantic attachment styles, and symptoms of psychopathology. In the first study, we investigate the longitudinal influence of adolescent attachment to parents and peers on later self-reported emotion regulation strategies and romantic attachment styles in young adulthood. We also test whether particular emotion regulation strategies mediate the association between adolescent and young adult attachment. In the second study, we test the longitudinal influence of adolescent attachment to parents and peer, and romantic attachment styles in young adulthood on future symptoms of psychopathology. We then test the possible mediating role of emotion regulation strategies in the association between attachment (in adolescence and young adulthood) and adult psychopathology.

*Attachment through infancy, adolescence, and adulthood*

According to attachment theory, based on the quality of repeated daily attachment experiences with the primary caregiver, children develop internal working models which are integrated representations and beliefs concerning the self, others, and the environment (Bolwby, 1988; Bretherton, 1987; Main, Kaplan, & Cassidy, 1985). These models are also used as a guide for behaviors and expectations in future interpersonal relationships. Accordingly, as individuals develop, representational models continue to exert an influence in contexts that activate the attachment system in adulthood, such as relationships with peers and romantic partners (Allen, 2008; Hazan & Shaver, 1987; Hazan & Zeifman, 1994). The adolescent period is particularly important with respect to the development of internal working models of attachment, as the adolescent's need for greater autonomy with respect to parents leads to a restructuring of the hierarchical organization of attachment figures with peers now taking on some functions as attachment figures (Allen, 2008; Furman & Buhrmester, 1992; Weiss, 1982; Zeifman & Hazan, 2008). While some authors suggest that relationships with peers are not true attachment relationships (Wilkinson & Walford, 2001), others have shown that peers can fulfill certain attachment roles such as serving as a source of comfort and emotional support (Zeifman & Hazan, 2008). Despite these functional changes in peer relationships, research has shown that parents remain important attachment figures for the adolescent (Furman & Buhrmester, 1992; Weiss, 1982; Zeifman & Hazan, 2008). Given that both parents and peers have been identified as important attachment figures in the adolescent's life, further research is needed to determine their unique influence on the individual's later adaptation. Accordingly, the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) was selected as our measure of adolescent attachment, as it allows for the separate investigation of attachment security towards parents and peers along a continuous scale of security. This questionnaire has been widely used to assess attachment security among adolescents and shows excellent psychometric qualities (Duchesne & Larose, 2007; Harvey & Byrd, 2000; Laible, Carlo, & Raffalli, 2000). Given the possibility that not all adolescents will develop a peer attachment relationship, the IPPA is designed to assess adolescents' general perceptions of the quality of their attachment relationships towards peers, and not towards a specific peer. For this reason, the IPPA is a

well-designed measure allowing for the assessment of conscious perceptions of attachment security towards parent and peer attachment figures.

During late adolescence, there is a subsequent restructuring of the attachment hierarchy with romantic partners becoming the most sought-out attachment figures (Hazan & Shaver 1987; Zeifman & Hazan, 2008). Studies have shown that, whereas some young adults show adaptive and functional behaviors within their romantic relationships, others experience interpersonal difficulties that often lead to relationship dissolution (Brennan & Shaver, 1995; Mikulincer & Shaver, 2007). Research on adult attachment has been guided by two theoretical traditions in psychology: *developmental* and *social*. Both research traditions are similar in conceptualizing adult attachment according to Bowlby's (1969) formulation of internal working models of self and others which are developed in response to the quality of early parent-child relationships. The two traditions also share the same adult attachment classification system inspired by the secure, avoidant, ambivalent, and disorganized infant attachment system proposed by Ainsworth, Blehar, Waters, & Wall (1978) and later by Main & Solomon (1990). However, the two branches of research differ with respect to their focus of study (i.e., experiences in childhood vs. experiences with romantic partners) and their method for measuring adult attachment constructs (i.e., interview vs. self-report).

Specifically, *developmental* proponents of attachment theory focus on early childhood experiences with parents and assess current mental representations of these experiences in adulthood. The Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985) is the gold-standard method used for assessing current adult state of mind with respect to early attachment experiences. Based on the coherency of discourse, defensive processes, and collaborative nature of the interview narratives, individuals are classified into one of four attachment groups: *autonomous* (secure), *dismissing* (avoidant), *preoccupied* (ambivalent), and *unresolved* (disorganized). One of the major advantages of the AAI interview is its ability to unconsciously probe information regarding past experiences with parents, as well as instances of abuse, neglect, and trauma (George et al., 1985).

On the other hand, proponents of the *social psychology* perspective have conceptualized experiences in romantic relationships as an attachment process (Brennan et al., 1998; Hazan & Shaver, 1987). Similar to developmental theorists, social psychologists view attachment in romantic relationships as based on the quality of earlier caregiving experiences with parents. However, contrary to the developmental perspective, social psychologists assess adult attachment using self-report questionnaires that focus on behaviors and perceptions of attachment relationships with romantic partners, which are assumed to reflect past relationships with caregivers. Two major self-report methods exist for evaluating adult romantic attachment styles. Bartholomew's (Bartholomew & Horowitz, 1991) classification system parallels the 4-group attachment system in infancy. Classifications are obtained based on the individual's self-reported positive versus negative models of self and others: a *secure* individual has positive views of self and others; a *dismissive* individual has a positive model of self, but a negative view of others; a *preoccupied* individual has a negative view of self, but a positive view of others; and a *fearful* individual has a negative view of self and others. Brennan et al., (1998) later developed the Experiences in Close Relationships (ECR) questionnaire which assesses adult romantic attachment along two continuous orthogonal dimensions: *avoidance of intimacy* and *anxiety over abandonment*. The *avoidant* dimension assesses the extent to which a person distrusts others and is uncomfortable with intimacy, whereas the *anxiety* dimension measures the degree to which a person is worried about being abandoned by their partner. These attachment dimensions have been linked to various aspects of relationship functioning, including intimacy, satisfaction, and commitment (Treboux, Crowell, & Waters, 2004). Although there is an extensive body of research supporting the link between adult romantic attachment and relationship functioning, few studies have investigated how earlier attachment experiences with parents and peers influence adult experiences in romantic relationships. In line with our interest in investigating adult attachment with respect to romantic partners, the ECR (Brennan et al., 1998) was chosen as the adult romantic attachment measure for the studies in this thesis, given its widespread acceptance in the adult romantic attachment literature and its demonstrated psychometric qualities (Brennan, Shaver, & Clark, 2000).

Studies of associations between early parent-child interactions and later experiences in romantic relationships are rare. However, secure attachment in infancy (Roisman, Collins, Sroufe, & Egeland, 2005) and positive parent-adolescent dyadic behaviors in adolescence (Roisman, Madsen, Hennighausen, Sroufe, & Collins, 2001) have both been found to predict more positive behaviors in adult romantic relationships. Nevertheless, these studies were limited in sampling as they included mostly high-risk participants and were restricted to individuals currently in romantic relationships. To our knowledge, no study to date has investigated the longitudinal influence of adolescent attachment security towards parents and peers on romantic attachment styles in young adults using a mixed sample of individuals not necessarily in relationships.

#### *Attachment and emotion regulation strategies*

Theoretical models of adult attachment suggest that emotion regulation strategies developed within the parent-child relationship are internalized by the child and subsequently influence adult romantic attachment styles (Bowlby, 1980; Cassidy, 1994; Kobak & Sceery, 1988; Mikulincer & Shaver, 2003; Sroufe & Fleeson, 1986). For example, avoidant children, who have a history of interactions with a distant or rejecting attachment figure, block emotional states that activate their attachment system, divert attention from emotion-related information, inhibit verbal and nonverbal expressions of emotions, and learn to rely on themselves to deal with difficult situations (Cassidy & Kobak, 1988). In adulthood, the use of these strategies can lead to the development of an avoidant romantic attachment style. Avoidantly-attached individuals are generally distant towards their partners, are uncomfortable with intimacy, and rarely seek out others to help manage their internal emotional states (Mikulincer & Shaver, 2007, 2008). On the other hand, anxiously-attached or ambivalent children intensify and exaggerate their feelings of distress in an attempt to attract and maintain the attention of their inconsistently-available attachment figure. To deal with their distress, ambivalent children adopt strategies centered on negative emotions, i.e., self-blame, focusing on potential negative scenarios, making catastrophic appraisals, and ruminating (Cassidy, 1994; Cassidy & Berlin, 1994). In adulthood, the use of these emotion-oriented strategies is associated with an anxious romantic attachment style, characterized by displays of helplessness and overdependence on the romantic partner (Mikulincer & Shaver,

2007, 2008). Based on these theoretical models, emotion regulation strategies that include emotion-orientation, distraction, social support-seeking, and emotional expressivity may act as potential mediators of the developmental association between earlier attachment and later adult romantic attachment. To date, however, this model has yet to be verified. One of the main objectives of the first study is therefore to test this mediational model.

#### *Attachment, emotion regulation, and psychopathology*

According to Bowlby (1988), internal working models of attachment also influence the individual's resilience and vulnerability to stressful life events, consequently affecting their well-being and mental health. In line with this idea, internalized representations of self and others, developed in response to insensitive and inadequate caregiving experiences, are thought to increase the risk for developmental maladaptation across the life span (Dozier, Stovall-McClough, & Abus, 2008). For example, the avoidant individual's model of others as untrustworthy, coupled with their lack of emotional expressivity, can potentially contribute to the development of symptoms of psychopathology, such as depression, hostility, and alcohol abuse (Brennan & Shaver, 1995; Hankin, Kassel, & Abela, 2005; Mikulincer, 1998), given that negative emotions are not openly communicated to others but rather suppressed (Mikulincer & Shaver, 2008). The anxiously-attached individual's negative model of self and use of emotion-oriented strategies can also contribute to the development of symptoms of psychopathology, including anxiety and depression (Lopez, Mauricio, Gormlry, Simko, & Berger, 2001; Mikulincer, 1998), given their exaggeration of negative emotions and their feelings of helplessness in overcoming stressful situations (Mikulincer & Shaver, 2007, 2008). Numerous concurrent studies in adolescence (Muris, Meesters, van Melick, & Zwambag, 2001; Cavell, Jones, Runyan, Constatin-Page, & Valesquez, 1993) and adulthood (Fortuna & Roisman, 2009; Lopez, Mitchell, & Gormlsey, 2002; Mallinckrodt & Wei, 2005) have shown that insecure attachment styles are associated with higher levels of psychopathology symptoms. Although attachment insecurity does not necessarily lead to symptoms of psychopathology, it may represent an important risk factor given associated maladaptive models and strategies for interpreting situations and interacting with others (Carlson & Sroufe, 1995).

Seeing as insecure attachment models and symptoms of psychopathology are related, and attachment models promote the use of specific emotion regulation strategies associated with qualitative differences in attachment relationships, emotion regulation strategies may act as important mediating variables in the association between earlier attachment and adult functioning (Carlson & Sroufe, 1995; Chaplin & Cole, 2005; DeKlyen & Greenberg, 2008). Studies investigating this question have already identified problematic coping strategies (strong emotional response, impulsivity, and distortion) and difficulties in identifying and communicating feelings, as mediators of the concurrent association between insecure attachment and psychopathology in undergraduate samples (Lopez et al., 2001; Mallinckrodt & Wei, 2005). In the second study, we will attempt to replicate past concurrent mediation models using a longitudinal design. In doing so, our objective is to extend the current literature by identifying a longitudinal model in which the use of specific emotion regulation strategies by young adults, specifically emotional expressivity and emotion-oriented strategies, mediates the association between earlier attachment (in adolescence and young adulthood) and adult symptoms of psychopathology.

#### *Objectives and Potential Contribution*

In order to obtain a more in-depth understanding of the influence of earlier attachment insecurity on adult adaptation, our first study will examine: 1) the relative contribution of attachment security towards parents and peers in adolescence to the development of romantic attachment styles in young adulthood, 2) the association between attachment (in adolescence and young adulthood) and use of different emotion regulation strategies in young adulthood, and 3) the mediating role of emotion regulation strategies in the potential association between adolescent attachment security towards parents and peers and romantic attachment styles in young adulthood. This first study will contribute to the existing literature by investigating the unique predictive role of attachment relationships with parents and peers in adolescence on future romantic attachment styles in young adulthood. This study will also attempt to present a model in which emotion regulation strategies, developed in response to earlier attachment experiences, mediate the expected association between attachment to parents and peers in adolescence and attachment in romantic relationships in young adulthood.

The second study will evaluate: 1) the relative contribution of attachment security towards parents and peers during adolescence, and anxious and avoidant romantic attachments in young adulthood, to self-reported symptoms of psychopathology in adulthood, and 2) the possible mediating role of emotion regulation strategies in any demonstrated association between attachment (in adolescence and young adulthood) and adult psychopathology. The potential contribution of this second study is to expand existing concurrent empirical evidence linking attachment insecurity and psychopathology by showing the long-term predictive influence of attachment insecurity in adolescence and young adulthood on future symptoms of psychopathology. Moreover, the test of a longitudinal mediation model describing the role of emotion regulation strategies in the association between earlier attachment and later psychopathology may further our understanding of the mechanisms involved in the development of symptoms of psychopathology in adulthood.

CHAPTER II  
STUDY 1

Longitudinal Influence of Adolescent Attachment Security on Romantic Attachment Styles  
and Emotion Regulation Strategies in Young Adulthood

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Article resubmitted to *Attachment and Human Development*, February 2012

This research was supported by grants and doctoral scholarships received from the Social Sciences and Humanities Research Council of Canada (SSHRC) and the Fonds Québécois de Recherche sur la Société et la Culture (FQSRC). We thank Jean Bégin for his valuable assistance in the research project.

## Abstract

Attachment security towards parents and peers in adolescence, and romantic attachment styles and emotion regulation strategies in young adulthood were evaluated using an 8-year longitudinal design. Fifty-six French-speaking young adults completed the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987) at age 14. At age 22, participants completed the Experience in Close Relationships (Brennan, Clark, & Shaver, 1998) measure of adult romantic attachment, as well as the Coping Inventory for Stressful Situations (Endler & Parker, 1994) and the Emotional Expressivity Scale (Kring, Smith, & Neale, 1994), as measures of emotion regulation strategies. Results indicated that greater insecurity towards parents and peers in adolescence predicted, in young adulthood, a more anxious romantic attachment style and greater use of emotion-oriented strategies. Concurrently, anxious romantic attachment was related to more emotion-oriented strategies, whereas avoidant romantic attachment was related to less emotional expressivity and support-seeking strategies. Moreover, analyses identified emotion-oriented strategies as a partial mediator of the association between adolescent attachment insecurity towards parents and anxious romantic attachment in young adulthood, as well as a complete mediator of the association between adolescent attachment insecurity towards peers and anxious romantic attachment. These findings support the idea that insecure attachment models and emotion regulation strategies should be central themes in intervention programs with distressed couples.

Keywords: parent-adolescent attachment; peer-adolescent attachment; adult romantic attachment; emotion regulation strategies

## Introduction

Research in social psychology has shown that adult attachment styles with romantic partners and emotion regulation strategies are important concurrent predictors of the quality of romantic relationships (Collins & Read, 1990; Kobak & Hazan, 1991; Simpson, 1990). Although there is an implicit assumption that individual differences in both adult romantic attachment styles and emotion regulation strategies are also associated with earlier attachment relationships (Bowlby, 1980; Cassidy, 1994; Kobak & Sceery, 1988; Mikulincer & Shaver, 2003; Sroufe & Fleeson, 1986), few longitudinal studies have tested this assumption. Accordingly, in this study we longitudinally examined the role of attachment security to parents and peers during adolescence as predictors of romantic attachment styles in young adulthood. We further tested the role of emotion regulation strategies as mediators of the association between adolescent attachment and adult romantic attachment.

According to Bowlby (1969, 1973), the child's attachment relationship with the primary caregiver not only serves to protect the newborn against potential threats, it also fulfills a central role in the development of emotion regulation across the life span. A sensitive attachment figure identifies and responds to her child's signals of distress, which in turn, allows the child to feel protected and comforted. Once appeased, negative emotions, such as anger, fear, and sadness diminish and the child can focus attention on exploring the immediate environment. Ainsworth, Blehar, Waters, and Wall (1978) identified three attachment patterns in infants: *secure*, *insecure-avoidant*, and *insecure-ambivalent*, each describing child attachment behaviors with respect to the balance between parental proximity-seeking and exploration of the close environment during a separation-reunion procedure. Main and Solomon (1990) later identified a fourth attachment classification: *insecure-disorganized*, where children show a breakdown of their underlying organized attachment strategy or do not demonstrate any organized pattern of strategies to gain access to the parent when distressed. Moreover, these children show poor exploration of the environment.

By adolescence, the parent-child relationship becomes an increasingly sophisticated goal-corrected partnership (Bowlby, 1969/1982), characterized by an integration of the goals and behaviors of the adolescent and that of his attachment figure. In particular, the development of more advanced communication and perspective-taking skills allows the adolescent to negotiate with the parent proximity/autonomy issues (Kobak & Duemmler, 1994). A secure parent-teen partnership allows the adolescent to increase his independence from parents, while still maintaining contact with them through open communication and discussion of needs. Therefore, in contrast with the childhood years, it is not the physical presence of the parent that contributes to the adolescents' felt security, but rather the knowledge that the parent is available to provide support when necessary (Markiewicz, Lawford, Doyle, & Haggart, 2006).

During this period, there is also an important restructuring of the hierarchy of attachment figures. Adolescents' need to establish a certain level of autonomy from parents promotes the development of attachment relationships with close peers (Allen, 2008; Furman & Buhrmester, 1992; Weiss, 1982; Zeifman & Hazan, 2008). These relationships differ from those in early childhood, where peer relationships are considered to be of an affiliative nature (Murray, 1938). Accordingly, the affiliative system functions to integrate the individual within a group, as an evolutionary strategy of survival which contributes to protection and reproduction of the species (Cassidy, 2008). Moreover, according to Bowlby (1969/1982), the child's disposition to befriend a peer differs from the need to seek parental proximity when distressed, such that the affiliative system can only be activated once the attachment system is deactivated, that is when the child is not distressed and is more open to exploring the environment. In adolescence, however, relationships with certain peers take on the role of attachment relationships, such that attachment needs can be met even in the absence of physical proximity to parents, with peers able to provide support and encouragement in facing developmental challenges (Allen, 2008). In fact, Allen (2008) proposes that during adolescence, peers can potentially meet all five characteristics identified by Ainsworth (1989) to define an attachment relationships, that is, *proximity seeking*, *distress upon inexplicable separation*, *joy upon reunion*, *grief at loss*, and *secure base*. Although not as intense as attachment relationship with parents, it is evident, based on these dimensions, that

relationships with peers can increasingly take on the function of an attachment relationship in adolescence. Nevertheless, under conditions of great stress, adolescents still rely on their parents for support and comfort (Furman & Buhrmester, 1992; Zeifman & Hazan, 2008), with the latter taking on the role of “attachment figures in reserve” (Weiss, 1982). Evidence that parents and peers function as attachment figures in adolescence is provided by Zeifman and Hazan (2008). In their study, parents were found to be the primary sources of separation distress and preferred bases of security for participants between the ages of 6 and 17, although there was an increased preference to seek out peers, more than parents, for comfort and emotional support between the ages of 8 and 14. Only among the oldest adolescents in the study (between the ages of 15 and 17) were peers (usually identified as the boyfriend or girlfriend) selected as the overall preferred attachment figure. These results demonstrate how the hierarchy of attachment figures gradually shifts between childhood and late adolescence from parents, to peers, to romantic partners, and highlights the need to further our understanding of the impact of parent and peer attachment relationships in adolescence on the development of adult attachment with other significant figures, such as romantic partners.

According to attachment theory, internal working models guide individuals in their interpersonal relationships and lead to the development of expectations and beliefs concerning the self and others (Bowlby, 1988; Bretherton, 1987; Main, Kaplan, & Cassidy, 1985). These representational models, which are largely based on attachment experiences in childhood and adolescence, continue to exert an influence in contexts that activate the attachment system in adulthood, such as romantic relationships (Hazan & Shaver, 1987; Hazan & Zeifman, 1994). Developmental proponents of attachment theory have suggested that the parent-child relationship serves as a model for future romantic relationships (Bowlby, 1973). Accordingly, results of longitudinal studies have supported this claim in finding links between the quality of parent-child/adolescent interactions and adult romantic relationships (Conger, Cui, Bryant, & Elder, 2000; Roisman, Madsen, Hennighausen, Sroufe, & Collins, 2001). Conger and colleagues (2000), who evaluated the effects of family interactions of 13 year olds on their behaviors towards their romantic partners at age 20, found that adolescents who experienced nurturing and involved parenting showed less hostility and more warm and supportive behaviors towards their romantic partners in adulthood. Similarly, Roisman et al.

(2001), found that positive parent-adolescent dyadic behaviors at age 13 (expression of emotions, reciprocity, emotion connectedness, and cooperation) predicted more positive behaviors in romantic relationships, 8 years later. However, neither Conger et al. nor Roisman et al. included measures of adolescent attachment in their studies; they assessed relational behaviors using observational interactional data. Roisman, Collins, Sroufe, and Egeland (2005), who investigated the longitudinal association between infant attachment and adult romantic relationships, found that a secure attachment relationship in infancy (assessed with the Strange Situation; Ainsworth et al., 1978) predicted young adults' (aged 20 to 21) coherent discourse regarding their current romantic relationship (assessed with the Current Relationship Interview; Crowell & Owens, 1996), as well as greater romantic relationship quality as observed during conflict and collaboration tasks. However, this study was limited in sampling (mostly high-risk, i.e., low socio-economic status) and, like the others described above, included only those currently in romantic relationships. To our knowledge, no study to date has investigated the longitudinal influence of adolescent attachment security on adult romantic attachment dimensions of anxiety and avoidance in a mixed sample of individuals who are not necessarily in romantic relationships.

Other studies have looked at concurrent associations between adolescent attachment to parents, peers, and romantic partners in mixed samples of single and dating adolescents. Furman, Simon, Shaffer, and Bouchev (2002), assessed the correspondence between adolescents' (aged 16 to 19) attachment classifications in relation to parents, peers, and romantic partners using modified versions of the Adult Attachment Interview (George, Kaplan, & Main, 1985). They found concordance between attachment classifications with peers and those with parents and romantic partners, but no association between parent and partner classifications. On the other hand, Doyle, Lawford, and Markiewicz (2009) did find significant concurrent associations between insecurity with mother, best friend, and romantic partner based on self-reported attachment data. In addition, Doyle et al. (2009) found that increases in insecurity with romantic partners across a 2-year period were uniquely predicted by attachment insecurity towards the mother. Although these studies suggest interesting concurrent associations between attachments to parents, peers, and romantic partners, further research is needed to assess these links longitudinally, from adolescence to young adulthood.

Attachment theory also posits that, as the child develops and becomes more autonomous, emotion regulation strategies developed within the parent-child dyad are internalized by the child and applied to other interpersonal contexts (Cassidy, 1994; Sroufe & Fleeson, 1986). Emotion regulation strategies, according to Thompson (1994, p. 28-29), refer to the “ [...] extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one’s goal”. From an attachment theory perspective, one’s goals, when distressed, will depend on an individual’s particular attachment model. For example, when perceiving a threat to the self or to the attachment relationship (e.g., separation from the attachment figure), the goal of the secure child will be to seek proximity to the attachment figure, in order to receive comfort and re-establish a sense of felt security (Sroufe & Waters, 1977). On the other hand, when distressed, the goal of the avoidant child will be to keep the attachment system deactivated and to deal with the threatening situation alone in order to avoid rejection from the attachment figure (Cassidy & Kobak, 1988). Conversely, the goal of the ambivalent child will be to show overly-dependant and excessive proximity-seeking behaviors, as a way to attract and maintain the attachment figure’s attention (Cassidy & Berlin, 1994).

In line with this idea, results of empirical studies with adolescent and adult populations have underscored the presence of two distinct dimensions of emotion regulation strategies: 1) *attention orientation* (avoidant strategies and emotion-oriented strategies) and 2) *social support-seeking* (tendency to express emotions and seek social support). From a developmental point of view, the capacity for dealing with undesirable emotional states is believed to stem from the quality of the individual’s interactions (past or present) with their primary attachment figure (Thompson & Mayer, 2007). During adolescence, the ability to more autonomously explore and manage internal emotional states becomes crucial, given teens’ increased independence and autonomy from parents (Allen, 2008). Several studies have demonstrated concurrent associations between adolescent attachment and emotion regulation strategies (Armsden & Greenberg, 1987; Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993; Zimmermann, Maier, Winter, & Grossmann, 2001). For example, Howard and Medway (2004) reported that, in comparison with insecure adolescents, secure adolescents’ stressful episodes led to an increase in parent-child communication and a

decrease in strategies centered on negative avoidance (ex. drug and/or alcohol consumption). Similarly, Armsden and Greenberg (1987) found that securely-attached adolescents used more social support-seeking than did their insecure peers.

Emotion regulation strategies have also been linked to individual differences in adult attachment styles. When confronted with external or internal changes or events that elicit negative emotions, securely-attached adults are more likely to openly communicate distress, mobilize problem-solving strategies, and seek social support than are insecurely-attached individuals (Mikulincer, Florian, & Weller, 1993; Mikulincer & Nachshon, 1991; Simpson, Rholes, & Nelligan, 1992; Mikulincer & Shaver, 2007, 2008). On the other hand, avoidant individuals, who have a history of interactions with a distant or rejecting attachment figure (Cassidy, 1994), are more likely to block emotional states that activate their attachment system by diverting their attention from emotion-eliciting information and inhibiting verbal and nonverbal communication of distress (Kobak et al., 1993, Mikulincer & Shaver, 2008). Although avoidant individuals may feel a great deal of distress on a physiological level, they are less likely to express their emotions, and rarely seek-out others to help manage their internal emotional states (Mikulincer & Florian, 1995; Mikulincer et al., 1993; Mikulincer & Nachshon, 1991; Simpson et al., 1992). Unlike avoidant adults who tend to suppress negative emotions, anxious individuals are more likely to intensify and exaggerate in order to attract and maintain their attachment figure's attention (Mikulincer & Shaver, 2008). Preoccupation with the availability and capacity of the attachment figure to respond to their needs is likely to fuel their anxieties and maintain their attachment system in a hyperactivated state. Hyperactivation may engender adoption of strategies centered on negative emotions, i.e., focusing on potential negative scenarios, making catastrophic appraisals, ruminating, etc. (Cassidy, 1994; Mikulincer & Florian, 1995; Mikulincer et al., 1993; Mikulincer & Shaver, 2007, 2008). In some studies, anxiously-attached individuals have shown heightened use of support-seeking strategies for maintaining proximity to the attachment figure, such as clinging, controlling, and overly-dependent behaviors (Shaver & Mikulincer, 2002), while others have reported no association between anxious attachment and support-seeking (Collins & Feeney, 2000; Fraley & Shaver, 1998). Further studies are therefore needed to clarify this relation.

In summary, although theoretical models of adult attachment suggest that emotion regulation strategies develop within the parent-child relationship and subsequently influence adult romantic attachment styles (Bowlby, 1980; Kobak & Sceery, 1988; Mikulincer & Shaver, 2003), empirical tests of this hypothesis are lacking. Moreover, though studies have found that components of both parent and peer attachment relationships influence the development of adult romantic attachment styles (Conger et al., 2000; Furman et al., 2002; Roisman et al., 2001), no study to date has included an earlier measure of parent/peer-adolescent attachment to assess this relation longitudinally. Also, the potential mediating role of emotion regulation strategies in this developmental association has yet to be verified. Based on previous research, it is plausible to assume that attachment security in adolescence fosters the use of emotion regulation strategies centered on adaptive support-seeking and open communication of emotions (Armsden & Greenberg, 1987; Howard & Medway, 2004), which then promotes a more secure adult romantic attachment style.

#### *Objectives and hypothesis*

The first objective of this study is to evaluate the relative contribution of attachment security with parents and peers during adolescence to the development of anxious and avoidant romantic attachment styles in young adulthood. Given that adult attachment models are constructed and revised primarily based on child-caregiver interactions (Bowlby, 1973; Hazan & Shaver, 1987), we expected attachment security to parents to be a stronger predictor of romantic attachment than attachment to peers.

A second objective is to examine associations between attachment security in adolescence and young adulthood respectively, and particular adult emotion regulation strategies. In general, we expected insecure adolescent attachment to be associated with higher scores on the distraction and emotion-oriented scales of the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1994) and lower scores on the support-seeking scale of the CISS and the Emotional Expressivity Scale (EES; Kring, Smith, & Neale, 1994). Owing to the fact that the adolescent attachment measure used in this study (i.e., the Inventory of Parent and Peer Attachment; IPPA; Armsden & Greenberg, 1987) does not distinguish between insecure groups (e.g., avoidant and ambivalent), we could not make

more specific predictions. However, given that such information was afforded by the adult measure (i.e., the Experience in Close Relationships; ECR; Brennan, Clark, & Shaver, 1998), we predicted that: 1) young adults with a more anxious romantic attachment style would have higher scores on the emotion-oriented regulation scale, and 2) young adults with a more avoidant romantic attachment style would have higher scores on the emotion regulation scale of distraction, and lower scores on scales measuring social diversion and emotional expressivity. No specific hypothesis was made regarding the association between anxious romantic attachment and support-seeking strategies, given the inconsistencies in the literature. Exploratory analyses will therefore be conducted to examine this association. The third objective is to test the possible mediating role of particular emotion regulation strategies in any demonstrated associations between attachment in adolescence and young adulthood.

## Method

### *Participants*

Study participants were 56 French-speaking young adults (37 women, 19 men) who were part of an ongoing longitudinal project focused on developmental adaptation as a function of parent-child relationships (see Moss, Smolla, Cyr, Dubois-Comtois, Mazzarello, & Berthiaume, 2006). Analysis of background variables for the sample at Time 1 of the present study indicated a mean age of 13.7 years ( $SD = .60$ , range = 12.6 to 15.1 years,  $N = 79$ , 45 girls). The sample was heterogeneous with respect to income level with 10% of families earning under \$20,000 (figures represent Canadian dollars), 37% earning between 20,000\$ and 50,000\$, and 53% at 50,000\$ and above. Seventy per cent of participants' mothers obtained college or university level training and 32% of sample adolescents were living in a mother-headed single parent family.

At Time 2 of the present study, mean age of participants was 21.5 years ( $SD = .81$ , range = 19.8 to 22.8 years,  $N = 66$ , 43 young women). The sample was heterogeneous with respect to income level with 50% of young adults earning under \$10,000, 45% earning between 10,000\$ and 30,000\$, and 5% at 30,000\$ and above. Thirty-two per cent of participants had completed a high school degree and the rest had some college or university level training.

Seventy-three per cent of sample participants were still living with their family while the rest were living on their own.

Of the 79 participants who completed Time 1 measures, 13 (16%) were lost to attrition at Time 2: 5 never responded to repeated contacts initiated by the project staff, 2 no longer had valid phone numbers, 1 had moved away, 4 refused to participate, and 1 accepted participation but did not show up to the laboratory visit. Out of the 66 participants who completed T2 measures, 10 participants had to be dropped from analyses due to incomplete attachment and emotion regulation datasets (no differences on socio-demographic variables were found between these 10 participants and the remaining 56). Analyses of variance and chi-square analyses on socio-demographic variables comparing those who participated at both times and those who dropped out revealed only one significant difference for gender: there were significantly fewer men than woman participants at T2,  $\chi^2(1, N=79) = 5.27, p < .05$ .

### *General procedure*

*Time 1.* After an initial phone call informing participants of the adolescent phase of the longitudinal study, each adolescent was invited to a laboratory visit during which the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) questionnaire was completed. Mothers of participants completed the socio-demographic questionnaire that was sent to them by mail.

*Time 2.* At the young-adult follow-up occurring 8 years later, each participant was again contacted by phone and invited to the first of two laboratory visits (approximately one month apart), during which a socio-demographic questionnaire and the Experiences in Close Relationships (ECR; Brennan et al., 1998) measure were completed. During the second visit, participants completed the two emotion regulation measures: the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1994), and the Emotional Expressivity Scale (EES; Kring et al., 1994). At both the adolescent and adult phases of the study, participants signed consent forms and received monetary compensation (\$20 for each lab visit).

### *Instruments*

*Inventory of Parent and Peer Attachment* (IPPA; Armsden & Greenberg, 1987). The IPPA is a 24-item self-reported questionnaire evaluating adolescents' positive and negative perceptions of affective and cognitive dimensions of their relationships with their parents and peers. The IPPA consists of the following three scales, each one completed with reference to parents and peers respectively: 1) trust (ex.: my parents / my friends accept me as I am), 2) communication (ex.: if my parents / friends know something is bothering me, they ask me about it) and 3) alienation (ex.: my parents / my friends don't understand what I'm going through these days). Participants rate each item on a four point scale ranging from (1) "almost always true" to (4) "almost never true". When the three scales are combined, they generate two global indices of attachment insecurity: one for parents ( $\alpha = .83$ ) and the other for peers ( $\alpha = .84$ ). A high global score reflects a high level of attachment insecurity. The IPPA has excellent psychometric qualities (average internal consistency and test-retest reliability scores: .90) and has been extensively used in studies evaluating attachment security with adolescents aged 13-19 (Duchesne & Larose, 2007; Harvey & Byrd, 2000; Laible, Carlo, & Raffalli, 2000).

*Experiences in Close Relationships* (ECR; Brennan et al., 1998). The ECR consists of 36 items which measure romantic attachment along two dimensions: avoidance of intimacy ( $\alpha = .90$ ) and anxiety over abandonment ( $\alpha = .90$ ). Participants respond to each item using a Likert scale from (1) "strongly disagree" to (7) "strongly agree", rating the extent to which each item is descriptive of how they usually feel and behave in romantic relationships. For this reason, the questionnaire can be completed by individuals regardless of their current romantic relationship status. This questionnaire, which has been extensively used since 1998, has shown strong associations with numerous aspects of couple relationships, such as intimacy, commitment, and satisfaction (Treboux, Crowell, & Waters, 2004). Brennan, Shaver, and Clark (2000) have also reported a test-retest reliability of .70 for both the avoidant and anxious scales of the ECR over a 3-week period.

*Coping Inventory for Stressful Situations* (CISS; Endler & Parker, 1994). The CISS is a 48-item self-administered questionnaire which assesses four strategies of coping styles: task-oriented ( $\alpha = .87$ ), emotion-oriented ( $\alpha = .87$ ), distraction ( $\alpha = .77$ ), and

social diversion ( $\alpha = .61$ ). Task-oriented coping refers to behavioral or cognitive strategies used to solve or minimize a problem or to reconceptualize it (ex.: Think about how I have solved similar problems). Emotion-oriented coping refers to strategies that monitor emotional distress in response to a stressful situation (ex.: Worry about what I am going to do). The Distraction (ex.: Go out for a snack or meal) and Social Diversion (ex.: Try to be with other people) scales describe tactics used to avoid a stressful situation. The data obtained from the Task-oriented subscale was not included in the present study as it did not pertain to our research questions. Also, the Social Diversion subscale was used as a scale of social support-seeking strategies (Benoit, Bouthillier, Moss, Rousseau, & Brunet, 2008). Respondents rate each item on a five point scale ranging from (1) “not at all” to (5) “very much”. This questionnaire shows good convergent validity with other measures of coping such as the Coping Strategy Indicator (CSI; Amirkhan, 1990) and the Defense Style Questionnaire (DSQ; Bond & Vaillant, 1986). The CISS also has good internal consistency with alpha coefficients ranging from .76 to .91 (Endler & Parker, 1994).

*Emotional Expressivity Scale* (EES; Kring et al., 1994). The EES is a 17-item self-reported questionnaire measuring the extent to which people outwardly display their emotions ( $\alpha = .93$ ). Respondents rate each item on a six point scale ranging from (1) “strongly disagree” to (6) “strongly agree”. Reliability studies (Kring et al., 1994) show the EES to be internally consistent with an alpha coefficient of .91 and show good convergent validity with the Emotional Expressivity Questionnaire (EEQ; King & Emmons, 1990) and the Affect Communication Test (ACT; Friedman, Prince, Riggio, & DiMatteo, 1980). Kring et al. reported a 4-week test-retest correlation of .90. Although, Kring et al. reported that women scored significantly higher than men across samples, this gender difference did not affect reliability.

*Sociodemographic questionnaire.* This questionnaire assesses the participants' demographic information pertaining to the self and the family (age, gender, income, education, and marital status).

## Results

*Preliminary analyses*

Descriptive analyses were undertaken in order to identify possible covariates such as age, gender, education, and income, related to the evaluation of the association between attachment security in adolescence, adult romantic attachment, and adult emotion regulation strategies. No significant associations between outcome variables and participants' age, level of education, and income were found. However, analyses of gender differences revealed that men reported using social diversion to a greater extent than did women,  $t(54) = -2.80, p < .01$ , whereas women had higher scores on emotional expressivity,  $t(54) = 2.63, p < .05$ . Gender was therefore used as a covariate in analyses pertaining to the social diversion and emotional expressivity scales.

In addition, correlation analyses revealed a moderate association between attachment to parents and peers ( $r = .38$ ), as well as low to moderate coefficients between the different emotion regulation strategies ( $r$ s between  $-.22$  and  $.49$ ). Given the moderate effect of these results, scales were kept separate. Correlation coefficients as well as the means and standard deviations for study variables are presented in Table 1.

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Insert Table 1

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*Adolescent attachment as a predictor of adult romantic attachment*

In order to examine whether adolescent attachment security towards parents and peers was related to the anxious and avoidant dimensions of adult romantic attachment, two linear regressions were performed. Results are presented in Table 2. The first regression analysis was conducted on the anxiety scale of the ECR, with adolescent attachment security towards parents and peers entered as predictors (in the same step). Results showed that attachment to parents ( $\beta = .39$ ) and peers ( $\beta = .25$ ) during adolescence predicted anxiety scores on the ECR, explaining 30% of the variance. More specifically, lower attachment security towards parents (explaining 13% of the variance) and peers (explaining 5% of the variance) in adolescence significantly predicted greater romantic attachment anxiety scores on the ECR.

The second linear regression was performed on the avoidance scale of the ECR with the same two predictors. Results revealed that neither adolescent attachment security towards parents nor peers predicted avoidance scores on the ECR (see Table 2).

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Insert Table 2, 3, and 4

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#### *Adolescent attachment as a predictor of adult emotion regulation strategies*

In order to determine whether adolescent attachment security towards parents and peers predicted emotion regulation strategies in young adulthood, a linear regression was performed for each emotion regulation strategy as dependent variables (emotion-oriented, distraction, social diversion, and emotional expressivity) with adolescent attachment towards parents and peers as independent variables. Results revealed that adolescent attachment security towards parents ( $\beta = .28$ ) and peers ( $\beta = .27$ ) significantly predicted emotion-oriented strategies, explaining 21% of the variance, such that lower attachment security towards parents and peers as reported in adolescence was related to greater self-reported use of emotion-oriented strategies in young adulthood. There were no other significant associations between adolescent attachment security towards parents and peers, and emotion regulation strategies (see Table 3).

#### *Adult romantic attachment as a predictor of emotion regulation strategies*

Four linear regressions were then performed to examine whether adult romantic attachment styles, as independent variables, were related to emotion regulation strategies as dependent variables (emotion-oriented, distraction, social diversion, and emotional expressivity). Results (see Table 4) showed that adults who rated themselves as more anxious on the romantic attachment measure reported using significantly more emotion-oriented strategies ( $\beta = .49$ , 23% of the variance). Also, individuals high in avoidant attachment reported significantly fewer social diversion strategies ( $\beta = -.33$ , explaining 10% of the variance) and lower emotional expressivity ( $\beta = -.40$ , explaining 15% of the variance). There were no other significant associations between young adult romantic attachment dimensions and emotion regulation strategies.

*Mediating path between adolescent attachment and adult romantic attachment*

We next tested the mediating role of emotion-oriented regulation strategies in the association between insecure adolescent attachment towards parents and anxious romantic attachment in young adulthood. According to Baron and Kenny's (1986) recommendations, the criteria for testing such a model were met (see Figure 1): 1) the independent variable (adolescent attachment to parents) was related to the dependent variable (anxious romantic attachment), path c:  $\Delta R^2, .24, F(1,54) = 17.12, p < .01, \beta = .49$ ; 2) the independent variable was related to the mediator (emotion-oriented strategies), path a:  $\Delta R^2, .14, F(1,54) = 9.12, p < .01, \beta = .38$ ; and 3) the mediator was related to the dependent variable, controlling for the independent variable, path b:  $\Delta R^2, .17, F(1,53) = 11.59, p < .01, \beta = .40$ .

Furthermore, Baron and Kenny (1986) propose that mediation is demonstrated when the effect of the independent variable on the dependent variable diminishes significantly when the mediator is included in the model. In order to test the significance of the mediation model, a hierarchical regression with anxious romantic attachment as the dependent variable was conducted with emotion-oriented strategies entered in Step 1 and adolescent attachment to parents in Step 2. Results showed that adolescent attachment to parents remained a significant predictor of anxious romantic attachment, path c':  $\Delta R^2, .10, F(1,53) = 8.36, p < .05, \beta = .34$ , even after taking into account the variance explained by emotion-oriented strategies, which was also a significant predictor, path b':  $\Delta R^2, .28, F(1,54) = 20.86, p < .01, \beta = .53$ . We further tested the significance of the mediated path using Preacher and Hayes' (2004) bootstrapping methodology for indirect effect. This procedure is based on 10 000 bootstrap resamples to describe the confidence intervals for indirect effects in a manner that makes no assumptions about the distribution of the indirect effects. Interpretation of the bootstrap data is accomplished by determining whether zero is contained within the 95% confidence interval (thus revealing a lack of significance). Results revealed an indirect effect of .0208 and a bias-corrected bootstrap 95% CI: {.0055, .0409}, indicating a significant decrease in the effect of adolescent attachment insecurity to parents on anxious attachment in young adulthood, via the use of emotion-oriented strategies. However, since adolescent attachment to parents remained a significant predictor, emotion-oriented regulation strategies

is considered a partial mediator of the association between insecure adolescent attachment to parents and anxious romantic attachment.

Given that adolescent attachment insecurity towards peers was also related to anxious romantic attachment in young adulthood, a second mediation model was tested whereby emotion-oriented regulation strategies mediated the association between insecure adolescent attachment towards peers and anxious romantic attachment (see Figure 2). Once again, the criteria for testing the model were met: 1) the independent variable (adolescent attachment to peers) was related to the dependent variable (anxious romantic attachment), path c:  $\Delta R^2$ , .16,  $F(1,54) = 10.49$ ,  $p < .01$ ,  $\beta = .40$ ; 2) the independent variable was related to the mediator (emotion-oriented strategies), path a:  $\Delta R^2$ , .14,  $F(1,54) = 8.86$ ,  $p < .01$ ,  $\beta = .38$ ; and 3) the mediator was related to the dependent variable controlling for the independent variable, path b:  $\Delta R^2$ , .17,  $F(1,53) = 13.00$ ,  $p < .01$ ,  $\beta = .44$ .

In order to test whether adolescent attachment to peers remained a significant predictor of anxious romantic attachment when emotion-oriented strategies were included in the model, a hierarchical regression with anxious romantic attachment as the dependent variable was conducted with emotion-oriented strategies entered in Step 1 and adolescent attachment to peers in Step 2. Results showed that adolescent attachment to peers was no longer a significant predictor of anxious romantic attachment, path c':  $\Delta R^2$ , .05,  $F(1,53) = 3.86$ , *n.s.*,  $\beta = .24$ , when taking into account the variance explained by emotion-oriented strategies, which was a significant predictor, path b':  $\Delta R^2$ , .28,  $F(1,54) = 20.86$ ,  $p < .01$ ,  $\beta = .53$ . We further tested the significance of the mediated path using the bootstrapping methodology (Preacher & Hayes, 2004) described earlier. Results revealed an indirect effect of .0200 and a bias-corrected bootstrap 95% CI: {.0033, .0500}, indicating a significant decrease in the effect of insecure attachment to peers on anxious attachment, via the use of emotion-oriented strategies. The use of emotion-oriented regulation strategies is therefore a complete mediator of the association between insecure adolescent attachment to peers and anxious romantic attachment in young adulthood.

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Insert Figure 1 and 2

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### Discussion

Results of this study extend our understanding of the developmental links between adolescent attachment towards parents and peers, adult romantic attachment, and emotion regulation strategies by investigating these associations within an 8-year longitudinal framework. Specifically, we found insecure attachment to parents and peers in adolescence to predict higher anxiety scores on the romantic attachment measure (ECR; Brennan et al., 1998) and greater use of emotion-oriented regulation strategies, in young adults. In addition, analyses of concurrent adult measures revealed that anxious romantic attachment was associated with greater use of emotion-oriented strategies, while avoidant attachment was associated with lower emotional expressivity and support-seeking. Finally, we found that emotion-oriented strategies partially mediated the link between adolescent insecurity towards parents and adult anxious attachment, and fully mediated the association between adolescent attachment towards peers and anxious romantic attachment. These findings, which make a unique contribution in supporting theoretical developmental links between adolescent and adult attachment styles, and identifying explanatory processes, are discussed in greater detail below.

#### *Association between adolescent attachment to parents and peers and adult romantic attachment*

This is the first longitudinal study to demonstrate the unique contribution of attachment security towards parents and peers in adolescence to the development of adult romantic attachment styles. Specifically, results of this study show that greater adolescent attachment insecurity towards parents and peers at age 14 independently predicted a more anxious romantic attachment style, 8 years later. However, in line with study hypotheses, attachment to parents was a stronger predictor than attachment to peers.

Adolescents' improved abilities in logical reasoning (Keating, 1990) and emotional development (Allen, 2008) may contribute to their recognition that specific attachment needs are better fulfilled by certain attachment figures rather than others. Moreover, increased autonomy allows adolescents to evaluate their attachment relationships with parents more objectively (Main & Goldwyn, 1984; Main, Goldwyn, & Hesse, 2003) and to begin a de-idealization of parental figures, culminating in cognitive integration of both positive and negative parental attributes (Steinberg, 2005). Adolescents' new-found ability to identify parental limitations in their role as attachment figures is linked to their redirection of attachment needs to the best suited figure (Allen, 2008). For example, peer attachment figures may be perceived by adolescents as being more apt at providing support during developmental challenges and a safe haven during conflicts with parents (Armsden & Greenberg, 1987; Doyle et al., 2009; Fraley & Davis, 1997).

Nevertheless, attachment to parents was a stronger predictor of anxious romantic attachment in young adulthood, supporting the idea that parents are the primary source of reference in the development of internal working models associated with adult attachment styles (Furman & Buhrmester, 1992; Hazan & Zeifman, 1994; Weiss, 1982). Internal working models of attachment relationships with parents are primarily formed based on the quality of the parent's ability to act as a secure base, as well as their capacity to respond to their child's signals of distress (Bowlby, 1969, 1973). Based on our results, it would seem that internal working models of parents as being inconsistently available and unreliable in times of distress represent key features that are transferred from the parent-child attachment relationship to relationships with romantic partners in adulthood. Accordingly, one's anxious romantic attachment style regarding expectations and perceptions of partner behavior in times of need is thus rooted in the internal working models developed in response to earlier caregiving experiences with parents. Nevertheless, given that strategies for seeking and providing support are increasingly practiced in the context of peer relationships (Zeifman & Hazan, 2008), our results suggest that attachment relationships with both parents and peers provide models and experiences for attitudes and behavior in romantic relationships (Allen, 2008; Collins, van Dulmen, et al., 2006; Furman et al., 2002).

No associations were found between adolescent attachment towards parents and peers, and adult avoidant romantic attachment. At first, glance, these results are surprising given that the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) has been shown to load on both the avoidant and anxious scales of the Experience in Close Relationships questionnaire (ECR; Brennan et al., 1998). However, several reasons may account for our conflicting findings. First, the IPPA and the ECR questionnaires were administered concurrently in the Brennan et al. study, whereas these questionnaires were assessed eight years apart in the present study. Second, Brennan and colleagues (1998) compared the anxious and avoidant scales of the ECR to the three subscales of the IPPA (alienation, trust, and communication), whereas we used the global IPPA scores to measure attachment insecurity towards parents and peers. Therefore, although the subscales of the IPPA relate to the avoidant scale of the ECR when assessed simultaneously, their associations may dissipate when assessed longitudinally or when compared to the global insecurity IPPA score.

A third explanation may be that avoidant adolescents under-reported distress on the IPPA owing to defensive idealization (Hesse, 1999), a protective strategy against feelings of rejection in response to inadequate caregiving experiences. Indeed, it is possible that many avoidantly-attached adults on the ECR were likely to favour, in adolescence, avoidance of negative affectivity, or even self-idealization, making them less likely to report attachment insecurity on the IPPA, and therefore limiting the possibility of detecting a significant association between the two time points. Bernier, Larose, & Boivin (2007) reported similar findings when assessing the concurrent association between classifications on the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985) and self-reported attachment security on the IPPA. Specifically, the authors found that individuals who were classified as dismissing on the AAI reported greater attachment security towards parents, when assessed with the IPPA. The authors suggest that self-report questionnaires may serve to activate the dismissing individual's defensive mechanisms of idealization thus leading them to portray a false, yet positive portrait of attachment experiences with parents. Taken together, our results and those of others suggest that the IPPA may distinguish the secure versus anxious attachment dimensions to a greater extent than the secure versus avoidant attachment patterns.

Nevertheless, given our interest in investigating the unique contribution of attachment security towards parents and peers in predicting romantic attachment styles in young adults, the IPPA was the best choice of instrument for the present study.

*Adolescent attachment and emotion regulation strategies in adulthood*

Although previous studies have found a relation between adult romantic attachment styles and particular emotion regulation strategies (Mikulincer et al., 1993; Mikulincer & Florian, 1995; Mikulincer & Nachshon, 1991; Simpson et al., 1992), the present study is the first to empirically and longitudinally test whether these strategies are related to the quality of earlier parent-child attachment relationships. In particular, we found that greater insecurity towards parents and peers in adolescence was related to greater use of emotion-oriented regulation strategies in young adulthood. This supports the theoretical assumption of continuity in the use of emotion-oriented regulation strategies between adolescence (and possibly even earlier) and young adulthood, such that emotion-oriented regulation strategies, first developed within the insecure parent-child attachment relationship, are internalized and then applied to future stressful situations throughout development (Bowlby, 1980; Cassidy, 1994; Kobak & Sceery, 1988; Mikulincer & Shaver, 2003; Sroufe & Fleeson, 1986). Moreover, the fact that attachment towards parents and peers were both strong predictors of emotion-oriented strategies provides additional support for the idea that these specific strategies are more likely to represent characteristics of the insecure individual's internalized repertoire of regulation strategies, rather than being associated with a specific attachment relationship.

Adolescent attachment to parents and peers was not significantly related to the other emotion regulation strategies evaluated in adulthood, i.e., social diversion, distraction, and emotional expressivity. Given our previous finding that adolescent attachment insecurity is related to greater use of emotion-oriented regulation strategies (i.e., greater focus on negative emotions associated with a distressing situation), it is not surprising that other emotion regulation strategies assessed, which focus on diverting attention from the source of distress (distraction and social diversion), or openly and clearly communicating felt emotions (emotional expressivity), were unrelated to attachment insecurity in adolescence. Emotion-

oriented regulation strategies, including self-blame, self-criticism, ruminations, and focusing on negative emotions and feelings of helplessness (Endler & Parker, 1994), may serve to perpetuate feelings of distress, such that individuals who adopt these strategies may become fixated and paralyzed by their negative feelings, making them less likely to seek constructive social support and accurately communicate emotions.

#### *Anxious romantic attachment and emotion regulation strategies in adulthood*

Results of this study also corroborated our hypothesis concerning associations between particular adult romantic attachment styles and different emotion regulation strategies. Specifically, individuals with an anxious romantic attachment style reported greater use of emotion-oriented strategies. These results support well-established theoretical and empirical findings, showing that, when distressed, anxiously-attached individuals adopt strategies that center on negative emotions, scenarios of potential catastrophic situations, and ruminative thoughts (Mikulincer & Florian, 1995; Mikulincer et al., 1993; Mikulincer & Shaver, 2007, 2008). This emotional pattern is also characteristic of ambivalent or anxiously-attached children who may use such strategies in order to initiate or maintain the attention of an inconsistently available caregiver (Cassidy, 1994).

In line with previous results (Collins & Feeney, 2000), we found anxious romantic attachment to be unrelated to the social diversion (support-seeking) subscale of the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1994). Although it might be intuitively assumed that the anxiously-attached individual's strong desire for closeness to the attachment figure might promote support-seeking behaviors, it is also plausible that their doubts and insecurities about support availability, coupled with their fear of partner abandonment, may make them hesitant to seek support directly (Vogel & Wei, 2005). This idea is further supported by Mikulincer and Shaver (2007), who proposed that individuals with an anxious romantic attachment style may express their need for comfort and protection indirectly (e.g., heightened dependency and clinging behaviors; Shaver & Mikulincer, 2002) in order to avoid potential partner abandonment. It is noteworthy that although Vogel and Wei (2005) reported a significant positive association between anxious attachment and support-seeking, the authors investigated this strategy within the context of seeking help

from a mental health care professional, rather than considering more general forms of support seeking strategies (e.g., “Be with a special person”; “Talk to someone”; “Phone someone”, etc.), as in the present study. The way in which support seeking is conceptualized from one study to the next may therefore account for the divergent findings in the literature.

#### *Avoidant romantic attachment and emotion regulation strategies in adulthood*

Our study confirms both theoretical and empirical studies suggesting that avoidant individuals suppress the activation of their attachment system by inhibiting the expression of emotions and support-seeking behaviors (Kobak et al., 1993; Mikulincer & Shaver, 2008). From a developmental perspective, avoidant individuals learn, through interacting with their caregivers, that expressing emotions or seeking-out support from others leads to rejection (Cassidy, 1994). As such, their lack of emotion expression and support-seeking is believed to stem from their desire to suppress contact with internal states that activate their attachment system in order to avoid potential rejection and thus unwanted closeness with their romantic partner (Mikulincer & Shaver, 2008).

On the other hand, the expected link between avoidant adult attachment and the distraction subscale of the CISS was not confirmed. Previous studies linking adult avoidant attachment and distancing strategies have primarily found associations with maladaptive forms of distraction, such as denial, confusion, alcohol use, and short-lived sexual encounters (Brennan & Shaver, 1995; Lopez, Mauricio, Gormley, Simko, & Berger, 2001; Mikulincer & Florian, 1995). However, the majority of items on the distraction subscale of the CISS used in the present study have a neutral (e.g., “Get some sleep”; “Go for a walk”; “Catch a movie”), rather than a maladaptive connotation. We interpret this to mean that adult avoidant romantic attachment may be unrelated to emotion regulation strategies of distraction that involve neutral or mundane activities but may be linked to more maladaptive forms of distraction in order to divert attention from emotionally-charged information. Future studies with larger samples are needed to further test this hypothesis.

#### *Mediating paths*

In line with our third objective, we found that emotion-oriented strategies acted as a partial mediator of the longitudinal association between adolescent attachment insecurity to parents and anxious romantic attachment in young adulthood. These results support past theoretical models suggesting that early caregiving experiences, and the emotion regulation strategies that are acquired through these interactions, are internalized by the child and resurface in other situations that activate feelings of stress and/or fear later in life (Bowlby, 1980; Cassidy, 1994; Kobak & Sceery, 1988; Mikulincer & Shaver, 2003). In other words, insecurely-attached adolescents, who have used emotion-oriented strategies to seek and maintain proximity to the caregiver during earlier developmental periods, internalized these experiences within representational models, which were later reactivated in the context of adult romantic relationships. Accordingly, when faced with a stressful situation which may be perceived as a threat to the attachment relationship, insecurely-attached individuals may resort to emotion-oriented regulation strategies to deal with their negative feelings. These strategies which include focusing on negative emotions, ruminating over possible negative scenarios, and endorsing feelings of helplessness (Cassidy, 1994; Mikulincer et al., 1993; Mikulincer & Florian, 1995; Mikulincer & Shaver, 2007, 2008), may actually increase the person's feelings of anxiety. With time, reliance on these strategies to deal with distressing experiences may lead to negative views of self, and thus promote the development of an anxious romantic attachment style. Nevertheless, emotion-oriented strategies were only partial mediators of the association between adolescent attachment insecurity towards parents and anxious romantic attachment in young adulthood, supporting the idea that attachment insecurity to parents also has a direct role in predicting anxious romantic attachment in adulthood.

Our longitudinal results also expand those of past concurrent studies having reported associations between attachment security towards peers and romantic partners (Furman et al., 2002; Doyle et al., 2009) by showing that emotion-oriented strategies completely mediated the relation between adolescent attachment towards peers and anxious romantic attachment in young adulthood. Taken together, results from our two mediation analyses provide robust evidence that internalized representations of self and others developed in response to the attachment relationship with parents, but not peers, are carried forward into attachment

relationships with romantic partners in young adulthood, directly and indirectly through the use of emotion-oriented strategies, contributing to a more anxious romantic attachment style in adulthood. Accordingly, we propose that emotion-oriented regulation strategies and internal working models of self and others associated with an anxious romantic attachment style in young adulthood are rooted in the insecure parent-adolescent attachment relationship. To our knowledge, this is the first study to demonstrate the unique contribution of adolescent attachment towards parents versus peers, and the use of emotion-oriented regulation strategies in the development of an adult anxious romantic attachment style.

### *Study Limitations*

Several study limitations should be noted. First, adolescent attachment to parents and peers was assessed along a continuous dimension of insecurity. Therefore, the influence of type of insecurity (avoidant versus ambivalent) in adolescence on adult romantic attachment styles could not be tested. In addition, given that both adolescent and young adult measures were self-reported, it is possible that insecure adolescents of the avoidant type, who tend to minimize their distress, were less open in their responding than secure or ambivalent individuals- the latter group possibly exaggerating it. Studies using a four-way classification system for assessing adolescent attachment may help clarify this possibility. Second, our findings suggest that future studies assessing distraction and support-seeking should include both adaptive and maladaptive forms of these strategies in order to accurately assess how they relate to avoidant and anxious romantic attachment styles, respectively. Third, the questionnaires for assessing adult romantic attachment styles and emotion regulation strategies were self-reported and assessed concurrently, which could have created a potential for shared method variance. However, the correlations between these variables were moderate, reducing this potential risk. Lastly, owing to the limited size of our sample, further studies with larger samples will be necessary to confirm our findings.

### *Conclusion*

Overall, our study contributes in a number of ways to furthering our understanding of the longitudinal associations between adolescent attachment towards parents and peers, adult romantic attachment, and the use of emotion regulation strategies. Firstly, results of our study

highlight the distinct contribution of adolescents' attachment to parents and peers in predicting adult romantic attachment styles. Specifically, this study supports the view that caregiving experiences with parents are a privileged source in the development of internal working models that guide later perceptions and experiences in adult romantic relationships (Furman & Buhrmester, 1992; Hazan & Zeifman, 1994). Secondly, this is the first study to empirically show that attachment insecurity towards parents and peers in adolescence promotes greater use of emotion-oriented regulation strategies in young adulthood. Lastly, our study proposes two developmental mediation models whereby 1) insecure adolescent attachment towards parents is a direct predictor of anxious romantic attachment in young adulthood, in addition to the partial mediating role of emotion-oriented strategies, and 2) insecure adolescent attachment to peers predicts anxious attachment indirectly through the use of emotion-oriented strategies.

In conclusion, results of this study support the theoretical assumption that adolescent attachment insecurity towards parents and emotion-oriented regulation strategies believed to develop within the parent-child attachment dyad, directly promote a more anxious romantic attachment style in adulthood. However, these results should not be interpreted to mean that past attachment experiences necessarily have a lasting and unchangeable effect on romantic relationships. On the contrary, the mediation models tested in this study suggest that therapeutic interventions which assist couples in learning more adaptive strategies for dealing with stressful situations can positively influence romantic attachment styles. These programs should target development of more adaptive emotion regulation strategies (i.e., finding solutions for addressing the problem instead of focusing on negative emotions), which could, in turn, promote romantic attachment security. This idea is in line with clinical intervention programs (Stark et al. 2008) which encourage the development of adaptive emotion regulation strategies that help modulate negative emotions via cognitive restructuring techniques. These techniques allow the person to better judge their internal emotional states and consequently lead to positive behavioral changes, including an increase in social and interpersonal abilities.

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Table 1  
*Descriptive statistics and correlations between attachment and emotion regulation (N=56)*

Variables	1	2	3	4	5	6	7	8
1. Adolescent attachment security to parents (IPPA) <sup>a</sup>	—							
2. Adolescent attachment security to peers (IPPA) <sup>a</sup>	.38**	—						
3. Avoidant romantic attachment (ECR)	-.02	.01	—					
4. Anxious romantic attachment (ECR)	.49**	.40**	.23	—				
5. Emotion-oriented strategies (CISS)	.38**	.38**	.28*	.53**	—			
6. Distraction (CISS)	.20	.25	.03	.11	.25	—		
7. Social diversion (CISS)	.11	-.02	-.22	-.001	.09	.48**	—	
8. Emotional expressivity (EES)	.15	-.08	-.39**	.18	.08	-.20	.22	—
<i>M</i>	25.38	23.59	2.47	3.62	48.77	53.63	55.34	67.68
<i>SD</i>	7.26	6.37	0.83	1.00	7.72	10.98	7.64	16.92
Range	12-43	12-40	1-5	2-6	29-65	32-75	35-70	26-98

<sup>a</sup> A higher score indicates lower attachment security.

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

Table 2  
*Regression model for predicting adult romantic attachment*

Predictors	$\Delta R^2$	$\Delta F$	(df)	$\beta$
Anxious romantic attachment (ECR)				
Step 1	.30	11.10**	(2,53)	
Adolescent attachment security to parents (IPPA) <sup>a</sup>				.39**
Adolescent attachment security to peers (IPPA) <sup>a</sup>				.25*
Avoidant romantic attachment (ECR)				
Step 1	.001	.02	(2,53)	
Adolescent attachment security to parents (IPPA) <sup>a</sup>				-.03
Adolescent attachment security to peers (IPPA) <sup>a</sup>				.02

<sup>a</sup> A higher score indicates lower attachment security.

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

Table 3

*Multiple regression models with adolescent attachment security towards parents and peers as predictors of emotion regulation strategies in adulthood*

Predictor variables	$\Delta R^2$	$\Delta F$	(df)	$\beta$
Emotion-oriented strategies (CISS)				
Step 1	.21	6.90**	(2,53)	
Adolescent attachment security to parents (IPPA) <sup>a</sup>				.28*
Adolescent attachment security to peers (IPPA) <sup>a</sup>				.27*
Distraction (CISS)				
Step 1	.07	2.12	(2,53)	
Adolescent attachment security to parents (IPPA) <sup>a</sup>				.13
Adolescent attachment security to peers (IPPA) <sup>a</sup>				.20
Social diversion (CISS)				
Step 1	.13	7.87**	(1,54)	
Gender				.36**
Step 2	.06	1.79	(2,52)	
Adolescent attachment security to parents (IPPA) <sup>a</sup>				.26
Adolescent attachment security to peers (IPPA) <sup>a</sup>				-.14
Emotional expressivity (EES)				
Step 1	.11	6.93*	(1,54)	
Gender				-.34*
Step 2	.02	.50	(2,52)	
Adolescent attachment security to parents (IPPA) <sup>a</sup>				.13
Adolescent attachment security to peers (IPPA) <sup>a</sup>				-.12

<sup>a</sup> A higher score indicates lower attachment security.

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

Table 4

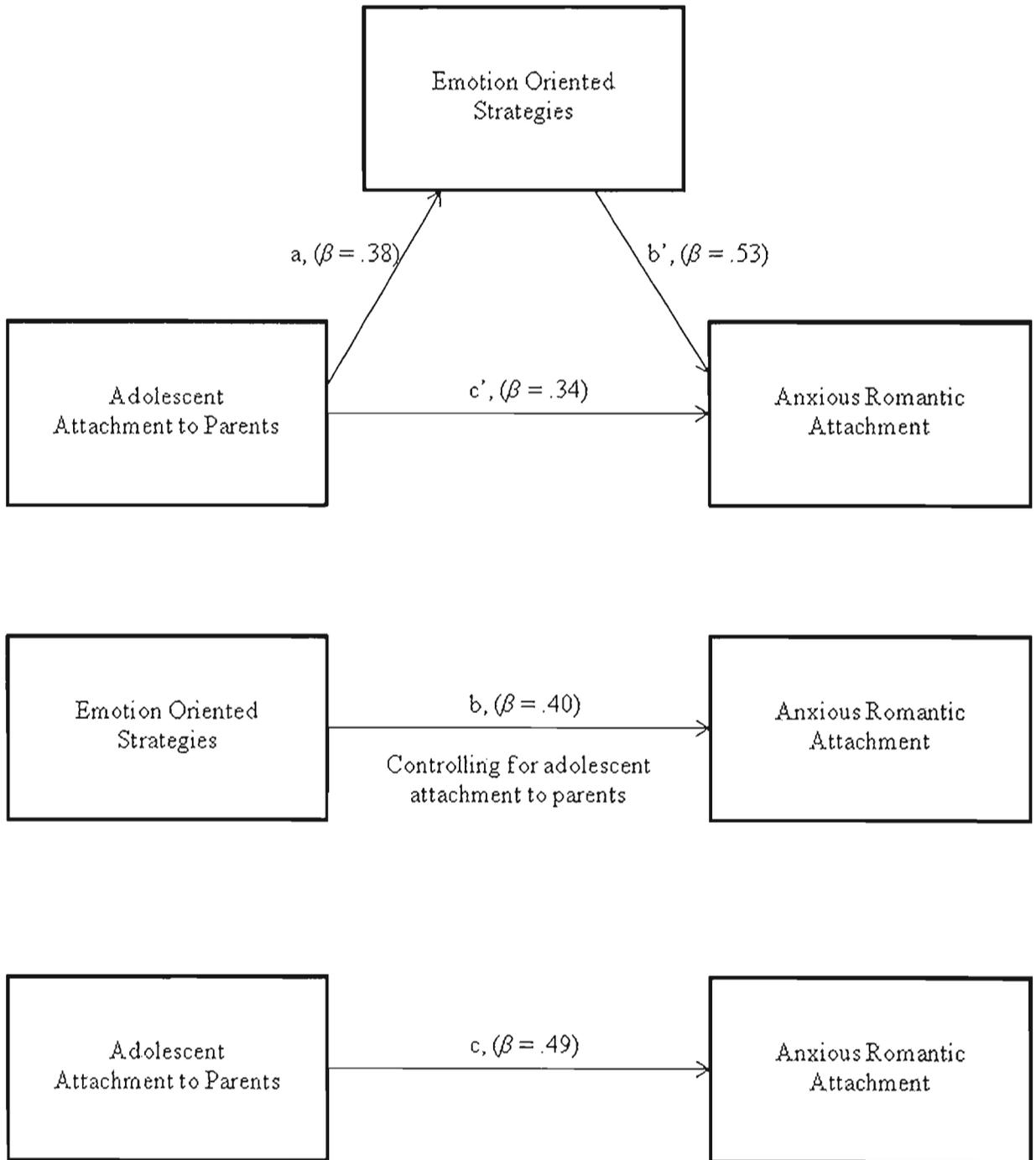
*Multiple regression models with anxious and avoidant romantic attachment as predictors of emotion regulation strategies in adulthood*

Predictor variables	$\Delta R^2$	$\Delta F$	(df)	$\beta$
Emotion-oriented strategies (CISS)				
Step 1	.30	11.53**	(2,53)	
Avoidant romantic attachment (ECR)				.16
Anxious romantic attachment (ECR)				.49**
Distraction (CISS)				
Step 1	.01	.31	(2,53)	
Avoidant romantic attachment (ECR)				.01
Anxious romantic attachment (ECR)				.11
Social diversion (CISS)				
Step 1	.13	7.87**	(1,54)	
Gender				.36**
Step 2	.11	3.68*	(2,52)	
Avoidant romantic attachment (ECR)				-.33*
Anxious romantic attachment (ECR)				.19
Emotional expressivity (EES)				
Step 1	.11	6.93*	(1,54)	
Gender				-.34*
Step 2	.16	5.62**	(2,52)	
Avoidant romantic attachment (ECR)				-.40**
Anxious romantic attachment (ECR)				.22

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

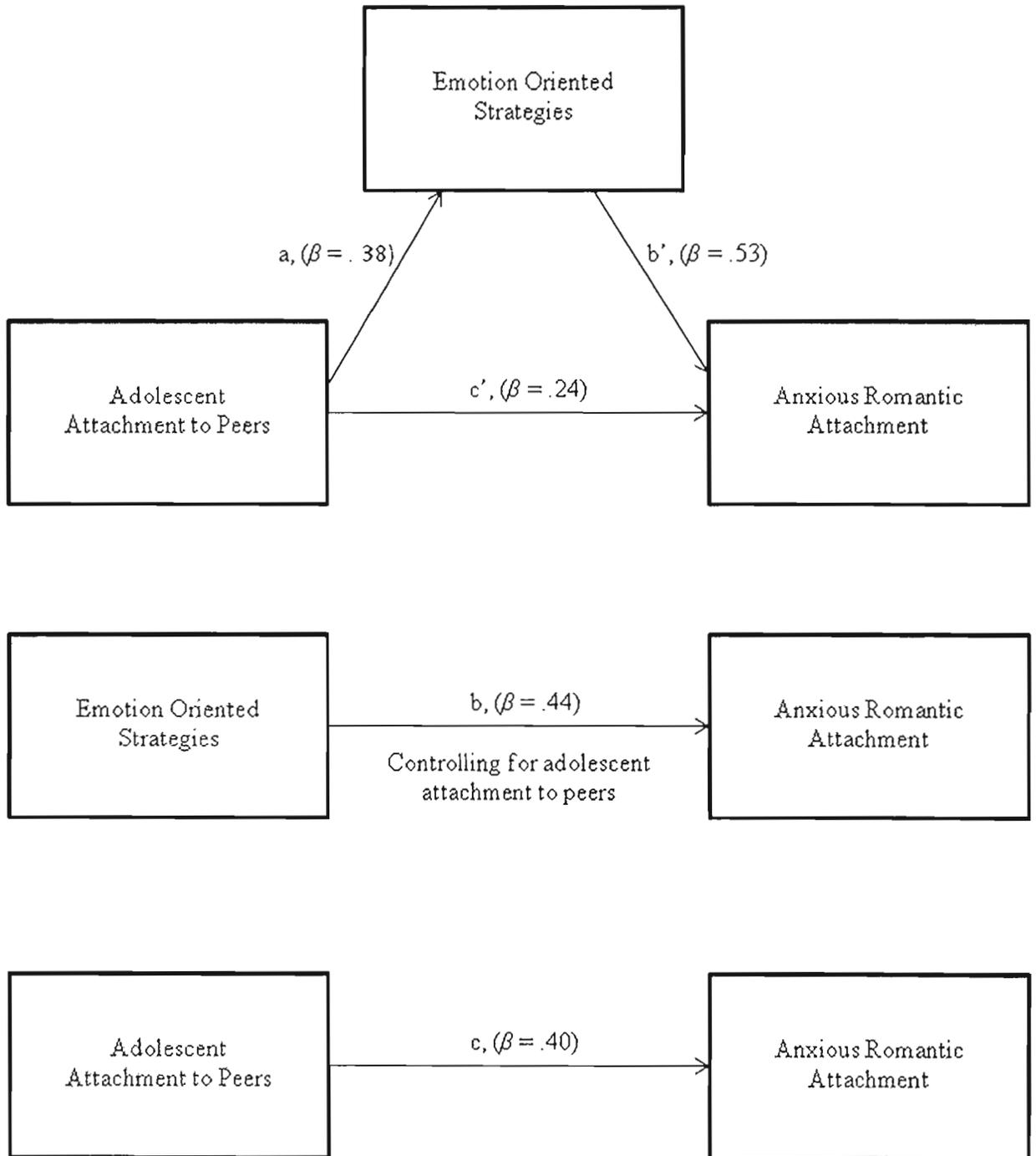
## Figure Caption

*Figure 1.* Causal steps of mediation test between adolescent attachment to parents and anxious romantic attachment via the use of emotion-oriented strategies.



## Figure Caption

*Figure 2.* Causal steps of mediation test between adolescent attachment to peers and anxious romantic attachment via the use of emotion-oriented strategies.



CHAPTER III  
STUDY 2

The Role of Adolescent and Adult Attachment and Emotion Regulation Strategies in  
Predicting Psychopathology in Adulthood

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Article to be submitted to *Personal Relationships*, September 2011

This research was supported by grants and doctoral scholarships received from the Social Sciences and Humanities Research Council of Canada (SSHRC) and the Fonds Québécois de Recherche sur la Société et la Culture (FQSRC). We thank Jean Bégin for his valuable assistance in the research project.

## Abstract

The aim of the present study was to test a 10-year longitudinal model depicting the mechanism through which attachment relationships with parents and peers in adolescence, and romantic attachment and emotion regulation strategies in young adulthood, are associated with adult symptoms of psychopathology. Fifty French-speaking adults completed the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987) at age 14. At age 22, participants completed the Experience in Close Relationships (Brennan, Clark, & Shaver, 1998) measure of adult romantic attachment, as well as the Coping Inventory for Stressful Situations (Endler & Parker, 1994) and the Emotional Expressivity Scale (Kring, Smith, & Neale, 1994), as measures of emotion regulation strategies. Two-years later, participants completed the Symptoms Checklist 90-Revised (Derogatis, 1983) and the Revised NEO Personality Inventory (Costa, & McCrae, 1992). Results revealed that an insecure attachment to parents at age 14, and the use of emotion-oriented regulation strategies at age 22, independently predicted greater overall symptoms of psychopathology at age 24. These associations were maintained when controlling for related adult variables of attachment and neuroticism. Anxious romantic attachment was also related to symptoms of psychopathology, although the use of emotion-oriented strategies completely mediated this association. Finally, adolescent attachment insecurity towards peers and avoidant attachment in young adulthood were unrelated to adult symptoms of psychopathology.

Keywords: adolescent attachment; adult romantic attachment, emotion regulation strategies; psychopathology; neuroticism

## Introduction

In the last decade, research supporting the association between adult attachment styles, general psycho-social adaptation, and disposition to distress in nonclinical samples has flourished (Fortuna & Roisman, 2008; Lopez, Mitchell, & Gormlsey, 2002; Mallinckrodt & Wei, 2005). However, few studies have examined longitudinal associations between these variables (Lee & Hankin, 2009). For example, little is known concerning the influence of attachment security towards parents and peers in adolescence and romantic attachment styles in young adulthood, on the development of adult psychopathology. In addition, while theoretical models indicate that associations between earlier attachment styles and later adaptation lie in the specific emotion regulation strategies adopted by individuals to deal with stressful situations (Carlson & Sroufe, 1995; Chaplin & Cole, 2005; DeKlyen & Greenberg, 2008), this assumption has yet to be empirically tested. Accordingly, the main objective of this study is to investigate associations between attachment insecurity in adolescence and young adulthood and global symptoms of psychopathology in adulthood. We further tested the role of emotion regulation strategies as mediators of these longitudinal associations.

### *Attachment through development*

According to attachment theory, internal working models developed in response to the quality of repeated attachment-related parent-child interactions influence the child's expectations and beliefs concerning the self, others, and the environment (Bowlby, 1988; Bretherton, 1987; Main, Kaplan, & Cassidy, 1985), and are subsequently used as a guide for behaviors in future interpersonal relationships (Hazan & Shaver 1987; Hazan & Zeifman, 1994). The classic work of Ainsworth (Ainsworth, Blehar, Waters, & Wall, 1978) identified three attachment categories: *secure*, *insecure-avoidant*, and *insecure-ambivalent*, based on child separation-reunion behavior with the primary caregiver. Children who have experienced interactions with a sensitive caregiver, who consistently responds to their attachment needs, are more likely to develop a *secure* attachment model consisting of self-representations of competency and perceptions of others as dependable and available in times of need (Bretherton, 1987).

Children with an *insecure-avoidant* attachment relationship with their primary caregiver have learned that expressing distress or the need for proximity in stressful situations is likely to evoke rejection from their caregiver. In order to protect themselves from possible rejection, these children inhibit attachment-related behaviors, such as the expression of negative emotions and proximity-seeking (Main & Cassidy, 1988). Based on their experiences, avoidant children may view others as untrustworthy and develop positive but unrealistic self-perceptions, with an excessive focus on their ability to overcome difficult situations on their own. *Insecure-ambivalent* children, on the other hand, have experienced inconsistent or unpredictable caregiving, leading them to worry about the availability of their attachment figure to respond to their manifestations of distress. In response to their caregiving experiences, ambivalent children learn to exaggerate and intensify distress signals in order to maintain parental proximity (Main & Cassidy, 1988). Accordingly, these children may develop self-perceptions as being helpless and unlovable, and view others as being unreliable.

Main & Solomon (1990) later identified a fourth attachment pattern which they called *insecure-disorganized*. Disorganized child attachment is believed to develop in the presence of frightening or frightened parental behavior (Madigan, Moran, Schuengel, Pederson, & Otten, 2007; Schuengel, Bakermans-Kranenburg, van IJzendoorn, & Bloom, 1999). According to Main and Hesse (1990), disorganized children are caught at the heart of an important dilemma in which their source of comfort also represents their source of fear. Consequently, these children show confused and contradictory withdrawal and approach behaviors towards their attachment figure when distressed. Children with disorganized attachment describe themselves the most negatively of all the attachment groups, show the highest level of affect dysregulation, and lack organized and coherent attachment strategies for seeking parental proximity in times of distress (Main & Solomon, 1990).

Similar systems exist for classifying adolescent attachment models, using both categorical and continuous dimensions of security (see Main & Goldwyn, 1985, for details on the Adult attachment Interview), while others rely solely on continuous scales of security (e.g., Armsden & Greenberg, 1987). Accordingly, a more secure adolescent is likely to be

involved in a goal-corrected parent-teen partnership, which allows for increased independence from parents in order to attain normative age-appropriate social goals (e.g., development of social relationships with peers, greater exploration of a larger environment, etc.), while still maintaining contact with parents through open communication (Allen, 2008; Armsden & Greenberg, 1987; Kobak & Duemmler, 1994). On the other hand, greater adolescent attachment insecurity towards parents is marked by feelings of resentment and alienation, as well as emotional detachment (Armsden & Greenberg, 1987).

Researchers have also investigated teens' attachment security towards peers, the latter thought to fulfill certain attachment needs, such as providing support, comfort, and encouragement in facing developmental challenges (Allen, 2008). Accordingly, Zeifman and Hazan (2008), who investigated participants' (aged 6 to 17) preferred attachment figure relating to the four components of attachment (i.e., proximity seeking, safe haven, separation distress, and secure base), reported that nearly all sample participants preferred spending time with peers over parents. Moreover, between the ages of 8 and 14, participants increasingly preferred receiving comfort and emotional support from peers, although parents remained the primary sources of separation distress and bases of security. By late adolescence, however, the authors noted that romantic partners were identified as the overall preferred attachment figures. These results therefore provide strong empirical evidence that parents, peers, and even romantic partners can represent important attachment figures at specific moments in development.

In adulthood, proponents of the social psychology domain have conceptualized experiences in romantic relationships as an attachment process (Brennan, Clark, & Shaver, 1998; Hazan & Shaver, 1987), such that attachment behaviors are now thought to be directed towards romantic partners, instead of parents and/or peers. According to Brennan, Clark, and Shaver (1998), adult romantic attachment can be measured along two orthogonal dimensions: *avoidance of intimacy* and *anxiety over abandonment*. The *avoidance* scale assesses the extent to which a person distrusts their partner and is uncomfortable with intimacy, whereas the *anxiety* scale measures the degree to which a person is worried about being abandoned by their partner. Both attachment dimensions have been found to influence various aspects of

relationship functioning, including commitment, intimacy, and satisfaction (Treboux, Crowell, & Waters, 2004). For example, individuals high in attachment avoidance show low relationship commitment given their desire for independence, whereas anxiously-attached individuals' low commitment result in their distrust of their romantic partner (Mikulincer & Shaver, 2007). Accordingly, adult attachment styles can greatly impact functioning in romantic relationships.

### *Attachment and psychopathology*

According to Bowlby (1988), internal working models of attachment influence the individual's resilience and vulnerability to stressful life events, consequently affecting their well-being and mental health. Insecure adult attachment models have been found to be associated with more inflexible perceptions of self (Lopez, 1996), as well as more negative and distorted views and expectations of others (Mikulincer & Shaver, 2008). Based on these distorted cognitive models, individuals may perceive and experience difficult and stressful events in a more negative manner (e.g., anger, hurt, disappointment, sadness, jealousy, helplessness), potentially contributing to their experience of distress (Collins, 1996). In line with this idea, attachment security during childhood, adolescence and young adulthood has been shown to be a protective factor against emerging psychopathology (Carlson & Sroufe, 1995; DeKlyen & Greenberg, 2008; Dozier, Stovall-McClough, & Abus, 2008; Parker, Rubin, Price & DeRosier, 1995). In contrast, internalized representations of self and others developed in response to insensitive caregiving are thought to increase the risk for developmental maladaptation across the life span (Dozier et al., 2008). Therefore, although attachment insecurity is not considered as a disorder in and of itself, it is viewed as an important risk factor for adult psychopathology, including symptoms of anxiety, depression, dissociation, and antisocial behaviors (Bowlby, 1978; Davila, Ramsay, Stroud, & Steinberg, 2005; Dozier et al., 2008).

Adolescence is a particularly interesting developmental phase to study with respect to attachment security and psychopathology given that different attachment figures, (i.e., parents and peers), are involved in the teen's life (Armsden & Greenberg, 1987; Zeifman & Hazan, 2008). However, our understanding of the longitudinal influence of these specific

relationships on later adult psychopathology is currently limited. Concurrent and prospective studies with adolescent samples have already linked attachment insecurity to higher instances of depression and behavior problems (Laible, Carlo, & Raffaelli, 2000; Lee & Hankin, 2009). For example, Lee and Hankin (2009) found that both anxious and avoidant attachment to parents and close peers, assessed together, in a sample of adolescents aged 11 to 17, predicted prospective increases in depressive and anxiety symptoms over a 5-month period, even after controlling for baseline symptom levels. However, this study was limited as it did not assess the independent contribution of attachment security towards parents and peers. On the other hand, Muris, Meesters, van Melick, and Zwambag (2001) found that adolescents who were insecurely-attached towards both parents and peers, assessed separately using the Inventory of Parent and Peers attachment (IPPA; Arnsden & Greenberg, 1987), reported higher concurrent levels of depression and anxiety compared with their secure counterparts. Others have shown that attachment security towards both parents and peers is associated with greater overall concurrent adjustment (i.e., greater sympathy, and lower aggression and depression; Laible et al., 2000), and that greater attachment security to mothers is associated with fewer psychiatric symptoms, (i.e., somatization, obsessive-compulsiveness, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism; Cavell, Jones, Runyan, Constantin-Page, & Velasquez, 1993), assessed with the global index scale of the Symptom Distress Checklist-90-Revised (SCL-90-R; Derogatis, 1983). Outcome differences associated with attachment to parents and peers have also been reported. For example, Laible et al. (2000) found that adolescents who were securely attached towards peers but who reported attachment insecurity towards parents on the IPPA were better adjusted than those who were securely attached with parents, but insecurely attached to peers. This finding thus highlights the importance of assessing the independent influence of attachment security towards parents and peers on later symptoms of psychopathology.

During young adulthood, positive associations between attachment insecurity in close relationships (e.g., romantic partner) and general psychopathology have also been reported (Lopez & Brennan, 2000; Lopez et al., 2002; Mallinckrodt & Wei, 2005). Mallinckrodt and Wei (2005) found that both anxious and romantic attachment styles in a sample of undergraduates were positively correlated with overall symptom severity and

psychological distress assessed with the Outcome Questionnaire (Lambert et al., 1996). Similarly, Fortuna and Roisman (2008), assessing the relation between self-reported attachment, psychopathology, and stress, found significant correlations between attachment dimensions (avoidance and anxiety) and both internalizing and externalizing symptoms (assessed with the Young Adult Self-Report, Achenbach, 1997), under conditions of both high and low stress. On the other hand, Lopez, Mauricio, Gormley, Simko, and Berger (2001), found anxious attachment in a sample of college students to be related to general distress, including both depression and anxiety scores, although avoidant attachment was not. Based on the aforementioned studies, both dimensions of adult attachment have been linked to symptoms of psychopathology, although the relation between attachment avoidance and psychopathology is less clear when assessing symptoms of a more internalizing nature.

In summary, our review of the literature indicates a lack of empirical data regarding the longitudinal association between earlier attachment in adolescence and young adulthood, and later psychopathology. In addition, while most studies have focused on the association between attachment and symptoms of depression and anxiety (Lee & Hankin, 2009; Lopez et al., 2001; Muris et al., 2001), few have used a global index of psychopathology as the outcome variable (Cavell et al., 1993; Lopez et al., 2002; Mallinckrodt & Wei, 2005), making the comparison between studies difficult. Given that depression and anxiety are highly comorbid (Brown, Campbell, Lehman, Grisham, & Mancill, 2001), assessing the longitudinal impact of attachment insecurity on specific disorders may be confounded by the influence of overlapping symptoms. Moreover, since our sample represents a non-clinical population, assessing global symptoms of psychopathology, versus specific disorders, seems more appropriate. Accordingly, in order to present a more accurate picture of how attachment models, developed through repeated daily experiences with significant figures (parents, peers, and romantic partners), contributes to the presence of overall symptoms of psychopathology in adulthood, we will evaluate symptoms of psychopathology within a normative sample using a global severity index score.

*Emotion regulation strategies and psychopathology*

Attachment theory also provides a framework for understanding how the quality of the parent-child relationship influences development of emotion regulation strategies thought to be important to later adult adaptation (DeKlyen & Greenberg, 2008). To define the concept of emotion regulation, we refer to Thompson's definition (1994) : "Emotion regulation consists of the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals" (p. 28-29). Based on attachment theory, individuals adopt specific emotion regulation strategies to accomplish their goals (e.g., dealing with distressing feelings) that are in accordance with their internal working model of attachment (Mikulincer & Shaver, 2007, 2008). When faced with stressful situations, individuals will rely on these strategies to regulate their emotions, thoughts, and behaviors.

For example, individuals with an avoidant attachment are more likely to use deactivating strategies to deal with stress-related situations, which include denial of emotion-related thoughts and information, as well as suppression of emotional expressivity (Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993, Mikulincer & Shaver, 2007, 2008). Avoidant individuals adopt these strategies in order to maintain their attachment system deactivated since activation of this system would cause them to relive past or present experiences of distress in response to a distant and rejecting attachment figure (Mikulincer & Shaver, 2007). Fear, anxiety, anger, sadness, shame, guilt, and distress are especially inhibited as they relate to feelings of vulnerability, contradicting the avoidant individual's self-perceptions of competency, superiority, and strength (Hesse, 1999). Although denial of emotional states and inhibition of emotional expressivity are adaptive for avoidant individuals in the short-term, over time they can potentially contribute to psychopathology, including anxiety disorders (Zeijlmans van Emmichoven, van IJzendoorn, de Ruiter, & Brosschot, 2003), eating disorders (Ward et al., 2001), and antisocial behaviors (Rosenstein & Horowitz, 1996), given that negative emotions are not openly communicated and accurately evaluated but rather suppressed (Mikulincer & Shaver, 2007).

On the other hand, anxiously-attached individuals are more inclined to use hyperactivating strategies which include exaggeration of threats, over-dependence on the

attachment figure and hypervigilance to cues of danger and abandonment, when faced with stress-related situations (Mikulincer & Florian, 1995; Mikulincer & Shaver, 2007, 2008). Focusing on potentially negative cues and emotions causes these individuals to link negative experiences together so that one negative thought leads to a string of others (Mikulincer & Shaver, 2008). The anxiously-attached individual is therefore caught in a vicious cycle whereby their attention to negative information leads to negative thoughts and ruminations, which in turn intensifies their feelings of anxiety, and thus their focus on potentially negative cues. Although the use of hyperactivating and emotion-oriented strategies (e.g., self-blame, self-criticism, ruminations, focus on negative emotions, and feelings of helplessness) by anxiously-attached individuals is somewhat effective for maintaining the attention of attachment figures, these strategies may serve to intensify negative feelings, such as anger, helplessness, and stress, which have been found to contribute to the development of symptoms of psychopathology, including depression and anxiety disorders (Cantazaro & Wei, 2010; Hankin & Abramson, 2001; Lopez et al., 2001).

Given that insecure attachment models have been shown to be related to symptoms of psychopathology, and that these models promote the use of specific emotion regulation strategies (e.g., emotional expressivity and emotion-oriented strategies) associated with qualitative differences in attachment relationships, these strategies may be important mediating variables explaining the association between earlier attachment styles and adult functioning (Carlson & Sroufe, 1995; Chaplin & Cole, 2005; DeKlyen & Greenberg, 2008). In line with this idea, problematic coping strategies, such as reactive coping and difficulties in identifying and communicating feelings (Lopez et al., 2001; Mallinckrodt & Wei, 2005; Wei, Hepner, & Mallinckrodt, 2003), have already been identified as mediators of the association between insecure attachment and psychopathology, particularly depression and anxiety. However, these studies are limited in that their samples were restricted to specific populations (undergraduates), and relied on concurrent data only. For example, using a sample of undergraduates, Wei et al., (2003) found that the perceived ability to cope with problems fully mediated the association between attachment anxiety and psychological distress (including anxiety and depression symptoms), whereas it only partially mediated the relationship between avoidant attachment and distress. Similarly, Lopez et al., (2001)

reported that ineffective coping (i.e., reactive coping: strong emotional response, impulsivity, and distortions) partially mediated the positive association between anxious attachment and distress (combined depression and anxiety), whereas avoidant attachment was not a predictor of distress. Overall, reviewed studies, although cross-sectional, indicate that the association between attachment insecurity and psychopathology is indirect and may be mediated by different emotion regulation strategies. Not only will we attempt to replicate these concurrent mediation models using longitudinal data, we will also test these models using diverse measures of attachment (towards parents and peers in adolescence and towards romantic partners in young adulthood). Moreover, psychopathology will be assessed using a global index of severity across a wide range of symptoms that include somatization, obsessive-compulsiveness, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism.

#### *Neuroticism and psychopathology*

In addition to attachment styles and emotion regulation strategies, the personality trait of neuroticism has also been identified in the literature as being related to symptoms of psychopathology in adulthood (Watson, Clark, & Harkness, 1994), especially with regard to depression (Kendler, Gatz, Gardner, & Pedersen, 2006; Kercher, Rapee, & Schniering, 2009). This association is not surprising given that individuals high in neuroticism have a tendency to perceive the world as threatening and are vulnerable to experiencing negative emotions such as anger, anxiety, depression, and stress (Caspi, Roberts, & Shiner, 2005; Tellegen, 1985; Watson & Clark, 1992; Watson et al., 1994), thoughts and feelings which have been found to promote the development of symptoms of psychopathology (Hankin & Abramson, 2001; Wilkinson & Walford, 2001). Krueger (1999), one of the first to study the longitudinal association between negative emotionality (i.e., neuroticism) in late adolescence and mental disorders in young adulthood, reported that greater negative emotionality at age 18 predicted affective and antisocial disorders, anxiety, and substance dependence at age 21, even when controlling for mental disorders at age 18. As suggested by the author: “[...] early emerging temperamental differences may influence personality development, and personality acts as a persistent, relatively stable risk factor for mental disorder during life transitions” (p.59). Accordingly, in order to rigorously test the association between attachment and

psychopathology, it is important to control for the personality trait of neuroticism as this variable has been shown to be an important risk factor for symptoms of psychopathology.

It is also important to note that despite the conceptual similarity between neuroticism and emotion-oriented regulation strategies, in that both share the common feature of negative emotionality, these two concepts do not overlap to form a single inclusive dimension. Neuroticism is a moderately heritable disposition (Clark, 2005), whereas emotion-oriented regulation strategies are believed to develop in response to caregiving experiences in early childhood (Cassidy, 1994; Thompson & Mayer, 2007) and are thought to be activated only when the individual is under conditions of stress (e.g., perceiving a threat to the attachment relationship). Emotion-oriented strategies are therefore used to regulate emotions associated with anxiety-provoking situations (Mikulincer & Shaver, 2007, 2008), whereas neuroticism is a general way of perceiving and experiencing emotions irrespective of the experience of distress (John & Gross, 2009). Given these differences, the study of neuroticism and emotion-oriented regulation strategies as separate concepts is warranted.

### *Summary*

Despite the evidence for a concurrent association between insecure attachment and psychopathology in young adults (Fortuna & Roisman, 2008; Lopez et al., 2001; Mallinckrodt & Wei, 2005), few studies have included earlier attachment measures (Lee & Hankin, 2009), thus precluding the examination of developmental questions. In this study, attachment is evaluated at two different time-points (Time 1: 14 years of age; Time 2: 22 years of age), and in relation to three distinct attachment figures (Time 1: parents and peers; Time 2: romantic partners) in a sample of adults with varied socio-demographic backgrounds. The objective of this study is to assess the unique contribution of adolescent attachment security towards parents and peers (Time 1) and attachment dimensions of anxiety and avoidance in young adulthood (Time 2), to self-reported symptoms of psychopathology in adulthood (Time 3: 24 years of age), controlling for neuroticism. Based on the idea that significant attachment relationships with parents, peers, and romantic partners can shape one's view of self, others, and situational encounters, assessing their unique predictive value merits greater attention. Moreover, we will test the assumption that theoretically relevant

emotion regulation strategies, specifically emotional expressivity and emotion-oriented strategies, mediate demonstrated associations between earlier attachment insecurity and adult psychopathology.

### *Objectives and hypothesis*

The first objective of this study was to evaluate the relative contribution of attachment insecurity towards parents and peers during adolescence (T1), and anxious and avoidant romantic attachment in young adulthood (T2), to self-reported symptoms of psychopathology in adulthood (T3). Based on empirical evidence (Lee & Hankin, 2009; Muris et al., 2001; Lopez et al., 2001; Mallinckrodt & Wei, 2005), we expected greater insecurity at both T1 and T2 to be associated with increased symptoms of psychopathology. In order to assure that any demonstrated longitudinal associations between attachment in adolescence (T1) and adult symptoms of psychopathology (T3) were independent of more proximal attachment styles, the attachment measure in young adulthood (T2) was included as a control variable in the prediction model. Given that neuroticism has been found to be strongly associated with adult psychopathology, this variable was also included in the prediction model as a control variable.

Our second objective was to test the possible mediating role of emotion regulation strategies, specifically emotional expressivity and emotion-oriented strategies, in any demonstrated associations between attachment (in adolescence and young adulthood) and adult psychopathology. We expected lower emotional expressivity (lower tendency to outwardly display and communicate emotions) and greater emotion-oriented regulation strategies (i.e., self-blame, ruminations, focus on negative emotions) to mediate the predicted association between insecure attachment and psychopathology.

## Method

### *Participants*

Participants were 50 French-speaking young adults (33 women) taking part in an ongoing longitudinal study of developmental adaptation as a function of the parent-child relationship (see Moss, Smolla, Cyr, Dubois-Comtois, Mazzarello, & Berthiaume,

2006). Mean age of participants at Time 1 was 13.7 years ( $SD = .60$ , range = 12.6 to 15.1 years,  $N = 79$ , 45 girls). The sample was heterogeneous with respect to income level with 10% of families earning under \$20,000 (figures represent Canadian dollars), 37% earning between 20,000\$ and 50,000\$, and 53% at 50,000\$ and above. Seventy per cent of participants' mothers obtained college or university level training and 32% of sample adolescents were living in a mother-headed single parent family.

At Time 2, participants' mean age was 21.5 years ( $SD = .81$ , range = 19.8 to 22.8 years,  $N = 66$ , 43 young women). The sample was heterogeneous with respect to income level with 50% of young adults earning under \$10,000, 45% earning between 10,000\$ and 30,000\$, and 5% at 30,000\$ and above. Thirty-two per cent of participants had completed a high school degree and the rest had some college or university level training. Seventy-three per cent of sample participants were still living with their family while the rest were living on their own.

Participant mean age at Time 3 was 23.5 years ( $SD = .88$ , range = 21.80 to 24.94 years,  $N = 50$ , 33 young women). The final sample was heterogeneous with respect to income level with 22% of young adults earning under \$10,000, 48% earning between 10,000\$ and 30,000\$, and 30% at 30,000\$ and above. Twenty-five per cent of participants had completed a high school degree and the rest had some college or university level training. Forty-two per cent of sample participants were still living with their family of origin while the rest were living on their own.

Of the 50 participants who completed Time 3 measures, 29 (37%) were lost to attrition from Time 1: 7 never responded to repeated contacts initiated by the project staff, 3 no longer had valid phone numbers, 2 had moved away, 6 refused to participate, 1 accepted participation but did not show up to the laboratory visit, and 10 participants were dropped from Time 1 to Time 2, due to incomplete attachment and emotion regulation datasets (no differences on socio-demographic data were found between these 10 participants and the remaining 50). ANOVAs and chi-square analyses of socio-demographic variables (age, gender, and income) of remaining participants between T1 and T3, and between T2 and T3 revealed no significant

differences. However, there were significantly fewer men than woman participants between T1 and T2,  $\chi^2(1, N=79) = 5.27, p < .05$ .

### *General procedure.*

*Time 1.* An initial phone call informing participants of the adolescent phase of the longitudinal study was followed by a laboratory visit for each adolescent during which they completed the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) questionnaire. Mothers of participants completed the socio-demographic questionnaire sent to them by mail.

*Time 2.* Eight years later, at the young adult follow-up, each participant was again contacted by phone and invited to the first of two laboratory visits (approximately one month apart), during which a socio-demographic questionnaire and the Experiences in Close Relationships (ECR; Brennan et al., 1998) measure were completed. During the second laboratory visit, participants completed the two emotion regulation measures: the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1994), and the Emotional Expressivity Scale (EES; Kring, Smith, & Neale, 1994).

*Time 3.* Two years following the Time 2 assessment, participants were contacted by phone and asked to complete questionnaires that would be sent to them by mail. These included a socio-demographic questionnaire, the Revised NEO Personality Inventory (NEO PI-R; Costa, & McCrae, 1992), and the Symptom Checklist 90-Revised (SCL-90-R; Derogatis, 1983). At both the adolescent and adult phases of the study, participants signed consent forms and received monetary compensation.

### *Instruments*

*Inventory of Parent and Peer Attachment* (IPPA; Armsden & Greenberg, 1987). The IPPA is a 24-item self-reported questionnaire evaluating adolescents' positive and negative perceptions of affective and cognitive dimensions of their relationships with their parents and peers. Participants rate each item on a four point scale ranging from (1) "almost always true" to (4) "almost never true". The IPPA consists of the following three scales, each one

completed with reference to parents and peers respectively: 1) trust (ex.: my parents / my friends accept me as I am), 2) communication (ex.: if my parents / friends know something is bothering me, they ask me about it) and 3) alienation (ex.: my parents / my friends don't understand what I'm going through these days). When the three scales are combined, they generate two global indices of attachment insecurity: one for parents ( $\alpha = .83$ ), and the other for peers ( $\alpha = .84$ ). A high global score reflects a high level of attachment insecurity. The IPPA has excellent psychometric qualities (average internal consistency and test-retest reliability scores: .90) and has been extensively used in studies evaluating attachment security with adolescents aged 13-19 (Duchesne & Larose, 2007; Harvey & Byrd, 2000; Laible, et al., 2000).

*Experiences in Close Relationships* (ECR; Brennan et al., 1998). The ECR consists of 36 items which measure romantic attachment along two dimensions: avoidance of intimacy ( $\alpha = .90$ ) and anxiety over abandonment ( $\alpha = .90$ ). Participants respond to each item using a Likert scale from (1) "strongly disagree" to (7) "strongly agree", rating the extent to which each item is descriptive of how they usually feel and behave in romantic relationships. For this reason, the questionnaire can be completed by individuals regardless of their current romantic relationship status. This questionnaire, which has been extensively used since 1998, has shown strong associations with numerous aspects of couple relationships, such as intimacy, commitment, and satisfaction (Treboux et al., 2004). Brennan, Shaver, & Clark (2000) have also reported a test-retest reliability of .70 for both the avoidant and anxious scales of the ECR over a 3-week period.

*Coping Inventory for Stressful Situations* (CISS; Endler & Parker, 1994). The CISS is a 48-item self-administered questionnaire which assesses four strategies of coping styles: task-oriented ( $\alpha = .87$ ), emotion-oriented ( $\alpha = .87$ ), distraction ( $\alpha = .77$ ), and social diversion ( $\alpha = .61$ ). Task-oriented coping refers to behavioral or cognitive strategies used to solve or minimize a problem or to reconceptualize it (ex.: Think about how I have solved similar problems). Emotion-oriented coping refers to strategies that monitor emotional distress in response to a stressful situation (ex.: Worry about what I am going to do). The Distraction (ex.: Go out for a snack or meal) and Social Diversion (ex.: Try to be

with other people) scales describe tactics used to avoid a stressful situation. The data obtained from the Task-oriented, Distraction, and Social Diversion subscales were not included in the present study as it did not pertain to our research questions. Respondents rate each item on a five point scale ranging from (1) “not at all” to (5) “very much”. This questionnaire shows good convergent validity with other measures of coping such as the Coping Strategy Indicator (CSI; Amirkhan, 1990) and the Defense Style Questionnaire (DSQ; Bond & Vaillant, 1986). The CISS also has good internal consistency with alpha coefficients ranging from .76 to .91 (Endler & Parker, 1994).

*Emotional Expressivity Scale* (EES; Kring et al., 1994). The EES is a 17-item self-reported questionnaire measuring the extent to which people outwardly display their emotions (alpha = .93). Respondents rate each item on a six point scale ranging from (1) “strongly disagree” to (6) “strongly agree”. Reliability studies (Kring et al., 1994) show the EES to be internally consistent with an alpha coefficient of .91 and show good convergent validity with the Emotional Expressivity Questionnaire (EEQ; King & Emmons, 1990) and the Affect Communication Test (ACT; Friedman, Prince, Riggio, & DiMatteo, 1980). Kring et al. reported a 4-week test-retest correlation of .90. Although, Kring et al. reported that women scored significantly higher than men across samples, this gender difference did not affect reliability.

*The Revised NEO Personality Inventory* (NEO PI-R; Costa & McCrae, 1992). The NEO PI-R consists of 240 items and is a comprehensive measure of normal adult personality that measures the five domains of the Five-factor model: Neuroticism (alpha = .92), Extraversion (alpha = .88), Openness (alpha = .90), Agreeableness (alpha = .81), and Conscientiousness (alpha = .86). Participants respond to each item using a Likert scale from (0) “strongly disagree” to (4) “strongly agree”. Substantial support exists for the validity and reliability of the NEO PI-R (Costa & McCrae, 1992). For the present study, only the Neuroticism scale was used in analyses, as the other scales did not pertain to our research questions.

*The Symptom Checklist 90-Revised* (SCL-90-R; Derogatis, 1983). The SCL-90-R is a psychiatric self-report inventory. The 90 items included in the questionnaire are scored on a five-point Likert scale from (0) “not at all” to (4) “extremely”, indicating the rate of occurrence of the 90 symptoms in the last seven days. The questionnaire is intended to measure symptom intensity on nine different subscales (Derogatis et al. 1973): somatization (alpha = .78), obsessive-compulsive (alpha = .80), interpersonal sensitivity (alpha = .84), depression (alpha = .84), anxiety (alpha = .83), hostility (alpha = .69), phobic anxiety (alpha = .60), paranoid ideation (alpha = .72), psychoticism (alpha = .67), and global severity (alpha = .96). In the present study, the global severity score was used in the analyses as an index of general experience of symptoms of psychopathology (correlation coefficients among SCL-90-R scales ranged from .39 to .77). The SCL-90-R is a validated and reliable measure, showing high internal consistency (Derogatis, 1983).

*Sociodemographic questionnaire.* This questionnaire assesses the participants’ demographic information pertaining to the self and the family (age, gender, income, education, and marital status).

## Results

### *Preliminary analyses*

Preliminary correlations and *t*-test analyses performed to identify possible covariates, such as age, gender, education, income, and relationship status, in relation to the global psychopathology index, revealed no significant associations (*r*s between -.20 and -.17, *t* between .63 and 1.34). Therefore, socio-economic variables were not controlled for in main regression analyses. As expected, a significant positive correlation was found between neuroticism and the global index of psychopathology,  $r = .39, p < .01$ . Neuroticism was therefore used as a control variable when conducting analyses on psychopathology.

Finally, partial correlations, controlling for neuroticism, were conducted between the independent (adolescent and young adult attachment, and emotion regulation strategies) and dependent variables (global index of psychopathology). Only significant predictors of psychopathology were used in main regression analyses. Specifically, greater insecure

adolescent attachment to parents and anxious romantic attachment in young adulthood were associated with greater symptoms of psychopathology ( $r = .66, p < .01$ ;  $r = .39, p < .01$ , respectively), whereas adolescent attachment to peers ( $r = .14, n.s.$ ) and young adult avoidant attachment ( $r = .08, n.s.$ ) were not. As for emotion regulation strategies, the use of emotion-oriented strategies was positively related to symptoms of psychopathology,  $r = .51, p < .01$ , although emotional expressivity was not,  $r = -.03, n.s.$

Correlations between attachment and emotion regulation strategies also indicated that adolescent attachment insecurity towards parents, peers, and young adult anxious attachment were significantly related to emotion-oriented strategies ( $r = .31, p < .05$ ;  $r = .31, p < .05$ ;  $r = .51, p < .01$ , respectively), while young adult avoidant attachment was significantly related to emotional expressivity ( $r = -.34, p < .05$ ). Table 1 presents partial correlation coefficients as well as means and standard deviations for study variables.

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Insert Table 1

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#### *Adolescent and young adult attachment as predictors of adult psychopathology*

In line with our hypothesis and the previously described significant partial correlations, we assessed the longitudinal influence of adolescent attachment to parents and young adult anxious romantic attachment, on adult symptoms of psychopathology. In order to assure that the longitudinal association between attachment to parents in adolescence and adult symptoms of psychopathology was independent of more proximal attachment styles, anxious attachment in young adulthood was included in the prediction model before entering the adolescent attachment variable. A hierarchical regression analysis was therefore performed with neuroticism in Step 1 (control variable), adult anxious attachment in Step 2 and adolescent attachment to parents in Step 3. Results (see table 2) revealed that adolescent attachment to parents ( $\beta = .56$ ) significantly predicted psychopathology (explaining 24.4% of the variance), even after controlling for neuroticism ( $\beta = .39$ ) and anxious attachment ( $\beta = .38$ ), which independently explained 15.0% and 12.9% of the variance, respectively.

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Insert Table 2

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*Adolescent attachment to parents and emotion-oriented strategies in young adulthood as predictors of adult psychopathology symptoms*

Given the previously described significant correlations, we next tested the role of emotion-oriented regulation strategies as a mediator of the positive association between insecure adolescent attachment to parents and adult psychopathology. In addition to controlling for neuroticism, we also controlled for anxious romantic attachment in order to isolate the unique predictive value of adolescent attachment to parents. Results of preliminary mediation analyses revealed that only two out of three (Baron & Kenny, 1986) necessary conditions were met: 1) the independent variable (adolescent attachment to parents) was related to the dependent variable (psychopathology), path c:  $\Delta R^2$ , .24,  $F(1,46) = 23.46$ ,  $p < .01$ ,  $\beta = .56$ , and 2) the mediator (emotion oriented strategies) was related to the dependent variable, controlling for the independent variable, path b:  $\Delta R^2$ , .08,  $F(1,45) = 9.32$ ,  $p < .01$ ,  $\beta = .36$ . However, the third criteria for testing mediation was not met: the independent variable was not significantly related to the mediator, path a:  $\Delta R^2$ , .01,  $F(1,46) = .66$ ,  $n.s.$ ,  $\beta = .11$ . Given these results, it was not possible to test the mediation model whereby emotion-oriented strategies mediated the association between insecure attachment to parents in adolescence and adult symptoms of psychopathology.

In order to examine the unique contribution of emotion-oriented strategies and adolescent attachment to parents in explaining adult psychopathology, while controlling for neuroticism and young adult anxious attachment, we next conducted a hierarchical regression with adult psychopathology symptoms as the dependent variable, neuroticism and adult anxious romantic attachment as control variables in Step 1, and emotion-oriented strategies and adolescent attachment to parents as independent variables in Step 2. Results (see Table 3) showed that, when taking into account the variance explained by neuroticism ( $\beta = .27$ ) and anxious attachment ( $\beta = .38$ ), both emotion-oriented strategies ( $\beta = .36$ ), and adolescent attachment to parents ( $\beta = .53$ ) significantly predicted adult psychopathology, explaining

8.2% and 20.8% of the variance, respectively. These results demonstrate that both adolescent attachment to parents and emotion-oriented strategies independently contribute to adult symptoms of psychopathology, even when controlling for neuroticism and anxious attachment in young adulthood, although insecurity towards parents is a stronger predictor.

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Insert Table 3

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*Mediating path between young adult anxious attachment and adult psychopathology*

Given the positive associations found between anxious romantic attachment, emotion-oriented strategies, and psychopathology, we were able to test whether emotion-oriented regulation strategies mediated the positive association between anxious attachment in young adulthood and adult psychopathology. Again, neuroticism was used as a control variable in the following analyses. According to Baron and Kenny's (1986) recommendations, all three conditions for testing such a model were met (see Figure 1): 1) the independent variable (anxious attachment) was related to the dependent variable (psychopathology), path c:  $\Delta R^2, .13, F(1,47) = 8.41, p < .01, \beta = .38$ ; 2) the independent variable was related to the mediator (emotion-oriented strategies), path a:  $\Delta R^2, .15, F(1,47) = 11.20, p < .01, \beta = .41$ ; and 3) the mediator was related to the dependent variable, controlling for the independent variable, path b:  $\Delta R^2, .12, F(1,46) = 8.96, p < .01, \beta = .43$ .

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Insert Figure 1

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Because all criteria were met, a final hierarchical regression with adult psychopathology symptoms as the dependent variable was conducted with neuroticism in Step 1, emotion-oriented strategies entered in Step 2, and anxious attachment in Step 3. Results (see Table 4) showed that, when taking into account the variance explained by neuroticism ( $\beta = .39$ ) and emotion-oriented strategies ( $\beta = .53$ ), anxious attachment was no longer a significant predictor of adult psychopathology, path c':  $\Delta R^2, .03, F(1,46) = 2.26, n.s., \beta = .20$ . We further tested the significance of the mediated path using Preacher and Hayes' (2004) bootstrapping methodology for indirect effect. This procedure is based on 10 000

bootstrap resamples to describe the confidence intervals for indirect effects in a manner that makes no assumptions about the distribution of the indirect effects. Interpretation of the bootstrap data is accomplished by determining whether zero is contained within the 95% confidence interval (thus revealing a lack of significance). Results revealed an indirect effect of .0665 and a bias-corrected bootstrap 95% CI: {.0036, .1422}, indicating a significant decrease in the effect of anxious attachment on adult psychopathology, via the use of emotion-oriented strategies. The use of emotion-oriented strategies is therefore a complete mediator of the association between anxious attachment in young adulthood and adult symptoms of psychopathology.

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Insert Table 4

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#### Discussion

The overall objective of the present study was to 1) test a longitudinal model depicting the impact of adolescent attachment to parents, peers, and romantic partners in young adulthood, on adult self-reported symptoms of psychopathology, and 2) identify the mechanism through which these attachment relationships influenced the experience of adult symptoms of psychopathology. In doing so, we tried to advance understanding of associations between adolescent/adult attachment and psychopathology by presenting a developmental model linking these concepts. Our results revealed that greater attachment insecurity towards parents in adolescence predicted greater symptoms of psychopathology in adulthood, 10 years later. The present study also tested the theoretical assumption that specific emotion regulation strategies, that is, emotional expressivity and emotion-oriented strategies, mediated associations between attachment insecurity (in adolescence and young adulthood) and adult symptoms of psychopathology. Contrary to what was expected, emotion regulation strategies did not constitute a mechanism through which adolescent attachment to parents influenced the manifestation of psychopathology. Accordingly, adolescent insecurity to parents and emotion-oriented strategies independently contributed to adult symptoms of psychopathology. However, the use of emotion-oriented strategies did mediate the positive

association between anxious attachment in young adulthood and adult psychopathology. These findings and their implications are discussed in greater detail in the following sections.

*Anxious romantic attachment in young adulthood as a predictor of adult symptoms of psychopathology*

Supported by results of past empirical studies, we found anxious attachment in young adulthood to be related to higher self-reported symptoms of psychopathology, 2 years later (Fortuna & Roisman, 2008; Lopez et al., 2001; Mallinckrodt & Wei, 2005). These results are in line with the idea that anxiously-attached individuals may be guided by negative working models of self and the world (Brennan et al., 1998; Collins & Read, 1990), such that they believe to be unworthy of receiving love and consistent support from their attachment figures. These individuals may also fear partner abandonment and experience intense negative emotions in attachment-related contexts. Our results suggest that these self-deprecating models, coupled with the anxiously-attached individual's feelings of helplessness in overcoming difficult situations alone, are conducive to self-reported symptoms of psychopathology in adulthood. Accordingly, it is not surprising that anxiously-attached individuals reported greater overall symptoms of psychopathology that included interpersonal sensitivity, paranoid ideation, anxiety, and depression, given that symptoms stemming from these disorders can emerge from hypersensitivity to interpersonal cues of rejection, ruminative negative thoughts, low self-worth, and feelings of hopelessness (Mikulincer & Shaver, 2008), associated with the anxious attachment style. Moreover, the association between anxious attachment and psychopathology was maintained while controlling for neuroticism, such that the possibility that our finding is simply an artifact of that specific personality trait is mitigated.

Our results further showed that emotion-oriented strategies acted as complete mediators of the association between anxious attachment in young adulthood and adult symptoms of psychopathology, even when controlling for neuroticism. These results corroborate those of others which have indicated that ineffective coping strategies may mediate the association between anxious attachment and psychopathology (Lopez et al., 2001). To our knowledge, this is the first study to demonstrate this mediation model using a

2-year delay, reinforcing the significance of the identified model. These results are also in line with findings from previous studies (Cooper, Shaver, & Collins, 1998), suggesting that anxiously-attached individuals may be caught in a vicious cycle whereby their negative views of self, coupled with their fears of partner abandonment, lead them to be hypervigilant to negative cues and vulnerable to experiencing even greater anxiety. To deal with these negative feelings, anxiously-attached individuals may resort to emotion-oriented strategies that engender thoughts of catastrophic scenarios, ruminations, and feelings of self-blame (Mikulincer & Shaver, 2007, 2008; Pascuzzo, Cyr, & Moss, in press), which can then, in turn, lead to greater feelings of anxiety and thus increases in self-reported symptoms of psychopathology over time. Based on our findings, anxious romantic attachment is therefore an indirect predictor of adult symptoms of psychopathology, which exerts its influence through the use of emotion-oriented regulation strategies.

*Adolescent attachment and emotion-oriented strategies as predictors of adult symptoms of psychopathology*

Despite the evidence suggesting concurrent associations between insecure attachment and psychopathology in adolescence (Cooper et al., 1998; Laible et al., 2000; Lee & Hankin, 2009; Muris et al., 2001; Wilkinson & Walford, 2001) and adulthood (Fortuna & Roisman, 2008; Lopez et al., 2001; Mallinckrodt & Wei, 2005), the current study is the first to investigate this relation over a 10-year period. Specifically, we found that greater parent-adolescent attachment insecurity predicted higher levels of self-reported psychopathology in adulthood. Findings of this study therefore extend the existing concurrent literature by demonstrating that attachment insecurity towards parents continues to predict symptoms of psychopathology into the adult years. The strength of this finding is further enhanced by the fact that more proximally-related variables, such as neuroticism and anxious attachment in young adulthood, were controlled.

In addition, and as expected, emotion-oriented regulation strategies were also found to predict adult symptoms of psychopathology, controlling for neuroticism and anxious romantic attachment. We interpret these results as suggesting that the use of emotion-oriented strategies, including self-blame, ruminative thoughts, and feelings of helplessness, in coping

with distress, actually exacerbate one's experience of negative emotions, and therefore contributes to the experience of symptoms of psychopathology in adulthood, irrespective of whether the individual is anxiously-attached or possess the personality trait of neuroticism. By resorting to these strategies, negative emotions are not dealt with in a constructive manner, that is, by finding appropriate solutions to resolve the problem, or thinking of the problem in a more benign manner. Rather, the use of emotion-oriented strategies implies that the person becomes enveloped in the stressful situation and focused on the experience of negative emotions associated with it, all the while feeling helpless to overcome it successfully. Therefore, in accordance with our findings, emotion-oriented strategies play a crucial and direct role in the development of adult symptoms of psychopathology.

We also found that, whereas emotion-oriented regulation strategies directly predicted adult symptoms of psychopathology 2 years later, they were not identified as mediators of the association between insecure parent-adolescent attachment and adult symptoms of psychopathology. Our results contradict those of previous studies having shown ineffective coping strategies to mediate concurrent associations between insecure attachment and psychological distress (Lopez et al., 2001; Mallinckrodt & Wei, 2005; Wei et al., 2003). However, unlike these studies, we used a longitudinal design as well as a representative sample to investigate these associations, which may account for our divergent findings. Therefore, whereas anxious romantic attachment was found to predict the experience of adult symptoms of psychopathology through the use of emotion-oriented regulation strategies, adolescent attachment insecurity towards parents and the use of emotion-oriented strategies in young adulthood independently and directly predicted adult symptoms of psychopathology. We interpret our results as providing robust evidence that internal working models associated with an insecure attachment relationship towards parents, and not the romantic partner, directly predisposes the individual to develop symptoms of psychopathology in adulthood (Bowlby, 1978; Davila et al., 2005; Dozier et al., 2008). Despite the fact that peers and romantic partners may fulfill important attachment roles in later life (Allen, 2008), attachment relationships in early and transitional years with parents may be most important in predicting later psychopathology given that internal working models regarding expectations and beliefs concerning the self and others are largely based on attachment experiences in

childhood and adolescence, when the individual is most vulnerable (Bowlby, 1988; Bretherton, 1987; Main et al., 1985). During adolescence, in particular, when coping with developmental challenges are an inherent part of the teen-parent relationship, the quality of their interactions may reinforce the teen's internal working models regarding his ability to overcome difficult situations and the supportiveness and reliability of others (Dozier et al., 2008) which can either predispose or protect the teen against future symptoms of psychopathology.

Overall, results showed that both adolescents' insecure attachment to parents and young adults' use of emotion-oriented strategies predicted adult symptoms of psychopathology. However, insecure attachment to parents was a stronger predictor when both variables were included in the model, explaining a larger proportion of the variance. This result provide further evidence that internal working models associated with insecurity towards parents in adolescence represents a fundamental predictor of future symptoms of psychopathology. A central feature of a secure parent-child relationship is the parent's ability to help the child organize his thoughts, behaviors, and feelings in response to a distressing situation (Bowlby, 1969/1982). A secure parent-child attachment relationship thus encourages the adolescent to develop more coherent and positive views of self and others, and provides him with the tools to adequately overcome stressful situations (Bretherton, 1987). Equipped with positive views, adaptive problem-solving strategies, and a strong sense of self-confidence, a securely-attached teen is less likely to experience symptoms of psychopathology in adulthood. Taken together, our results show that although neuroticism, anxious romantic attachment, and the use of emotion-oriented strategies may influence one's manifestation of psychopathology symptoms in adulthood, attachment insecurity towards parents in adolescence was the strongest predictor of adult symptoms of psychopathology measured in this study.

#### *Adolescent attachment to peers and avoidant attachment in young adulthood*

Extending on the concurrent results of Wilkinson & Walford (2001), we found that adolescent attachment insecurity towards peers was unrelated to adult symptoms of psychopathology. However, other studies using concurrent designs have reported such

associations (Laible et al., 2000; Lee & Hankin, 2009; Muris et al., 2001; Wilkinson, 2010). Taken together, although empirical evidence suggests that attachment insecurity towards peers is concurrently related to symptoms of psychopathology, our longitudinal study shows that this association is not maintained over time, that is adolescent attachment to peers is not a long-time predictor of adult psychopathology. Contrary to attachment relationships with parents which are enduring features of one's life (Allen, 2008), attachment relationships with peers are more fleeting, with the formation of new friendships and the dissolution of others. Although symptoms of psychopathology in adolescence may be associated with specific peer attachment relationships, these symptoms may change, as can attachment relationships with friends. It is also possible that adolescent attachment insecurity towards peers may influence psychopathology indirectly through its association with similarly related constructs such as social competence and self-esteem (Paterson, Prior, & Field, 1995; Wilkinson & Walford, 2001). For example, it may be that adolescent attachment insecurity towards peers predicts future symptoms of psychopathology in adulthood, only if the adolescent possesses low social competence or low self-esteem, placing the teen at risk for developing psychopathology disorders. In this case, adolescent attachment towards peers would affect symptoms of psychopathology through a moderating variable, supporting the idea that attachment insecurity towards peers is not a direct predictor of future symptoms of psychopathology. These results provide additional support for the theoretical idea that relationships with the most important caregiving figures, usually parents, are most predictive of the individual's internal working model and future adaptation (Bretherton, 1987; see also Pascuzzo, Cyr, & Moss, in press).

Contrary to expectation and previous concurrent findings (Fortuna & Roisman, 2008; Mallinckrodt & Wei, 2005), we did not find an association between avoidant attachment in young adulthood and later psychopathology. Nevertheless, our results corroborate those of Lopez et al., (2001) who found anxious attachment to be positively associated with higher levels of general distress, whereas avoidant attachment was not. Our findings are also in line with the view that anxious attachment is more strongly related to self-reported symptoms of psychopathology, particularly depression, than avoidant attachment (see Wei, Mallinckrodt, Larson, & Zakalik, 2005). Past researchers have argued that young adults with an avoidant

romantic attachment style may be more likely to demonstrate externalizing, rather than internalizing symptoms, such as antisocial behaviors (Rosenstein & Horowitz, 1996) and hostility (Mikulincer, 1998), given their suppression of and distraction from negatively charged emotions (Mikulincer & Shaver, 2007, 2008). Support for this idea is provided by the Lopez et al. (2002) study, where avoidant attachment was related to higher scores on the Personal Problems Inventory (PPI; Cash, Begley, McCown, & Weise, 1975) which includes externalizing type problems (e.g., conflict with parents, sexual functioning, and drug addiction), although it was unrelated to the Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) which assesses more internalizing type symptoms. In our study, we used a measure similar to the HSCL, the Symptom Checklist 90-Revised (SCL-90-R; Derogatis, 1983), where the global index score is made up of the following scales: somatization, obsessive-compulsiveness, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The conceptualization of the SCL-90-R, with its focus on internalizing symptoms, may thus explain why a significant association between avoidant romantic attachment in young adulthood and adult symptoms of psychopathology was not found in the present study.

The lack of findings may also have resulted from the under-reporting of symptoms of psychopathology by avoidant individuals, who may minimize distress signals given their self-perceptions of over-competency and superiority (Hesse, 1999; Mikulincer & Shaver, 2007, 2008). Wei et al., (2003) suggest that avoidant individuals may not report distress on simple measures with high face validity, as the one used in the present study. They found that when multiple measures of psychopathology are used, a positive association between avoidant attachment and psychological distress is more likely to be detected. Future studies using multiple measures of psychopathology are thus needed to clarify our lack of a significant association.

#### *Emotional expressivity and symptoms of psychopathology*

Contrary to the expectation that a lack of emotional expressivity would predict greater symptoms of psychopathology 2 years later, the tendency to express emotions was found to be unrelated to psychopathology in the present study. These results contradict those

of earlier studies that have shown lower emotional expressivity to be associated with greater experience of psychiatric disorders (i.e., alcohol and drug dependence, and depression; Corcos & Speranza, 2003), and higher emotional expressivity to be linked to fewer symptoms of psychological distress (Vogel, Wade, & Hackler, 2008). Using the same Emotional Expressivity Scale as the one used in the present study, (Kring et al., 1994), Vogel, et al., (2008) found greater emotional expressivity to be negatively concurrently associated with psychological distress in a large sample of undergraduate students. The authors propose that highly-distressed individuals may be less likely to openly express their emotions, given their expectation that communicating emotions may cause them to experience even greater unpleasant feelings (Vogel et al., 2008). In light of the results from the Vogel et al., study, and those of the present study, we interpret our findings as suggesting that although emotional expressivity and psychopathology may be concurrently related, the tendency to express emotions does not buffer against future experience of symptoms of psychopathology.

#### *Neuroticism and symptoms of psychopathology*

We also found neuroticism in adulthood to be associated with overall general symptoms of psychopathology. These results are not surprising given that individuals high in neuroticism are vulnerable to experiencing negative emotions such as anger, worry, anxiety, and depression (Caspi et al., 2005; Watson et al., 1994). These negative feelings and the ruminative thoughts that follow (focus on injustices, losses and threats; Trapnell & Campbell, 1999) have been found to promote the development of symptoms of psychopathology, especially those pertaining to depression (Wilkinson & Walford, 2001). Accordingly, results of this study support the already established relation between neuroticism and general symptoms of psychopathology in adulthood (Kendler et al., 2006; Kercher et al., 2009; Kruger, 1999). We also found neuroticism to be moderately correlated with emotion-oriented strategies, confirming the idea that they share the common feature of focusing on negative emotions. However, the findings of the present study support the idea that these two concepts do not overlap into a single overarching concept, given that emotion-oriented strategies predicted symptoms of psychopathology when controlling for neuroticism. Based on our results, studies investigating possible predictors of psychopathology should consider the influence of the personality trait of neuroticism as this variable has been shown to be an

important determinant of the presence of symptoms of psychopathology (Kendler et al., 2006; Kercher et al., 2009; Kruger, 1999), and may therefore act as a confounding variable.

### *Study limitations*

Several study limitations should be noted. Firstly, all study variables were self-reported, which may have engendered under-reporting of symptoms by avoidant individuals and over-reporting by anxiously-attached individuals. Moreover, individuals who endorsed emotion-oriented regulation strategies may also have been more likely to over-report symptoms, given their focus on distress. Future studies should use multiple measures of symptoms of psychopathology in order to correct for this possible bias. Secondly, given that we could not control for psychopathology symptoms in adolescents, we cannot rule out the possibility that self-reported symptoms in adulthood were not simply persisting symptoms from the adolescent period. However, our sample consisted of a normative population, reducing the likelihood that our results are an artifact of severe and persistent psychopathology. Thirdly, questionnaires assessing young adult romantic attachment styles and emotion regulation strategies were administered concurrently at Time 2, which could have created a potential for shared method variance. However, correlations between study variables were low to moderate, reducing this potential risk. Lastly, owing to our limited sample size, further studies with larger samples are necessary to confirm study results.

### *Conclusion*

In summary, results from this study contribute in numerous ways to our understanding of the longitudinal influence of attachment in adolescence and young adulthood on the development of symptoms of psychopathology in adulthood. Firstly, our results show that adolescent attachment insecurity in adolescence, as well as emotion-oriented regulation strategies in young adulthood, independently predict adult symptoms of psychopathology, even after controlling for more proximal measures of anxious attachment and neuroticism. Therefore, our study extends results of past concurrent research by demonstrating a 10-year longitudinal association between adolescent attachment insecurity and adult symptoms of psychopathology. As such, our results underline the undeniable influence of a secure parent-adolescent attachment relationship on the individual's future

well-being. Secondly, our study proposes a 2-year longitudinal model whereby the use of emotion-oriented strategies mediates the association between adult anxious attachment and later psychopathology. By identifying developmental factors and explanatory processes involved in the experience of adult symptoms of psychopathology, our findings are applicable to clinical intervention programs with adults, as they highlight the long-term negative consequences of insecure parent-adolescent attachment and emotion-oriented regulation strategies on future well-being. Based on these findings, adult psychopathology is a consequence of many different, yet intertwined, factors that emerge at different developmental stages. Research investigating the various risk factors associated with the development of psychopathology is thus necessary to facilitate early detection of psychopathology and implementation of appropriate intervention plans with adults.

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Table 1  
*Descriptive statistics and correlations between study variables (N=50)*

Variables	1	2	3	4	5	6	7	8
1. Adolescent attachment security to parents (IPPA) <sup>a</sup>	—							
2. Adolescent attachment security to peers (IPPA) <sup>a</sup>	.30	—						
3. Avoidant romantic attachment (ECR)	.05	.009	—					
4. Anxious romantic attachment (ECR)	.48**	.32*	.21	—				
5. Emotion-oriented strategies (CISS)	.31*	.31*	.26	.51**	—			
6. Emotional expressivity (EES)	.05	-.12	-.34*	.22	-.07	—		
7. Neuroticism (NEO-PI-R)	.09	.28*	.07	.31*	.46**	.03	—	
8. Global psychopathology symptoms (SCL-90-R) <sup>b</sup>	.66**	.14	.08	.39**	.51**	-.03	.39**	—
<i>M</i>	24.81	23.35	2.46	3.59	49.00	67.47	95.14	.62
<i>SD</i>	6.66	6.08	.86	.98	7.87	16.77	13.38	.40
Range	12-43	12-36	1-5	2-6	29-64	36-98	46-136	0-2

<sup>a</sup>Higher scores indicate lower attachment security. <sup>b</sup>Partial correlations controlling for neuroticism.

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

Table 2

*Hierarchical regression model with adolescent attachment to parents as a predictor of adult psychopathology symptoms*

Predictor variables	$\Delta R^2$	$\Delta F$	(df)	$\beta$
Psychopathology Symptoms (SCL-90-R)				
Step 1	.15	8.45**	(1,48)	
Neuroticism (NEO PI-R)				.39**
Step 2	.13	8.41**	(1,47)	
Anxious romantic attachment (ECR)				.38**
Step 3	.24	23.46**	(1,46)	
Adolescent attachment to parents (IPPA) <sup>a</sup>				.56**

<sup>a</sup> A higher score indicates lower attachment security.

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

Table 3  
*Hierarchical regression model with adolescent attachment to parents and emotion-oriented strategies in young adulthood as predictors of adult psychopathology symptoms*

Predictor variables	$\Delta R^2$	$\Delta F$	(df)	$\beta$
Psychopathology Symptoms (SCL-90-R)				
Step 1	.28	9.08*	(2,47)	
Neuroticism (NEO PI-R)				.27*
Anxious romantic attachment (ECR)				.38**
Step 2	.33	18.51**	(2,45)	
Emotion-oriented strategies (CISS)				.36**
Adolescent attachment to parents (IPPA) <sup>a</sup>				.53**

<sup>a</sup> A higher score indicates lower attachment security.

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

Table 4

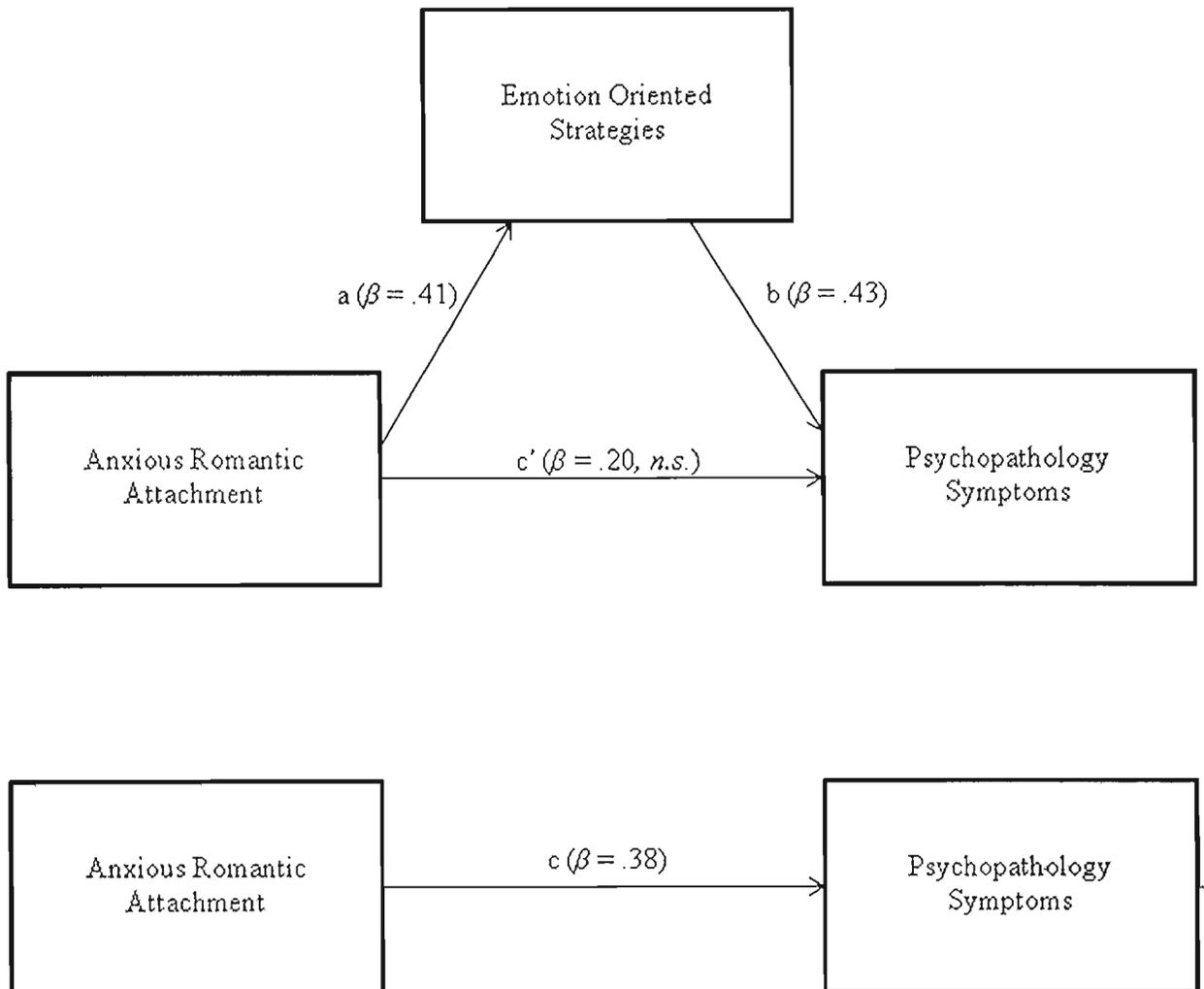
*Mediation model for predicting adult psychopathology symptoms*

Predictor variables	$\Delta R^2$	$\Delta F$	(df)	$\beta$
Psychopathology Symptoms (SCL-90-R)				
Step 1	.15	8.45**	(1,48)	
Neuroticism (NEO PI-R)				.39**
Step 2	.22	16.10**	(1,47)	
Emotion-oriented strategies (CISS)				.53**
Step 3	.03	2.27	(1,46)	
Anxious romantic attachment (ECR)				.20

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

## Figure Caption

*Figure 1.* Causal steps of mediation test between anxious romantic attachment in young adulthood and adult psychopathology via the use of emotion-oriented strategies (controlling for neuroticism).



## CONCLUSION

### *Review of overall results*

Using a longitudinal study design, the following thesis is the first to evaluate the developmental links between adolescent attachment to parents and peers, romantic attachment and emotion regulation strategies in young adulthood, and adult symptoms of psychopathology over a 10-year period. In general, results of the first study showed that: 1) greater attachment insecurity towards parents and peers in adolescence predicted greater anxious romantic attachment in young adulthood 8 years later; 2) the use of emotion-oriented strategies in young adulthood partially mediated the link between adolescent attachment insecurity to parents and anxious attachment, while they fully mediated the association between adolescent attachment insecurity to peers and anxious romantic attachment; and 3) anxious romantic attachment was associated with greater use of emotion-oriented strategies, while avoidant attachment was associated with lower emotional expressivity and support-seeking strategies. Results of the second study revealed that: 1) greater attachment insecurity towards parents in adolescence predicted greater symptoms of psychopathology in adulthood, 10 years later; 2) adolescent insecurity to parents and emotion-oriented regulation strategies in young adulthood independently contributed to adult symptoms of psychopathology; and 3) the use of emotion-oriented strategies fully mediated the positive association between anxious romantic attachment in young adulthood and adult symptoms of psychopathology. Overall, our findings provide robust evidence for a longitudinal model in which greater attachment insecurity in adolescence towards parents influences future adaptation in adulthood, including the use of emotion-oriented strategies, the development of an anxious romantic attachment style, and greater experience of global symptoms of psychopathology.

### *Review of study 1 results*

At first glance, results of our first article seem to support the hypothesis that adolescent attachment insecurity towards both parents and peers independently predicts the development of an anxious romantic attachment style in young adulthood. However, further investigation of these associations suggests that the use of emotion-oriented strategies (i.e., tendency to focus on negative emotions, to self-criticize, and to have ruminative thoughts)

completely mediates the association between adolescent attachment to peers and anxious romantic attachment. Thus, although peers may serve as important attachment figures for adolescents (Allen, 2008; Zeifman & Hazan, 2008) these relationships do not have a direct influence on future romantic attachment styles. On the other hand, the use of emotion-oriented strategies only partially mediated the relation between insecure attachment to parents and anxious romantic attachment, such that attachment insecurity towards parents remained a direct predictor. Taken together, our longitudinal results not only extend past research showing concurrent associations between attachment security towards parents, peers, and romantic partners (Furman, Simon, Shaffer, & Bouchey, 2002; Doyle, Lawford, & Markiewicz, 2009), they make an important contribution to the attachment literature by providing unique evidence of the long-term and direct influence of adolescent attachment insecurity towards parents on one's future experience of an anxious romantic attachment style in young adulthood. Accordingly, we interpret our results as suggesting that the internalized representations of self and others associated with an adult anxious romantic attachment style are developed in response to the quality of the adolescent attachment relationship with parents, not peers. To our knowledge, this is the first empirical study to demonstrate these links over an 8-year period.

Moreover, our finding that adolescent attachment to parents and peers independently predicted the use of emotion-oriented regulation strategies in young adulthood suggests that these strategies are an inherent part of the individual's internal working model, rather than being specific to a given attachment relationship. These results supports the developmental view that children, as early as the infancy and toddler periods, acquire specific emotion regulation strategies according to their attachment figure's response to their signals of distress (Bowlby, 1988). Over time, these strategies become internalized by the child and are then applied to other stressful situations throughout development (Cassidy, 1994; Sroufe & Fleeson, 1986). Based on this theoretical model, we interpret our mediation results as suggesting that adolescents who are insecure with parents have developed, through their caregiving experiences, emotion-oriented regulation strategies to deal with their distress, which are then internalized and re-activated in future stressful situations with parents, peers, and eventually romantic partners. Accordingly, when the insecure adolescent perceives a

threat to their attachment relationship, which represents an inherently stressful situation, these emotion-oriented strategies which include focusing on negative emotions, ruminating over possible negative scenarios, and feeling helpless to overcome stressors, are activated, increasing feelings of anxiety and vulnerability (Cassidy, 1994; Mikulincer & Florian, 1995; Mikulincer, Florian & Weller, 1993; Mikulincer & Shaver, 2007, 2008). Over time, this pattern of emotion regulation can exacerbate and reinforce one's negative model of self and thus contribute to the development of an anxious romantic attachment style. Accordingly, our results provide a more in-depth understanding of the predictive role of adolescent attachment on future interpersonal adaptation by showing that adolescent attachment insecurity towards parents predicts a more anxious romantic attachment style in adulthood, directly and indirectly via the use of emotion-oriented regulation strategies.

Our finding that attachment insecurity towards parents may promote the development of an anxious romantic attachment style in adulthood reinforces the importance of fostering a secure parent-adolescent attachment relationship given the negative consequences this romantic attachment style has been shown to have on relationship functioning. Specifically, the anxiously-attached individual's use of over-dependent, clinging, and controlling behaviors to satiate feelings of anxieties and thoughts of abandonment can be quite intrusive and overwhelming for the romantic partner, often contributing to partner dissatisfaction and possibly leading to relationship break-up (Brennan & Shaver, 1995; Mikulincer & Shaver, 2007). Accordingly, anxiously-attached individuals seem to be limited in their ability to sustain healthy and satisfying romantic relationships (Collins & Read, 1990; Frei & Shaver, 2002; Williams & Riskind, 2004). Results of the first study are therefore important for clinicians working in intervention programs, as they suggest that attachment insecurity towards parents in adolescence and emotion-oriented regulation strategies in young adulthood may be important risk-factors for future dysfunctions in romantic relationships, given their association with a more anxious romantic attachment style in young adulthood. The transitional period of adolescence, which includes changes relating to identity formation, increased parental autonomy, and exploration of a large social environment (Allen, 2008), may be an ideal developmental period to intervene and promote more secure models of self

and others, as well as more adaptive regulation strategies, as the adolescent may be more open to integrating new behaviors and thought processes within his cognitive models.

Results of the first study also showed that adolescent attachment towards parents and peers was unrelated to the avoidant dimension of romantic attachment. Three possible explanations are proposed. First, it is possible that despite concurrent associations between the three scales of the Inventory of Parent and Peer Attachment questionnaire (IPPA; Armsden & Greenberg, 1987) and the avoidant dimension of the Experiences in Close Relationships measure (ECR; Brennan, Clark, & Shaver, 1998), the global attachment insecurity score of the IPPA, used in the present study, may not be a long-term predictor of avoidant attachment on the ECR. Second, individuals high in romantic avoidance on the ECR may have endorsed, in adolescence, self-perceptions of over-competency and suppression of negative emotionality (Bowlby, 1988; Hesse, 1999), making them less likely to acknowledge insecurities on the adolescent attachment measure. Third, attachment insecurity in adolescence may predict avoidant romantic attachment in young adulthood through a third moderating variable not assessed in the present study. For example, insecure attachment in adolescence may be predictive of future avoidant romantic attachment for a subset of teens, that is, those that have experienced high rejection. Future longitudinal studies are therefore needed to disentangle the potential predictive role of adolescent attachment insecurity on avoidant romantic attachment in young adulthood, through possible moderating variables.

As expected, avoidant romantic attachment was related to the use of lower emotional expressivity and support-seeking strategies, corroborating previous empirical works (Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993, Mikulincer & Shaver, 2008). Results are in line with the theoretical idea that these particular strategies develop in response to caregiving experiences with a rejecting attachment figure (Cassidy, 1994). Accordingly, internalized representations of others as being untrustworthy and rejecting may guide avoidant individuals' belief that difficult situations are best resolved without the help of others, and that seeking help and expressing distress are signs of weakness (Bowlby, 1988). Although adaptive for dealing with a rejecting caregiver, these models may hinder the avoidant individual's ability to maintain functional romantic relationships, as the avoidance of

closeness and lack of intimacy and open communication, may cause their romantic partner to feel alienated, potentially leading to relationship dysfunction (Shaver, Schachner, & Mikulincer, 2005), and even relationship termination (Mikulincer & Shaver, 2007).

Taken as a whole, results of the first study generally confirmed our hypothesis that adolescent attachment insecurity towards parents would be an important precursor to future insecurities in romantic relationships, and that this association would be mediated by the use of emotion regulation strategies. In order to pursue our understanding of the longitudinal influence of adolescent attachment insecurity on later functioning, the aim of the second study was to investigate whether these same study variables (i.e., adolescent attachment to parents and peers, and romantic attachment styles and emotion regulation strategies in young adulthood) were also predictors of future adaptation, as it pertained to adult symptoms of psychopathology.

#### *Review of study 2 results*

Extending on the existing literature regarding concurrent associations between attachment insecurity and psychopathology in adolescence and adulthood (Cavell, Jones, Runyan, Constantin-Page, & Velasquez, 1993; Fortuna & Roisman, 2008; Lopez, Mauricio, Gormlry, Simko, & Berger, 2001; Muris, Meesters, van Melick, & Zwambag, 2001), findings from our second study revealed that greater parent-adolescent attachment insecurity predicted greater symptoms of psychopathology 10 years later, even when considering the role of anxious romantic attachment and the personality trait of neuroticism. These findings, which provide additional support to results of our first study, confirm the predictive role of adolescent attachment insecurity towards parents on the individual's future adaptation as it relates to symptoms of psychopathology. Therefore, not only does insecurity in adolescence with regards to parents predict a more anxious romantic attachment style and greater use of emotion-oriented strategies in young adulthood, it also predicts greater symptoms of psychopathology in adulthood. These results make an important contribution to the existing attachment literature in showing, from a developmental perspective, that distorted views of self and negative interpretations of external events developed in the context of an insecure

parent-child relationship, are stable features of the teens' internal working model (Bowlby, 1988) that promote greater symptoms of psychopathology in adulthood.

On the other hand, adolescent attachment towards peers was found to be unrelated to adult symptoms of psychopathology. We interpret this result as suggesting that, although it may be a concurrent predictor (Laible, Carlo, & Raphaelli, 2000; Lee & Hankin, 2009; Muris et al., 2001; Wilkinson, 2010), adolescent attachment to peers does not have a long-term influence on the individual's future experience of symptoms of psychopathology. As such, our results help to clarify and extend concurrent findings from previous studies which have reported such an association (Laible et al., 2000; Muris et al., 2001), by showing that this relation is not maintained longitudinally. As was the case with the first study, results from the second study continue to support the theoretical view that attachment security towards parents, and not peers, is an important predictor of the individual's future adaptation (Bretherton, 1987).

The use of emotion-oriented strategies was also identified as a predictor of symptoms of psychopathology 2 years later, when controlling for neuroticism and anxious romantic attachment, suggesting that these strategies, which include self-blame and ruminative thoughts, can exacerbate one's experience of negative emotions, potentially contributing to the development of symptoms of psychopathology in adulthood. Moreover, these strategies were not identified as mediators of the association between attachment insecurity towards parents and adult psychopathology, suggesting that adolescents' insecure internal working models with respect to their attachment relationship with parents, and the use of emotion-oriented regulation strategies to deal with stressful situations in young adulthood, independently explain adult symptoms of psychopathology. However, when comparing their predictive strength, insecure attachment to parents was identified as a stronger predictor providing further evidence of the long-term impact of adolescent attachment insecurity towards parents on future symptoms of psychopathology. Taken together, results of the two studies underscore the crucial importance of fostering a secure parent-teen attachment relationship as a way to buffer against developing future symptoms of psychopathology in

adulthood, in addition to maladaptive emotion-oriented regulation strategies, and an anxious romantic attachment style in young adulthood.

With respect to attachment styles in young adulthood, anxious attachment was associated with greater symptoms of psychopathology, supporting results of past research reporting similar findings (Fortuna & Roisman, 2008; Lopez et al., 2001; Mallinckrodt & Wei, 2005). Accordingly, negative views of self associated with this attachment style seem to put the individual at risk of developing symptoms of psychopathology. In line with this idea, anxiously-attached individuals may experience high anxiety regarding the availability of their partner and, when distressed, may become submerged with feelings of helplessness and thoughts of abandonment. Over time, these anxieties may be generalized and lead to overall increases in global symptoms of psychopathology. Results revealed that this association was maintained, even when controlling for neuroticism, eliminating the possibility that this association could be explained by this third variable. Mediation analyses further contributed to extending our understanding of the association between anxious romantic attachment and psychopathology in showing that the use of emotion-oriented strategies completely mediated the association between these two variables. This model is supported by empirical and theoretical evidence (Cooper, Shaver, & Collins, 1998) showing that anxiously-attached individuals are likely to endorse hyperactivating strategies, such as helpless and dependent behaviors, as well as exaggeration of distress, which put negative emotions at the forefront. To deal with these negative emotions, anxiously-attached individuals have been found to resort to emotion-oriented strategies (Mikulincer & Shaver, 2007, 2008; Pascuzzo, Cyr, & Moss, in press), as was demonstrated in our first study. These individuals are therefore caught in a vicious circle where their negative view of self as being unlovable, coupled with their fears of partner abandonment, may lead to a hypervigilance to negative cues, and the experience of even greater negative emotions. To deal with these emotions, anxiously-attached individuals may resort to emotion-oriented strategies that include thoughts of catastrophic scenarios, ruminations, and feelings of self-blame, which can then lead to greater self-reported symptoms of psychopathology.

On the other hand, an association between avoidant attachment in young adulthood and later psychopathology was not identified in the second study. Two potential explanations for this non-significant finding are proposed. First, avoidant individuals may have under-reported symptoms of psychopathology given their defensive strategy of minimization of distress signals (Hesse, 1999). Wei, Heppner, and Mallinckrodt (2003) suggest using multiple indicators of psychopathology to correct for under-reporting by avoidant individuals. Secondly, the Symptoms Checklist 90-Revised (Derogatis, 1983) measure used in the second study may be better at evaluating internalizing symptoms of psychopathology, whereas young adults with an avoidant romantic attachment style may be more likely to endorse externalizing symptoms (i.e., antisocial behaviors and hostility; Brennan & Shaver, 1995; Mikulincer, 1998; Rosenstein & Horowitz, 1996), given their suppression of and distraction from negatively charged emotions (Mikulincer & Shaver, 2007, 2008). Accordingly, greater research is needed to clarify the long-term influence of avoidant attachment on future psychopathology, especially with respect to externalizing symptoms.

#### *Study limitations and directions for future research*

Several study limitations should be noted. First, adolescent attachment to parents and peers was assessed along a continuous scale of insecurity, precluding the examination of the influence of avoidant and ambivalent (or anxious) attachment insecurity in adolescence on adult romantic attachment styles. Future studies would benefit from using an adolescent measure that evaluates attachment towards parents and peers along the dimensions of avoidance and anxiety, as this could potentially reveal a link between attachment insecurity in adolescence and adult avoidant attachment, an association we were unable to demonstrate in the first study. In addition, given that both adolescent and adult measures were self-reported, it is possible that insecure adolescents with more avoidant tendencies, under-reported distress in relation to their attachment relationships with parents and peers as a protective mechanism against feelings of rejection (Hesse, 1999).

Secondly, according to Thompson's (1994) conceptualization of emotion regulation as including many different dimensions, we used scales from two questionnaires, the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1994), and the Emotional

Expressivity Scale (EES; Kring, Smith, & Neale, 1994), in order to assess the strategies we believed to be theoretically linked with the anxious and avoidant attachment styles. This choice was made given the present lack of a validated measure combining the different strategies we wished to investigate. Nevertheless, we faced a methodological issue with the social support and distraction scales of the CISS, given that items do not distinguish between adaptive versus maladaptive strategies. Our lack of significant correlations between these scales and the anxious and avoidant attachment styles may therefore have resulted in our choice of measures.

Thirdly, emotion regulation strategies and romantic attachment styles were assessed concurrently in young adulthood, possibly affecting the causal interpretation of the mediation models in the first study. However, the direction of the models was driven by the theoretical assumption that emotion regulation strategies are first developed within the parent-child attachment relationship and are then internalized and reactivated in future stressful situation (Cassidy, 1994; Sroufe & Fleeson, 1986). Accordingly, the use of emotion-oriented strategies in this thesis as a mediating variable between attachment in adolescence and adult adaptation is theoretically sound.

Lastly, owing to the longitudinal nature of the present studies, additional participants could not be recruited to compensate for the relatively high attrition rate across the 10-year assessment span. Despite our limited sample size, results from both studies generally support the global assumption that attachment insecurity towards parents during the adolescent period has long-term consequences for future adaptation. Nevertheless, further studies with larger samples are necessary to confirm our findings.

#### *General contributions to the literature*

The findings of these studies have contributed to the existing literature by identifying developmental associations between adolescent attachment and adaptation in adulthood using a 10-year longitudinal model. First, the use of the IPPA (Armsden & Greenberg, 1987) allowed for the assessment of the predictive role of both parent and peer attachment figures on later adaptation. In doing so, we extended previous research by demonstrating that

adolescent attachment to peers is not a direct long-term predictor of romantic attachment in young adulthood and adult symptoms of psychopathology. Moreover, our results suggest that internal representations of self and others developed in response to early insecure attachment experiences with respect to parents becomes an inherent part of the individual that can promote, in adulthood, a more anxious romantic attachment style, greater use of emotion-oriented regulation strategies, and greater overall symptoms of psychopathology.

Second, the longitudinal design of the following thesis permitted the investigation of mediation models, allowing for a more precise understanding of the attachment processes involved in the development of interpersonal adaptation and general mental health. Specifically, results of this thesis provide empirical evidence supporting the theoretical assumption that emotion regulation strategies developed within the parent-child attachment dyad influence adaptation in adulthood. Based on our results, we propose that these strategies represent an important underlying mechanism linking adolescent attachment to later adult functioning: not only did emotion-oriented strategies partially mediate the association between adolescent attachment insecurity towards parents and anxious romantic attachment in young adulthood, they also fully mediated the association between anxious romantic attachment in young adulthood and symptoms of psychopathology 2 years later. This last result was further strengthened by the fact that we controlled for the personality trait of neuroticism. Our results therefore support the theoretical model suggesting that emotion regulation strategies, specifically those centered on negative emotions, develop in response to the quality of the parent-child attachment relationship, and are then internalized and used as a guide for dealing with future stressful situations (Cassidy, 1994). The two studies of this thesis thus go beyond the simple investigation of longitudinal associations between adolescent attachment and adult adaptation. By controlling for confounding variables and identifying mediating variables, these studies allowed for a more accurate representation of the nature of associations, suggesting that attachment to parents in adolescence and the use of emotion-oriented strategies in young adulthood have major implications on one's future interpersonal adaptation and mental health.

Finally, our findings suggest that emotion-oriented strategies in young adulthood could be important preventive and intervention targets. Given that emotion regulation strategies are malleable and can change in response to new life experiences (Gross & Thompson, 2007), therapeutic interventions which assist individuals in learning more adaptive strategies for addressing stressful situations can potentially have positive consequences on one's romantic attachment style and experiences of psychopathology (Stark et al., 2008). Greater longitudinal research should therefore be devoted to assess how positive adjustments in emotion regulation strategies can improve one's psycho-social functioning, as results from this thesis suggest promising changes.

## References

## (Introduction and General Conclusion)

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APPENDIX A  
CONSENT FORMS

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A.1

Consent form at age 14

**Projet de recherche**

Sous la direction de Mme Ellen Moss, Ph. D. Université du Québec à Montréal

**AUTHORISATON**

Par la présente, nous consentons à participer à la recherche sur les milieux de vie de l'enfant.

Je déclare savoir être au courant que certains épisodes de ma visite au laboratoire seront filmés et que ce film ne sera utilisé que pour des fins de recherche seulement.

J'accepte que les renseignements révélés par mon enfant soient confidentiels. À cet effet, je ne pourrai que faire la demande d'un résumé des résultats sans pour autant avoir accès aux confidences dévoilés par mon enfant.

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\_\_\_\_\_  
Signature du participant

\_\_\_\_\_  
Date

A.2

Consent form at age 22

## Projet de recherche

Sous la direction de Mme Ellen Moss, Ph. D. Université du Québec à Montréal

### **Formulaire de consentement**

Ce formulaire vise à recueillir votre consentement à participer à cette prochaine étape de notre recherche dont les objectifs consistent à observer le développement et l'adaptation de l'individu dans ses différents milieux de vie.

La participation à cette étude consiste en deux séances d'environ 90 minutes qui sont prévues à l'Université du Québec à Montréal. Au cours de celles-ci, vous serez invité à compléter des questionnaires et à faire une entrevue au cours de laquelle il vous sera demandé, entre autres, de décrire vos expériences d'enfance et les événements importants de votre vie. Cette entrevue sera enregistrée sur cassette audio et la transcription sur support informatique qui en suivra ne permettra pas de vous identifier. Le lieu et l'heure de l'entrevue sont à déterminer avec l'intervieweur. Afin d'assurer vos frais de déplacement et pour vous remercier de votre collaboration, un dédommagement de 20 \$ vous sera remis suite à la première rencontre et de 20 \$ suite à la deuxième.

Votre participation contribuera à l'avancement des connaissances en améliorant la compréhension de l'effet des expériences passées avec ses parents dans le développement des individus. Il n'y a pas de risque d'inconfort important associé à votre participation à cette étude. Toutefois, certaines questions pourraient raviver des émotions désagréables liées à votre enfance. Vous demeurerez donc libre de ne pas répondre à une question que vous estimez embarrassante et cela, sans avoir à vous justifier. Une ressource d'aide appropriée pourra vous être proposée si vous souhaitez discuter de votre situation et l'intervieweur pourra décider de suspendre ou de mettre fin à l'entrevue s'il estime que votre bien-être est menacé.

Soyez assuré que toute information concernant votre identité demeurera confidentielle. Afin de protéger l'anonymat des participants, les noms des personnes prenant part à l'étude seront remplacés par des numéros d'identification. Toutes les données seront conservées pendant 10 ans.

Votre participation à ce projet est volontaire, ce qui signifie que vous acceptez de participer au projet sans aucune contrainte ou pression extérieure et que vous êtes libre d'y mettre fin en tout temps, dans lequel cas les renseignements vous concernant seraient détruits. Les renseignements recueillis dans le cadre de ce projet pourront être utilisés à des fins scientifiques et pédagogiques (articles, conférences et communications scientifiques), mais aucune information permettant de vous identifier ne sera divulguée publiquement à moins d'un consentement explicite de votre part.

Toute question sur le projet, critique ou plainte peut être adressée à la chercheuse principale, Mme Ellen Moss dont les coordonnées apparaissent au bas de ce document. Par contre, toute plainte non résolue avec la chercheuse principale peut être adressée au Comité institutionnel d'éthique de la recherche avec des êtres humains de l'UQAM : Service de la recherche et de la création, C.P. 8888, Succ. Centre-Ville, Montréal (Québec) H3C 3P8; téléphone 987-3000, poste 7753.

Je déclare avoir pris connaissance des différents aspects liés à ma participation à cette recherche et confirme avoir obtenu un exemplaire du formulaire de consentement.

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\_\_\_\_\_  
Signature du participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Personne témoin

A.3

Consent form at age 24

## Projet de recherche

Sous la direction de Mme Ellen Moss, Ph. D. Université du Québec à Montréal

### **Formulaire de consentement**

Ce formulaire vise à recueillir votre consentement à participer à cette prochaine étape de notre recherche dont les objectifs consistent à observer le développement et l'adaptation de l'individu dans ses différents milieux de vie.

La participation à cette étude consiste pour vous à compléter des questionnaires qui vous sont envoyés par la poste. Pour vous remercier de votre collaboration, un dédommagement de 25 \$ vous sera remis une fois que les questionnaires nous seront retournés.

Soyez assuré que toute information concernant votre identité demeure confidentielle. Afin de protéger l'anonymat des participants, les noms des personnes prenant part à l'étude seront remplacés par des numéros d'identification. Les informations recueillies dans le cadre de ce projet pourront être utilisées à des fins de recherche et d'enseignement. Toutes les données seront conservées pendant 10 ans.

Il est important de spécifier que votre participation est strictement volontaire et qu'en tout temps vous êtes en mesure de retirer votre participation au programme.

Toute question sur le projet, critique ou plainte peut être adressée à la chercheuse principale, Mme Ellen Moss dont les coordonnées apparaissent au bas de ce document. Par contre, toute plainte non résolue avec la chercheuse principale peut être adressée au Comité institutionnel d'éthique de la recherche avec des êtres humains de l'UQAM : Service de la recherche et de la création, C.P. 8888, Succ. Centre-Ville, Montréal (Québec) H3C 3P8; téléphone 987-3000, poste 7753.

Je déclare avoir pris connaissance des différents aspects liés à ma participation à cette recherche et confirme avoir obtenu un exemplaire du formulaire de consentement.

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\_\_\_\_\_  
Signature du participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Personne témoin

APPENDIX B  
INSTRUMENTS

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B.1

Inventory of Parent and Peer Attachment

No: \_\_\_\_\_

## Échelle d'Armsden et Greenberg sur les relations interpersonnelles

Instructions: pour chacune des questions, veuillez encercler un chiffre sur l'échelle

### Section 1

	PRESQUE TOUJOURS VRAI	SOUVENT VRAI	PARFOIS VRAI	RAREMENT VRAI	PRESQUE JAMAIS VRAI
1. Mes parents respectent mes sentiments.	1	2	3	4	5
2. Mes parents m'acceptent tel que je suis.	1	2	3	4	5
3. Mes parents sentent quand quelque chose me dérange.	1	2	3	4	5
4. Je suis troublé beaucoup plus souvent que ce que savent mes parents.	1	2	3	4	5
5. Quand je discute de choses avec mes parents, ils considèrent mon point de vue.	1	2	3	4	5
6. Mes parents font confiance en mon jugement.	1	2	3	4	5
7. Je parle à mes parents de mes problèmes et de mes ennuis.	1	2	3	4	5

PREMIERE PARTIE  
PREMIERE SECTION  
PREMIERE SÉRIE

- |     | PREMIERE PARTIE | PREMIERE SECTION | PREMIERE SÉRIE |
|-----|-----------------|------------------|----------------|----------------|----------------|----------------|----------------|
|     | 1               | 2                | 3              | 4              | 5              | 6              | 7              |
|     | TOUJOURS VRAI   | SOUVENT VRAI     | PARFOIS VRAI   | RAREMENT VRAI  | PREMIERE SÉRIE | PREMIERE SÉRIE | PREMIERE SÉRIE |
|     | 1               | 2                | 3              | 4              | 5              | 6              | 7              |
| 8.  | 1               | 2                | 3              | 4              | 5              | 6              | 7              |
| 9.  | 1               | 2                | 3              | 4              | 5              | 6              | 7              |
| 10. | 1               | 2                | 3              | 4              | 5              | 6              | 7              |
| 11. | 1               | 2                | 3              | 4              | 5              | 6              | 7              |
| 12. | 1               | 2                | 3              | 4              | 5              | 6              | 7              |

## Section 2

- |     |   |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|---|
| 13. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

PRESQUE  
TOUJOURS VRAI

SOUVENT  
VRAI

PARFOIS  
VRAI

RAREMENT  
VRAI

PRESQUE  
JAMAIS VRAI

17. Mes amis écoutent ce que j'ai à dire.

1 2 3 4 5

18. J'ai le sentiment que mes amis sont des bons amis.

1 2 3 4 5

19. J'ai confiance en mes amis.

1 2 3 4 5

20. Mes amis respectent mes sentiments.

1 2 3 4 5

21. Je suis troublé beaucoup plus souvent que ce que savent mes amis.

1 2 3 4 5

22. Il me semble que mes amis sont irrités par moi sans raison.

1 2 3 4 5

23. Je parle à mes amis de mes problèmes et de mes ennuis.

1 2 3 4 5

24. Si mes amis savent que quelque chose me dérange, ils me demandent ce qu'il y a.

1 2 3 4 5

B.2

Experiences in Close Relationships

# du participant: \_\_\_\_\_

ECR

**Instructions:** Les énoncés suivants se rapportent à la manière dont vous vous sentez à l'intérieur de vos relations amoureuses. Nous nous intéressons à la manière dont **vous vivez généralement ces relations et non seulement à ce que vous vivez dans votre relation actuelle**. Répondez à chacun des énoncés en indiquant jusqu'à quel point vous êtes en accord ou en désaccord. Encerclez le chiffre correspondant à votre choix selon l'échelle suivante.

		Fortement en désaccord		Neutre/partagé(e)			Fortement en accord	
		1	2	3	4	5	6	7
1	Je préfère ne pas montrer mes sentiments profonds à mon/ma partenaire.	1	2	3	4	5	6	7
2	Je m'inquiète à l'idée d'être abandonné(e).	1	2	3	4	5	6	7
3	Je me sens très à l'aise lorsque je suis près de mon/ma partenaire amoureux(se).	1	2	3	4	5	6	7
4	Je m'inquiète beaucoup au sujet de mes relations.	1	2	3	4	5	6	7
5	Dès que mon/ma partenaire se rapproche de moi, je sens que je m'en éloigne.	1	2	3	4	5	6	7
6	J'ai peur que mes partenaires amoureux(es) ne soient pas autant attaché(e)s à moi que je le suis à eux(elles).	1	2	3	4	5	6	7
7	Je deviens mal à l'aise lorsque mon/ma partenaire amoureux(se) veut être très près de moi.	1	2	3	4	5	6	7
8	Je m'inquiète pas mal à l'idée de perdre mon/ma partenaire.	1	2	3	4	5	6	7
9	Je ne me sens pas à l'aise de m'ouvrir à mon/ma partenaire.	1	2	3	4	5	6	7
10	Je souhaite souvent que les sentiments de mon/ma partenaire envers moi soient aussi forts que les miens envers lui/elle.	1	2	3	4	5	6	7
11	Je veux me rapprocher de mon/ma partenaire, mais je ne cesse pas de m'en éloigner.	1	2	3	4	5	6	7
12	Je cherche souvent à me fondre entièrement avec mes partenaires amoureux(se) et ceci les fait parfois fuir.	1	2	3	4	5	6	7
13	Je deviens nerveux(se) lorsque mes partenaires se rapprochent trop de moi.	1	2	3	4	5	6	7
14	Je m'inquiète à l'idée de me retrouver seul(e).	1	2	3	4	5	6	7
15	Je me sens à l'aise de partager mes pensées intimes et mes sentiments avec mon(ma) partenaire.	1	2	3	4	5	6	7
16	Mon désir d'être très près des gens les fait fuir parfois.	1	2	3	4	5	6	7
17	J'essaie d'éviter d'être trop près de mon/ma partenaire.	1	2	3	4	5	6	7

		Fortement en désaccord		Neutre/partagé(e)			Fortement en accord	
		1	2	3	4	5	6	7
18	J'ai un grand besoin que mon/ma partenaire me rassure de son amour.	1	2	3	4	5	6	7
19	Il m'est relativement facile de me rapprocher de mon/ma partenaire.	1	2	3	4	5	6	7
20	Parfois, je sens que je force mes partenaires à me manifester davantage leurs sentiments et leur engagement.	1	2	3	4	5	6	7
21	Je me permets difficilement de compter sur mes partenaires amoureux(es).	1	2	3	4	5	6	7
22	Il ne m'arrive pas souvent de m'inquiéter d'être abandonné(e).	1	2	3	4	5	6	7
23	Je préfère ne pas être trop près de mes partenaires amoureux(es).	1	2	3	4	5	6	7
24	Lorsque je n'arrive pas à faire en sorte que mon/ma partenaire s'intéresse à moi, je deviens peiné(e) ou fâché(e).	1	2	3	4	5	6	7
25	Je dis à peu près tout à mon/ma partenaire.	1	2	3	4	5	6	7
26	Je trouve que mes partenaires ne veulent pas se rapprocher de moi autant que je le voudrais.	1	2	3	4	5	6	7
27	Habituellement, je discute de mes préoccupations et de mes problèmes avec mon/ma partenaire.	1	2	3	4	5	6	7
28	Lorsque je ne vis pas une relation amoureuse, je me sens quelque peu anxieux(se) et insécure.	1	2	3	4	5	6	7
29	Je me sens à l'aise de compter sur mes partenaires amoureux(es).	1	2	3	4	5	6	7
30	Je deviens frustré(e) lorsque mon/ma partenaire n'est pas là aussi souvent que je le voudrais.	1	2	3	4	5	6	7
31	Cela ne me dérange pas de demander du réconfort, des conseils ou de l'aide à mes partenaires amoureux(es).	1	2	3	4	5	6	7
32	Je deviens frustré(e) si mes partenaires amoureux(es) ne sont pas là quand j'ai besoin d'eux.	1	2	3	4	5	6	7
33	Cela m'aide de me tourner vers mon/ma partenaire quand j'en ai besoin.	1	2	3	4	5	6	7
34	Lorsque mes partenaires amoureux(es) me désapprouvent, je me sens vraiment mal vis-à-vis de moi-même.	1	2	3	4	5	6	7
35	Je me tourne vers mon/ma partenaire pour différentes raisons, entre autres pour avoir du réconfort et pour me faire rassurer.	1	2	3	4	5	6	7
36	Je suis contrarié(e) lorsque mon/ma partenaire passe du temps loin de moi.	1	2	3	4	5	6	7

B.3

Coping Inventory for Stressful Situations

# du participant: \_\_\_\_\_

CISS

**Instructions:** Les énoncés suivants représentent des types de réactions à différentes situations difficiles, tendues ou contrariantes. Veuillez encercler le chiffre qui correspond à votre degré d'implication pour chacune des réactions proposées lorsque vous vivez une situation difficile, tendue ou contrariante.

		Pas du tout			Beaucoup	
		1	2	3	4	5
1	Je répartis plus efficacement mon horaire.	1	2	3	4	5
2	Je me concentre sur le problème et vois de quelle façon je peux le résoudre.	1	2	3	4	5
3	Je pense aux bons moments que j'ai passés.	1	2	3	4	5
4	Je cherche la compagnie d'autres personnes.	1	2	3	4	5
5	Je me reproche d'avoir perdu mon temps.	1	2	3	4	5
6	Je fais ce qui me semble le mieux.	1	2	3	4	5
7	Je suis préoccupé(e) par ma douleur.	1	2	3	4	5
8	Je me reproche de m'être mis(e) dans cette situation.	1	2	3	4	5
9	Je fais du lèche-vitrines.	1	2	3	4	5
10	Je détermine mes priorités.	1	2	3	4	5
11	J'essaie de dormir.	1	2	3	4	5
12	Je m'offre un casse-croûte ou mon plat préféré.	1	2	3	4	5
13	Je m'inquiète de ne pas pouvoir m'en tirer.	1	2	3	4	5
14	Je deviens très tendu(e).	1	2	3	4	5
15	Je réfléchis à la façon dont j'ai résolu des problèmes semblables.	1	2	3	4	5
16	Je me dis que ça ne m'arrive pas vraiment.	1	2	3	4	5
17	Je me reproche de réagir trop fortement.	1	2	3	4	5
18	Je sors manger quelque part.	1	2	3	4	5
19	Je me sens très contrarié(e).	1	2	3	4	5
20	Je me paie quelque chose.	1	2	3	4	5
21	J'établis une ligne de conduite et je la suis.	1	2	3	4	5
22	Je me reproche de ne pas savoir quoi faire.	1	2	3	4	5
23	Je vais à une fête.	1	2	3	4	5
24	Je travaille à comprendre la situation.	1	2	3	4	5
25	Je bloque et je ne sais pas quoi faire.	1	2	3	4	5
26	Je pose immédiatement des actions rectificatives.	1	2	3	4	5
27	Je pense à l'événement et en tire profit.	1	2	3	4	5
28	Je souhaiterais pouvoir changer ce qui est arrivé ou comment je me sens.	1	2	3	4	5
29	Je rends visite à un(e) ami(e).	1	2	3	4	5
30	Je me soucie de ce que je vais faire.	1	2	3	4	5
31	Je passe du temps avec une personne spéciale.	1	2	3	4	5
32	Je fais une promenade.	1	2	3	4	5
33	Je me dis que ça ne se reproduira plus jamais.	1	2	3	4	5
34	Je me concentre sur l'insuffisance de mes ressources.	1	2	3	4	5
35	Je parle à quelqu'un dont j'estime les conseils.	1	2	3	4	5
36	J'analyse le problème avant de réagir.	1	2	3	4	5
37	Je téléphone à un(e) ami(e).	1	2	3	4	5
38	Je me fâche.	1	2	3	4	5
39	J'ajuste mes priorités.	1	2	3	4	5
40	Je vais au cinéma.	1	2	3	4	5
41	Je maîtrise la situation.	1	2	3	4	5
42	Je fais un effort supplémentaire pour que tout soit fait.	1	2	3	4	5
43	Je songe à différentes solutions pour résoudre le problème.	1	2	3	4	5
44	Je prends des vacances et m'échappe de la situation.	1	2	3	4	5
45	Je m'en prends à d'autres personnes.	1	2	3	4	5
46	Je profite de la situation pour faire mes preuves.	1	2	3	4	5
47	J'essaie d'être organisé(e) afin de me trouver au-dessus de la situation.	1	2	3	4	5
48	Je regarde la télévision.	1	2	3	4	5

B.4

Emotional Expressivity Scale

# du participant: \_\_\_\_\_

EES

**Instructions:** Les items suivants se rapportent à vous et à vos émotions. En fonction de l'échelle suggérée, veuillez encercler pour chaque item le chiffre correspondant le mieux à la façon dont vous gérez vos émotions, c'est-à-dire à quel point vous êtes d'accord avec l'énoncé.

**Fortement en désaccord: 1**

**En désaccord: 2**

**Partiellement en désaccord: 3**

**Partiellement en accord: 4**

**En accord: 5**

**Fortement en accord: 6**

		Fortement en désaccord	En désaccord	Partiellement en désaccord	Partiellement en accord	En accord	Fortement en accord
1	Je n'exprime pas mes émotions aux autres.	1	2	3	4	5	6
2	Même quand j'ai des sentiments intenses, je ne les exprime pas ouvertement.	1	2	3	4	5	6
3	Les gens croient que je suis très émotif.	1	2	3	4	5	6
4	Les gens peuvent lire mes émotions.	1	2	3	4	5	6
5	Je garde mes sentiments pour moi.	1	2	3	4	5	6
6	Les autres personnes ne voient pas facilement ce que je ressens.	1	2	3	4	5	6
7	Je manifeste mes émotions aux autres personnes.	1	2	3	4	5	6
8	Les gens pensent que je suis insensible (sans émotions).	1	2	3	4	5	6
9	Je n'aime pas laisser les autres voir comment je me sens.	1	2	3	4	5	6
10	Je ne peux pas cacher comment je me sens.	1	2	3	4	5	6
11	Émotionnellement, je ne suis pas très expressif(ve).	1	2	3	4	5	6
12	Les autres me considèrent souvent comme indifférent(e).	1	2	3	4	5	6
13	Je suis capable de pleurer devant d'autres personnes.	1	2	3	4	5	6
14	Même si je suis très émotif(ve), je ne laisse pas les autres voir mes sentiments.	1	2	3	4	5	6
15	Je me perçois comme une personne qui exprime facilement ses émotions.	1	2	3	4	5	6
16	La façon dont je me sens est différente de la façon dont les autres pensent que je me sens.	1	2	3	4	5	6
17	Je retiens mes émotions.	1	2	3	4	5	6

B.5

The Revised Neo Personality Inventory

## CONSIGNES POUR L'USAGE DE LA FEUILLE-RÉPONSES MANUELLE

Avant de commencer, veuillez lire ces consignes attentivement. Inscrivez toutes vos réponses sur la feuille-réponses et n'écrivez qu'aux endroits indiqués. NE PAS écrire dans ce questionnaire.

Sur la feuille-réponses, écrivez votre nom dans l'espace prévu. Inscrivez votre numéro d'identification, si on vous en a donné un, et la date dans les espaces prévus. Inscrivez votre âge. Indiquez votre sexe par une coche dans le carré approprié sous "Sexe".

Ce questionnaire comprend 240 énoncés. Lisez-les attentivement et encerclez la réponse qui correspond le mieux à votre accord ou à votre désaccord.

Encerclez FD si l'énoncé est définitivement faux ou si vous êtes fortement en désaccord.

Encerclez D si l'énoncé est surtout faux ou si vous êtes en désaccord.

Encerclez N si l'énoncé est à moitié vrai ou faux, si vous ne savez pas, ou si l'énoncé vous indiffère.

Encerclez A si l'énoncé est surtout vrai ou si vous êtes d'accord.

Encerclez FA si l'énoncé est décidément vrai ou si vous êtes fortement d'accord.

Il n'y a pas de bonnes ou de mauvaises réponses, et vous n'avez pas besoin de compétences particulières pour remplir ce questionnaire. Décrivez-vous honnêtement et exprimez vos opinions aussi précisément que possible.

Répondez à toutes les questions. Assurez-vous d'inscrire votre réponse correctement, sous le bon numéro. Si vous faites une erreur ou si vous changez d'avis, N'EFFACEZ PAS ! Placez un X sur la réponse incorrecte et encerclez ensuite la bonne réponse. Après avoir répondu aux 240 questions, répondez aux questions A, B et C situées dans la section inférieure de la feuille-réponses. Passez à la page suivante de ce questionnaire et commencez avec la question 1.

1. Je ne suis pas un inquiet.
2. J'aime vraiment la plupart des gens que je rencontre.
3. J'ai une imagination très vive.
4. J'ai tendance à être cynique et sceptique quant aux intentions des autres.
5. On reconnaît ma prudence et mon sens commun.
6. La façon dont les gens me traitent me fâche souvent.
7. J'évite les foules.
8. Les aspects esthétiques et artistiques n'ont pas beaucoup d'importance pour moi.
9. Je ne suis ni rusé, ni sournois.
10. Je préfère garder l'esprit ouvert plutôt que de tout planifier.
11. Je me sens rarement seul ou triste.
12. Je suis autoritaire, énergique et assuré.
13. La vie serait sans intérêt pour moi sans émotions fortes.
14. Certains me croient égoïste et égocentrique.
15. Je tente d'effectuer consciencieusement toutes les tâches qui me sont assignées.
16. Dans mes relations avec les autres, je crains toujours de commettre une bétise.
17. J'ai un genre désœuvré dans le travail et le plaisir.
18. J'ai des habitudes bien ancrées.
19. Je préfère coopérer avec les autres plutôt que de leur faire compétition.
20. Je suis insouciant et d'humeur facile.
21. Je fais rarement des excès.
22. J'ai souvent soif d'excitation.
23. J'aime souvent jouer avec les théories et les idées abstraites.
24. Je ne me gêne pas pour vanter mes talents et mes réussites.
25. Je parviens facilement à tout planifier afin de terminer un travail à temps.
26. Je me sens souvent désarmé et je voudrais que quelqu'un d'autre règle mes problèmes.
27. Je n'ai jamais vraiment sauté de joie.
28. Je crois que de laisser des étudiants écouter des conférenciers controversés peut les rendre confus et les induire en erreur.
29. Les politiciens devraient mieux avoir conscience du facteur humain de leurs politiques.
30. À travers les années, j'ai fait des choses plutôt stupides.
31. J'ai peur facilement.
32. Je n'éprouve pas tellement de plaisir à causer avec les gens.
33. J'essaie de garder toutes mes pensées dans un cadre réaliste et d'éviter les envolées fantaisistes.
34. Je crois la plupart des gens bien intentionnés.
35. Je ne prends pas très sérieusement les devoirs civiques, comme de voter.
36. Je suis d'humeur égale.

37. J'aime avoir beaucoup de gens autour de moi.
38. Parfois, je m'absorbe complètement dans la musique.
39. Au besoin, je suis prêt à manipuler les gens pour obtenir ce que je veux.
40. Je garde mes possessions nettes et propres.
41. Parfois, je sens que je ne vauds rien.
42. Parfois, je ne réussis pas à m'affirmer autant que je le devrais.
43. Je ressens rarement des émotions fortes.
44. Je tente d'être courtois avec tous ceux que je rencontre.
45. Parfois, je ne suis pas aussi fiable et digne de confiance que je le devrais.
46. Je me sens rarement timide lorsque je suis avec des gens.
47. Quand je fais quelque chose, je le fais énergiquement.
48. Je crois intéressant d'apprendre et d'exploiter de nouveaux hobbies.
49. Je peux me montrer sarcastique et mordant lorsqu'il le faut.
50. J'ai un ensemble de buts clairement déterminés et je travaille à les atteindre d'une manière ordonnée.
51. J'éprouve de la difficulté à résister à mes envies.
52. Des vacances à Las Vegas ne m'intéressent pas.
53. Je trouve les thèses philosophiques assommantes.
54. Je préfère ne pas parler de moi-même et de mes réalisations.
55. Je perds beaucoup de temps avant de commencer un travail.
56. Je suis capable de faire face à la plupart de mes problèmes.
57. J'ai parfois ressenti une joie intense ou de l'extase.
58. Je crois que les lois et les politiques sociales devraient changer pour mieux refléter les besoins d'un monde changeant.
59. Je suis intransigeant et tenace dans mes attitudes.
60. Je réfléchis à fond avant de prendre une décision.
61. Je me sens rarement craintif ou anxieux.
62. On me connaît comme une personne calme et amicale.
63. *J'ai une imagination vive et capricieuse.*
64. Je crois que la plupart des gens vous exploiteront si vous leur en donnez l'occasion.
65. Je me tiens informé et je prends généralement des décisions intelligentes.
66. Je suis connu comme ayant le sang chaud et étant soupe au lait.
67. Habituellement, je préfère les activités solitaires.
68. Regarder un ballet ou une danse moderne ne m'intéresse pas.
69. Je ne pourrais décevoir quelqu'un même si je le voulais.
70. Je ne suis pas très méthodique.
71. Je suis rarement triste ou déprimé.

72. J'ai souvent été le leader de groupes auxquels j'appartenais.
73. Ce que je ressens concernant les choses est important pour moi.
74. Certaines personnes me croient froid et calculateur.
75. Je paie rapidement et complètement mes dettes.
76. J'ai parfois eu si honte que j'aurais voulu me cacher.
77. J'ai tendance à travailler lentement mais à un rythme soutenu.
78. Une fois que je découvre la façon correcte de faire quelque chose, je m'y tiens.
79. J'hésite à exprimer ma colère même lorsqu'elle se justifie.
80. Quand j'entreprends un programme d'amélioration personnelle, je laisse habituellement tomber après quelques jours.
81. J'éprouve peu de difficulté à résister à la tentation.
82. J'ai parfois commis des actions uniquement pour l'excitation et les sensations fortes.
83. J'aime résoudre des problèmes ou réussir des puzzles.
84. Je vaudrais mieux que la plupart des gens, et je le sais.
85. Je suis une personne productive qui complète toujours un travail.
86. Lorsque je suis très stressé, il me semble parfois que je vais m'écrouler.
87. Je ne suis pas un optimiste toujours de bonne humeur.
88. Je crois que nous devrions faire confiance aux autorités religieuses concernant les décisions d'ordre moral.
89. Nous ne pouvons jamais en faire trop pour les pauvres et les personnes âgées.
90. À l'occasion, j'agis d'abord et je réfléchis ensuite,
91. Je me sens souvent nerveux et tendu.
92. Plusieurs personnes me croient plutôt froid et distant.
93. Je ne perds pas mon temps à rêvasser.
94. Je crois que la plupart des gens que je fréquente sont honnêtes et fiables.
95. Je fais souvent face à une situation sans y être bien préparé.
96. Je ne suis pas considéré comme une personne capricieuse ou susceptible.
97. Lorsque je reste seul longtemps, j'éprouve vraiment le besoin de la compagnie des autres.
98. Je suis intrigué par les modèles que je trouve dans la nature et dans l'art.
99. Être parfaitement honnête représente une mauvaise façon de réussir en affaires.
100. J'aime conserver tous les objets à leur place afin de savoir exactement où ils sont.
101. J'ai parfois ressenti un sentiment profond de culpabilité.
102. Pendant les rencontres, je laisse généralement la parole aux autres.
103. Je porte rarement attention à mes sentiments sur le moment.
104. J'essaie habituellement d'être prévenant et plein d'égards.
105. Parfois, je triche en jouant au solitaire.
106. Je ne me sens pas trop embarrassé lorsque quelqu'un me ridiculise ou me taquine.

107. Je me sens souvent débordant d'énergie.
108. Je goûte souvent de nouveaux plats, des aliments étrangers.
109. Si je n'aime pas quelqu'un, je le laisse voir.
110. Je travaille fort pour atteindre mes buts.
111. J'ai tendance à trop manger lorsqu'on me sert mes plats préférés.
112. J'ai tendance à éviter les films choquants ou qui font peur.
113. Parfois, je perds intérêt dans une conversation sur des questions très abstraites ou théoriques.
114. J'essaie d'être humble.
115. J'éprouve de la difficulté à m'obliger à faire ce que je devrais.
116. Je garde mon sang froid en cas d'urgence.
117. Parfois, je pétille de bonheur.
118. Je crois que les différentes idées sur le bien et le mal qu'ont les gens dans d'autres sociétés sont valables pour eux.
119. Je n'éprouve aucune compassion pour les mendiants.
120. Je tiens toujours compte des conséquences avant d'agir.
121. J'ai rarement peur de l'avenir.
122. Je prends vraiment plaisir à parler aux gens.
123. J'aime me concentrer sur une idée ou une rêverie, la laissant croître et se développer.
124. Je suis méfiant lorsque quelqu'un pose un geste gentil envers moi.
125. Je suis fier de mon jugement sûr.
126. Je suis souvent dégoûté par les gens que je dois rencontrer.
127. Je préfère des emplois solitaires, sans autres personnes pour m'ennuyer.
128. La poésie a peu ou pas d'effet sur moi.
129. Je détesterais passer pour un hypocrite.
130. Je ne semble jamais capable d'organiser mes activités.
131. J'ai tendance à me blâmer quand quelque chose va mal.
132. Les autres attendent souvent que je prenne les décisions.
133. Je connais une vaste gamme d'émotions et de sentiments.
134. Je ne suis pas connu pour ma générosité.
135. Quand je prends un engagement, on peut compter sur moi.
136. Je me sens souvent inférieur aux autres.
137. Je ne suis pas aussi rapide et vif que les autres.
138. Je préfère passer mon temps dans des milieux familiers.
139. Quand on m'a insulté, j'essaie surtout de pardonner et d'oublier.
140. Je ne ressens pas un grand désir de réussite.
141. Je suis rarement mès impulsions.
142. J'aime être au cœur de l'action.

143. J'aime travailler à un casse-tête complexe.
144. J'ai une très haute estime de moi-même.
145. Quand je commence un projet, je le termine presque toujours.
146. Il m'est souvent difficile de prendre une décision.
147. Je ne me trouve pas particulièrement insouciant.
148. Je crois que la fidélité à ses idéaux et à ses principes est plus importante que l'ouverture d'esprit.
149. Les besoins humains devraient toujours avoir priorité sur les préoccupations économiques.
150. J'agis souvent sous l'impulsion du moment.
151. Je me fais souvent du souci pour les choses qui pourraient mal tourner.
152. Je trouve facile de sourire à des étrangers et de m'entretenir avec eux.
153. Si je sens mon esprit partir à la dérive dans des rêveries, je m'occupe et je me concentre sur un travail ou sur une activité.
154. Instinctivement, je fais confiance aux gens.
155. Je ne semble pas réussir complètement dans quoi que ce soit.
156. Il en faut beaucoup pour me rendre furieux.
157. Je préfère des vacances à la plage plutôt que dans une cabane isolée en forêt.
158. Je suis infiniment fasciné par certains genres de musique.
159. Parfois, j'incite les gens à faire ce que je veux en les manipulant.
160. J'ai tendance à être difficile à satisfaire.
161. J'ai une piètre opinion de moi-même.
162. Je préférerais être seul plutôt que d'être le leader des autres.
163. Je remarque rarement les humeurs ou les sentiments produits par différents milieux.
164. La majorité des gens que je connais m'aiment.
165. J'adhère strictement à mes principes moraux.
166. Je suis à l'aise en présence de mes employeurs et des représentants de l'autorité.
167. Habituellement, je semble pressé.
168. Je fais parfois des changements dans la maison simplement pour essayer autre chose.
169. Si quelqu'un commence une bagarre, je suis prêt à me défendre.
170. Je tente d'accomplir tout ce que je peux.
171. Je me rends parfois malade à trop manger.
172. J'aime l'excitation que provoquent les montagnes russes.
173. J'ai peu d'intérêt à méditer sur la nature de l'univers ou la condition humaine.
174. Il me semble ne pas être mieux que les autres, indépendamment de leur condition.
175. Quand un projet devient trop ardu, j'ai tendance à en commencer un nouveau.
176. Je me débrouille très bien en cas de crise.
177. Je suis une personne allègre, de bonne humeur.
178. Je me considère ouvert d'esprit et indulgent envers le mode de vie des autres.

179. Je crois tous les êtres humains dignes de respect.
180. Je prends rarement des décisions hâtives.
181. J'éprouve moins de craintes que la plupart des gens.
182. J'ai des liens émotionnels forts avec mes amis.
183. Lorsque j'étais enfant, j'aimais rarement jouer à " faire semblant ".
184. J'ai tendance à m'attendre au mieux chez les gens.
185. Je suis une personne très compétente.
186. Je me suis parfois senti amer et rancunier.
187. Les réunions sociales m'ennuient habituellement.
188. Parfois, en lisant de la poésie ou en voyant un tableau, je ressens une vague d'excitation.
189. Parfois, j'intimide ou je flatte les gens jusqu'à ce qu'ils fassent ce que je veux.
190. Je ne nettoie pas compulsivement.
191. Parfois, les choses me semblent tristes et désespérées.
192. Pendant les conversations, j'ai tendance à parler plus que les autres.
193. Je ressens facilement de l'empathie – percevoir ce que les autres ressentent.
194. Je me considère une personne charitable.
195. J'essaie de travailler soigneusement pour ne pas avoir à refaire le même travail.
196. Lorsque j'ai dit ou fait quelque chose de mal à quelqu'un, je supporte difficilement de le revoir.
197. Ma vie passe trop vite.
198. En vacances, je préfère retourner dans un endroit connu et apprécié.
199. Je suis obstiné et têtu.
200. Je tends vers l'excellence dans tout ce que je fais.
201. Je fais parfois quelque chose impulsivement et je le regrette ensuite.
202. Les couleurs brillantes et les styles flamboyants m'attirent.
203. Je fais preuve d'une grande curiosité intellectuelle.
204. Je préfère louer les autres à être louagé.
205. Il y a tellement de petites tâches qui doivent être faites que je préfère parfois les ignorer toutes.
206. Même quand tout semble aller mal, je peux quand même prendre de bonnes décisions.
207. J'utilise rarement des mots comme " fabuleux " ou " sensationnel " pour décrire mes expériences.
208. Je crois que si les gens ne savent pas encore en quoi ils croient à l'âge de 25 ans, il y a quelque chose qui ne va pas chez eux.
209. J'éprouve de la compassion pour les gens moins chanceux que moi.
210. Je planifie soigneusement mes voyages.
211. Des pensées effroyables me viennent parfois à l'esprit.
212. Je m'intéresse personnellement aux gens avec qui je travaille.
213. J'éprouverais de la difficulté à laisser mon esprit errer sans maîtrise ni gouverne.
214. Je fais pleinement confiance en la nature humaine.

215. Je suis efficace et compétent dans mon travail.
216. Même les contrariétés mineures peuvent être frustrantes pour moi.
217. J'aime passer des soirées animées avec beaucoup de gens.
218. J'aime lire de la poésie qui fait ressortir des sentiments et des images plutôt que des histoires.
219. Je suis fier de ma finesse en manipulant les gens.
220. Je perds beaucoup de temps à chercher des objets que j'ai déplacés.
221. Trop souvent, quand quelque chose va de travers, je me décourage et je voudrais laisser tomber.
222. Je ne trouve pas facile de prendre une situation en charge.
223. Des choses singulières – comme certains parfums ou le nom de lieux éloignés – peuvent évoquer des émotions puissantes en moi.
224. Je fais tout ce que je peux pour aider les autres.
225. Il faudrait vraiment que je sois malade pour manquer un jour de travail.
226. Quand des gens que je connais font des bêtises, je suis gêné pour eux.
227. Je suis une personne très active.
228. Je suis toujours le même trajet en me rendant quelque part.
229. J'ai souvent des disputes avec ma famille et mes camarades de travail.
230. Je suis plutôt un bourreau de travail.
231. Je parviens toujours à maîtriser mes émotions.
232. J'aime faire partie de la foule pendant les événements sportifs.
233. J'ai un vaste éventail d'intérêts intellectuels.
234. Je suis une personne supérieure.
235. Je fais preuve de beaucoup d'auto-discipline.
236. Je suis émotionnellement assez stable.
237. Je ris facilement.
238. Je crois que la " nouvelle moralité " de permissivité égale pas de moralité du tout.
239. Je préférerais avoir la réputation d'être " élément " plutôt que " juste ".
240. J'y pense à deux fois avant de répondre à une question.

*Note de l'éditeur :*

*L'usage du masculin en tant que neutre n'a pour but que de faciliter la lecture, d'alléger le texte et d'éviter les biais linguistiques. Il va de soi que cet usage ne comporte aucune discrimination et que les titres désignent aussi bien les femmes que les hommes.*

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ISBN : 2-89109-167-1

Imprimé au Canada

Numéro de catalogue : 6163-54241

B.6

The Symptoms Checklist 90-Revised

INSTRUCTIONS :

Le test SCL-90 consiste en une liste de problèmes que les gens rencontrent parfois. Lisez attentivement chaque ligne de la liste et encerclez le chiffre de la réponse décrivant le mieux À QUEL POINT CE PROBLÈME VOUS A TROUBLÉ(E) OU PERTURBÉ(E) AU COURS DES 7 DERNIERS JOURS, Y COMPRIS AUJOURD'HUI. Encerclez seulement un chiffre pour chaque problème. Ne sautez aucune ligne. Si vous changez d'avis, barrez votre réponse initiale d'un « X » et encerclez votre nouvelle réponse.

0= Pas du tout	1= Un peu	2= Modérément	3= Beaucoup	4= Extrêmement
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CE PROBLÈME VOUS A-T-IL TROUBLÉ(E)?

		0	1	2	3	4
1	Maux de tête	0	1	2	3	4
2	Nervosité ou impression de tremblements intérieurs	0	1	2	3	4
3	Pensées désagréables incessantes dont vous ne pouvez vous débarrasser	0	1	2	3	4
4	Faiblesses ou étourdissements	0	1	2	3	4
5	Diminution du plaisir ou de l'intérêt sexuel	0	1	2	3	4
6	Tendance à critiquer les autres	0	1	2	3	4
7	L'idée que quelqu'un d'autre puisse contrôler vos pensées	0	1	2	3	4
8	L'impression que ce sont les autres qui sont responsables de la plupart de vos problèmes	0	1	2	3	4
9	Troubles de mémoire	0	1	2	3	4
10	Inquiétude face à la négligence ou à l'insouciance	0	1	2	3	4
11	Tendance à vous sentir facilement agacé(e) ou contrarié(e)	0	1	2	3	4
12	Douleurs au cœur ou à la poitrine	0	1	2	3	4
13	Peur des grands espaces ou dans les rues	0	1	2	3	4
14	Sentiment de manquer d'énergie ou de fonctionner au ralenti	0	1	2	3	4
15	Idées d'en finir avec la vie	0	1	2	3	4
16	Entendre des voix que les autres n'entendent pas	0	1	2	3	4
17	Tremblements	0	1	2	3	4
18	Sentiment que vous ne pouvez pas faire confiance à la plupart des gens	0	1	2	3	4
19	Manquer d'appétit	0	1	2	3	4
20	Pleurer facilement	0	1	2	3	4
21	Timidité ou gêne face aux personnes de sexe opposé	0	1	2	3	4
22	Sentiment d'être coincé(e) ou pris(e) au piège	0	1	2	3	4

23	Tendance à vous effrayer sans raison	0	1	2	3	4
24	Crises de colère incontrôlables	0	1	2	3	4
25	Peur de sortir seul(e) de la maison	0	1	2	3	4
26	Vous culpabiliser pour certaines choses	0	1	2	3	4
27	Douleurs dans le bas du dos	0	1	2	3	4
28	Sentiment d'être bloqué(e) pour compléter des tâches	0	1	2	3	4
29	Sentiment de solitude	0	1	2	3	4
30	Avoir le cafard	0	1	2	3	4
31	Trop d'inquiétude pour rien	0	1	2	3	4
32	Manque d'intérêt pour tout	0	1	2	3	4
33	Attitude craintive	0	1	2	3	4
34	Tendance à vous sentir facilement blessé(e)	0	1	2	3	4
35	L'impression que les autres connaissent vos pensées intimes	0	1	2	3	4
36	Sentiment que les autres ne vous comprennent pas ou ne vous témoignent pas de sympathie	0	1	2	3	4
37	Sentiment que les gens ne sont pas amicaux ou qu'ils ne vous aiment pas	0	1	2	3	4
38	Obligation de faire les choses très lentement pour être sûr(e) qu'elles sont bien faites	0	1	2	3	4
39	Battements très forts ou très rapide du cœur	0	1	2	3	4
40	Nausées ou maux d'estomac	0	1	2	3	4
41	Sentiment d'infériorité vis-à-vis des autres	0	1	2	3	4
42	Douleurs musculaires	0	1	2	3	4
43	Sentiment qu'on vous observe ou qu'on parle de vous	0	1	2	3	4
44	Difficulté à vous endormir	0	1	2	3	4
45	Besoin de vérifier et de revérifier ce que vous faites	0	1	2	3	4
46	Difficulté à prendre des décisions	0	1	2	3	4
47	Craindre de voyager en autobus, en métro ou en train	0	1	2	3	4
48	Difficulté à reprendre votre souffle	0	1	2	3	4
49	Bouffées de chaleur ou de frissons	0	1	2	3	4
50	Besoins d'éviter certains endroits, choses ou activités parce qu'ils vous font peur	0	1	2	3	4
51	Trous de mémoire	0	1	2	3	4
52	Engourdissements ou picotements dans certaines parties du corps	0	1	2	3	4
53	Serrement de gorge	0	1	2	3	4
54	Vous sentir sans espoir face à l'avenir	0	1	2	3	4
55	Difficulté à vous concentrer	0	1	2	3	4
56	Sentiment de faiblesse dans certaines parties du corps	0	1	2	3	4

57	Sentiment de tension ou de surexcitation	0	1	2	3	4
58	Sensation de lourdeur dans les bras et les jambes	0	1	2	3	4
59	Pensées sur la mort ou le fait de mourir	0	1	2	3	4
60	Trop manger	0	1	2	3	4
61	Sensation de malaise lorsqu'on vous observe ou qu'on parle de vous	0	1	2	3	4
62	Avoir des pensées qui ne viennent pas de vous	0	1	2	3	4
63	Avoir envie de frapper, de blesser ou de faire du mal à quelqu'un	0	1	2	3	4
64	Le fait de vous réveiller très tôt le matin	0	1	2	3	4
65	Besoin de reprendre certains actes de façon répétitive (ex. toucher, compter ou laver, etc)	0	1	2	3	4
66	Sommeil agité ou perturbé	0	1	2	3	4
67	Avoir envie de briser ou de fracasser des objets	0	1	2	3	4
68	Avoir des idées ou des opinions que les autres ne partagent pas	0	1	2	3	4
69	Fort sentiment d'embarras face aux autres	0	1	2	3	4
70	Sentiment de malaise dans la foule : au centre commercial ou au cinéma, par exemple	0	1	2	3	4
71	Impression que tout exige un effort	0	1	2	3	4
72	Excès de terreur ou de panique	0	1	2	3	4
73	Se sentir mal à l'aise de manger ou de boire en public	0	1	2	3	4
74	Vous laisser facilement entraîner dans des discussions	0	1	2	3	4
75	Sentiment de nervosité quand on vous laisse seul(e)	0	1	2	3	4
76	Ne pas être reconnu(e) à votre juste valeur	0	1	2	3	4
77	Sentiment de solitude même en compagnie d'autres personnes	0	1	2	3	4
78	Vous sentir tellement agité(e) que vous ne pouvez pas rester en place	0	1	2	3	4
79	Sentiment que vous ne valez rien	0	1	2	3	4
80	Sentiment que quelque chose va mal tourner pour vous	0	1	2	3	4
81	Crier ou lancer des objets	0	1	2	3	4
82	Avoir peurs de perdre connaissance en public	0	1	2	3	4
83	Sentiment que les gens vont profiter de vous si vous les laissez faire	0	1	2	3	4
84	Avoir des pensées sur le sexe qui vous troublent beaucoup	0	1	2	3	4
85	L'idée que vous devriez être puni(e) pour vos péchés	0	1	2	3	4
86	Avoir des pensées et des images qui effraient	0	1	2	3	4
87	L'idée que quelque chose de grave affecte votre corps	0	1	2	3	4
88	Ne jamais vous sentir proche de quelqu'un	0	1	2	3	4
89	Sentiment de culpabilité	0	1	2	3	4
90	L'idée que quelque chose ne va pas dans votre tête	0	1	2	3	4