

Positive Parenting Practices and Psychological Adjustment among
Canadian and Chinese Emerging Adults:
The Mediating Role of Emotion Regulation

by

Céline Marion Koryzma
M.Sc., University of Victoria, 2007
B.Sc., University of Northern British Columbia, 2004

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

in the Department of Psychology

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Supervisory Committee

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Abstract

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The present study evaluated the relations among positive parenting practices, cognitive emotion regulation strategies, and positive and negative psychological adjustment among Chinese and Canadian emerging adults. Emotion regulation was hypothesized to mediate the relations between positive parenting and psychological adjustment. Participants included 75 international Chinese students and 120 Canadian students between the ages of 18 to 25 enrolled at the University of Victoria. Participants completed multiple-choice questionnaires assessing perceptions of their mothers' and fathers' positive parenting practices (i.e., warmth, volitional autonomy support and parent as teacher), their use of positive and negative cognitive emotion regulation strategies, and their levels of positive psychological adjustment (i.e., happiness, life satisfaction and academic satisfaction) and negative psychological adjustment (i.e., depression, anxiety and loneliness). Emotion regulation partially mediated the relations between perceptions of fathers' parenting and positive and negative psychological adjustment for Chinese and Canadian students, and for Canadian students' perceptions of mothers' parenting. Few group differences emerged in the relations among parenting, emotion regulation and adjustment; greater positive parenting was associated with students' use of more positive

emotion regulation strategies and fewer negative strategies, and with higher levels of positive adjustment and lower levels of negative adjustment. In contrast to the overall similarity observed in terms of relations among the constructs, an exception to this pattern was the lack of relations between parenting and emotion regulation for Chinese students. Mean differences between Chinese and Canadian students in emotion regulation and psychological adjustment were found. Chinese students used all of the assessed emotion regulation strategies more often than Canadian students, and had higher levels of negative adjustment and lower levels of positive adjustment as compared with Canadian students. Clinical implications in terms of how parents, mental health professionals and post-secondary institutions can help bolster the positive adjustment of emerging adults cross-culturally are discussed, along with the strengths and limitations of the current study and directions for future research.

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Acknowledgments

First and foremost, I would like to thank my supervisor Dr. Catherine Costigan, for her support, encouragement and guidance throughout this study and the entirety of my time as a graduate student at the University of Victoria.

Thank you to Dr. Bonnie Leadbeater for her assistance and expertise during the proposal stage of this study.

Thank you also to my committee members, Dr. Marion Ehrenberg, Dr. Marsha Runtz, and Dr. Elizabeth Banister, for their helpful comments, support and advice.

I am grateful to the International and Exchange Student Services centre at the University of Victoria for aiding in the recruitment of participants.

I would also like to thank the students who participated in my project and offered helpful insights into their lives and relationships with their parents.

Dedication

For my third-year undergraduate Anthropology professor who asked, “Have you ever thought of grad school?” And I said, “no.”

For my parents, whose unwavering encouragement, perspective, love, and great cooking kept me afloat.

For my brilliant, hilarious and down-to-earth friends, especially Kate, Jen, Laura, and Erin, who commiserated with me, encouraged me, and grew up with me throughout this process.

For my husband Will, thank you for always believing in me. Your strength, light, and love helped me all along the way.

And especially for C & C, the bravest girls I know.

Introduction

The parent-child relationship is one of the most significant proximal influences on human development throughout the lifespan (Lerner, 2002). Although parents may have less say on the direct day-to-day lives of their children as they develop, growing up and moving out does not necessarily mean that parents' influence is diminished. As children enter emerging adulthood, a period of the lifespan characterized by self-exploration, instability and significant changes in psychological adjustment, interpersonal relations and living arrangements, parents remain an important source of support (Aquilino, 2006; Arnett, 2000, 2003).

Examining the parent-child relationship in emerging adulthood represents an important opportunity to understand how parents can support the adjustment of their children as they encounter the opportunities and challenges of this age period. For many young people, emerging adulthood represents an optimistic time where possibilities and hopes abound as they negotiate developmental tasks such as leaving the parental home and beginning post-secondary education. However, some individuals may experience the rapid and sweeping life changes that characterize this age period as overwhelming, and these tasks may represent significant adaptive challenges. The transitional nature of emerging adulthood helps to explain why it represents a period of the lifespan which is concurrently one of improvement in adjustment, as well as one of increased susceptibility to maladaptation (Burt & Masten, 2010). As emerging adults negotiate these transitions, parents can provide a unique and crucial source of support which has the potential to buffer against possible vulnerabilities and encourage positive developmental outcomes (Aquilino, 2006; Buhl, 2007).

Concomitantly with navigating considerable changes in their own lives, emerging adults must also manage adjustments in their relationships with their parents. The ability to achieve

autonomy while remaining connected with parents has long been recognized as a central task of adolescence (Collins, 1990), and this process continues into emerging adulthood. The extent to which parents encourage autonomy in their emerging adult children, while remaining a source of support as they explore new physical, social and emotional contexts, has been linked with the positive psychological functioning of emerging adults (Allen et al., 1994; Soenens, Vansteenkiste, Lens, Luyckx, Goosens, Beyers, & Ryan, 2007). However, the vast majority of this research has been conducted with Western families, and there has been debate as to whether the influence of parents on the psychological adjustment of emerging adults is similar across cultures (DiTommaso, Brannen, & Burgess, 2005).

The current study seeks to address this gap in the literature by examining how positive parenting practices are associated with the adjustment of both Canadian and international Chinese emerging adult university students. Canadian and Chinese emerging adults represent important groups in which to examine more closely how parents can support emerging adults' adjustment because Canadian and Chinese cultures differ in the extent to which they emphasize individuality and autonomy versus family interdependence and harmony. Some researchers argue that the role of the parent-child relationship may be different in cultures where relatedness and family obligation values are highlighted, such as in Chinese culture (Chao & Tseng, 2002). For example, strong values of relationship harmony may mean that parental support is a more powerful predictor of Chinese emerging adult adjustment, as compared to that of Canadian emerging adults.

Few studies, irrespective of the cultural group sampled, have moved beyond testing the direct relation between the parent-child relationship and the adjustment of emerging adults to examine possible mediators of these constructs (Fischer, Forthun, Pidcock, & Down, 2007). The

current study examined the mediating role of emotion regulation to explain how positive parenting practices may affect the psychological adjustment emerging adults. Emotion regulation is defined as the internal and external processes involved in initiating, maintaining, and modulating the occurrence, intensity, and expression of emotions (John & Gross, 2004, 2007; Thompson, 1994). It represents an important concept to examine during this age period because as emerging adults experience a wider array of novel situations and emotionally stressful events, their capacity to manage and regulate their emotions is likely to have a significant impact on their overall adjustment (Morris, Silk, Steinberg, Myers, & Robinson, 2007; Thompson, 1994).

Several areas of relevant literature are reviewed. First, the relation between parenting and the adjustment of emerging adults is considered. Theoretical foundations of our understanding of this relationship in both Asian and Western cultures are reviewed, with particular attention paid to attachment theory. Changes in the parent-child relationship during this developmental period are considered and empirical studies identifying parenting practices which both support positive psychological adjustment (e.g., happiness, life satisfaction, and academic satisfaction), and buffer against negative psychological adjustment (e.g., feelings of depression, anxiety, and loneliness) among emerging adults are reviewed. Specifically, the influence of parental warmth and volitional autonomy support on offspring psychological adjustment is discussed, followed by an explanation of the role of the Chinese parenting construct of training (*guan*). Literature examining the link between parenting and emotion regulation for emerging adults is reviewed. The relation between emotion regulation and adjustment and the rationale for selecting emotion regulation as a mediator of the relation between parenting and adjustment is then discussed.

Literature relevant to both Canadian and Chinese populations is highlighted throughout the aforementioned sections.

Parent-Child Relations in Emerging Adulthood

Jeffrey Arnett (1994, 2000, 2004, 2007, 2011) proposed the concept of emerging adulthood as a new way of describing and explaining development for the period between the late teens through the mid- to late twenties for contemporary young people in industrialized societies. Arnett argues that the period between adolescence and young adulthood, known as emerging adulthood, has extended and become demographically distinct in the last half century. Most young people are now no longer required to make enduring choices regarding education, occupations, residence and romantic involvement. In the last fifty years, steep rises in the typical age of marriage, parenthood, participation in higher education and changes in residential status in industrialized countries have been observed. This socioculturally supported delay in making firm commitments in these areas exerts a major influence on the developmental course of individuals (Cohen, Kasen, Chen, Hartmark, & Gordon, 2003). Arnett (2004, 2006) contends that a number of marked features typify emerging adulthood, which position this period as a distinct phase in the lifespan. These include a high degree of instability and possibility for change as emerging adults explore and refine their identities in work, education, and important interpersonal relationships, including the parent-child relationship.

The renegotiation of the parent-child relationship begins in adolescence to allow the adolescent greater decision making abilities and freedom. However, parents still remain highly involved in discipline and in the adolescents' major life choices. This renegotiation of roles leads to a small but significant increase in the level of conflict in the parent-child relationship early in

this developmental period (Larson & Richards, 1994). Nevertheless, most adolescents maintain a positive relationship with their parents (Steinberg & Silk, 2002).

In general, the parent-child relationship improves from adolescence during the emerging adulthood stage (Thorton, Orbuch, & Axinn, 1995). Prospective studies from both the parent's and the child's perspective indicate that levels of conflict decrease and feelings of emotional closeness and affection increase between parents and their emerging adult children (Aquilino, 1997; Aseltine & Gore, 1993; Shulman & Ben-Artzi, 2003). The entry of emerging adults into adult roles, such as moving out of the parental home, becoming financially independent, and gaining employment or entry into post-secondary education is associated with positive changes in the parent-child relationship (Aquilino, 1997; Arnstein, 1980). Parents with children who have obtained full-time employment or have enrolled in university are more likely to report closer relationships characterized by less conflict with their children, than those who have not achieved these developmental tasks (Aquilino, 1997). As children experience similar adult roles and responsibilities as their parents, a new phase of reciprocity and interdependence in the parent-child relationship ensues (Aquilino, 2006; Wintre & Yaffe, 2000). Through this renegotiation of roles, parents may continue to provide a unique and significant source of support as emerging adults encounter the opportunities and challenges of this developmental period.

Parenting and Offspring Adjustment: Theoretical Contributions

Arguably the most prominent and well researched theory explaining why the parent-child relationship is associated with offspring adjustment is attachment theory (Ainsworth, Blehar, Waters, & Wall, 1978; Ainsworth, 1989; Bowlby, 1969, 1982). Originally applied to the infant-caregiver bond, attachment theory is based on the premise that humans are social beings who have an innate set of attachment behaviours (e.g., searching for, promoting physical contact)

with persons who serve as their primary caregivers, which are triggered by stressful circumstances. The primary function of attachment behaviours is to increase physical and psychological proximity to the caregiver, thereby maximizing the safety and protection of the infant (Bowlby, 1969). The attachment process among infants is considered to be universal across cultures (Bowlby, 1969).

According to attachment theory and research, attachment patterns vary based on the way caregivers respond to their infants' attachment needs. A secure attachment develops when caregivers are responsive to the attachment needs of the infant, accurately reading their cues of distress and finding effective ways to comfort them. Responsive caregivers encourage infants to explore their environment, while remaining a stable and predictable safe haven in times of distress.

Over the past several decades, researchers have increasingly studied how attachment affects well-being across the lifespan, following Bowlby's (1982) assertion that attachment processes were keys to functioning from "cradle to grave" (p. 172). Parental (or other caregiver) attachments remain important influences in all developmental periods, from infancy through to adulthood, by providing a source of support and secure base (Kenny & Sirin, 2006). Parental attachments are theorized to influence the adjustment of individuals beyond infancy through attachment representations or internal working models. These internal working models are based on the sum of interactions with caregivers over time and represent a set of expectations about close relationships. Internal working models act as cognitive filters through which current experiences are attended to and expectations and beliefs about the self and others are formulated. A securely attached individual who received responsive caregiving may be more likely to

develop an internal working model of the self as worthy, and a model of others as trustworthy (Bowlby, 1982).

According to attachment theory, a central role of the attachment figure is to foster independence and self-reliance while remaining a stable and secure base of support in times of stress. As children age, the emphasis on physical closeness and protection that the attachment system provides decreases, and by adolescence, individuals rely more on caregivers for emotional support during times of distress (McElhaney, Allen, Stephenson, & Hare, 2009). Secure parental attachments characterized by a balance of autonomy and support encourage adolescents and emerging adults to explore their physical, social and emotional environments while providing a source of comfort and safety (Kenny, Lomax, Brabeck, & Fife, 1998). As emerging adults engage in the developmental tasks of this age period, such as leaving home and beginning post-secondary education, they may rely less and less on instrumental support from attachment figures (Arnett, 2000). Nevertheless, when they encounter these potentially stressful transition events, emerging adults access working models of attachment-related cognitions and sustain support seeking through mental strategies and actual behaviours (Mikulincer & Shaver, 2007).

Working models of parental attachment (also known as attachment states of mind) are associated with psychological adjustment across diverse developmental periods in Western samples (Sroufe, 2005). In adolescence, both correlational and prospective studies have demonstrated that secure parental attachment is associated with lower levels of both internalizing and externalizing problems (Allen, Porter, McFarland, McElhaney, & Marsh, 2007).

Surprisingly, few studies have examined the relations between attachment and well-being in non-Western cultures in developmental stages past infancy and early childhood. When

attachment is examined in infants, it does appear that infant-caregiver attachment behaviours are very similar across cultures (van Ijzendoorn & Sagi, 1999). However, the possibility for cultural influence on attachment states of mind increases in later developmental periods. Among those that have examined attachment in non-Western populations, most have utilized attachment constructs and measures developed in North America. Some researchers have questioned the applicability of attachment theory and its measurement to diverse cultures, since its underlying assumptions are rooted in Western philosophies (Wang & Song, 2010).

Chinese styles of relatedness differ from those in Western cultures in many important and distinct ways. For example, connectedness and interdependence among family members are emphasized in Chinese cultures, and the process of achieving autonomy from parents beginning in adolescence and continuing through emerging adulthood follows a qualitatively and quantitatively distinct path as compared with this process in Western cultures (Tseng, 2004). Some research has demonstrated that Chinese parents tend to be less supportive of their children's autonomy as compared with parents in Western cultures, and the relationship between autonomy support and offspring well-being is stronger in North American than Chinese samples (Lekes, Gingras, Philippe, Koestner, & Fang, 2010).

Only a few studies have examined the relation between attachment and well-being in emerging adult Asian samples, and some differences between cultural groups have been discovered (Wang, 2007; Wei, Russell, Mallinckrodt, & Zakalik, 2004). Wei and colleagues (2004) found that Asian American university students reported higher levels of attachment anxiety and avoidance than did their Caucasian peers. Insecure attachment was associated with negative mood for both groups, but a significantly stronger association was found for Asian Americans. Wang (2007) compared attachment and emotional expression in Taiwanese and

American adults and found that attachment anxiety was significantly associated with lower emotional expression for Taiwanese, but not for American participants.

Wang and Song (2010) present a theoretical model of Chinese adult attachment, describing a number of cultural factors which may influence attachment style, and in turn relate to external support and internal coping. A number of factors they describe (self-construals, *yuan* and filial piety) pertain to Chinese ways of relatedness and are important for understanding the parent-child relationship for Chinese emerging adults. Wang and Song posit that Chinese individuals tend to have strong interdependent self-construals, meaning they value harmonious relationships and meeting social obligations. In contrast to Western culture, where independent self-construals are underscored, having distinct self-other boundaries is not emphasized for Chinese individuals, and the self is defined as inseparable from one's relational context. The Chinese concept of *yuan*, which refers to the belief that there is a predestined connection between two people and that a significant internal relationship is never random, also has implications for understanding parent-child relationships in Chinese culture. Based on this philosophy, important relationships can never be completely ended or disregarded, even if there is a high level of discord and conflict. The concept of *yuan* has no counterpart in Western philosophies of attachment, where feelings of abandonment and distrust are fundamental characteristics of insecure attachment states of mind for some individuals. Finally, filial piety, which is defined in Chinese culture as the responsibility of each person to love, respect and obey their parents and ancestors, is also thought to be integral to the understanding of Chinese attachment (Chao, 1994; Wang & Song, 2010). Practices of filial piety are one of the strongest influences on the parent-child relationship in Chinese culture, and represent a necessary framework for understanding Chinese ways of relatedness. The concept of filial piety is of

particular interest in emerging adulthood, when children must balance seeking their own paths and values, while continuing to fulfill family expectations and obligations.

Since concepts of self, others, and relationships are interconnected in Chinese culture, internal working models of attachment must be studied within a relational context (Wang & Song, 2010). Chinese individuals, as compared with their Western counterparts, focus more on relational needs, obligation fulfillment, and hierarchy in relationships. This affects their appraisals of relationships and attachment states of mind. Hence, the parent-child relationship may have different influences on the adjustment of Chinese emerging adults.

The attachment literature provides crucial insight into why the parent-child relationship has a significant impact on offspring adjustment well past childhood. However, attachment security represents a broad construct, encompassing an array of parenting characteristics. By emerging adulthood, attachment states of mind embody global and comprehensive representations based on past history of parent-child interactions. The current study seeks to assess the quality of parenting currently perceived by emerging adults by measuring specific dimensions of positive parenting which might collectively result in secure attachment. By examining not only specific Western parenting practices that support the adjustment of emerging adults, but also those that have their roots in Chinese culture, the current study seeks to elucidate how parenting buffers Chinese and Canadian emerging adults against possible mental health difficulties. The next section presents a brief overview of psychological adjustment during emerging adulthood, followed by an examination of parenting practices which have been empirically demonstrated to support the adjustment of emerging adults in both Western and Chinese cultural contexts.

Psychological Adjustment in Emerging Adulthood

Developmental psychopathology provides an integrative framework which seeks to understand how risk and protective factors influence continuities and discontinuities between psychopathology and its relation to normative adaptation (Rutter & Sroufe, 2000). An examination of both positive and negative adjustment during emerging adulthood utilizing a developmental psychopathology perspective considers how both adaptive and non-adaptive trajectories of functioning have implications for the development of the individual across the lifespan (Cicchetti & Rogosch, 2002).

The developmental period of emerging adulthood, with its variety of different experiences and multiple transitions, is a time of unique opportunity and vulnerability for psychological adjustment, with crucial implications for future development (Burt & Masten, 2010; Schulenberg & Zarrett, 2006). Once individuals reach emerging adulthood, their life paths diverge and there is great variability in their day-to-day lives in terms of occupational settings, educational achievements, and relationships with parents. In part due to this extensive variability in life trajectories, there is concomitant variation in their levels of well-being and psychological adjustment (Arnett, 2004). Keeping in mind this variability, it is possible to broadly describe adjustment on an epidemiological level during this period in the lifespan.

Several longitudinal inquiries provide insight into how psychological adjustment changes from adolescence through emerging adulthood (Aseltine & Gore, 1993; Galambos, Barker, & Krahn, 2006; Merikangas, Zhang, Avenevoli, Acharyya, Neuenschwander, & Angst, 2003). Research with a large, representative sample of high school senior cohorts in the United States demonstrates that in general, well-being (as evaluated by a composite measure of self-esteem, self-efficacy and social support) increases over the emerging adult period, from ages 18 to

approximately 25 (Johnston, O'Malley, Bachman, & Schulenberg, 2004). Researchers have found similar results among emerging adults in Canada. Utilizing a large community sample of Canadian Grade 12 students followed over a 7-year period, Galambos and colleagues also found that psychological well-being generally improved from ages 18 to 25 (Galambos et al., 2006). Specifically, they found that depressive symptoms decreased and feelings of self-esteem increased during this period. Other community-based studies, both cross-sectional and prospective, have also indicated that the prevalence of depressive symptoms tends to decrease from late adolescence through emerging adulthood (Merikangas et al., 2003; Wight, Sepúlveda, & Aneshensel, 2004).

As demonstrated, emerging adulthood can represent a time of improvement in the psychological adjustment of many individuals. More so than at any other time of their development, many emerging adults gain the ability to determine their own fate and self-select into environments which foster their well-being (Lerner, 2002). For example, rather than having to participate in a wide breadth of academic subjects as was the case in high school, emerging adults can choose which subjects they want to study based on interest, or choose to enter the workforce. Experiencing success in tasks which an individual has an aptitude and liking for (academic or otherwise) increases feelings of self-esteem and happiness (Lerner, 2002). Furthermore, individuals who are generally satisfied with specific life domains tend to also be satisfied with their lives overall (Singley, Lent, & Sheu, 2010). For many emerging adults, the pursuit of post-secondary education represents a specific life domain that has a reciprocal, or bidirectional relationship with their well-being. For example, academic satisfaction is associated with life satisfaction and well-being among emerging adults (Lent, Singley, Sheu, Schmidt, & Schmidt, 2007). These results highlight the importance of assessing satisfaction in domain-

specific areas that are relevant to particular developmental periods, such as academic satisfaction in emerging adulthood.

Although emerging adulthood can represent a time of opportunity where well-being typically increases, this age period can also be described as one of increased vulnerability for some individuals (Burt & Masten, 2010). Multiple psychosocial factors contribute to emerging adulthood as being a period of vulnerability. As emerging adults engage in the developmental tasks of this age period, the new experiences and demands they encounter can negatively affect their psychological adjustment. One well-studied developmental task of emerging adulthood includes the transition to post-secondary education and its relation to well-being (Montgomery & Côté, 2003). Studies report that symptoms of depression and anxiety increase for emerging adults during the first year of post-secondary education (Arthur, 1998; Pritchard, Wilson, & Yamnitz, 2007). In a longitudinal study of undergraduate students, Pritchard and colleagues (2007) found that physical health (the frequency students had experienced health symptoms such as a cold and flu) and psychological health (a composite measure of anxiety, tension, depression, anger, vigour, confusion and fatigue) declined from the beginning to the end of their first year. Individuals with lower levels of self-esteem and optimism reported more physical and psychological health problems.

Beginning post-secondary studies can represent a challenging transition for several reasons. Relationships with friends decline during the transition to university due to increased geographical distance, new daily routines, new social groups, and increasingly individualized life paths (Mounts, 2004). Entering university also represents the first time many emerging adults are living apart from their parents. The process of adjusting to the new university environment while reconstructing and renegotiating relationships with friends and family is experienced by many

emerging adults as stressful and the erosion of social support can negatively impact well-being (Arthur, 1998). Finally, as noted above, emerging adults who are dissatisfied with their academic experience during post-secondary education may also face lowered global life satisfaction and well-being (Lent et al., 2007).

In addition to the experience of post-secondary education, feelings of loneliness also represent a developmentally salient challenge to the adaptation of emerging adults. Emerging adults generally report higher levels of loneliness than during any other developmental period, except for late adulthood (DiTommaso, Brannen, & Burgess, 2005). As emerging adults move through different residential, employment and educational settings, they must constantly develop new relationships. In addition, because the age at which young people marry and have children has increased, emerging adults often spend large amounts of time pursuing solitary activities (Statistics Canada, 2006). When loneliness persists, it is associated with negative self-evaluations and further social withdrawal. Accordingly, loneliness is associated with higher rates of depression and lower feelings of well-being, including self-esteem and life satisfaction (Goodwin, Cook, & Yung, 2001).

Increased feelings of loneliness are associated with poorer adjustment in both Canadian and Chinese emerging adults (Sam, 2001). Although research examining differences in rates of loneliness in Western and Asian cultures has produced equivocal results, it appears that Chinese sojourners, including international Chinese students who come to study at Canadian universities, do experience higher levels of loneliness than their Canadian peers (DiTommaso, Brannen, & Burgess, 2005). For example, comparing Canadian students and visiting students from Beijing, China, studying at an eastern Canadian university (*mean age* = 20.5 years and 21.2 years for the Canadian and Chinese students, respectively), DiTommaso and colleagues (2005) found that the

Chinese students had significantly higher levels of family, romantic, and social loneliness. Both Chinese and Canadian males had higher levels of the three types of loneliness than females. Parental attachment was strongly predictive of family loneliness for both cultural groups and genders, with lower attachment security predictive of higher family loneliness.

Overall, it appears that although well-being tends to increase from adolescence through the emerging adult years, the instability and challenging new experiences that characterize this age period may increase the risk of psychological maladaptation for some individuals. The relationship that emerging adults have with their parents may help to partially explain differences in adjustment among individuals.

Positive Parenting Practices and Adjustment in Emerging Adulthood

As emerging adults engage in the developmental tasks of this age period, such as home leaving and entering post-secondary education, the parent-child relationship necessarily undergoes a transformation (Arnett, 2000). Although emerging adults may rely less and less on instrumental support from parents when they encounter stressful transition events, they still turn to their parents for advice and encouragement. Research shows that support from parents can have a significant impact on the psychological adjustment of emerging adults and help buffer against stressful life events (Aquilino, 2006; Holahan, Valentiner, & Moos, 1994). Emerging adults who have relationships with their parents characterized by high levels of warmth and support for autonomy tend to report fewer symptoms of depression and anxiety, fewer feelings of loneliness, as well as higher levels of self-esteem, satisfaction with life and general well-being (Amato, 1994; Aseltine & Gore, 1993; DiTommaso, et al., 2005; Roberts & Bengtson, 1996).

These results have been replicated with culturally diverse samples from Canada, the United States, Belgium, Germany, Holland, Israel, and Taiwan (Buhl, 2007; Kins, Beyers,

Soenens, & Vansteenkiste, 2009; Leung & Leung, 2002; Schulman & Ben-Artzi, 2003; van Wel, ter Bogt, & Raaijmakers, 2002; Wintre & Yaffe, 2000). For example, van Wel and colleagues (2002) examined the Dutch parent-child relationship assessed at three times across adolescence and emerging adulthood (at Time 1 their ages ranged from 12-24 years, at Time 3 from 18-30 years). The researchers found that the parental bond, characterized by a close, supportive relationship was significantly predictive of the well-being of the children through adolescence and into emerging adulthood. Importantly, the parental bond had at least as strong an association with their well-being as their relationships with an intimate partner or best friend.

The current study examines how perceptions of positive parenting practices are associated with the positive and negative adjustment of Canadian and Chinese emerging adults. Differences between Canadian and Chinese culture may affect the extent to which parental support influences the adjustment of emerging adults. For example, the strong values of interdependence and relationship harmony present in collectivist cultures may make relationships with parents more powerful influences on the psychological adjustment of Chinese emerging adults, compared to the more individualistic autonomy supporting values of Canada (Greenberger, Chen, Tally, & Dong, 2000). Research on the influence of the specific parenting dimensions of warmth and autonomy support on offspring adjustment in Chinese and Western cultural contexts is examined next.

Parental Warmth and Closeness

Parent-child relationships characterized by closeness are generally positive, with high levels of open communication, warmth and acceptance (Collins, 1990). During adolescence, children spend less time with parents and subjective levels of emotional closeness typically decrease compared with preadolescents (Buhrmester & Furman, 1987; Larson & Richards,

1994). Despite this decline, however, most adolescents maintain a supportive relationship with their parents who remain a significant source of support (Steinberg & Silk, 2002). For example, research has demonstrated that parents remain second only to friends and romantic partners in perceived support during late adolescence, and parental influence often remains paramount for major life concerns relating to the future, such as school and career choices (Buhrmester & Furman, 1987; Laursen & Collins, 2009).

Prospective studies have demonstrated that feelings of emotional closeness and intimacy increase as children enter the emerging adulthood stage, even as rates of behavioural closeness continue to decline (Aquilino, 1997; Shulman & Ben-Artzi, 2003). For example, Thorton et al., (1995) found an improvement in the parent-child relationship as children matured from age 18 to 23 years. Their results showed increases in felt respect, understanding, affection, and enjoyment between children and their parents as children entered emerging adulthood. Feelings of warmth and emotional closeness with parents continue to influence the adjustment of offspring as they enter adulthood (Aquilino, 2006; Holahan, Valentiner, & Moos, 1994). For example, Turner, Sarason and Sarason (2001) found that American undergraduate students who perceived their parents as more caring and unconditionally supportive had not only fewer overall symptoms of depression, anxiety, and loneliness, but they also reported higher levels of competence and positive psychological functioning across multiple domains, such as self-acceptance and purpose in life. Similarly, in a sample of Canadian first-year university students, Wintre and Yaffe (2000) found that an authoritative parenting style characterized by support and mutually reciprocal discussions was associated with fewer depressive symptoms in students.

Parental warmth is also consistently linked with positive outcomes in Chinese adolescents and emerging adults, including higher feelings of self-esteem and life satisfaction

and fewer feelings of depression and loneliness (Leung & Leung, 1992; Lim & Lim, 2004; Peterson, Cobas, Bush, Supple, & Wilson, 2004; Steinberg & Silk, 2002). For example, utilizing a large sample ($n = 9586$) of adolescents in Taiwan, Lin and colleagues found that parental support was associated with lower levels of depression and higher levels of self-esteem (Lin, Tang, Yen, Ko, Huang, Liu, & Yen, 2008). In a 2-year longitudinal study of adolescents in China, initially age 12, Chen, Liu and Li (2000) found that both maternal and paternal warmth predicted unique aspects of child adjustment both concurrently and prospectively. Specifically, higher levels of maternal warmth were predictive of lower levels of depression, whereas higher levels of paternal warmth were predictive of increased school adjustment and decreased loneliness among adolescents. Mothers and fathers showed similar levels of warmth towards their children. The researchers hypothesized that Chinese mothers and fathers may express warmth more freely in differing situations. For example, in accordance with Confucian beliefs in traditional Chinese culture, mothers are generally more responsible for children's emotional well-being, whereas fathers attend to children's adjustment and performance in academic areas (Ho, 1987).

Some researchers have suggested that Chinese parents may not express warmth as often or as freely when compared with European American parents, which could have detrimental effects on offspring adjustment (Stewart, Rao, Bond, McBride-Chang, Fielding, & Kennard, 1998). For example, Greenberger and Chen (1996) found lower mean levels of parental affection among Asian American parents of adolescents as compared with European American parents. However, other scholars argue that Western definitions of closeness and support underestimate the levels of warmth in Chinese families, because the parenting dimensions of warmth and control overlap in a way that is not generally observed in Western conceptualizations of

parenting. In their comparison of Chinese, Chinese American, and European American mothers, Lin and Fu (1990) found no significant differences among these groups in their self-reported open expression of affection. Lin and Fu speculate that ethnic differences in the perception and evaluation of affective expression could have contributed to the lack of differences, suggesting that mothers may have interpreted the meaning of the same items differently. Alternatively, they speculate that Chinese parents may be gradually moving away from traditional beliefs that limit the expression of emotion. Chiu, Feldman and Rosenthal (1992) sampled immigrant Chinese adolescents in the United States and Australia, together with non-immigrant adolescents from the host cultures and the culture of origin (Hong Kong). No significant differences between immigrant and non-immigrant Chinese adolescents were found regarding their perceptions of parental warmth.

Mixed results are found when the relations between parental warmth and offspring psychological adjustment are compared for Western and Chinese participants. Some researchers have suggested that in collectivistic cultures such as China, strong values of family interdependence and harmony may make relationships with parents more powerful predictors of offspring adjustment than in Western, individualistic cultures (Greenberger et al., 2000). For example, in a study examining adolescents from the United States and China, Greenberger and colleagues (2000) found that perceived parental warmth had a stronger association with depressive symptoms among Chinese adolescents. However, Chiu and colleagues (1992) found that parental warmth had a similar magnitude of association with a composite measure of psychological distress across adolescents in the United States, Australia, and Hong Kong. Clearly, more research is needed to assess the effects of differences in the strength of the

association between parental warmth and offspring adjustment between Western and Chinese cultures for emerging adults.

Autonomy Supportive Parenting

The role of autonomy in the psychosocial functioning of adolescents and emerging adults is a well-researched, but highly contested construct in the literature (Ryan, Deci, Grolnick, & La Guardia, 2006). Autonomy has been conceptualized in a number of different ways according to distinctive theoretical orientations, leading to equivocal findings concerning the relationship between autonomy and the psychological adjustment of offspring (Soenens et al., 2007). Early conceptualizations equated autonomy with independence and detachment from parents (Blos, 1979). Stemming from separation-individuation theory, Blos argued that the development of autonomy involves a process where children need to physically and emotionally distance themselves from parents (separation) and increasingly take responsibility for their own behaviour (individuation or independence) in order to achieve the most adaptive developmental outcomes. Current researchers differentiate between behavioural and emotional autonomy. The achievement of behavioural autonomy (characterized by making independent decisions about one's day-to-day behaviour) has been linked with positive psychological adjustment among emerging adults, and higher levels of closeness in the parent-child relationship (Aquilino, 1997; Dubas & Petersen, 1996). However, studies of the relation between emotional autonomy and psychological functioning yield mixed results (Beyers & Goosens, 1999; Lamborn & Steinberg, 1993; Ryan & Lynch, 1989). First operationalized by Steinberg and Silverberg (1986), emotional autonomy is defined as relinquishing dependency on one's parents, separating or detaching oneself from parents, and the de-idealization of parents. Utilizing this definition, some studies have found that adolescents and emerging adults who are more emotionally autonomous from

parents have a more negative self-view, greater feelings of depression and more deviant behaviours (Beyers & Goosens, 1999; Ryan & Lynch, 1989). However, other researchers have argued that emotional autonomy may carry some domain-specific advantages, such as greater academic competencies, but only when it takes place within the milieu of a warm or supportive parent-child relationship (Lamborn & Steinberg, 1993).

Due in part to these equivocal findings, researchers question conceptualizations which view autonomy as the process of becoming emotionally and behaviourally independent and detached from parents (Soenens et al., 2007). Researchers have begun to consider not only *if* particular types of autonomy are present in the parent-child relationship, but also in what *context* this developmental process is occurring. Researchers argue that optimal autonomy strivings in emerging adulthood do not preclude a close, supportive relationship with parents (Soenens, Vansteenkiste, & Sierens, 2009).

Whereas separation-individuation theory originally viewed the process of gaining autonomy as being in conflict with retaining a close relationship with parents, current thinking considers this as an orthogonal process, meaning that achieving greater autonomy from parents is independent of the level of closeness in the parent-child relationship. An orthogonal model assumes that it is possible for the adolescent to become more self-sufficient while concomitantly preserving close connections with parents (McElhaney et al., 2009). That is, relatedness coexists with autonomy (Kagitcibasi, 2005). Therefore, parents can support their child's autonomy while remaining close with them, a type of parenting practice known as parental autonomy support (Allen et al., 2007; Kins, 2009; Soenens et al., 2007, 2009).

Parental autonomy support has been conceptualized two separate ways in the literature. The first approach stems from separation-individuation theory, and conceptualizes autonomy as

independence (Silk, Morris, Kanaya, & Steinberg, 2003). This approach defines parental autonomy support as the extent to which parents promote independent functioning in the areas of thinking, expression and decision-making, versus encourage or allow dependence. In contrast, the second approach conceptualizes autonomy as self-determination (Soenens et al., 2007). Drawing from self-determination theory, parental autonomy support involves the promotion of volitional functioning. Parents encourage their children to make choices and decisions that reflect their own personal values and interests. Parental autonomy support as promotion of volitional functioning is characteristic of parents who take an empathic stance toward their child, allow for choice among options, and offer a rationale when possibilities are limited (Ryan et al., 2006). A lack of volitional autonomy support from parents may have deleterious effects on child adjustment (Kins et al., 2009). For example, forcing children to leave the family home to become independent does not necessarily foster independent thought, action, or belief in one's self-efficacy, nor does it offer the possibility for ongoing support.

When research compares parental autonomy support as defined as the promotion of independence versus the promotion of volitional functioning, studies have found that promotion of volitional functioning tends to be more strongly linked with the adjustment of adolescents and emerging adults (Soenens, et al., 2007). For example, utilizing a sample of undergraduate students in Belgium ranging in age from 17 to 25, Soenens and colleagues found that the promotion of volitional functioning explained unique variance in the psychosocial functioning of students (as defined by measures of depressive feelings, self-worth and social well-being), whereas parental autonomy support defined as the promotion of independence did not. In a similar study, Kins, Beyers, Soenens, and Vansteenkiste (2009) found that parental volitional autonomy support was positively related to the subjective well-being of emerging adults as

measured by their reports of life satisfaction, and negatively related to their depressive symptoms.

Much less research has examined the role of parental autonomy support, regardless of definition, in the adjustment of Chinese offspring as compared with Western samples.

Preliminary findings suggest that there are both similarities and differences for this construct cross-culturally (Lekes, Gingras, Philippe, Koestner, & Fang, 2010; Wang, Pomerantz, & Chen, 2007). Given that relatedness and interdependence are highly valued in Chinese culture, some researchers have suggested that Chinese parents may place less emphasis on supporting their children's autonomy, and that the effects of parental autonomy support on children's development may be weaker than in Western cultures, such as Canada and the United States.

In general, prior research has demonstrated that Chinese parents do tend to be less supportive of their children's autonomy, and place higher emphasis on conformity and family interdependence (Chao & Tseng, 2002). However, this research largely defines parental support for autonomy as support for independence, and not as support for volitional functioning. Owing to Confucian values of social harmony, family obligation and filial piety, it makes sense that Chinese parents would be less likely to encourage autonomy in their children if it is defined as making choices independently, without much thought for the needs and values of the family. According to this view, parental autonomy support is not only less prevalent in collectivist cultures such as China, but it is also less relevant to the adjustment of Chinese children, given that achieving independence from parents may be a less culturally salient developmental task.

However, some researchers have argued that parental autonomy support is important for the positive development of children cross-culturally (Kagitcibasi, 2005; Vansteekiste, Zhou, Lens, & Soenens, 2005). If parental autonomy support is defined as the promotion of volitional

functioning, whereby parents are empathic to their children's values and interests and allow for choice among options, then the need for autonomy is universal and has significant implications for children's adjustment in both Western and Chinese cultures. For example, in a study of Chinese emerging adult students (mean age = 22.6 years) who had emigrated to Belgium for a 1-year university preparatory program to learn Dutch, parental volitional autonomy support was found to be negatively associated with emerging adults' depressive symptoms (Vansteekiste et al., 2005).

Overall, when research compares Western and Chinese samples, it appears that parental volitional autonomy support does have beneficial effects for children's development cross-culturally. However, the strength of the relationship differs across cultures. For example, in a longitudinal study of a large sample of American and Chinese adolescents ($n = 806$), parental volitional autonomy support predicted adolescents' enhanced emotional and academic functioning in both cultures. Interestingly, the beneficial effects of parents' support for their children's autonomy were stronger for American than Chinese adolescents (Wang et al., 2007). Similarly, Lokes and colleagues (2010) found that parental volitional autonomy support was associated with increased well-being among adolescents in China, the United States and Canada. However, North American adolescents believed their parents demonstrated more autonomy support, and the relation between this parenting practice and adolescents' well-being was stronger for the North American than the Chinese sample.

In sum, the positive parenting practices of warmth and volitional autonomy support have beneficial effects across cultures. However, the strength of the relationship may differ, perhaps due to cultural differences in the salience of these constructs for children's development. Both warmth and autonomy supportive parenting are constructs largely developed and tested in the

West. An examination of the emic parenting practice of training (*guan*) will help shed further light on how parents from Chinese cultures attempt to positively influence the development of their children based on their values and beliefs.

Emic Classifications of Parenting: The Case of Training

According to leading theorists and researchers, parenting is a cultural activity reflecting historical beliefs and current societal influences. Parents play a crucial role in mediating between the larger culture and the developmental experience of their children. Consequently, parents engage in child-rearing practices which encourage culturally desirable behaviours in their children (Bornstein & Côté, 2003).

As cultural psychologists have long emphasized, understanding parenting and lifespan development around the world necessitates more than simple comparisons across cultures; it requires an examination of cultural beliefs that underlie behaviour using culturally sensitive approaches (Arnett, 2011). Utilizing measurement and classification techniques developed in one culture to evaluate parenting in another culture may not always be appropriate or valid. Although some parenting constructs seem to hold their meaning cross-culturally (e.g., closeness and warmth), the universal applicability of some parenting styles and behaviours that originated in the West has been questioned (Chao, 1994). For example, a large body of research has demonstrated the beneficial effects of authoritative parenting (characterized by high parental standards, reasonable demands and consequences, and appropriate autonomy granting) on adolescent development in European American families. Positive effects include higher self-esteem, academic achievement and improved psychological functioning (Baumrind, 1966; Forehand, Long, Brody, & Fauber, 1986; MacFarlane, Bellissimo, & Norman, 1995; Steinberg & Silk, 2002). However, studies conducted with Asian families have revealed contradictory

findings. Studies report that Chinese parents are more likely to endorse an authoritarian parenting style (characterized by the use of high levels of coercive control) than Caucasian parents (Chao, 1994, 2001; Chiu, 1987; Lin & Fu, 1990). Although an authoritarian parenting style has generally been linked with negative outcomes for European American children, Chinese children show positive outcomes, despite their parents' endorsement of an authoritarian parenting style (Leung, Lau, & Lam, 1998).

These discrepancies have led some researchers to question the validity of using constructs developed in the West to describe Asian child-rearing practices. Chao (1994, 2001) argues that applying Western labels, such as authoritarian, to the child-rearing practices of Chinese parents may not accurately depict their parenting behaviour. Chao suggests that researchers need to consider the emic (within cultural) notion of parental control, a concept called *chiao shun* or child training. According to Chao, child training involves teaching children appropriate conduct and emphasizing culturally desirable behaviours, such as academic achievement and respect for authority. Since Confucian beliefs emphasize the importance of education and parents' role as moral and affective teachers of their children, the role of parents as teachers of their children represents an important value and parenting belief in Chinese culture (Chao, 2001; Chao & Tseng, 2002). *Chiao shun* is closely related to the concept of *guan*, which literally means "to govern," but can also mean "to care for" or also, "to love." Chao argues that the concept of training or *guan* may more accurately depict the Chinese style of parenting than the dimension of authoritarianism. Unlike the type of restrictive or hostile control associated with authoritarian parenting, in training, "parental care, concern, and involvement are synonymous with firm control and governance of the child" (Chao, 1994, p. 1112). Chao argues that the construct of authoritarianism incorrectly conceptualizes Chinese parenting style by failing to acknowledge

the level of warmth and the teaching role that Chinese parents demonstrate towards their children, in conjunction with their relatively high levels of firm control. Therefore, traditional Chinese parenting beliefs emphasize the concomitant role of parents as teachers, nurturers and authority figures.

Chao (1994) examined the child-rearing practices of immigrant Chinese and European American mothers of preschool children and found that Chinese mothers endorsed ideologies of training more often than European American mothers, even after controlling for mothers' levels of authoritative and authoritarian parenting. Similarly, Gorman (1998) conducted semi-structured interviews with immigrant Chinese mothers of adolescents and found that the mothers were not highly restrictive or demanding of their children, which is typically exemplified in an authoritarian parenting style. Rather, the mothers approached disagreements with rational explanations and teachings, and allowed their children to make their own decisions. They also maintained high expectations for their children's moral development and goal attainment, especially in the area of schooling. Additionally, Stewart et al. (1998) found that *guan* items for both Chinese mothers and fathers in Hong Kong overlapped significantly with the dimension of warmth, and noted that, "although, on the surface, many of the items do not suggest warmth as the construct is understood in the West, the items (representing *guan*) do represent commitment and involvement" (p. 354). Experts also suggest that Chinese parents may outwardly express their affection less openly and freely than European or American parents, especially as children age, and that this has been incorrectly construed as a lack of warmth, when Chinese parents do in fact care deeply for their children (Solomon, 1971).

Guan is associated with positive outcomes in Chinese adolescents (Chao, 1994; 2000; Stewart et al., 1998). For example, Stewart and colleagues (1998) found that *guan* from mothers

and fathers was positively associated with Hong Kong adolescents' health and life satisfaction. Few studies have examined the construct of *guan* and its relations with offspring well-being outside of Chinese cultures. In a rare study examining emerging adult nursing students from Hong Kong and the United States, Stewart, Bond, Betsy, Ho and Zaman (2002) compared the construct of *guan* and its relations with psychological adjustment. *Guan* was significantly associated with warmth across both cultures for students' reports on both mothers and fathers. In addition, emerging adults from both Hong Kong and the US rated *guan* items as characterizing the ideal parent. Students from Hong Kong, but not the US, who reported higher levels of *guan* for their mothers and fathers also reported higher levels of life satisfaction. These results indicate that while the *guan* items may overlap with parenting practices as commonly conceptualized in the West (e.g., warmth), more research needs to be conducted to determine how *guan* functions to affect emerging adult adjustment in different cultural contexts.

To address this gap in the literature, the current study examines Chinese and Canadian emerging adults' perceptions of their parents' practice of *guan* and how this relates to their emotion regulation and psychological adjustment. The effects of the parenting practice of *guan* on the adjustment of emerging adults is of particular interest because this developmental period is characterized by changes in the parent-child relationship, including a relinquishing of control by parents. The examination of *guan* cross-culturally during the emerging adult years will provide valuable insight into this understudied parenting construct.

Emotion Regulation as a Mediator of the Relation between Positive Parenting and Adjustment

Studies with both Western and Asian samples suggest that warm and autonomy supportive parental relationships can buffer the stressful effects of transitions that occur in the

emerging adult years (Aquilino, 2006; Buhl, 2007). These studies offer important insight into which parenting practices support the psychological adjustment of emerging adults. However, little is known about the mechanisms that link parenting to adjustment during this developmental period. The current study examines how emotion regulation mediates the relation between parenting and adjustment for emerging adults.

Emotion regulation is defined as the internal and external processes involved in initiating, maintaining, and modulating the occurrence, intensity, and expression of emotions (John & Gross, 2004, 2007; Morris, et al., 2007; Thompson, 1994). Healthy emotion regulation reflects the ability to respond in appropriate, adaptive and flexible ways to emotional experiences. Emotion regulation is related to the broader construct of coping (Koole, 2009; Wang & Saudino, 2011). Coping refers to “cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984, p. 141). The components of coping have traditionally been divided into either problem-focused coping, whereby the individual attempts to change the problem causing distress, or emotion-focused coping, where the individual attempts to regulate or manage a distressing emotional experience (Lazarus & Folkman, 1984). Coping and emotion regulation represent conceptually complex constructs which partially overlap. For example, emotion regulation has been considered a form of emotion-focused coping (Diamond & Aspinwall, 2003). Accordingly, how coping and emotion regulation are defined and related in the literature is varied and blurred (Koole, 2009). Coping can be distinguished from emotion regulation by its principal focus on decreasing negative emotions over longer periods of time (e.g., coping with a traumatic event) whereas emotion regulation involves the regulation of both positive and

negative emotions related to specific cognitions (John & Gross, 2004, 2007; Watson & Sinha, 2008).

Though generally conceptualized more specifically than coping, emotion regulation nevertheless encompasses a wide range of cognitive, behavioural, emotional and physiological responses focused on the modulation of internal emotional changes that may be particularly important for emerging adult transitions (Betts et al., 2009). There are individual differences in the type of emotion regulation strategies people employ, as well as the specific situations and frequency with which particular strategies are used (Garnefski & Kraaij, 2007). Emotion regulation strategies can range from active problem-focused techniques (e.g., expressing one's emotions, seeking support), to more passive or avoidant techniques (e.g., rumination). In general, research has shown that the use of active emotion regulation strategies is associated with better adjustment (Silk, Steinberg, & Morris, 2003). However, debate exists as to which strategies are considered adaptive for particular individuals in particular situations (Garnefski, Kraaij, & Spinhoven, 2001). Unfortunately, many studies are unclear about which type of emotion regulation processes they are targeting, or combine several categories of strategies (e.g., behavioural, cognitive and emotional strategies).

Research suggests that parenting and offspring emotion regulation strategies are linked. Studies have shown that parents who demonstrate higher levels of acceptance, warmth and support have children who exhibit a wider range of appropriate emotion regulation strategies, such as active support seeking (Kliewer, Fearnow, & Miller, 1996). When support seeking results in protection and relief, the individual discovers that expressing one's emotions openly is a positive and constructive process. Responsive and accepting parents help children tolerate, problem solve and reappraise negative experiences and feelings, and children subsequently learn

that distress is manageable (Mikulincer & Shaver, 2007). As children mature and develop increasingly sophisticated cognitive and emotional skills, they rely less on parents to initiate emotion regulation strategies and provide direct intervention. For example, a young child may look to their parent for physical soothing or for cues from their facial expressions about how to manage their emotions, whereas an adolescent may talk about a stressful emotional experience with their parents and seek advice some time after the event has occurred (Morris et al., 2007). Despite this decrease in direct intervention, the parent-child relationship may continue to influence the ability of adolescents and emerging adults to regulate their emotions.

As emerging adults encounter the myriad of transitions which characterize this age period and meet novel challenges in social and academic realms, they must continue to develop and improve their emotion regulation strategies. Researchers posit that emerging adults who have a warm, supportive relationship with their parents are more likely to engage in increased discourse with their parents about emotions and how to respond and manage them appropriately in new situations. In contrast, parents who exert high levels of psychological control and restrict their emerging adult children's volitional autonomy may impede the open discussion of feelings and hinder the development of emotion regulation.

In one of the few studies of its kind, Manzeske and Sright (2009) examined the relations between maternal parenting styles (including warmth, behavioural control, and psychological control) and emotion regulation among emerging adults (mean age = 19.9 years) attending an American university. Parenting was reported by mothers and emotion regulation by the emerging adult. Mothers who reported using higher levels of behavioural and psychological control had children who reported lower levels of emotion regulation (a mix of cognitive and behavioural strategies). Parental psychological control was more highly related to emotion regulation than

parental behavioural control. Contrary to expectations, relations between maternal warmth and emerging adults' emotion regulation were not significant (Morris et al., 2007). The authors note that a ceiling effect was present for maternal warmth, and that this lack of variability may have affected the results. More research needs to be conducted to determine if the effect of parental warmth on children's emotion regulation lessens as they enter emerging adulthood, perhaps because of their expanding network of support (e.g., through increased friendships and intimate relationships).

Studies have also linked emotion regulation with psychological adjustment in adolescents and emerging adults (Fischer et al., 2007). Findings show that the use of active emotion regulation strategies, such as support seeking, problem solving and cognitive restructuring is associated with less depressive symptomatology (Betts et al., 2009). For example, utilizing a sample of American mid-adolescents (mean age = 15.51 years), Silk, Steinberg, and Morris (2003) found that participants who reported more intense and labile emotions and less effective regulation of these emotions (less use of problem solving and emotional expression), also reported more depressive symptoms. Garnefski & Kraaij (2006) compared a sample of late adolescents (age range 16-18 years) with a sample of adults (age range 18-65 years) and found that the use of rumination and catastrophizing (passive cognitive emotion regulation strategies) were associated with higher depressive symptoms, whereas the use of positive reappraisal (an active cognitive emotion regulation strategy referring to creating positive meaning to an event in terms of personal growth) was associated with lower depressive symptoms. Interestingly, adults used all the emotion regulation strategies more frequently than adolescents, particularly positive reappraisal, suggesting that the ways in which individuals manage their emotions continues to evolve past adolescence (John & Gross, 2004). As individuals enter adulthood and experience a

wider array of stressful events, an increased use and mastering of emotion regulation strategies may be important for adjustment.

A few studies have examined the role of emotion regulation as a mediator of the relation between parenting and offspring psychological adjustment. Utilizing an adolescent sample of British children (mean age = 14.04), McEwen and Flouri (2009) found that paternal psychological control was negatively associated with adolescents' abilities to regulate their emotions, whereas paternal warmth was not related to their emotion regulation abilities. Emotion regulation also partially mediated the relation between paternal psychological control and emotional problems (emotional symptoms, conduct problems, peer and hyperactivity problems, and prosocial behaviour). Fischer and colleagues (2007) also found evidence for the mediating role of emotion regulation in a sample of university students. The ability to cognitively recognize and manage one's difficult emotions partially mediated the relation between lack of parental support and connection, and alcohol use problems among university students.

To the author's knowledge, no studies have examined the relations among parenting, emotion regulation and psychological adjustment for emerging adults from Chinese, or more broadly, Asian backgrounds. As previously discussed in relation to parenting practices, culture influences the way in which parents interact with their children and is embedded in our understanding of these processes. Accordingly, culture also affects the ways in which emotions are interpreted, expressed and managed. Although a full review of these effects is beyond the scope of the current study, some research suggests that there is cultural variation in the extent to which children are encouraged to express emotion. Studies suggest that children from Asian backgrounds are encouraged to express their emotions with less frequency as compared with children from Western backgrounds (Izard, Youngstrom, Fine, Mostow, & Trentacosta, 2006).

However, it remains largely unknown how parenting influences the expression and regulation of emotion in Chinese samples, and how emotion regulation in turn affects psychological adjustment. Because parenting behaviours (e.g., control versus *guan*) and expectations for children's behaviour (e.g., autonomy versus family interdependence) differ for Western and Chinese cultures, it seems reasonable to expect that parenting may have different effects on the emotion regulation of emerging adults from these two cultural backgrounds, but more research is needed to test specific hypotheses.

In addition to the indirect influence culture may have on emotion regulation through parenting philosophies and practices, scholars have recently begun to consider the direct influence of culture on coping and emotion regulation (Kuo, 2011; 2012). Traditionally, coping has been considered a strictly intraindividual and intrapersonal process, without consideration of the cultural context. However, research has been mounting which provides compelling evidence for culture's influence on emotion-focused coping (Yeh, Arora, & Wu, 2006). The term "collective coping" has been used to indicate coping behaviours originating from collectivistic or interdependent cultural values (Yeh et al., 2006). Collective coping includes behaviours which engage others in culturally meaningful ways and which consider the well-being of others during the process of coping (Moore & Constantine, 2005). For example, seeking social support from friends and family or employing specific cognitive emotion regulation strategies to maintain group harmony and avoid drawing attention to the individual would be considered collective coping behaviours (Kuo, 2012).

The current study examines how specific *cognitive* emotion regulation strategies mediate the relation between positive parenting practices and adjustment among Canadian and Chinese emerging adults. A range of both active and passive cognitive emotion regulation strategies are

assessed, each referring to what someone may think following a stressful experience. Changing one's cognitions has been identified as an important way emotion may be regulated and has received considerable attention in the Western literature (John & Gross, 2007). However, more research is needed which examines cognitive emotion regulation strategies among non-Western individuals. By specifying emotion regulation conceptually as the use of cognitive strategies, and by assessing a variety of these strategies, the relations between emotion regulation and adjustment may be disentangled and new insight into its role cross-culturally may be gained.

In sum, this study seeks to understand how parents can support the psychological adjustment of their children as they encounter the opportunities and challenges that characterize this age period, including the experience of post-secondary education. The extent to which parents show warmth, *guan* (governance and teaching), and support the volitional autonomy of their emerging adult children was expected to have important implications for emerging adults' ability to regulate emotions, which in turn was expected to be associated with emerging adults' adjustment.

The Current Study

This study examined the relations among perceived positive parenting practices, emotion regulation, and positive and negative psychological adjustment among international Chinese and Canadian emerging adult post-secondary students. In Canada, 38% of young people aged 18 to 24 and 12% of young people aged 25 to 29 were enrolled in either college, trade or university programs during the 2005-2006 school year (Statistics Canada, 2006). For this significant proportion of emerging adults, attending post-secondary education requires emerging adults to balance advanced studies with new adult roles, such as moving out of the parental home and forming new professional and personal relationships. These experiences may alter the

relationship emerging adults have with their parents, as well as present unique challenges and opportunities for their adjustment. By comparing Canadian students with international Chinese students, both similarities and differences between these two distinct cultures were explored in terms of the relations among perceptions of positive parenting (warmth, autonomy support and *guan*), positive and negative emotion regulation strategies, positive psychological adjustment (happiness, life satisfaction, and academic satisfaction), and negative psychological adjustment (feelings of depression, anxiety, and loneliness).

Research Questions

1. Do Chinese and Canadian student groups differ in their perceptions of positive parenting, emotion regulation strategies, or psychological adjustment?
2. How do perceptions of positive parenting relate to offspring psychological adjustment, and do these relations differ for Chinese and Canadian student groups?
3. Are positive parenting, emotion regulation and psychological adjustment conceptually equivalent constructs in Chinese and Canadian student groups, or are there differences in the component parts of each of these constructs?
4. Does emotion regulation mediate the relations between perceptions of positive parenting and psychological adjustment and are these mediation effects equivalent for Chinese and Canadian student groups?
5. Do Chinese and Canadian student groups differ in the strength of the associations among perceptions of positive parenting, emotion regulation strategies and psychological adjustment?

Goals of Study and Hypotheses

1. To explore mean differences on the main study variables (perceptions of positive parenting, positive and negative emotion regulation, and positive and negative adjustment) for the Chinese and Canadian student groups.
 - a. Chinese and Canadian students were expected to report similar levels of parental warmth. It was expected that Chinese students would report higher levels of *guan* and lower levels of volitional autonomy support as compared with Canadian students.
 - b. No specific predictions were made for differences between student groups for levels of positive and negative emotion regulation, as little research has examined this construct cross-culturally.
 - c. Similar mean levels of the positive psychological adjustment indicators of happiness, life satisfaction, and academic satisfaction were expected for both student groups. In terms of negative psychological adjustment, similar mean levels of symptoms of depression and anxiety were expected, but Chinese students were expected to report higher mean levels of loneliness as compared with Canadian students.
2. To examine differences in the strength of the relations between perceptions of positive parenting and positive and negative psychological adjustment between Chinese and Canadian student groups.
 - a. No student group differences in the strength of the relations between perceptions of parental warmth and positive and negative psychological adjustment were expected.

- b. Relations between perceptions of parental volitional autonomy support and positive and negative psychological adjustment were expected to be stronger for Canadian students as compared with Chinese students.
 - c. Relations between perceptions of *guan* and positive and negative psychological adjustment were expected to be stronger for Chinese students as compared with Canadian students.
3. To evaluate the measurement models of all latent variables (e.g., positive parenting, positive and negative emotion regulation, and positive and negative psychological adjustment) for equivalence between Chinese and Canadian student groups (e.g., on the strength of the factor loadings for each observed variable).
4. To evaluate the relations among the main study variables within each student group.
 - a. It was expected that perceptions of positive parenting would be significantly positively associated with positive emotion regulation and negatively associated with negative emotion regulation for both Chinese and Canadian students.
 - b. Perceptions of positive parenting were also expected to be significantly related to students' psychological adjustment. Specifically, it was hypothesized that higher reported levels of positive parenting would be associated with higher reported levels of positive psychological adjustment, and with lower reported levels of negative psychological adjustment, for both Chinese and Canadian students.
 - c. Positive and negative emotion regulation was expected to be significantly associated with positive and negative psychological adjustment for both student groups. Specifically, positive emotion regulation was expected to be significantly positively related to positive psychological adjustment, and significantly

negatively related to negative psychological adjustment. Negative emotion regulation was expected to be significantly negatively related to positive psychological adjustment, and significantly positively related to negative psychological adjustment.

5. To evaluate positive and negative emotion regulation as mediators of the relations between positive parenting practices and psychological adjustment.
 - a. It was expected that good overall model fit would be found for the relations among mothers' and fathers' positive parenting, positive and negative emotion regulation, and positive and negative psychological adjustment for both Chinese and Canadian students.
 - b. It was expected that positive and negative emotion regulation would partially mediate the relation between perceptions of positive parenting practices and positive and negative psychological adjustment for both Chinese and Canadian students.
6. To test for invariance between student groups in the strength of the associations among the main study variables.
 - a. It was expected that the strength of the path coefficients among the latent variables would be of a similar magnitude for both student groups.

Method

Participants

Participants included 75 international Chinese students and 120 Canadian students between the ages of 18 to 25 enrolled at the University of Victoria. The majority of participants represented undergraduate students (100% of Canadian participants and 88% of Chinese

participants), while a smaller number (12% of Chinese students) were enrolled in a University preparation program through the division of Continuing Studies. The average age of Chinese and Canadian students was 21.04 years ($SD = 1.93$) and 19.91 years ($SD = 1.93$), respectively. Reflecting the study's inclusion criteria, all students resided independently from their parents. To qualify for the study, all Chinese students had to self-identify their ethnicity as Chinese, be born outside of Canada, and have lived in Canada for a period of 3 years or less prior to participating in the study. International Chinese students were born in the following countries: Mainland China (91%), Taiwan (7%), and Hong Kong (2%). The majority of Chinese students (95%) identified their citizenship as Chinese, and 4% identified their citizenship as "other" (e.g., Taiwanese). The average length of residence in Canada for Chinese students was 10.01 months ($SD = 10.82$). Only four Chinese international students (5%) had resided in Canada for more than 2 years (but less than 3 years) before participating.

All Canadian students had to be born in Canada or the United States to qualify for the study. The majority of Canadian students (97%) identified Canada as their country of birth, while a small number (3%) identified the United States as their country of birth. All Canadian students identified their citizenship as Canadian. Most Canadian students identified their ethnicity as Canadian (87%), while the remainder of students (13%) identified their ethnicity as "other" (e.g., European, French Canadian, Indo-Canadian). Canadian students who identified their ethnicity as "Chinese" or "Chinese-Canadian" were excluded from the study ($N = 2$ students). The average length of residence in Canada for Canadian students was 19.41 years ($SD = 3.12$ years). The majority of Canadian students (96%) reported living in Canada their entire lives.

Measures

Self-report questionnaires were used to assess the constructs of interest. Items for each measure can be found in Appendices C to P.

Demographic information. In a self-report questionnaire students were asked to provide information on their sex, age, place of residence (e.g., student housing, shared off-campus accommodation, etc.), student status in university (e.g., international or Canadian student), year in university, declared or intended major study area, country of origin, self-identified ethnicity, length of residence in Canada, and whether they had ever received treatment for a mental health concern. Students were also asked to specify their male and female parent's relationship to them (e.g., biological father or mother, stepfather or stepmother, etc.), to indicate how often they spoke with their mother and father, and to indicate which parent they generally go to for emotional support and advice. Finally, students were asked to provide information about their parents' country of birth and how long they have lived in Canada, if applicable, as well as their parents' marital status. This demographic information was collected primarily for descriptive purposes and to ensure that participants were eligible for the study.

Positive parenting practices. Perceptions of positive parenting practices were measured using scales assessing students' perceptions of their parents' levels of warmth, volitional autonomy support, and *guan*. Students were asked to rate their current perceptions of their mothers and fathers separately. If students indicated not having a current relationship with one of their parents, they were not asked to report on that parent. Students with multiple parental figures (e.g., step-parents) were asked to report on the parent who has been most involved in their adolescent and emerging adult lives (e.g., since the age of 12).

Warmth. The 8-item Perceived Warmth and Acceptance Scale (Greenberger & Chen, 1996) was used to assess perceived parents' warmth, understanding and support. Students reported the extent to which they agreed with each statement for their mother and father. Items are rated on a 6-point Likert-type scale ranging from 1, strongly disagree, to 6, strongly agree. Sample items include, "my mother really understands me," and "I know my father will be there for me if I need him." This scale was originally developed for a study examining the role of family relationships and depressed mood in early adolescent and college students from European and Asian American backgrounds (Greenberger & Chen, 1996). The researchers reported good reliabilities for the sample (alphas ranged from .86 to .92, mean $\alpha = .90$). Subsequent studies utilizing Chinese, Chinese American and European American adolescents and emerging adults have also reported good reliabilities (Chung, Chen, Greenberger & Heckhausen, 2009; Greenberger, Chen, Tally, & Dong, 2000). Construct validity has been demonstrated by a negative correlation between scores on this scale and conflict for Chinese American, European American and Chinese adolescents (Greenberg & Chen, 1996; Greenberger et al., 2000). The scale demonstrated good reliability in the current sample for Chinese and Canadian students' reports on both their mothers and fathers (alpha coefficients were .84 and .81 for Chinese participants' reports on their mothers and fathers, respectively and .83 and .88 for Canadian participants).

Parental volitional autonomy support. The 9-item Perception of Autonomy Support Scale (Robbins, 1994) was used to measure the degree to which students felt that their volitional autonomy was supported by their mothers and fathers. Students reported the extent to which each statement applied to them on a 5-point Likert-type scale ranging from 1, not at all true, to 5, very much true. This scale utilizes self-determination theory to define parental autonomy support as

promotion of volitional functioning, whereby parents encourage their children to make choices and decisions that reflect their own personal values and interests (Ryan et al., 2006). This scale has demonstrated reliability and validity in Chinese and North American samples (Lekes et al., 2010; Niemiec, Ryan, & Deci, 2009). For example, among a large sample of Chinese, American and Canadian adolescents ($N = 515, 319, \text{ and } 248$, respectively), Lekes et al. (2010) reported good reliabilities for the Chinese ($\alpha = .79$), American ($\alpha = .88$), and Canadian ($\alpha = .85$) samples. In the current study, alphas were .84 and .75 for Chinese students' reports on their mothers and fathers, respectively, and .86 for Canadian students' reports of both their mothers and fathers.

Parent as teacher. An adapted version of the Role Disposition Questionnaire was used to assess the role of parent as teacher. The Role Disposition Questionnaire assesses the extent to which parents define their role as teachers and authority figures of their children (Segal, 1985). The adapted version of this questionnaire has been previously utilized in a study examining parenting cognitions among Chinese mothers and fathers of adolescent children (Costigan & Su, 2008). Originally, it was planned that this measure would reflect traditional Chinese parenting beliefs (*guan*), which emphasize the concomitant roles of parents as teachers, authority figures, and nurturers of their children (Chao, 2001). Therefore, items assessing parents' role as nurturers were added to this scale. Students reported the extent to which they agreed with each statement for their mothers and fathers. The adapted version utilized for this study consisted of an 11-item scale which included 4 items assessing students' perceptions of their parents as teachers (e.g., "my mother continues to teach me, even though I am in school"), 3 items assessing students' perceptions of their parents as authority figures (e.g., "I do not question the authority of my father") and five items to reflect students' perceptions of their parents as nurturers (e.g., "my mother makes a point of telling me she loves me on a regular basis"). Items were rated on a 5-

point Likert-type scale ranging from 1, strongly disagree to 5, strongly agree. This scale showed adequate internal consistency in a sample of immigrant Chinese mothers and fathers, with alpha levels of .71 and .73, respectively (Costigan & Su, 2008).

In the current study, reliabilities ranged from poor to adequate for Chinese students reporting on their mothers and fathers (alpha coefficients were .53 for reports on mothers and .66 for fathers), and adequate for Canadian students (.75 for mothers and .76 for fathers). In order to improve the reliability of the scale one item was dropped which reflected parental control (i.e., “my mother emphasizes absolute obedience to her”). However, reliability for Chinese students’ reports of their mothers remained inadequate ($\alpha = .61$). Upon further review of preliminary analyses, the scale as reflecting traditional Chinese parenting beliefs did not fit with theoretical assumptions and previous research findings. For example, the low reliability of the scale contradicted with the notion that collectively, parents’ teacher, nurturer, and authority role beliefs represent three inter-related dimensions that are important to Chinese parenting (Chao, 1994; Costigan & Su, 2008). A re-examination of the scale revealed an imbalance of control, teaching, and warmth items, such that there were only 2 control items remaining on the 10 item scale (after the deletion of the item reported above to increase reliability). In addition, the nature of the items assessing parental control were not appropriate for the developmental level of the current participants, as they were created for a younger population. Parents as authority figures who exert control, is an integral part of Chinese parenting beliefs. Control items, however, were now underrepresented and not specified in a developmentally appropriate manner. Therefore, it was questionable whether the scale represented a composite measure of Chinese parenting beliefs as was intended.

Upon careful review of the aforementioned concerns, the decision was made to retain only the “parent as teacher” items to be included for further analysis. These items assess the construct of parents as teachers and retain relevance for emerging adult children. As reviewed earlier, the role of parents as teachers of their children represents an important value and parenting belief in Chinese culture (Chao, 2001; Chao & Tseng, 2002).

The adapted version of the scale to reflect parents’ role as teachers of their children represents a more parsimonious and theoretically distinct concept. One item from the original four teaching items was deleted to improve reliability (i.e., “once I entered school, my mother let all my education take place there), leaving a three-item measure assessing the construct of parent as teacher (see Appendices E and F). Good reliabilities for both Chinese and Canadian students were found for this new measure (Chinese students’ reports for their mothers and fathers, $\alpha = .79$ and $.74$, respectively, Canadian students’ reports for their mothers and fathers, $\alpha = .77$ and $.80$, respectively). In addition, a confirmatory factor analysis revealed that all three items loaded significantly ($p < .001$) onto the latent variable of parent as teacher for both Chinese and Canadian students’ reports of their mothers and fathers. For Chinese students, the factor loadings for each item were $.87$, $.82$, and $.57$ for perceptions of mothers and $.81$, $.83$, and $.48$ for perceptions of fathers. For Canadian students, the factor loadings for each item were $.94$, $.75$, and $.55$ for perceptions of mothers and $.85$, $.78$, and $.65$ for perceptions of fathers.

Emotion regulation. The Cognitive Emotion Regulation Questionnaire (CERQ) was used to measure specific cognitive emotion regulation strategies (Garnefski, Kraaij, & Spinhoven, 2007). Students reported the frequency with which they think 36 different thoughts when they experience negative or unpleasant events (e.g., “I think about how to change the situation” and “I think of pleasant things that have nothing to do with it”). Responses are rated on

a 5-point Likert-type scale ranging from 1, almost never, to 5, almost always. The CERQ contains nine conceptually distinct subscales, reflecting both positive emotion regulation strategies (e.g., active) and negative strategies (e.g., avoidant). The subscales, each containing four items, include: (1) self-blame; (2) acceptance; (3) rumination; (4) positive refocusing; (5) refocus on planning; (6) positive reappraisal; (7) putting into perspective; (8) catastrophizing; and (9) blaming others. Total scores for the subscales are obtained by summing the items. Higher scores on each subscale indicate a greater propensity to employ that cognitive strategy in response to negative or stressful events.

Previous research has found strong relationships between both the negative (e.g., self-blame) and positive emotion-regulation strategies (e.g., positive reappraisal) and symptoms of depression and anxiety (Garnefski & Kraaij, 2007; 2009). For example, Garnefski & Kraaij (2009) found that across the experience of three negative life events, adults who employed higher levels of the negative emotion regulation strategies of self-blame, rumination and catastrophizing reported higher levels of depression. Adults who reported higher levels of the positive emotion regulation strategy of positive reappraisal reported lower levels of depression. Reliability has been demonstrated with large adult community samples (alphas ranging from .75 to .86 for each subscale; Garnefski & Kraaij, 2007). This measure has also been tested with Chinese samples and good reliability and factorial validity has been demonstrated (Wei & Liu, 2008; Zhu, Auerbach, Yao, Abela, Xiao, & Tong, 2008). For example, utilizing a sample of 791 participants from two universities in China (mean age = 20.7 years), Zhu and colleagues (2008) reported alphas ranging from .76 to .90 for each subscale, and an alpha of .83 for the entire scale.

In the current study, eight subscales divided into positive and negative emotion regulation groups were utilized. The four subscales assessing positive emotion regulation were positive

refocusing, refocus on planning, positive reappraisal, and putting into perspective. Negative emotion regulation also included four subscales: self-blame, rumination, catastrophizing, and other-blame. The acceptance subscale was not included in the analyses because conceptually, it fits into both the positive and negative emotion regulation strategy groups. Although the CERQ has generally been used in research as 9 separate scales, the authors of the scale acknowledge the division of the scales into negative or non-adaptive versus positive or adaptive cognitive strategy groups. Consistently, research has demonstrated significant positive correlations among the subscales within each group (Garnefski, Kraaij, & Spinhoven, 2007).

Positive and negative emotion regulation were operationalized as observed variables (rather than latent variables) because there remain questions as to whether the nine scales making up the constructs of positive and negative emotion regulation actually represent theoretically distinct concepts (Garnefski & Kraaij, 2007). Empirical analyses conducted for the current study further supported this decision. Model fit improved when positive and negative emotion regulation were entered as observed, rather than latent variables (see Appendix O). The reliability for the current sample was good, with alphas for the Chinese sample of .89 and .80 for positive and negative emotion, respectively, and .89 and .82 for the Canadian sample.

Positive psychological adjustment. Positive psychological adjustment was assessed with scales measuring global levels of subjective happiness, life satisfaction, and academic satisfaction.

Happiness. Participants' global level of subjective happiness was assessed using the Subjective Happiness Scale (SHS) developed by Lyobomirsky and Lepper (1997). Two items asked respondents to characterize themselves using both absolute ratings and ratings relative to peers on a 7-point scale from 1, not a very happy person, to 7, a very happy person. The other

two items offer brief descriptions of happy and unhappy individuals and ask respondents the extent to which each characterization describes them on a 7-point scale from 1, not at all, to 7, a great deal. A single composite score for subjective happiness is computed by averaging responses to the four items (the fourth item is reverse-coded). Possible scores on the scale range from 1 to 7, with higher scores reflecting greater happiness. The assessment of reliability and validity of the SHS was obtained through 14 samples, collected from high school, university students and older adults in the community from two California cities in the United States and Moscow, Russia (Lyobomirsky & Lepper, 1997). Construct validity was demonstrated through the scale's high positive correlations with other measures of happiness and well-being, and good reliability was demonstrated (alphas ranged from .79 to .94, mean $\alpha = 0.86$). The SHS has been used with Chinese samples and has been found to be positively correlated with life satisfaction (Lin, Lin & Wu, 2010). Good reliability has also been demonstrated cross-culturally for the scale (Swami, 2008). For example, in a community sample of Chinese adults, Swami (2008) reported an alpha of .91. In the current sample, reliability was very good for Chinese and Canadian students ($\alpha = .84$ and $.87$, respectively).

Life satisfaction. Life satisfaction was assessed with the widely used five-item scale developed by Diener, Emmons, Larsen, and Griffin (1985; e.g., “In most ways, my life is close to my ideal”). Items are rated on a Likert-type 6-point scale ranging from 1, very much disagree, to 6, very much agree. Higher scores indicate greater life satisfaction. Diener et al. (1985) reported an internal consistency of .87, a 2-month test–retest correlation of .82, positive associations with other measures of subjective well-being, and negative associations with measures of psychopathology. This scale has also demonstrated reliability and validity with Chinese populations, including reliability coefficients of .67 to .74 among Chinese adults and

between .72 and .84 among Chinese adolescents (e.g., Shek, 2000, 2007). Reliability in the current sample was good, with alphas of .82 for both the Chinese and Canadian students.

Academic satisfaction. Academic satisfaction was assessed using a 7-item scale developed by Lent, Singley, Sheu, Gainor, Brenner, Treistman, and Ades (2005). Students indicated the degree to which they felt satisfied with their academic experience (e.g., “I am generally satisfied with my academic life”). Items are rated on a Likert-type 5-point scale ranging from 1, strongly disagree, to 5, strongly agree. Higher scores indicate greater academic satisfaction. Construct validity was demonstrated through high positive correlations with other measures of academic satisfaction, and with life satisfaction (Lent et al., 2005). Reliability was initially established with a sample of predominantly Caucasian American university students, although a significant proportion of the sample identified as Asian American (14%; Lent et al., 2005). Lent and colleagues (2005) reported reliability coefficients of .80-.90. Good reliability has also been demonstrated cross-culturally for the scale (Lent, Taveira, Sheu & Singley, 2009; Ojeda, Flores, & Navarro, 2010). For example, in a Portuguese sample of university students, Lent and colleagues reported alphas of .85 at initial assessment and .89 sixteen weeks later. Good reliabilities were found for the current sample, with alpha coefficients of .87 and .84 for the Chinese and Canadian students, respectively.

Negative psychological adjustment. Negative psychological adjustment was measured with scales assessing symptoms of depression, feelings of loneliness, and symptoms of anxiety.

Depression. The 20-item Center for Epidemiological Studies Depression Scale (CES-D) was used to assess the presence of symptoms of depression (Radloff, 1977). Students reported the frequency of symptoms over the past week on a 4-point Likert-type scale ranging from 0, rarely or none of the time (less than 1 day), to 3, most of the time (5-7 days). Previous studies

have demonstrated the validity and reliability of this scale with Chinese and immigrant Chinese samples (Lin, 1989; Yen, Robins, & Lin, 2000). For example, among a sample of Chinese American university students, Lin (1989) reported good reliabilities (alpha level of .83). The CES-D demonstrated very good reliabilities for the current sample (Chinese students $\alpha = .90$, Canadian students $\alpha = .88$).

Loneliness. The 20-item Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980) was used to assess loneliness. Items are rated on a 4-point Likert-type scale ranging from 1, never, to 4, often. Higher scores indicate greater feelings of loneliness. Half of the items reflect satisfaction with social relationships (e.g., “There are people I feel close to”) and half reflect dissatisfaction with social relationships (e.g., “I lack companionship”). The Revised UCLA Loneliness scale has demonstrated reliability and validity cross-culturally and with university populations (Goodwin, Cook, & Yung, 2001; Mounts, 2004). This scale has also been used to assess the relations between the parent-child relationship and the psychological functioning of emerging adults (Leondari & Kiosseoglou, 2000). In a sample of Canadian and Chinese-Canadian adults, Goodwin and colleagues (2001) reported alpha levels of .80 and .83, respectively. In the current study the measure demonstrated excellent alpha levels (.91 and .92 for Chinese and Canadian students, respectively).

Anxiety. Anxiety was measured using the Mood and Anxiety Symptoms Questionnaire (Watson & Clark, 1991; MASQ). The MASQ is a 90-item measure comprised of five independent subscales assessing symptoms that commonly occur in mood and anxiety disorders. For the purposes of this study, the Anxious Arousal subscale was used to measure anxiety-specific symptoms of somatic tension and hyperarousal. Students were asked the extent to which each symptom described them during the past week on 5-point Likert-type scale ranging from 1,

not at all, to 5, extremely (e.g., “Heart was racing or pounding”). This scale has demonstrated reliability and validity cross-culturally (de Beurs, den Hollander-Gijsman, Helmich, & Zitman, 2007; Yang & Yao, 2009). Yang and Yao (2009) found excellent internal consistency (alpha level of .94), and good test-retest and factorial validity for the MASQ with a large sample ($n = 712$) of Chinese university students. In the current study, alpha levels were .83 for both Chinese and Canadian students.

Procedure

Canadian students were primarily recruited from the University of Victoria Psychology Research Participation System and through presentations made by the primary researcher in classes from a diverse range of faculties (e.g., Faculty of Social Sciences, Faculty of Engineering, Faculty of Fine Arts, etc.). Chinese international students were recruited primarily through the International and Exchange Student Services (IESS) office, through the Peter B. Gustavson School of Business International Program, and through the Chinese Students’ and Scholars’ Association (CSSA) club at the University of Victoria (UVic). Chinese students were informed of the study through messages posted on the list-serves of the aforementioned associations and programs, through flyers physically posted in their offices, and through word-of-mouth. Presentations advertising the study to Chinese participants were also conducted by the primary researcher in UVic classes and at events sponsored by clubs targeted to Chinese students (e.g., CSSA welcome barbeque, IESS conversation café, Student Union clubs’ days, Taiwanese Association ice-breaker event, Association of International and Canadian students kick-off coffee event). International undergraduate students who study at UVic but who have not resided in a designated English speaking country for a minimum of three years immediately prior to their entry at UVic (e.g., students from China and Taiwan) must meet specific English language

proficiency requirements before they are accepted to study at UVic. Thus, the Chinese international students included in this study have demonstrated an acceptable level of English reading ability as demonstrated on either the Test of English as a Foreign Language (TOEFL), the International English Language Testing System - Academic (IELTS), or the Michigan English Language Assessment Battery. Students must meet at least an “intermediate” performance level on all sections of these assessments, including reading and comprehension. An intermediate performance level corresponds to approximately a 12th grade reading level. The measures included in this study require approximately a 6th to 8th grade reading level. Students completed the paper-and-pencil questionnaire booklet in the primary researcher’s lab space at UVic. Most students completed the questionnaires independently in small groups of 2-6 students, while some completed the questionnaires separately (e.g., one student in the room). All students were given the option of completing the questionnaires in a non-group format. The procedure and purpose of the study, the risks and benefits of participating, confidentiality, and the rights of the participants were presented in the consent form and were also verbally summarized by the primary researcher. Students were invited to ask questions or request clarification about the consent form. Students signed and dated the consent form and were provided with another copy of the consent form for their future reference (see Appendices A and B). Students were then asked to complete the questionnaire booklet. The primary researcher was available at all times to answer any questions from students. Students completed the questionnaire booklet in approximately 30-45 minutes. Students who participated through the Psychology Research Participation System were given 1.5 bonus credits to be applied to their final grade in their participating psychology class. All other students were entered into a draw to win one of two \$50 gift cards.

Results

Overview

After initial data screening, between group differences in the background and main study variables were examined utilizing repeated measures analysis of covariance (ANCOVA), multivariate ANCOVAs, chi-square, and F-test analyses. Structural equation modeling was used to test for invariance between student groups within each measurement model. The relations among the main study variables for each student group were then examined, including an evaluation of positive and negative emotion regulation as mediators of the relations between positive parenting practices and psychological adjustment. The final step was to evaluate invariance between student groups in the strength of the associations among the main study variables.

Preliminary Data Analyses

Data were screened for missing values and outliers and examined for significant deviations from univariate or multivariate normality. Only .01% of the data were missing, and these few missing values were replaced with scale means. Comparisons of various methods for imputing missing values have shown similar results across methods when the amount of data missing is very low (e.g., Barzi & Woodward, 2004). Chinese and Canadian students' reports of anxiety showed a distribution which was positively skewed. A square root transformation of anxiety led to a distribution which did not violate assumptions of normality. An examination of Mahalanobis' distance was undertaken to assess for multivariate normality. This examination revealed that a total of 26 observations had $p_2 < .05$, where p_2 represents the probability that the largest squared distance of any observation would exceed the Mahalanobis distance computed.

According to Arbuckle (1997), small values of p_2 indicate observations that are improbably far from the centroid under the hypothesis of normality. Closer examination of the 26 observations that were initially identified as possible multivariate outliers revealed them to be valid data points spread approximately equally across the two groups of Chinese and Canadian students. Therefore, deletions were not employed. These observations were also retained in the data set for theoretical reasons (i.e., the possible true non-normal distribution of the variables).

Group Differences in Background Variables

Differences in key background variables (i.e., participant age, gender, year of study, socioeconomic status (SES), length of residence in Canada, intact versus divorced parents) between the two groups of students were examined.

The age of students significantly differed between groups. Chinese students were significantly older ($M = 21.04$, $SD = 1.93$) than Canadian students ($M = 19.89$, $SD = 1.922$), $F(1,194) = 16.441$, $p < .000$. This likely reflects the fact that many international Chinese students transferred to the University of Victoria after approximately two years of post-secondary education in their country of origin.

The sex of students also significantly differed between groups. There were significantly more female participants in the Chinese group as compared to the Canadian group, $\chi^2(1, N = 195) = 4.051$, $p = .044$. In the Chinese group, 26.7% of the participants were male, whereas 73.3% were female. In the Canadian group, 40.8% of participants were male, whereas 59.2% were female. During the recruitment process, many Canadian students agreed to participate, and thus a more even balance of male and female students was achieved by gradually restricting eligibility criteria (i.e., restricting study participation to males after a certain proportion of females participants were attained). Due to difficulties recruiting an adequate sample size of

Chinese students, a more even balance between male and female students in this group was not possible.

There were no significant differences between groups in terms of year of study, $\chi^2 (5, N = 195) = 3.025, p = .69$. Across both student groups, 41.3% of students reported being enrolled in their first year of study, 17.9% in their second year, 21.9% in their third year, 14.8% in their fourth year, 3.1% in their fifth year, and 1.0% of students reported being enrolled in greater than their fifth year.

In terms of SES, no significant differences between the Canadian and Chinese student group were found, $\chi^2 (2, N = 195) = 11.830, p = .31$. The majority of both student groups reported their family of origin's SES as "upper-middle class" (67% of Chinese students and 64% of Canadian students). The detailed breakdown of reported family of origin SES was as follows: working class (11% Chinese, 13% Canadian), lower-middle class (14% Chinese, 17% Canadian), and upper class (7% Chinese, 6% Canadian).

Significantly more Canadian students reported receiving mental health treatment as compared with Chinese students, $\chi^2 (1, N = 195) = 17.864, p < .000$. Specifically, 8% ($n = 6$) of Chinese students reported having received mental health treatment in the past, whereas 35% ($n = 42$) of Canadian students reported having received mental health treatment. Students' mental health treatment status was not entered as a control variable in the main study analyses because no significant relations were found between students' mental health treatment and students' emotion regulation or psychological adjustment.

With regards to parents' country of birth, all Chinese students reported that their mothers and fathers were born outside of Canada in Mainland China, Hong Kong, or Taiwan. The majority of Canadian students (>90%) reported their parents' country of birth as Canada, while a

few indicated the United States, the UK, or other countries (e.g., Australia) as their parents' birth country.

There were no statistically significant differences between Chinese and Canadian students with regards to which type of parent (biological, adoptive, step-parent) they reported on, $\chi^2 (2, N = 195) = 2.195, p = .691$. The majority of Chinese students reported on their biological parents (96% biological father, 99% biological mother). Reporting on step-parents and adoptive parents was minimal (2% stepfather, 0% stepmother, 1% adoptive mother, 1% adoptive father). Following a similar pattern, 96% of Canadian students reported on their biological parents (96% biological father, 98% biological mother). The percentage of Canadian students reporting on step-parents and adoptive parents was also minimal (3% stepfather, 1% stepmother, 1% adoptive mother, 1% adoptive father).

Canadian students were significantly more likely to report their parents' marital status as divorced as opposed to married compared to Chinese students, $\chi^2 (2, N = 195) = 11.830, p = .003$. Specifically, in the Chinese sample 91% of students reported their parents as being married (9% divorced) as compared with 70% of the Canadian students' reports (28% divorced, 2% never married). Parents' marital status was not entered as a control variable in the main study analyses, however, because no significant relations were found between parents' marital status and Chinese and Canadian students' reports of parenting practices for either mothers or fathers.

No significant differences were observed between Chinese and Canadian students in terms of how much contact they reported having with either their mothers, $\chi^2 (4, N = 195) = 3.548, p = .315$ or fathers, $\chi^2 (4, N = 195) = 5.345, p = .254$. The majority of both Chinese and Canadian students reported speaking to their mothers and fathers "*more than once a week*" or

“*about once a week*” (Chinese students: 91% for reports of contact with mothers, 61% for fathers; Canadian students: 94% for reports of contact with mothers, 71% for fathers).

Participants were asked which parent they generally go to for emotional support and advice. There were no significant differences between Chinese and Canadian students regarding which parent(s) they generally seek out for emotional support and advice, $\chi^2(2, N = 195) = 1.957, p = .376$. For Chinese students, 57% reported they generally go to their mother, 11% go to their father, and 32% reported they go to their mother and father equally. For Canadian students, 67% reported they go to their mother, 10% go to their father, and 23% go to their mother and father equally.

Finally, there were no significant differences between the Chinese and Canadian student groups with regards to the last time they lived with their parent, $t(193) = -1.276, p = .204$. Chinese students lived with their parents an average of 9.29 months ago ($SD = 13.83$), and Canadian students last lived with their parents an average of 12.59 months ago ($SD = 19.53$).

In light of these relations, two variables were controlled for in the main analyses: participant age and gender.

Differences between Canadian and Chinese Groups on Main Study Variables

The next set of analyses addressed the first study goal: to evaluate mean differences on the main study variables (perceptions of positive parenting, positive and negative emotion regulation, and positive and negative adjustment) for the Chinese and Canadian student groups. Potential differences related to student gender were also evaluated in these analyses. Means and standard deviations for all the main study variables by student group are presented in Table 1.

Positive parenting. Repeated measures multivariate analysis of covariance (MANCOVA) evaluated potential group differences in students’ perceptions of their mothers’

and fathers' parenting (across all three constructs) controlling for age and gender. Specifically, these analyses evaluated whether there was a difference in reports of parenting by mothers versus fathers across student groups, whether there was a difference in reports of parenting by Chinese versus Canadian students across mothers and fathers, or whether there was an interaction between Parent (mothers versus fathers) and Student Group (Chinese versus Canadian) on the main parenting variables (warmth, autonomy support and parent as teacher).

Table 1

Means, Standard Deviations and Observed Range for the Main Study Variables

| | Means and SD | | Observed Range | |
|---|-----------------------------|-------------------------------|----------------|-------------|
| | Chinese (<i>n</i> = 75) | Canadian (<i>n</i> = 120) | Chinese | Canadian |
| Mothers' Warmth ^a | 5.08 (.09) | 5.26 (.07) | 2.88-6.00 | 2.63-6.00 |
| Fathers' Warmth ^a | 4.75 (.11) | 4.88 (.08) | 2.38-6.00 | 1.00-6.00 |
| Mothers' Autonomy Support ^b | 3.62 (.09) | 3.95 (.07) | 1.00-5.00 | 1.56-5.00 |
| Fathers' Autonomy Support ^b | 3.41 (.08) | 3.90 (.06) | 2.11-4.56 | 1.44-5.00 |
| Mothers' as Teachers ^b | 3.86 (.12) | 3.90 (.09) | 1.00-5.00 | 1.00-5.00 |
| Fathers' as Teachers ^b | 3.95 (.12) | 3.76 (.10) | 1.00-5.00 | 1.00-5.00 |
| ER- Self-Blame ^c | 12.06 (2.54) | 11.24 (3.42) | 7.00-18.00 | 4.00-19.00 |
| ER-Rumination ^c | 13.22 (2.71) | 12.79 (3.60) | 7.00-19.00 | 4.00-20.00 |
| ER- Catastrophizing ^c | 9.05 (3.62) | 7.99 (3.36) | 4.00-17.00 | 4.00-18.00 |
| ER- Other-Blame ^c | 8.62 (2.06) | 7.84 (2.51) | 4.00-14.00 | 4.00-16.00 |
| ER- Positive Refocusing ^c | 12.49 (.43) | 8.90 (.34) | 5.00-20.00 | 4.00-20.00 |
| ER- Refocus on Planning ^c | 15.631 (.38) | 13.28 (.30) | 5.00-20.00 | 7.00-20.00 |
| ER- Positive Reappraisal ^c | 16.04 (.42) | 14.30 (.33) | 5.00-20.00 | 5.00-20.00 |
| ER- Putting into Perspective ^c | 12.20 (.45) | 13.32 (.351) | 5.00-20.00 | 5.00-20.00 |
| Depression ^d | 19.76 (9.01) | 16.72 (8.41) | 5.00-49.00 | 3.00-43.00 |
| Anxiety ^e | 29.33 (7.88) | 30.02 (8.86) | 19.00-54.00 | 19.00-59.00 |
| Loneliness ^f | 44.34 (9.95) | 39.76 (9.79) | 23.00-63.00 | 23.00-65.00 |
| Happiness ^g | 4.65 (.14) | 5.04 (.11) | 1.50-7.00 | 2.00-7.00 |
| Life Satisfaction ^g | 4.19 (.14) | 5.08 (.11) | 1.40-6.20 | 2.00-7.00 |
| Academic Satisfaction ^b | 3.50 (.08) | 3.97 (.06) | 1.29-4.86 | 1.43-5.00 |

Note. ^aRange of scale = 1-6, ^b Range of scale = 0-5, ^cRange of scale = 1-20, ^dRange of scale = 0-60, ^eRange of scale = 1-95, ^fRange of scale = 1-80, ^gRange of scale = 1-7. Means are estimated marginal means.

There was a significant multivariate effect for Student Group, $F(3, 189) = 14.49, p < .001, \eta_p^2 = .056$. Univariate effects were therefore examined to determine which parenting constructs accounted for the multivariate effect. As expected, no significant group differences were found for Chinese and Canadian students' reports of warmth from their mothers and fathers. Also as expected, univariate analyses showed that Canadian students' reported more autonomy support from both their mothers, $F(1,195) = 8.171, p = .005, \eta^2 = .001$ and fathers, $F(1,195) = 20.907, p < .001, \eta^2 = .004$, compared to the reports of Chinese students. Contrary to expectations, no significant differences were found for Chinese and Canadian students' reports of parent as teacher from mothers and fathers.

There was also a significant multivariate effect for Parent, $F(3, 189) = 10.22, p < .002, \eta_p^2 = .074$. Univariate analyses revealed that both the Chinese and Canadian students reported their mothers as expressing significantly more warmth as compared with fathers, $F(1,195) = 9.81, p < .05, \eta^2 = .002$. There were no differences in students' reports of mothers' versus fathers' autonomy support or the extent mothers versus fathers adopt a teaching role. There was also no significant interaction between Parent and Student Group for any of the parenting variables.

Further two 2-way (Student Group by Sex) multivariate ANCOVAs were performed to evaluate gender differences in perceptions of parenting, controlling for age. For mothers' parenting, there was a significant multivariate effect for sex, $F(3, 189) = 3.430, p < .018, \eta_p^2 = .052$. An examination of univariate effects revealed that female students perceived their mothers as being higher on the parent as teacher scale as compared with male students, $F(1, 195) = 7.887, p < .005, \eta^2 = .002$. There was no significant Student Group by Sex interaction, indicating that this gender difference was not moderated by Student Group. For perceptions of fathers'

parenting, there was no significant multivariate main effect for Sex or significant Student Group by Sex interaction.

Positive emotion regulation. A 2-way multivariate ANCOVA (Student Group by Sex) was performed to evaluate differences in positive emotion regulation (as measured by the four subscales), controlling for age. No specific hypotheses were specified for these analyses. There was a significant multivariate effect for Student Group, $F(4, 188) = 20.677, p < .001, \eta_p^2 = .306$. Univariate effects were therefore examined to determine which positive emotion regulation variables accounted for the multivariate effect. Univariate analyses revealed that Chinese students reported significantly higher levels of positive emotion regulation on each subscale compared to Canadian students, including more positive refocusing, $F(1, 195) = 40.987, p < .001, \eta^2 = .021$, refocus on planning $F(1, 195) = 22.617, p < .001, \eta^2 = .010$, positive reappraisal, $F(1, 195) = 10.100, p < .002, \eta^2 = .003$, and marginally significantly more putting into perspective, $F(1, 195) = 3.677, p = .057, \eta^2 = .001$. There was no significant multivariate main effect for Sex or significant interaction with Student Group.

Negative emotion regulation. A 2-way multivariate ANCOVA (Student Group by Sex) was also performed to examine the differences in negative emotion regulation controlling for age. The multivariate Student Group main effect was marginally significant, $F(4, 188) = 2.14, p = .078, \eta_p^2 = .043$, and therefore univariate effects were examined to determine which negative emotion regulation variables accounted for the multivariate effect. Univariate analyses showed that Chinese students reported more catastrophizing, $F(1, 195) = 3.86, p = .05, \eta^2 = .003$, and other blame, $F(1, 195) = 5.45, p = .021, \eta^2 = .002$ emotion regulation strategies than Canadian students. The multivariate main effect for Sex was also significant, $F(4, 188) = 3.809, p = .005, \eta_p^2 = .075$. Univariate analyses showed that males reported more self-blame, $F(1, 195) = 4.525,$

$p = .035$, $\eta^2 = .002$, and other-blame, $F(1, 195) = 7.717$, $p = .008$, $\eta^2 = .003$ as compared with females. There was no significant interaction between Sex and Student Group.

Psychological adjustment. Separate multivariate ANCOVAs evaluated differences in positive psychological adjustment (happiness, life satisfaction, and academic satisfaction) and negative psychological adjustment (depression, loneliness, and anxiety) based on Student Group and Sex, controlling for age. No significant group differences in psychological adjustment were expected, with one exception related to levels of loneliness. There was a significant multivariate main effect for negative psychological adjustment for Student Group, $F(4, 189) = 5.00$, $p = .002$, $\eta_p^2 = .074$. Univariate analyses showed that contrary to expectations, Chinese students reported more depression than Canadian students, $F(1, 194) = 5.20$, $p = .024$, $\eta^2 = .005$. As expected, Chinese students also reported more loneliness than Canadian students, $F(1, 194) = 9.04$, $p = .003$, $\eta^2 = .002$. With respect to positive psychological adjustment, there was also a significant multivariate main effect for Student Group, $F(4, 189) = 12.122$, $p < .001$, $\eta_p^2 = .161$. Univariate analyses showed that contrary to hypotheses, Chinese students reported less happiness, $F(1, 194) = 4.459$, $p = .036$, $\eta^2 = .001$, life satisfaction, $F(1, 194) = 24.071$, $p < .001$, $\eta^2 = .007$, and academic satisfaction, $F(1, 194) = 22.907$, $p < .001$, $\eta^2 = .003$ than Canadian students. The multivariate main effect for Sex was non-significant for either positive or negative psychological adjustment, and there were no significant interactions between Sex and Student Group.

Table 2

Intercorrelations among all Study Variables

| | Mom Warm | Mom AS | Mom PAT | Dad Warm | Dad AS | Dad PAT | Neg ER | Pos ER | Depress | Anxiety | Lonely | Happy | Life Sat. | Acad. Sat. |
|------------|----------|--------|---------|----------|--------|---------|--------|--------|---------|---------|--------|--------|-----------|------------|
| Mom Warm | | .71** | .40** | .29* | .22 | -.01 | -.37 | -.07 | -.20 | -.27* | -.21 | .13 | .06 | .36** |
| Mom AS | .81** | | .55** | .24* | .31** | .11 | -.05 | .06 | -.20 | -.18 | -.18 | .24* | .19 | .45** |
| Mom PAT | .56** | .51** | | .21 | .24* | .39** | .03 | .20 | -.07 | -.04 | -.20 | .18 | .27* | .39** |
| Dad Warm | .27** | .27** | .20* | | .67** | .48** | -.14 | .07 | -.28* | -.28* | -.24* | .13 | .24* | .20 |
| Dad AS | .36** | .40** | .27** | .81** | | .46** | .03 | .40** | -.24* | -.16 | -.36** | .27* | .24* | .12 |
| Dad PAT | .24** | .68** | .22* | .56** | .32** | | -.15 | .30** | .06 | -.02 | -.20 | .24* | .38** | .12 |
| Neg ER | -.19* | -.18* | -.10 | -.30** | -.17 | -.10 | | .12 | .32** | .20 | .22* | -.24* | -.22* | -.16 |
| Pos ER | .13 | .19* | .26** | .29** | .21* | .31** | -.21* | | -.18 | .00 | -.32** | .47** | .27* | .13 |
| Depress | -.02 | -.14 | .03 | -.27** | -.17* | -.07 | .39** | -.20* | | .40** | .49** | -.53** | -.33** | -.34** |
| Anxiety | -.24** | -.25** | -.05 | -.40** | -.30** | -.21* | .35** | -.15 | .53** | | .36** | -.16 | -.08 | -.21 |
| Lonely | -.27** | -.27** | -.26** | -.32** | -.26** | -.19* | .38** | -.25** | .46** | .37** | | -.61** | -.38** | -.27* |
| Happy | .16 | .24** | .14 | .25** | .17 | .18* | -.33** | .44** | -.39** | -.32** | -.54** | | .58** | .22* |
| Life Sat. | .29** | .38** | .33** | .41** | .44** | .34** | -.38** | .41** | -.36** | -.37** | -.54** | .59** | | .36** |
| Acad. Sat. | .31** | .47** | .20* | .22* | .24** | .24* | -.18* | .26** | -.38** | -.16 | -.39** | .33** | .36** | |

Note. Correlations for Chinese students are presented above the diagonal and correlations for Canadian students are presented below the diagonal.

Parenting and Adjustment Links

Correlations between parenting and psychological adjustment were also compared between Chinese and Canadian students to determine if the strength of these relationships differed between the two student groups. Correlations among all the main study variables for both Chinese and Canadian students are presented in Table 2. As expected, an examination of r to z transformation revealed no significant differences in the strength of the relations between perceptions of parental warmth and positive and negative psychological adjustment for Chinese versus Canadian student groups. Contrary to hypotheses, however, there were also no significant student group differences in the strength of the correlations between perceptions of parental autonomy and psychological adjustment or between parent as teacher and psychological adjustment.

Structural Equation Modeling Analyses

Structural equation modeling was used to evaluate the remainder of the study goals, including an evaluation of positive and negative emotion regulation as mediators between students' perceptions of positive parenting and their positive and negative psychological adjustment. The measurement model included four latent variables (mothers' positive parenting, fathers' positive parenting, positive psychological adjustment, and negative psychological adjustment) and two observed variables (positive emotion regulation and negative emotion regulation). Positive parenting had three indicators (warmth, autonomy support, and parent as teacher), positive psychological adjustment had three indicators (happiness, life satisfaction, and academic satisfaction), and finally, negative psychological adjustment also had three indicators (depression, loneliness, and anxiety). Two separate models, one with perceptions of mothers'

parenting and the other with perceptions of fathers' parenting, were run for each student group (i.e., Chinese versus Canadian).

The analyses were conducted using AMOS 20. Model fit was evaluated using the chi-square goodness-of-fit test, the comparative fit index (CFI; Bentler, 1990), the root-mean-square error of approximation (RMSEA; Steiger, 1990), and the ratio of chi-square to degrees of freedom (χ^2/df ; Bollen, 1989). Good model fit is indicated by a non-significant chi-square value, values of .95 or greater on CFI, RMSEA values less than .08, and a χ^2/df ratio less than 3.0. In the models, participant age and gender were controlled for by statistically partialing them from all the measured variables and using the standardized residual variables.

Testing for invariance between Chinese and Canadian students within measurement models. In order to address the third set of hypotheses, invariance testing was conducted within each measurement model. The baseline models were the measurement models for perceptions of mothers' and fathers' parenting and positive and negative psychological adjustment, with no constraints for equality between Chinese and Canadian students. These baseline models were compared with models constrained to be equal between Canadian and Chinese students at the level of factor loadings (for the measurement model of positive parenting), and at the level of factor loadings and structural (i.e., latent) covariances (for the measurement model of positive and negative psychological adjustment) to determine if the strength of the loadings and the covariances were equivalent between the two groups. Evidence for noninvariance is revealed if the χ^2 difference value is statistically significant, suggesting the constrained model does not fit the data as well as the unconstrained model (i.e., there was a loss of model fit by requiring equality) and therefore claims of invariance must be rejected. In such instances, pairwise parameter comparisons can indicate which specific aspects of the model likely differ between the

student groups.

For the measurement model of perceptions of mothers' parenting, the constrained model was compared with the baseline model (Figure 1), and the results indicated that the two models were not significantly different at the factor loadings level: $\chi^2_{\text{DIF}}(4) = 2.651, p = .618$. Fit indices indicated that model fit was not compromised by imposing equality constraints: baseline model, $\chi^2(16) = 34.963, p = .004, CFI = .942$; constrained model, $\chi^2(20) = 37.614, p = .001, CFI = .946$. Unconstrained pairwise parameter comparisons were also examined to determine if the specific path coefficients for the three observed variables (mothers' warmth, autonomy support, and parent as teacher) loaded onto the latent variable (perceptions of mothers' parenting) differently for Canadian versus Chinese students. None of the critical ratios for differences between path coefficient parameters reached significance (Z-statistic), suggesting that the strength of the factor loadings were of similar magnitude for Chinese and Canadian students.

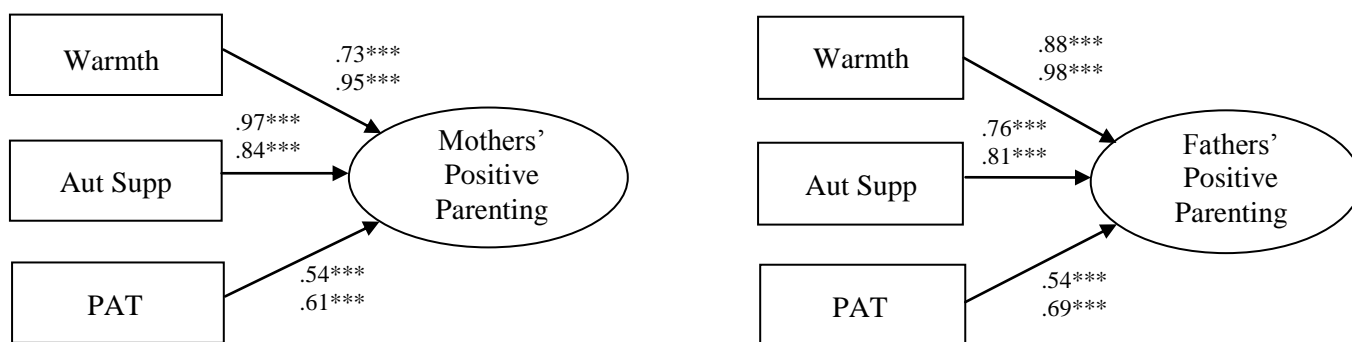


Figure 1. Measurement model for perceptions of positive parenting. On each path, the standardized path coefficients for Chinese parents are presented on top, with the standardized path coefficients for Canadian parents below. Aut Supp = Autonomy Support; PAT = Parent as Teacher.

* $p < .05$. ** $p < .01$. *** $p < .001$.

A similar result was found for the measurement model of perceptions of fathers' parenting (also shown in Figure 1). Results indicated that the two models were not significantly different at the factor loadings level: $\chi^2_{\text{DIF}(5)} = 7.440, p = .190$. Fit indices indicated that model fit was not compromised by imposing equality constraints: baseline model, $\chi^2(16) = 46.558, p = .008, CFI = .962$; constrained model, $\chi^2(20) = 53.998, p = .006, CFI = .958$. An examination of unconstrained pairwise parameter comparison also revealed that the strength of factor loadings for the three observed variables for fathers (warmth, autonomy support, and parent as teacher) were of similar magnitude for Chinese and Canadian students.

For the measurement model of psychological adjustment, the constrained model was compared with the baseline model (Figure 2), and the results indicated that the two models were not significantly different at the factor loadings level or the structural covariances level, $\chi^2_{\text{DIF}(7)} = 5.831, p = .560$. Fit indices indicated that model fit was not compromised by imposing equality constraints: baseline model, $\chi^2(16) = 32.871, p = .008, CFI = .945$; constrained model, $\chi^2(23) = 38.702, p = .021, CFI = .949$. An examination of unconstrained pairwise parameter comparisons determined that the specific path coefficients for the six observed variables (happiness, life satisfaction, academic satisfaction, depression, loneliness, and anxiety) had similar strengths of factor loadings onto the latent variables (positive and negative psychological adjustment) for Chinese and Canadian students and that the covariance between positive and negative psychological adjustment was similar for both student groups.

Overall, these results suggest that, as expected, the strength of the factor loadings (for mothers' and fathers' parenting and psychological adjustment) and structural covariances (for psychological adjustment) are of similar magnitude between Chinese and Canadian students within each measurement model.

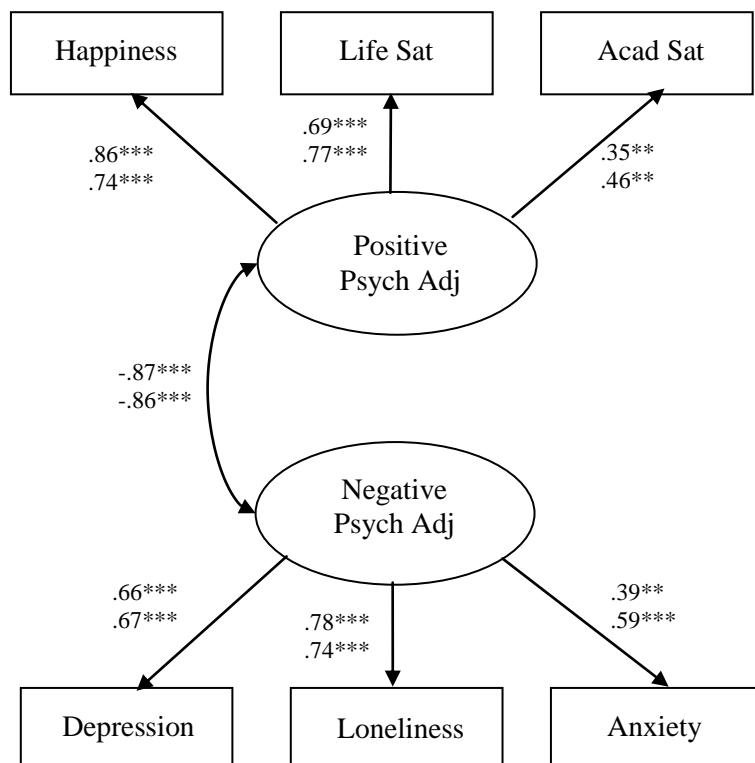


Figure 2. Measurement model for positive and negative psychological adjustment. On each path, the standardized path coefficients for Chinese students are presented on top, with the standardized path coefficients for Canadian students below. Life Sat = Life Satisfaction; Acad Sat = Academic Satisfaction; Positive Psych Adj = Positive Psychological Adjustment; Negative Psych Adj = Negative Psychological Adjustment. * $p < .05$. ** $p < .01$. *** $p < .001$.

Assessing model fit. Figure 3 presents a model of the relations among perceptions of mothers' positive parenting, emotion regulation and psychological adjustment. Figure 4 presents a similar model considering perceptions of fathers' parenting. In each model on each path, the standardized path coefficients for Chinese students are presented on top, with the standardized path coefficients for Canadian students below. As indicated in the figures, factor loadings for the three indicators of positive parenting, three indicators of positive psychological adjustment, and three indicators of negative psychological adjustment were all significant for mothers and fathers

of Chinese and Canadian students. The model portrayed in Figure 3 (mothers' parenting) demonstrated an adequate fit to the data: $\chi^2(74) = 142.869$, $p < .001$, $CFI = .908$, $RMSEA = .069$ (90% CI [.052, .086]), and $\chi^2/df = 1.865$. The model portrayed in Figure 4 (fathers' parenting) also demonstrated an adequate fit to the data: $\chi^2(74) = 126.48$, $p < .001$, $CFI = .93$, $RMSEA = .061$ (90% CI [.042, .078]), and $\chi^2/df = 1.71$.

In both models, the error variance for positive psychological adjustment and negative psychological adjustment was allowed to correlate for theoretical and empirical reasons. Theoretically, it was expected that positive and negative psychological adjustment would have shared variance, as although they may uniquely predict some outcomes, they also share key underlying characteristics common to adjustment in general, which is identified by allowing the error terms to correlate. In addition, after an examination of the modification indices for each model, it was found that correlating the error of positive and negative psychological adjustment significantly improved model fit, suggesting that some of the variance in psychological adjustment is not being accounted for by the other indicators in the model.

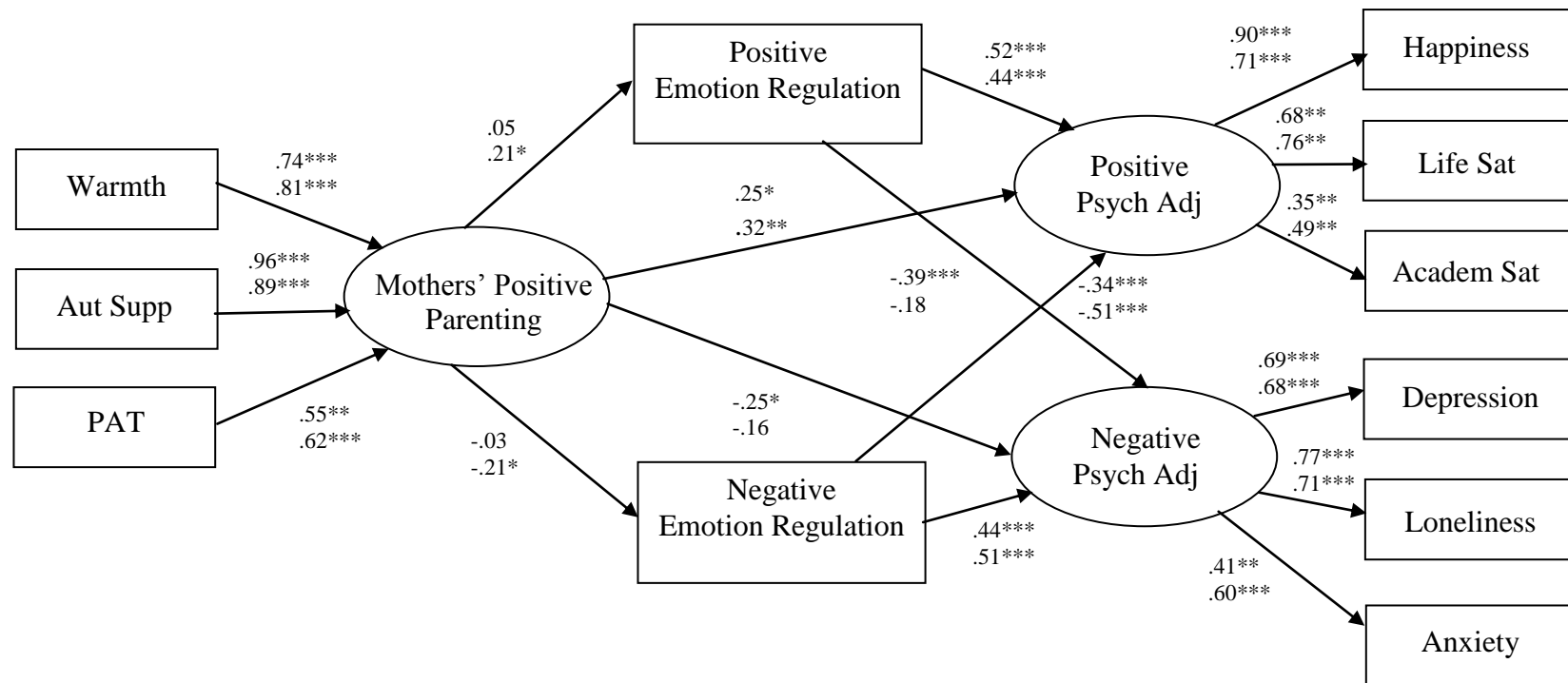


Figure 3. Direct and mediated effects of mothers' positive parenting on adjustment. On each path, the standardized path coefficients for Chinese students are presented on top, with the standardized path coefficients for Canadian students below. Aut Supp = Autonomy Support; PAT = Parent as Teacher; Positive Psych Adj = Positive Psychological Adjustment; Negative Psych Adj = Negative Psychological Adjustment; Life Sat = Life Satisfaction; Academ Sat = Academic Satisfaction. Error terms were omitted from figure. The error variance for positive psychological adjustment and negative psychological adjustment was allowed to correlate.

* $p < .05$. ** $p < .01$. *** $p < .001$.

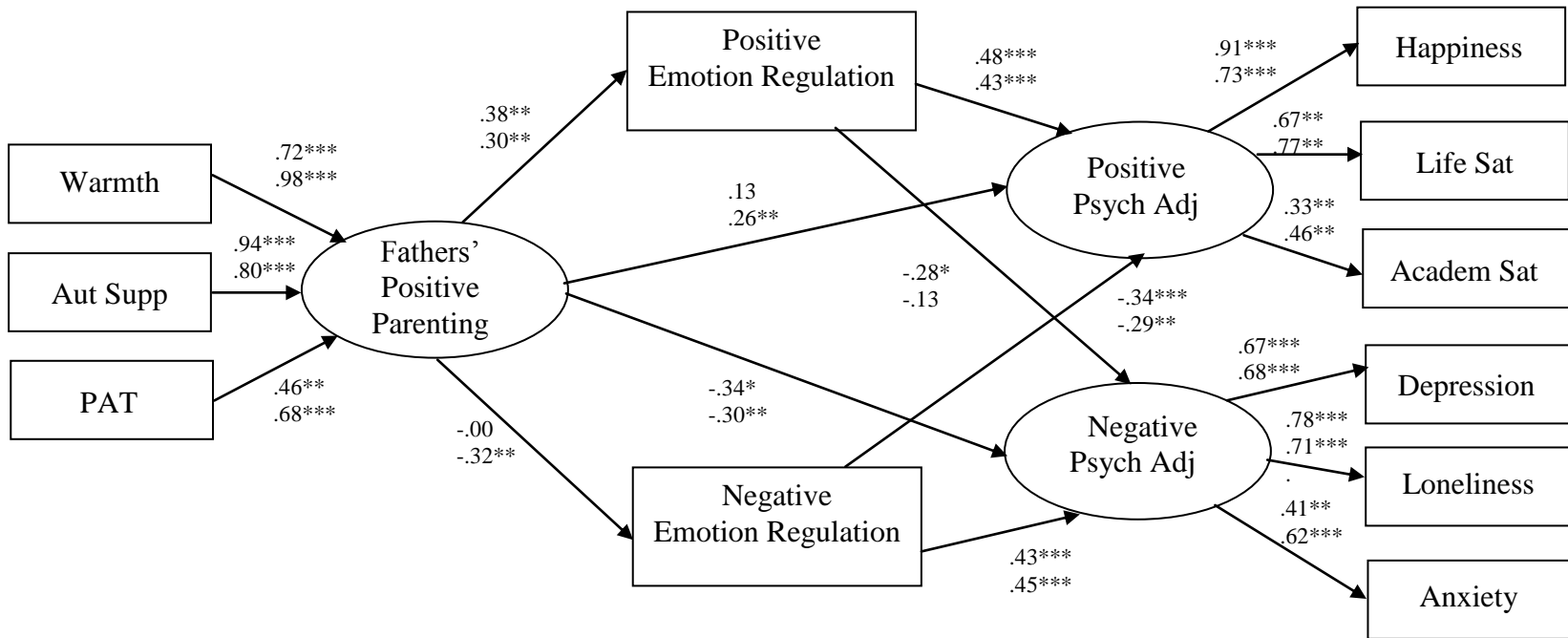


Figure 4. Direct and mediated effects of fathers' positive parenting on adjustment. On each path, the standardized path coefficients for Chinese students are presented on top, with the standardized path coefficients for Canadian students below. Aut Supp = Autonomy Support; PAT = Parent as Teacher; Positive Psych Adj = Positive Psychological Adjustment; Negative Psych Adj = Negative Psychological Adjustment; Life Sat = Life Satisfaction; Academ Sat = Academic Satisfaction. Error terms were omitted from figure. The error variance for positive psychological adjustment and negative psychological adjustment was allowed to correlate.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Examining path coefficients. To evaluate the relations among the main study variables within each student group, path coefficients for the relations among positive parenting, positive and negative emotion regulation, and positive and negative psychological adjustment for Chinese and Canadian students were examined.

Perceptions of positive parenting were expected to be significantly associated with higher levels of positive emotion regulation and lower levels of negative emotion regulation for both Chinese and Canadian students. Contrary to hypotheses, there were no significant relations between perceptions of mothers' positive parenting and Chinese students' reports of either positive or negative emotion regulation. As expected, however, reports of fathers' positive parenting were significantly positively associated with their reports of positive emotion regulation for Chinese students. No significant relations were found between fathers' positive parenting and students' reports of negative emotion regulation for Chinese students. In contrast with Chinese students, the results for Canadian students were consistent with hypotheses. Perceptions of mothers' and fathers' positive parenting for Canadian students were significantly associated with their reports of both positive and negative emotion regulation. Specifically, Canadian students who reported more positive parenting from their mothers and fathers reported more positive emotion regulation and less negative emotion regulation.

Perceptions of positive parenting were expected to be associated with higher levels of positive psychological adjustment and lower levels of negative psychological adjustment for both student groups. As expected, perceptions of mothers' positive parenting were significantly associated with more positive psychological adjustment and less negative psychological adjustment for Chinese students. Reports of fathers' positive parenting were also significantly

negatively associated with their reports of negative psychological adjustment. However, no significant relations were found between fathers' positive parenting and Chinese students' reports of positive psychological adjustment. When considered in the context of the overall model, with respect to Canadian students, as expected, perceptions of mothers' positive parenting were significantly associated with more positive psychological adjustment for Canadian students. Contrary to expectations, however, no significant relation was found for Canadian students for the relations between mothers' positive parenting and negative psychological adjustment in the context of the overall model. As expected, Canadian students' reports of fathers' positive parenting were significantly related to their reports of positive and negative psychological adjustment. Specifically, Canadian students who reported more positive parenting from their fathers reported more positive psychological adjustment and less negative psychological adjustment.

The path coefficients for the relations between emotion regulation and psychological adjustment for Chinese and Canadian students were examined next. First, as expected, Chinese students' reports of positive emotion regulation were significantly associated with more positive psychological adjustment and less negative psychological adjustment. Similarly, Chinese students' reports of negative emotion regulation were significantly associated with less positive psychological adjustment and more negative psychological adjustment. The pattern of the association between emotion regulation and psychological adjustment for Canadian students was similar to that of Chinese students except for one difference. No significant relations were found between positive emotion regulation and negative psychological adjustment for Canadian students.

Structural models: Testing mediation. Bootstrapping was used to test for mediation,

the fifth study goal (Hayes, 2009). Contemporary views of the assumptions that must be met to demonstrate mediation suggest that significant zero-order correlations between the independent variables (e.g., positive parenting) and the dependent variables (e.g., psychological adjustment) are not required in order to test for mediation (Hayes, 2009). Bootstrapping analyses were performed (1,000 bootstrapped samples) to evaluate the role of emotion regulation as a mediator of the relation between positive parenting and positive and negative psychological adjustment. Eight separate bootstrapping analyses were performed (i.e., separate analyses were conducted for each student group, for perceptions of mothers' and fathers' parenting, and for positive and negative psychological adjustment).

Bootstrapping analyses confirmed the significance of the indirect path from perceptions of fathers' positive parenting to positive and negative emotion regulation to *positive* psychological adjustment for both Chinese and Canadian students. Specifically, the standardized indirect effects path coefficient was .19 for Chinese students ($p = .013$, 95% CI [.107, .211]) and .22 for Canadian students ($p = .002$, 95% CI [.170, .270]). A similar pattern was revealed when testing the indirect path from perceptions of fathers' positive parenting to emotion regulation to *negative* psychological adjustment for both Chinese and Canadian students. The standardized indirect effects path coefficient was -.11 for Chinese students ($p = .017$, 95% CI [-.166, -.095]) and -.18 for Canadian students ($p = .002$, 95% CI [-.238, -.128]). Since the relation between Chinese and Canadian students' perceptions of fathers parenting and positive and negative psychological adjustment remained significant in the model including positive and negative emotion regulation as mediators, the results support a conclusion of partial mediation.

Similar results were found for Canadian students' perceptions of mothers' parenting. Specifically, the mediation analyses for Canadian students revealed a significant indirect path

from perceptions of mothers' positive parenting to emotion regulation to positive and negative psychological adjustment (indirect path coefficients of .19 for positive psychological adjustment, ($p = .002$, 95% CI [.089, .223]) and -.14 for negative psychological adjustment ($p = .002$, 95% CI [-.207, -.078])). Since the relation between Canadian students' perceptions of mothers' parenting and positive and negative psychological adjustment remained significant in the model including positive and negative emotion regulation as mediators, the results support a conclusion of partial mediation.

In contrast, for Chinese students there was no evidence that positive and negative emotion regulation mediated the relations between perceptions of mothers' positive parenting and either positive or negative psychological adjustment for Chinese students. The direct paths from perceptions of mothers' parenting to both positive and negative psychological adjustment remained significant once the mediators were in the model; and the indirect effects of mothers' parenting on psychological adjustment were not significant in the bootstrapping analyses (indirect path coefficients of .037 for positive psychological adjustment, $p = .274$, and -.033 for negative psychological adjustment, $p = .252$).

In sum, the hypothesis that emotion regulation would partially mediate the relations between positive parenting and psychological adjustment was supported for Chinese and Canadian students' perceptions of fathers parenting, and for Canadian students perceptions of mothers' parenting. Contrary to expectations, there was no evidence that emotion regulation mediated the relations between perceptions of mothers' parenting and psychological adjustment for Chinese students.

Testing invariance among latent constructs. The final set of analyses tested for invariance in the strength of associations among the main study variables. The baseline model

was the overall model for the relations among Chinese and Canadian students' perceptions of mothers' and fathers' positive parenting, positive and negative emotion regulation, and positive and negative adjustment. These baseline models were compared with models constrained to be equal between Canadian and Chinese students at the level of factor loadings, structural weights, structural covariances, structural residuals, and factor residuals to determine if the strength of path coefficients among the main study variables was equivalent between the two groups. Evidence for noninvariance is revealed if the χ^2 difference value is statistically significant, suggesting there was a loss of model fit by requiring equality. Pairwise parameter comparisons can reveal which specific aspects of the model likely differ between the student groups.

For the model that included perceptions of mothers' parenting, a comparison of the constrained model and the baseline model indicated that the two models were not significantly different at the level of factor loadings, structural weights, structural covariances, structural residuals, or factor residuals $\chi^2_{\text{DIF}}(29) = 29.810, p = .424$. Consistently, fit indices indicated that model fit was not compromised by imposing equality constraints: baseline model, $\chi^2(74) = 138.025, p = .001, CFI = .908$; constrained model, $\chi^2(103) = 167.834, p = .001, CFI = .907$. Unconstrained pairwise parameter comparisons were also examined to determine if the strength of specific path coefficients between the main study variables were significantly different for Chinese versus Canadian students. None of the critical ratios for differences between path coefficient parameters reached significance (Z-statistic), suggesting that the strength of the path coefficients were of similar magnitude for Chinese and Canadian students.

Similarly, for the model that included perceptions of fathers' parenting, the results indicated that the baseline and the unconstrained models were not significantly different at the level of factor loadings, structural weights, structural covariances, structural residuals, or

factor residuals $\chi^2_{\text{DIF}}(29) = 32.396, p = .303$. Fit indices indicated that model fit was not compromised by imposing equality constraints: baseline model, $\chi^2(74) = 126.476, p = .001, CFI = .927$; constrained model, $\chi^2(103) = 158.871, p = .001, CFI = .923$. Unconstrained pairwise parameter comparisons similarly did not reveal any significant path coefficient parameters, suggesting that the strength of the path coefficients were of similar magnitude for Chinese and Canadian students in the fathers' model as well.

Discussion

The current study examined the relations among perceived positive parenting practices, positive and negative emotion regulation, and positive and negative psychological adjustment for international Chinese and Canadian emerging adult post-secondary students. The findings highlight the significant and valuable role of parents in contributing to the well-being of their children even after they leave the family home and begin to take on more adult roles and responsibilities. Parents continue to play an important part in fostering the development of healthy or unhealthy emotion regulation skills in their emerging adult children, which in turn relates closely to their psychological adjustment. The results also concomitantly reveal many similarities between Chinese and Canadian student groups while highlighting a few key group differences, especially with regards to the use of emotion regulation strategies and levels of psychological adjustment.

Emotion regulation partially mediated the relations between perceptions of fathers' positive parenting and positive and negative psychological adjustment for both Chinese and Canadian students, and for Canadian students' perceptions of mothers parenting. These results point to emotion regulation abilities as a key reason why positive parenting is related to more positive psychological adjustment and less negative psychological adjustment for emerging

adults. Students who perceived their mothers and fathers as taking on a teaching role, expressing warmth and supporting their autonomy were more likely to report regulating their emotions using more active, positive strategies and fewer inactive, negative strategies. This finding is in line with previous research that has demonstrated that family context, through attachment representations and specific parenting behaviours such as warmth and acceptance, is associated with children's greater use of positive and constructive ways to regulate their emotions, such as cognitively reappraising distressing events in more positive ways (Kliewer et al., 1996). In other words, emerging adults who learn from and feel supported by their parents may acquire greater flexibility and more active, positive methods of managing their emotions. Parents who are responsive and warm tend to be more aware and accepting of children's emotions, see children's emotion as an opportunity for teaching, empathize with or validate the emotion, and help children actively manage their feelings (Gottman, 1997). In turn, emerging adults who perceive their parents as responsive and supportive of their ability to make autonomous decisions based on their own personal values may feel that they can reach out to their parents for guidance to help problem solve, reappraise negative experiences, and put events and emotions into perspective (Mikulincer & Shaver, 2007). As individuals encounter the novel and at times challenging situations that characterize the emerging adult period, parents may provide timely teaching and guidance about how to respond and manage emotions in ways that minimize disruption to newly acquired adult roles, such as attendance and productivity at work or school.

In addition to the interpersonal, academic and environmental changes that emerging adults face, developmental shifts in neurological functioning are also occurring. The full maturation of neural regions in the prefrontal cortex posited to underlie emotion regulation

processes does not occur until early adulthood, and thus the influence of parental modeling and teaching about managing emotions may be especially influential at this time (Spear, 2000).

Having enhanced emotion regulation abilities may buffer emerging adults against negative psychological outcomes, such as depression, anxiety, and loneliness, and lead to more positive outcomes, such as increased happiness, when they are faced with the trials and responsibilities of new adult roles. This hypothesis was supported with results from the current study. Specifically, the more negative emotion regulation strategies Chinese and Canadian students reported using, the less positive adjustment and the more negative adjustment they reported. Again for both student groups, the more positive emotion regulation strategies they reported using, the more positive adjustment they reported. Only one small difference between student groups emerged. Whereas more positive emotion regulation was associated with less negative psychological adjustment for Chinese students, this relation was non-significant for Canadian students when considered in the context of the overall model.

Overall, these results are consistent with previous research showing the use of active or positive emotion regulation strategies, such as positive reappraisal, to be associated with better psychological adjustment, whereas the use of passive or negative strategies, such as rumination, is linked with poorer psychological adjustment, including more symptoms of depression in emerging adults (Fischer et al., 2007; Garnefski & Kraaij, 2006; Park, Edmondson, & Lee, 2012). Although the majority of this research has been conducted with North American and European populations, recent research with Asian students has demonstrated significant associations between students' emotion regulation and psychological adjustment (Park et al., 2011). For example, in a large sample of Asian American college students in the United States,

the more students used the emotion regulation strategy of emotional suppression, the more social anxiety symptoms they endorsed (Park et al., 2011).

The literature examining the role of emotion regulation in individuals' psychological adjustment is only beginning to reveal how different emotion regulation strategies can have unique effects on an individuals' well-being depending on the specific situation and through varied developmental periods. Debate exists as to which emotion regulation strategies (if any) are always adaptive and protective. In the current study, strategies were divided into positive (or active) strategies and negative (or passive) strategies according to previous research demonstrating that active strategies are generally associated with better adjustment (Silk et al., 2003). However, strategies that are considered negative, such as catastrophizing or self-blame, can serve an important purpose that may also ultimately lead to better adjustment (Garnefski et al., 2001). Just as feelings of depression have been shown to be important motivators for change for some individuals, catastrophizing an event may also spur some people into positive action. On the other hand, feelings of depression can also lead to more feelings of depression, and catastrophizing a minor event can lead to non-productive rumination. Scholars are now calling attention to the importance of being flexible, creative, and willing to change approaches when faced with challenging situations or emotions as key indicators of healthy emotion regulation (Diamond & Aspinwall, 2003). This flexibility may be more important for psychological adjustment than the specific "positive" or "negative" strategy an individual employs, considering that these strategies are often context-bound and culturally specific. Current thinking considers the goals an individual is trying to achieve at any given point in time, and how emotion regulation serves to achieve these dynamic goals which, in turn, are tied to one's developmental stage and sociocultural values (Diamond & Aspinwall, 2003). For example, Chinese students

who utilize the emotion regulation strategy of self-blame may not consider this to be a “negative” strategy, but rather a way of maintaining social harmony and balance in relationships, goals which reflect their interdependence values.

In addition to the links between positive parenting and psychological adjustment via emotion regulation, results from the current study point to direct effects between perceptions of positive parenting and the adjustment of Chinese and Canadian emerging adult students. Results showed that perceptions of positive parenting from both mothers and fathers were associated with more positive adjustment and less negative adjustment among both Chinese and Canadian students, with only a few exceptions even after accounting for the mediating effects of emotion regulation. These findings are consistent with previous cross-sectional and prospective research demonstrating that adolescents and emerging adults from diverse cultures who report a warm, close relationship with their parents, where they feel their values and opinions are supported, report higher levels of well-being and lower levels of psychological maladjustment (Buhl, 2007; Holahan et al., 1994; Kins et al., 2009; Lim & Lim, 2004; van Wel et al., 2002).

The findings of both direct effects of parenting on the adjustment of emerging adults, and mediated effects through emotion regulation, suggests that parenting affects offspring adjustment in many ways through specific parenting behaviours, styles, and attachment representations (Allen et al., 2007). The finding of partial mediation versus full mediation also suggests that other processes may be in play which link parenting to adjustment. Warm, autonomy-supportive parenting not only helps children develop emotion regulation skills; it is also associated with other forms of socio-emotional development including better social skills and increased feelings of self-worth, self-esteem, and self-efficacy, which in turn have been shown to impact the adjustment of both Chinese and North American emerging adults (Li et al., 2010; Nelson et al.,

2011; Roberts et al., 1996). Therefore, it is likely that other internal mechanisms are operating to link the relations between perceptions of positive parenting and positive and negative psychological adjustment.

In sum, although there were some differences between mothers and fathers, and between Chinese and Canadian students, in the pattern of the relations among positive parenting and positive and negative psychological adjustment, overall, parenting showed important influences on the adjustment of emerging adults. As emerging adults strive to gain more autonomy and take on adult roles, parenting may look different than in childhood or adolescence, but this does not mean its influence is diminished.

Cultural Similarities in the Relations among Parenting, Emotion Regulation and Adjustment

Taken as a whole, few group differences emerged in the relations among parenting, emotion regulation, and adjustment. Invariance testing revealed that the strength of the path coefficients among positive parenting, positive and negative emotion regulation, and positive and negative psychological adjustment were of a similar magnitude for both student groups, as there was no significant loss of model fit when all parameter estimates for Chinese and Canadian students were set to be equal. Differences between Chinese and Canadian student groups in the path coefficients linking main study variables were all magnitude differences (e.g., whether the path met statistical significance or not), rather than differences in the *direction* of the findings. Results examining the relations among positive parenting, emotion regulation and psychological adjustment revealed all associations to be in the expected direction, even though some paths did not reach statistical significance. For example, the two path coefficients linking perceptions of

mothers' positive parenting to the positive and negative emotion regulation of Chinese students failed to reach significance, whereas both paths were significant for Canadian students.

The finding of between-group statistical invariance is important to keep in mind when interpreting possible cultural differences between Chinese and Canadian emerging adults in the current study. While there are likely some differences between Chinese and Canadian students in terms of the relations among parenting, emotion regulation, and adjustment, the results from the current study tell a story of more similarity than disparity between cultural groups. This finding consistent with that of other researchers that have compared parenting and offspring adjustment with Chinese and Western adolescents and found cultural similarities in the strength of the relations (Chiu et al., 1992; Leung & Leung; Soto et al., 2011), and is inconsistent with research that has presented differences in the magnitude of these relations (Chao & Tseng, 2002; Greenberger & Chen, 1996). The findings from previous research and from the current study point to the complicated, contextual, and multi-faceted relationship that culture plays in the experience and perception of parenting behaviours, emotion management, maladjustment and well-being, and urges caution when interpreting possible cultural differences.

Group Differences in the Relations between Parenting and Emotion Regulation

Although the overall results from this study point to more cultural similarities than differences in the relations among parenting, emotion regulation and adjustment, one exception to this general finding stood out with respect to the lack of relations between parenting and emotion regulation for Chinese students. Contrary to expectations, no significant relations were found for perceptions of mothers' parenting and positive and negative emotion regulation, or for fathers' parenting and negative emotion regulation for Chinese students. The link between perceptions of fathers' parenting and positive emotion regulation represented the only significant

path for Chinese students. In contrast, parenting from both mothers and fathers was significantly related to positive and negative emotion regulation for Canadian students.

It remains unclear why positive parenting was largely unrelated to the emotion regulation of Chinese students. Unfortunately, only a small number of non-Western studies exist to help clarify these findings, and none focus on the association between parenting and emotion regulation. A few recent studies that have examined the role of emotion regulation with Chinese participants have considered the role of emotion suppression. This emotion regulation strategy focuses on the inhibition of emotionally expressive behaviour, whereby individuals keep emotions to themselves (Park, Sulaiman, Schwartz, Kim, & Ham, 2011; Soto, Perez, Kim, Lee, & Minnick, 2011). In general, Chinese individuals have been shown to demonstrate more emotion suppression as compared with North American individuals (Soto et al., 2011). In Asian cultures, collectivistic and interdependence values encourage emotional control and suppression, as free expression of emotions draw attention to the individual and could distract from role obligations and group harmony (Markus & Kitayama, 1991). In Canada, Western-European values of individualism are thought to encourage emotional expression because it promotes autonomy and independence and fulfills personal goals (Park et al., 2011). In these ways, emotion regulation is embedded in the meanings and processes that make up the sociocultural world, and culture regulates emotions by shaping how and when emotions are displayed and managed (Mesquita & Albert, 2007). It is possible that Chinese cultural conceptualizations of emotions and emotion regulation influence how Chinese parents model and teach their children about managing feelings. For example, emotion moderation may be emphasized and reinforced by Chinese parents. Therefore, warm and supportive parenting on the part of Chinese parents may not extend to helping emerging adults actively manage their feelings, at least not as

conceptualized in Western culture. Also, Chinese emerging adults may be less likely to reach out to their parents for help and guidance in managing their emotions in order to maintain harmony in the parent-child relationship, and thus parents may have a reduced influence on the development of their emotion regulation strategies.

Mean Level Similarities and Differences between Chinese and Canadian Students

Despite the overall similarity in the strength of the relations among parenting, emotion regulation, and adjustment, there were consistent differences between Chinese and Canadian students in both the extent to which emotion regulation strategies were endorsed and in levels of both positive and negative psychological adjustment.

Chinese students reported using all emotion regulation strategies significantly more often as compared with Canadian students. The emerging research area of collective coping, which classifies and examines coping behaviours originating from collectivistic or interdependent cultural values, may help to explain this finding (Kuo, 2011; 2012; Yeh et al., 2006). Researchers have found that individuals with strong collectivistic values, such as those from Asian cultures, may be more likely to cope with stressful events by modifying internal thoughts and feelings, rather than by attempting to change the stressful external circumstance directly (Lam & Zane, 2004). It is possible that Chinese students used more cognitive emotion regulation strategies as compared with Canadian students due to their cultural values emphasizing the need to maintain social harmony by considering the needs of the group over the needs of oneself. In contrast, Canadian students may have used fewer emotion regulation strategies due to a preference for changing their external circumstances rather than their internal cognitions, a preference supported by Canadian values of individualism, autonomy and self-determination. It is worth noting that the current studied focused solely on measuring cognitive

strategies of emotion regulation and it is not known if cultural differences would extend to other types of emotion regulation strategies.

The differential findings for mean levels of emotion regulation between Chinese and Canadian student groups underscore the importance of conceptualizing coping and emotion regulation not only as individual processes with implications for psychological functioning, but also as cultural practices used to meet cultural goals, such as maintaining social harmony (Kuo, 2012; Mesquita & Albert, 2007). Many more studies are needed which examine how culture influences coping and emotion regulation among emerging adults from different cultural groups.

In terms of psychological adjustment, Chinese students in the current study reported significantly poorer adjustment overall as compared with Canadian students. Chinese students reported lower levels of all indicators of positive adjustment, including lower levels of happiness, life satisfaction, and academic satisfaction. In terms of negative psychological adjustment, Chinese students reported experiencing more symptoms of depression and higher feelings of loneliness as compared with Canadian students. Only reports of anxiety were similar.

These results were largely contrary to expectations, as Chinese and Canadian students were expected to show similar levels of adjustment, with the exception of loneliness. Previous research had demonstrated that Chinese sojourners, including international Chinese students who come to study at Canadian universities, experience higher levels of loneliness than their Canadian peers (DiTommaso et al., 2005). Faced with increased distance from family and friends and the challenge of integrating into a new social network while encountering language barriers, higher levels of loneliness among Chinese students compared with Canadian students was not surprising. Higher levels of loneliness suggest that the Chinese students experienced less social support than the Canadian students. Social support has been shown not only to buffer

individuals against feelings of loneliness, but also to be a key protective factor against other adjustment problems when individuals are faced with challenges (Greenberger, Chen, Tally, & Dong, 2000; Pettit, Roberts, Lewinsohn, & Seeley, 2011). For example, peer warmth was found to moderate the effects of risk factors such as stressful life events on depressive symptoms of US and Chinese adolescents (Greenberger et al., 2000). It is possible that the absence of the important protective factor of social support among Chinese students, as exemplified by their higher levels of loneliness, partially explains why they experienced increased adjustment problems overall as compared with Canadian students.

Nevertheless, the finding that Chinese students had poorer adjustment across many indicators (with the exception of similar levels of anxiety) was unexpected. More similarities in terms of positive and negative adjustment were hypothesized because both Chinese international students and Canadian students share many common concerns and challenges as they make the transition to post-secondary education and take on more adult roles and responsibilities. For example, adjusting to the increased educational demands of higher education, experiencing financial pressures, living away from the family home, and leaving behind friends and struggling to form new social networks can lead to poorer adjustment for both international and local students (Popadiuk & Arthur, 2004).

However, even though international Chinese and Canadian students face many of the same issues related to their shared developmental period and commencement of post-secondary education, international students' experience of cross-cultural transition and the need for rapid cultural learning adds unique challenges to their experience (Pedersen, 1991). Studying abroad offers great opportunities, but these opportunities come hand in hand with stressors and difficulties. Considering that Canadian and Chinese cultures significantly differ in terms of some

worldviews, values, and social practices, this substantial cultural distance may further add to the adjustment demands and stress faced by Chinese international students. The added stress associated with the process of adapting to a new culture is known as acculturative stress (Berry, 2006). Acculturative stress has been shown to negatively impact the psychological adjustment of Chinese international students (Wei, Liao, Heppner, Chao & Ku, 2012).

International Chinese students encounter multifaceted interpersonal and academic challenges related to their new environment which may increase acculturative stress, including tackling linguistic barriers, understanding social norms, and adjusting to culturally influenced class demands and expectations. For example, Chinese students may be unaccustomed to the level of choice, self-direction and autonomy that are emphasized in North American post-secondary institutions. As one Chinese sociology student studying in the United States described, “I feel everything was specified very clearly in China and rigorous discipline was usually available. However, on [the] American campus it was not very clear what one exactly needed to do or how to proceed step by step to achieve the academic goals. And when I conversed with my advisor about what my academic future would be...the common response [was] “it is up to you” or “it depends on you.” Facing such unclear answers, I felt overwhelmed and stressed” (Yan & Berliner, 2011, pg. 179). Cultural differences in academic norms and instructions may be one reason why the Chinese students in the study reported lower levels adjustment, including lower levels of academic satisfaction as compared with Canadian students.

Chinese international students may also face added pressure to perform well academically, which may have lead to lower feelings of happiness and life satisfaction, and higher symptoms of depression, as compared with Canadian students. Stemming from

Confucian beliefs, academic achievement is considered an honour to the family in Chinese culture. Therefore, Chinese students may face added familial and cultural pressure to succeed academically. Studies have shown that on average, Chinese parents value education for their children's future success more than parents from European American backgrounds (Chao, 1996). Succeeding academically was overwhelmingly identified as the greatest concern and the primary goal of Chinese international students in a qualitative study of Chinese international students in the United States (Yan & Berliner, 2011). These high cultural, parental, and personal expectations for academic success may overwhelm coping mechanisms when students are faced with academic challenges, and increase the risk of serious psychological difficulties and lowered well-being (DiTommaso et al., 2005; Popadiuk & Arthur, 2004).

When making comparisons between Chinese and Canadian students in terms of their psychological adjustment, it is important to keep in mind that an individual's subjective experience and emotional interpretations are culturally influenced, contextual and goal-specific. As noted by Diamond and Aspinwall (2003), "feeling good does not always have a positive meaning, nor are negative feelings always indicative of a problem" (pg. 137). In other words, the level of depression between groups may not equate to the same level of distress. For example, a Canadian student may report high feelings of happiness and high academic satisfaction even if they are receiving failing grades, perhaps because they are not aware of the repercussions of these circumstances. A Chinese student in a similar situation who feels low academic satisfaction and low levels of happiness may benefit from the important, albeit negative, information these emotions provide and begin problem solving and planning to improve their academic standing.

Related to how individuals' interpretations of emotions can influence their well-being, debate exists around the cross-cultural equivalence of psychological adjustment concepts themselves, including depression and life satisfaction. For example, sources of life satisfaction vary widely among individuals and across cultures, as what may be important for some individuals may not be important for others (Tucker, Ozer, Lyubomirsky, & Boehm, 2006). The meaning of concepts such as depression may also be culturally influenced. Chinese individuals may be more likely to describe symptoms of depression in terms of their interpersonal relationships and somatic experiences, compared with individuals in a Western-context (Russell, Crockett, Shen, & Lee, 2007). Consequently, the self within the social network may have increased salience in shaping the meaning of depression for Chinese emerging adults, rather than psychological symptoms such as feeling sad. Although the measures utilized for this study (including the SWLS and the CES-D) have demonstrated cross-cultural measurement and construct equivalence, some research suggests caution in their interpretation when making comparisons among cultural groups (Chen, 2008; Russell et al., 2007). Therefore, individual, contextual, and cultural differences should all be considered when making generalizations about what is considered positive or negative for the development of emerging adults.

In terms of parenting practices, the only mean group difference involved reports of parents' autonomy support; as expected, Canadian students reported higher levels of volitional autonomy support from both their mothers and fathers, as compared with Chinese students. This finding supports previous research suggesting that Chinese parents may place less emphasis on supporting children's autonomy (defined as the promotion of independence and detachment) as compared to Canadian parents, given the high value placed on relatedness and interdependence in Chinese culture (Chao & Tseng, 2002). However, when studies have defined autonomy

support as the promotion of volitional functioning, where parents encourage their children to make decisions that reflect their own personal values and interests, they have generally found fewer cross-cultural differences in parental levels of autonomy support (Vansteekiste, 2005).

In considering this finding, it is important to note that both Chinese and Canadian students reported their mothers and fathers as demonstrating moderately high levels of autonomy support ($M = 3.62$ and 3.41 for Chinese mothers and fathers respectively, and $M = 3.95$ and 3.90 for Canadian mothers and fathers, on a five-point scale). Thus, differences, although statistically significant, are only a matter of degree; Chinese students did not perceive their parents as being unsupportive of their volitional autonomy. Therefore, while cultural values influence the levels of both the expression and perception of parental autonomy support, it remains an important feature of positive parenting for both Chinese and Canadian emerging adults.

As expected, no cross-cultural differences were found in students' perceptions of mothers' and fathers' level of warmth. Whereas some research has shown that Chinese parents express lower levels of warmth as compared to parents in North America, critics argue that the use of measurement scales utilizing Western definitions of closeness and support underestimate the level of warmth expressed and perceived by Chinese parents and children (Chiu et al., 1992). The current study utilized a measure of warmth that has been validated with both North American and Chinese samples (Chung et al., 2009; Greenberger & Chen, 1996), which increases the likelihood that findings reflect true similarities between cultural groups, rather than results primarily representing artifacts of measurement error.

Contrary to expectations, Chinese and Canadian students endorsed similar levels of their parents taking on a teaching role. Due to Confucian beliefs emphasizing the importance of education and parents' role as moral and affective teachers of their children, it was expected that

Chinese students would perceive higher levels of this construct from their mothers and fathers as compared with Canadian students. Some research has shown that Chinese parents are heavily involved in their younger children's schooling and moral development, but that this involvement decreases by the time children enter high school (Leong, Chao, and Hardin, 2000). In addition, despite the high value placed on education, some studies comparing Asian American and European American parents of high school children have found that Asian American parents are generally less involved in discussions about school, helping with homework and helping to plan and pay for college (Ho & Willms, 1996). It may be that Chinese parents see their role as teachers of their children as less salient once their children enter emerging adulthood. Alternately, Canadian parents may see their roles as teachers as increasing after children leave high school and must contend with the more rigorous and less structured demands of post-secondary education.

Mother-Father Similarities and Differences

Overall, few mother-father differences in either Chinese or Canadian student groups were found in mean levels of perceived parenting practices or in the links among parenting, emotion regulation and psychological adjustment. Students perceived mothers and fathers as expressing similar levels of autonomy support and as taking on similar levels of a teaching role. In addition, fathers' parenting was just as important as mothers' parenting in terms of its associations with the emotion regulation and psychological adjustment of emerging adults. Although much less research has examined the role of fathers in influencing the psychological adjustment and emotion regulation of emerging adults, especially with non-Western samples, it appears that fathers' influence remains significant even after children move out of the family home and begin

to take on adult roles (Chen et al., 2000; Hosley & Montemayor, 1997; Lin et al., 2008; Turner et al., 2001).

One key difference, however, was observed in mean reported levels of mothers' and fathers' warmth. As expected, both Chinese and Canadian students reported perceiving higher levels of warmth from their mothers as compared with their fathers. This finding is consistent with previous research measuring levels of warmth from mothers and fathers of younger children (i.e., toddlers and adolescents) from both cultures (Berndt, Cheung, Lau, Hau, & Lew, 1993; Chao & Tseng, 2002; Stewart, Rao, Bond, McBride-Change, Fielding, & Kennard, 1998). While mothers expressed more warmth than fathers, it is important to note that fathers from both cultures were still perceived as expressing relatively high levels of warmth. Parenting roles in the West have undergone a shift, with studies showing that present-day fathers demonstrate more warmth and nurturance with their children than previous generations (Hosley & Montemayor, 1997). Some research suggests that a similar shift is occurring in Chinese culture, and the traditional Chinese expression of "strict father, kind mother" may no longer apply to most families (Chao & Tseng, 2002; Lamb, 1997).

These findings highlight the continued involvement of fathers in the lives of emerging adult children. Fathers have a crucial role to play in supporting the autonomy of their children, providing warmth and nurturance, and in teaching about adult roles and responsibilities. In turn, this support has an important impact on how successfully emerging adults are able to navigate the novel challenges of this age period and maintain psychological health.

Clinical Implications

The findings from the current study point to the continued importance of parenting and the role of emotion regulation in bolstering positive adjustment and buffering against negative

adjustment in emerging adults cross-culturally. Parents who are perceived as warm, as providing a teaching role, and as encouraging of choices which reflect the emerging adults' own personal values and interests retain close relationships with their children even as they grow up and move out. In turn, this close, supportive relationship continues to influence their child's emotional and psychological development in emerging adulthood. Therefore, culturally sensitive interventions which target parents, the parent-child relationship, and the emotion regulation skills of emerging adults are all critical to encourage positive developmental outcomes as individuals encounter the unique challenges, opportunities and new adult roles that characterize this age period.

Parents of emerging adults should be encouraged to maintain close relationships with their children even after the need for the hands-on, instrumental parenting present in earlier developmental periods decreases. Parents may be unaware of their continued value and influence in the lives of their emerging adult children. For example, dominant cultural messages, such as those portrayed in the media, emphasize the role of friends and intimate partners in the lives of emerging adults and rarely highlight parents as central figures or role models, especially once emerging adults leave home. Education programs aimed at parents could help explain that they do indeed matter, and that the parental bond has as strong an association with the well-being of emerging adults as their relationships with an intimate partner or best friend (van Wel, 2002). Considering that the emerging adulthood period can be one of instability, where changes in education, employment, living arrangements and relationships are rapid and sweeping (Aquilino, 2006), parents can represent an important and stable source of support for emerging adults who may become overwhelmed by these changes and face significant adaptive challenges.

It remains important to keep in mind that the parent-child relationship is itself undergoing changes, and some parents may find it difficult to encourage personal choice and

autonomy in their children while remaining a source of support, especially when emerging adults make decisions with which they disagree. Psychological interventions such as family therapy and psycho-educational groups could help parents and their emerging adults balance autonomy versus connectedness needs. Since the findings from the current study reveal that both mothers and fathers play unique and important roles in the adjustment of their emerging adult children, interventions should include both mothers and fathers. In addition, considering the widely held conclusion in the developmental literature that continuity in the quality of the parent-child relationship across developmental periods is more common than change, interventions beginning in earlier developmental periods (e.g., adolescence) may be particularly useful. Adolescents who have good psychological adjustment and close, supportive relationships with their parents are likely to continue this pattern of functioning into emerging adulthood (Masten, Obradović, & Burt, 2006; Schulenberg, Bryant & O'Malley, 2004).

Interventions targeted at improving the emotion regulation skills of emerging adults may also be important to maintain or ameliorate their psychological adjustment. As described, being flexible, creative, and willing to change approaches when faced with challenging situations or emotions may be more important for an individual's well-being than the particular emotion regulation strategies employed (Aspinwall & Diamond, 2003). Interventions such as Acceptance and Commitment therapy and Cognitive Behavioral therapy, which teach a wide range of ways to manage and tolerate emotions, could be useful in preventing difficult emotional experiences from intensifying into chronic states of depression and anxiety. Targeting interventions at the level of emotion regulation strategies may also be useful because the particular strategies an individual uses may be more malleable and open to change as compared with deeply held beliefs about the self (Park et al., 2011).

The current study revealed higher levels of psychological challenges such as loneliness and depression, and lower levels of well-being, including less satisfaction with life and academics, and less happiness for Chinese international students. Mental health professionals, especially psychologists and counselors at University counseling centers, should be aware of the additional challenges faced by international students and how culture influences how mental health issues are experienced and expressed. Training in multicultural counseling competencies is crucial. For example, research has demonstrated that Chinese individuals are more likely to emphasize the physical symptoms of depression, rather than describing their concerns in terms of emotional pain, in part due to the stigmatization of mental illness in Chinese culture (DSM-IV-TR). Studies have also shown that international students are less likely to access university support services as compared with non-international students (McKinlay, Pattinson & Gross, 1996). When international students do access support services, they are more likely to describe academic versus social or emotional concerns (Popadiuk & Arthur, 2004).

In order to break down the stereotypes and stigma associated with accessing support services, universities and colleges should advertise their services specifically to international students utilizing awareness ads and testimonials from other students studying from abroad. Specific counseling groups aimed at providing information and easing the cultural transition for international students may help ease common feelings of isolation and overwhelm. International students may provide a good source of support for each other, however, it appears that international students who associate only with each other experience higher feelings of loneliness than those who also befriend local students (Yan & Berliner, 2011). Counseling services and other university organizations could also help encourage relationships between international and Canadian students. For example, International and Exchange Student Services at the University

of Victoria facilitates a buddy program, where new international students are matched up with continuing UVic students for friendship, mentorship, and support. Finally, integrating counseling services within medical support services at post-secondary institutions could help to further breakdown stereotypes and encourage collaboration between counseling center staff and the nurses and medical doctors who see international students more often for physical concerns.

Limitations and Directions for Future Research

There are several limitations to the current study. First, like most studies examining parenting and the adjustment of adolescents and emerging adults, this study utilized Chinese and Canadian students' *perceptions* of their mothers' and fathers' positive parenting. It is possible that students' reports on questionnaires about their parents' levels of warmth, autonomy support and role as teachers are different than how parents actually behave. For example, students may overestimate or underestimate the amount or frequency of positive parenting behaviours their parents portray, which may not reflect how parents themselves would characterize their parenting. Importantly, previous research has demonstrated that emerging adults can serve as valid informants of their parents' behaviour (Li, Costanzo, & Putallaz, 2010). Since emerging adults' reports of parenting behaviours represent their own understanding and experience of parenting behaviours, their reports are highly relevant to their adjustment. By utilizing the reports of emerging adults, researchers may also minimize social desirability biases inherent in parental reports. Ideally, additional methods to assess parents' child-rearing behaviours would consider the input of other informants, including parents, and directly observe parent-child interactions. The use of multiple informants would also eliminate common method variance, which may have led to more significant associations than would have been discovered by utilizing reports from several sources.

The current study did not specify what type of contact students were engaging in with their parents (e.g., in-person, telephone, or internet based contact such as e-mail or Skype). It is possible that the proliferation and ease of digital technology (e.g., Skype) influences the amount of contact emerging adults have with their parents. Additional information about the type of contact students engaged in with their parents could have provided interesting data about how contact with parents is associated with the adjustment of emerging adults and possibly revealed group differences. Future research should take care to ask participants not only how much contact they have with important others, but also how this contact is occurring.

The size of the sample also presented some limitations. The size of the current sample was small ($N = 75$ and $N=120$ for Chinese and Canadian students, respectively). As guidelines for SEM analyses generally suggest a minimum of 100 participants, or a participant parameter ratio of 5:1, the sample size fell short of this recommendation (Gorsuch, 1983). An increase in the ratio of participants to parameters estimated would have been ideal, and possibly provided more stable estimates of the relations among the variables. However, recent research suggests that the adequacy of a given sample size depends not only on parameter to participant guidelines, but also on the communalities among measured variables and the number of variables with substantial factor loadings for each factor (Guadagnoli & Velicer, 1988; MacCallum, Widaman, Zhang, & Hong, 1999; Velicer & Fava, 1998). When communalities are relatively high and factors are represented by at least three variables, as was the case in the current study, accurate parameter estimates can be obtained with smaller sample sizes. Therefore, although important conclusions can still be drawn from the current study, future research with larger sample sizes is needed to confirm the findings.

Findings in the current study were based on correlations, and thus, causal conclusions cannot be drawn. The model presented is based on theoretical considerations and results from previous research; however, alternative models are possible. For example, although it was assumed that the more frequent use of positive, active emotion regulation strategies contributed to students' positive psychological adjustment, it is also possible that students experiencing more positive psychological adjustment were more likely to use positive, active emotion regulation strategies. Longitudinal research is needed to evaluate the direction of relations and to provide a more comprehensive understanding of how parenting, emotion regulation and psychological adjustment are related over time.

The method of sample recruitment limits the generalizability of the findings. Students who elected to participate in this study consisted of a convenience sample that was recruited through diverse means, such as through the Psychology Research Participation System, through presentations in classes and at university clubs, and through word of mouth. Therefore, the current sample may not be representative of the entire Canadian undergraduate student body at the University of Victoria, or of the undergraduate international Chinese students that attend this university. It is also important to note that Chinese international students originate from a variety of countries, including China, Taiwan, and Hong Kong. In China alone there are several hundred identifiable minority groups, 55 of which have been officially recognized (Lin, Tseng, & Yeh, 1995). Therefore, both Canadian and Chinese students represent heterogeneous groups.

The current study is entirely based on emerging adults attending post-secondary education, and this represents another limitation related to the generalizability of the findings. Although somewhere between 40-75% of individuals in Canada and the United States are enrolled in post-secondary education at some point during their emerging adult years, a large

proportion of young people do not take this path, and their trajectories to adulthood are largely unresearched (Arnett 2000; Hendry & Kloep, 2010). In fact, emerging adults who are not attending post-secondary education are studied so infrequently that they are known as the “forgotten half” (Arnett, 2000). Future research should strive not only for a random sampling of university students, but also to include those not attending post-secondary education.

Considering that Chinese parents highly value education for their children’s future success, it would be especially interesting to explore the relations between parenting and the adjustment of Chinese emerging adults who are not enrolled in higher education. The experience of emerging adults who enter into post-secondary training programs other than university, such as those offered by community colleges and trades schools, should also be further explored.

Another limitation concerns the cross-cultural applicability of some of the measures used in this study. Substantial effort was made to utilize measures whose reliability with Chinese populations was previously established (e.g., the Perceived Warmth and Acceptance scale for measuring parental warmth and the Perception of Autonomy Support Scale for measuring parental autonomy support). However, the items adapted from the Role Disposition Questionnaire (Segal, 1985) measuring parents’ role as teachers has had limited use with Chinese populations. Although the adapted parent as teacher scale demonstrated good validity and reliability in the current sample, further studies need to be conducted to replicate these findings with Chinese and North American emerging adult populations.

The restricted measurement and conceptualization of emotion regulation represents another limitation. Participants were asked to rate how often they used specific cognitive emotion regulation strategies when faced with a negative or unpleasant event. However, emotion regulation strategies are also employed when individuals encounter positive or non-

stressful events. For example, emotion regulation strategies can be used in response to positive events to prolong good feelings or to return to a more neutral emotional state in order to refocus attention. Relatively little attention in the literature has been given to the regulation of positive emotions (Tugade & Fredrickson, 2007). In addition, although the measure utilized for this study has demonstrated cross-cultural validity, it did not measure cultural coping behaviours *per se*, such as collective coping or emotional suppression. Therefore, a broader conceptualization of this construct would have included measuring students' cognitive emotion regulation responses to positive events, as well as the addition of an emic cultural coping measure to the study.

Finally, it is important to note that the current study did not directly measure the extent to which Canadian and Chinese students identified and engaged in the beliefs and practices of their respective cultures. Since acculturation was not measured directly, it is not possible to definitively conclude whether differences between ethnic groups were related to differences in cultural beliefs or some other between-group distinction. Although attempts were made to limit the effects of acculturation on the reports of Chinese students (e.g., by restricting their length of residence in Canada to less than 3 years in order for them to be eligible for the study) it is possible that since coming to Canada, Chinese students adopted some Canadian values and beliefs that may have influenced their reports regarding perceptions of parenting, emotion regulation, and adjustment. Current scholars in the field note the importance of measuring acculturation orthogonally, meaning that participants' level of involvement and identification in their ethnic culture is measured and considered independently from their level of involvement in the majority culture. An orthogonal model assumes that it is possible to adopt features of the host culture while simultaneously retaining important traditional values and behaviours (Costigan & Su, 2004; Zane & Mak, 2003). Future research should examine the variation in emerging adults'

identification with both their ethnic culture and the majority culture to determine their relation with important outcomes during this period.

Although the current study is limited by a number of factors, it presents a rare and important examination of the role of parenting, emotion regulation and psychological adjustment in two cultural groups. This study has a number of strengths, including assessing perceptions of parenting for both mothers and fathers, employing cross-culturally valid measures, assessing both positive and negative psychological adjustment, and examining the role of culture in influencing the relations among parenting, emotion regulation and adjustment. It represents a significant step forward in the literature by going beyond simply describing parenting and offspring adjustment to examining emotion regulation as a mediator of this relation. Future work would benefit from the examination of additional mediators of this relation and from an assessment of the bi-directionality of the relations among parenting and the adjustment of emerging adults in culturally diverse samples.

References

- Ainsworth, M.S. (1989). Attachments beyond infancy. *American Psychologist*, *44*, 709-716.
- Ainsworth, M.S., Blehar, M.C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Oxford, England: Lawrence Erlbaum.
- Allen, J.P., Porter, M., McFarland, C., McElhaney, K.B., & Marsh, P. The relation of attachment security to adolescents' paternal and peer relationships, depression, and externalizing behavior. *Child Development*, *78*, 1222-1239.
- Aquilino, W.S. (1997). From adolescent to young adult: A prospective study of parent-child relations during the transition to adulthood. *Journal of Marriage and the Family*, *59*, 670-686.
- Aquilino, W.S. (2006). Family relationships and support systems in emerging adulthood. In J. Arnett & J. Tanner (Eds.), *Emerging adults in America: Coming of age in the 21st century* (pp. 193-217). Washington, DC: American Psychological Association.
- Amato, P.R. (1994). Father-child relations, mother-child relations, and offspring psychological well-being in early adulthood. *Journal of Marriage and the Family*, *56*, 1031-1042.
- Arnett, J.J. (1994). Are college students adults? Their conceptions of the transition to adulthood. *Journal of Adult Development*, *1*, 213-224.
- Arnett, J.J. (2000). Emerging adulthood: a theory of development from the late teens through the twenties. *American Psychologist*, *55*(5), 469-480.
- Arnett, J.J. (2003). Conceptions of the transition to adulthood among emerging adults in American ethnic groups. In J. Arnett & N. Galambos (Eds.), *New directions for child and adolescent development: Cultural conceptions of the transition to adulthood* (No.100, pp. 63-75) San Francisco: Jossey-Bass.
- Arnett, J.J. (2004). *Emerging adulthood: The winding road from the teens through the twenties*. New York, NY: Oxford University Press.
- Arnett, J.J. (2007). Suffering , selfish, slackers? Myths and reality about emerging adults. *Journal of Youth and Adolescence*, *36*, 23-29.
- Arnett, J.J. (2011). Emerging adulthood(s): The cultural psychology of a new life stage. In L. Jensen (Ed.), *Bridging cultural and developmental approaches to psychology* (pp.255-275). Oxford: Oxford University Press.
- Arnett, J.J., & Galambos, N.L. (2003). Culture and conceptions of adulthood. In J. Arnett & N. Galambos (Eds.), *New directions for child and adolescent development: Cultural conceptions of the transition to adulthood* (No.100, pp. 91-98) San Francisco: Jossey-Bass.

- Arnett, J.J., & Tanner, J.L. (Eds.). (2006). *Emerging adults in America: Coming of age in the 21st century*. Washington, DC: American Psychological Association.
- Arnstein, R. (1980). The student, the family, the university, and the transition to adulthood. *Adolescent Psychiatry, 8*, 160-172.
- Arthur, N. (1998). The effects of stress, depression, and anxiety on postsecondary students' coping strategies. *Journal of College Student Development, 39*, 11-22.
- Aseltine, R.H. & Gore, S. (1993). Mental health and social adaptation following the transition from high school. *Journal of Research on Adolescence, 3*, 247-270.
- Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Baumrind, D. (1966). Effects of authoritative parental control on child behavior. *Child Development, 37*, pp. 887-907.
- Berndt, T.J., Cheung, P.C., Lau, S., Hau, K-T., & Lew, W.J.F. (1993). Perceptions of parenting in Mainland China, Taiwan, and Hong Kong: Sex differences and societal differences. *Developmental Psychology, 29*, 156-164.
- Berry, J.W. (2006). Acculturative stress. In P.T.P. Wong & L.C.J. Wong (Eds.), *Handbook of multicultural perspectives on stress and coping* (p. 287-298). Dallas, Texas: Springer.
- Betts, J., Gullone, E., & Allen, J.S. (2009). An examination of emotion regulation, temperament, and parenting style as potential predictors of adolescent depression risk status: A correlational study. *British Journal of Developmental Psychology, 27*, 473-485.
- Beyers, W., & Goossens, L. (1999). Emotional autonomy, psychosocial adjustment and parenting: Interactions, moderating and mediating effects. *Journal of Adolescence, 22*, 753-769.
- Blos, P. (1979). Modifications in the classical psychoanalytical model of adolescence. *Adolescent Psychiatry, 7*, 6-25.
- Bornstein, M.H., & Côté, L.R. (2003). Cultural and parenting cognitions in acculturating cultures 2. Patterns of prediction and structural coherence. *Journal of Cross-Cultural Psychology, 34*, 350-373.
- Bowlby, J. (1969). Disruption of affectional bonds and its effects on behavior. *Canada's Mental Health Supplement, 59*, p. 12.

- Bowlby, J. (1982). Attachment and loss: Retrospect and prospect. *American Journal of Orthopsychiatry*, 52, 664-678.
- Buhl, H.M. (2007). Well-being and the child-parent relationship at the transition from university to work life. *Journal of Adolescent Research*, 22, 550-571.
- Buhrmester, D., & Furman, W. (1987). The development of companionship and intimacy. *Child Development*, 58, 1101-1113.
- Burt, K.B. & Masten, A.S. (2010). Development in the transition to adulthood: Vulnerabilities and opportunities. In J.E. Grant & M.N. Potenza (Eds.), *Young Adult Mental Health* (pp. 5-18). New York: Oxford University Press.
- Canadian Bureau for International Education. (n.d.). *Facts and figures*. Retrieved from <http://www.cbie-bcei.ca/international-education-services/facts-and-figures>.
- Chao, R.K. (1994). Beyond parental control and authoritarian parenting style: Understanding Chinese parenting through the cultural notion of training. *Child Development*, 65, 1111-1120.
- Chao, R.K. (2001). Extending research on the consequences of parenting style for Chinese Americans and European Americans. *Child Development*, 72, 1832-1843.
- Chao, R., & Tseng, V. (2002). Parenting of Asians. In M.H. Bornstein (Ed.), *Handbook of parenting: Vol 4. Social conditions and applied parenting*. (2nd ed., pp. 59-93). Mahwah, NJ: Lawrence Erlbaum Associates.
- Chen, F., F. (2008). What happens if we compare chopsticks with forks? The impact of making inappropriate comparisons in cross-cultural research. *Journal of Personality and Social Psychology*, 95, 1005-1018.
- Chen, X., Liu, M., & Li, D. (2000). Parental warmth, control, and indulgence and their relations to adjustment in Chinese children: A longitudinal study. *Journal of Family Psychology*, 14, 401-419.
- Chiu, L-H. (1987). Child-rearing attitudes of Chinese, Chinese-American, and Anglo-American mothers. *International Journal of Psychology*, 22, 409-419.
- Chiu, L.H., Feldman, S.S., & Rosenthal, D.A. (1992). The influence of immigration on parental behavior and adolescent distress in Chinese families residing in two western nations. *Journal of Research on Adolescence*, 2, 205-239.
- Chung, W.Y., Chen, C., Greenberger, E., & Heckhausen, J. (2009). A cross-ethnic study of adolescents' depressed mood and the erosion of parental and peer warmth during the transition to young adulthood. *Journal of Research on Adolescence*, 19, 359-379.

- Cicchetti, D., & Rogosch, F.A. (2002). A developmental psychopathology perspective on adolescence. *Journal of Consulting and Clinical Psychology, 70*, 6-20.
- Cohen, P., Kasen, S., Chen, H., Hartmark, C., & Gordon, K. (2003). Variations in patterns of development in the emerging adulthood period. *Developmental Psychology, 39*, 657-669.
- Collins, W.A. (1990). Parent-child relationships in the transition to adolescence: Continuity and change in interaction, affect, and cognition. In R. Montemayor, G.R. Adams, & T.P. Gullotta (Eds.), *From childhood to adolescence: A transitional period? Advances in adolescent development* (Vol 2, pp. 85-106). Newbury Park: Sage.
- Costigan, C., & Su, T.F. (2004). Orthogonal versus linear models of acculturation among immigrant Chinese Canadians: A comparison of mothers, fathers, and children. *International Journal of Behavioral Development, 28*, 518-527.
- Costigan, C. & Su, T.F. (2008). Cultural predictors of parenting cognitions of immigrant Chinese mothers and fathers in Canada. *International Journal of Behavioral Development, 32*, 432-442.
- De Beurs, E., Den Hollander-Gijsman, M.E., Helmich, S., & Zitman, F.G. (2007). The tripartite model for assessing symptoms of anxiety and depression: Psychometrics of the Dutch version of the mood and anxiety symptoms questionnaire. *Behaviour Research and Therapy, 45*, 1609-1617.
- Diamond, L.M., & Aspinwall, L.G. (2003). Emotion regulation across the life span: An integrative perspective emphasizing self-regulation, positive affect, and dyadic processes. *Motivation and Emotion, 27*, 125-156.
- Diener, E., Emmons, R.A., Larsen, R.J., Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment, 49*, 71-75.
- DiTommaso, E., Brannen, C., & Burgess, M. (2005). The universality of relationship characteristics: A cross-cultural comparison of different types of attachment and loneliness in Canadian and visiting Chinese students. *Social behavior and Personality, 33*, 57-68.
- Dubas, J.S., & Petersen, A.C. (1996). Geographical distance from parents and adjustment during adolescence and young adulthood. *New Directions in Child Development, 71*, 3-19.
- Fischer, J.L., Forthun, L.F., Pidcock, B.W., & Dowd, D.A. (2007). Parent relationships, emotion regulation, psychosocial maturity and college student alcohol use problems. *Journal of Youth and Adolescence, 36*, 912-926.
- Forehand, R., Long, N., Brody, G.H., & Fauber, R. (1986). Home predictors of young adolescents' school behaviour and academic performance. *Child Development, 57*, 1528-1533.

- Galambos, N.L., Barker, E.T., & Krahn, H.J. (2006). Depression, self-esteem, and anger in emerging adulthood: Seven-year trajectories. *Developmental Psychology, 42*, 350-365.
- Garnefski, N., & Kraaij, V. (2006). Relationships between cognitive emotion regulation strategies and depressive symptoms: A comparative study of five specific samples. *Personality and Individual Differences, 40*, 1659-1669.
- Garnefski, N. & Kraaij, V. (2007). The Cognitive Emotion regulation Questionnaire. Psychometric features and prospective relationships with depression and anxiety in adults. *European Journal of Psychological Assessment, 23*, 141-149.
- Garnefski, N., & Kraaij, V., & Spinhoven, P. (2001). Negative life events, cognitive emotion regulation and depression. *Personality and Individual Differences, 30*, 1311-1327.
- Geisser, M.E., Roth, R.S., & Robinson, M.E. (1997). Assessing depression among persons with chronic pain using the Center for Epidemiological Studies–Depression Scale and the Beck Depression Inventory: A comparative analysis. *The Clinical Journal of Pain, 13*, 163-170.
- Goodwin, R., Cook, O., & Yung, Y. (2001). Loneliness and life satisfaction among three cultural groups. *Personal Relationships, 8*, 225-230.
- Gorman, J.C. (1998). Parenting attitudes and practices of immigrant Chinese mothers of adolescents. *Family Relations, 47*, 73-80.
- Gottman, J.M., Katz, L.F., & Hooven, C. (1996). Parental meta-emotion philosophy and the emotional life of families: Theoretical models and preliminary data. *Journal of Family Psychology, 10*, 243-268.
- Greenberger, E., & Chen, C. (1996). Perceived family relationships and depressed mood in early and late adolescence: A comparison of European and Asian Americans. *Developmental Psychology, 32*, 707-716.
- Greenberger, E., Chen, C., Tally, S.R., & Dong, Q. (2000). Family, peer, and individual correlates of depressive symptomatology among U.S. and Chinese adolescents. *Journal of Consulting and Clinical Psychology, 68*, 209-219.
- Ho, D.Y.F. (1987). Fatherhood in Chinese culture. In M.E. Lamb (Ed.), *The father's role: Cross-cultural perspectives* (pp. 227-245). New Jersey: Lawrence Erlbaum Associates.
- Ho, E.S.-C., & Willms, J.D. (1996). Effects of parental involvement on eighth-grade achievement. *The Sociological Quarterly, 69*, 126-141.

- Holahan, C. J., Valentiner, D.P., & Moos, R.H. (1994). Parental support and psychological adjustment during the transition to young adulthood in a college sample. *Journal of Family Psychology*, 8, 215-223.
- Hosley, C.A., & Montemayor, R. (1997). Fathers and adolescents. In M.E. Lamb (Ed.), *The role of the father in child development* (3rd ed., pp. 162-178). New York: John Wiley & Sons, Inc.
- Izard, C.E., Youngstrom, E.A., Fine, S.E., Mostow, A.J., & Trentacosta, C.J. (2006). Emotions and developmental psychopathology. In D. Cicchetti & D.J. Cohen (Eds.). *Developmental psychopathology: Vol 1: Theory and method* (pp. 245-292). Hoboken, NJ: John Wiley & Sons, Inc.
- John, O.P., & Gross, J.J. (2004). Healthy and unhealthy emotion regulation: Personality processes, individual differences, and life span development. *Journal of Personality*, 72, 1301-1334.
- John, O.P., & Gross, J.J. (2007). Individual differences in emotion regulation. In J.J. Gross (Ed.). *Handbook of emotion regulation* (pp. 351-372). New York: Guilford Press.
- Johnston, L.D., O'Malley, P.M., Bachman, J.G., & Schulenberg, J.E. (2004). Monitoring the future national survey results on drug use, 1975-2003: Volume II, College students and adults ages 19-45 (NIH Publication No. 04-5508). Bethesda, MD: National Institute on Drug Abuse.
- Kagitcibasi, C. (2005). Autonomy and relatedness in cultural context: Implications for self and family. *Journal of Cross-Cultural Psychology*, 36, 403-422.
- Kemper, D. & Watkins, D. (2010). Approaches to learning and teaching by the Chinese. In M.H. Bond (Ed.), *The Oxford handbook of Chinese Psychology* (pp. 169-185). New York: The Oxford University Press.
- Kenny, M.E., Lomax, R., Brabeck, M., & Fife, J. (1998). Longitudinal pathways linking adolescent reports of maternal and paternal attachments to psychological well-being. *The Journal of Early Adolescence*, 18, 221-243.
- Kenny, M.E., & Sirin, S.R. (2006). Parental attachment, self-worth, and depressive symptoms among emerging adults. *Journal of Counseling & Development*, 84, 61-71.
- Kins, E., Beyers, W., Soenens, B., & Vansteenkiste, M. (2009). Patterns of home leaving and subjective well-being in emerging adulthood: The role of motivational processes and parental autonomy support. *Developmental Psychology*, 45, 1416-1429.
- Kliewer, W., Fearnow, M.D., & Miller, P.A. (1996). Coping socialization in middle childhood: Tests of maternal and paternal influences. *Child Development*, 67, 2339-2357.

- Koole, S.L. (2009). The psychology of emotion regulation: An integrative review. *Cognition and Emotion, 23*, 4-41.
- Koryzma, C.M. (2006). The Relations among acculturation, parenting and depressive symptoms for immigrant Chinese mothers and fathers. (Unpublished master's thesis). University of Victoria, Victoria, British Columbia, Canada.
- Kuo, B.C.H. (2011). Culture's consequences on coping: Theories, evidence, and dimensionalities. *Journal of Cross-Cultural Psychology, 42*, 1082-1102.
- Kuo, B.C.H. (2012). Collectivism and coping: Current theories, evidence, and measurements of collective coping. *International Journal of Psychology*. Advance online publication. Doi: 10.1080/00207594.2011.640681.
- Lam, A.G., & Zane, N.W. (2004). Ethnic differences in coping with interpersonal stressors: A test of self-construals as cultural mediators. *Journal of Cross-Cultural Psychology, 35*, 446-459.
- Lamb, M.E. (1997). Fathers and child development: An introductory overview and guide. In M.E. Lamb (Ed.), *The role of the father in child development* (3rd ed., pp.1-23). New York: John Wiley & Sons, Inc.
- Lamborn, S.D., & Steinberg, L. (1993). Emotional autonomy redux: Revisiting Ryan and Lynch. *Child Development, 64*, 483-499.
- Larson, R., & Richards, M.H. (1994). *Divergent realities: The emotional lives of mothers, fathers and adolescents*. New York: HarperCollins.
- Laursen, B., & Collins, A.W. (2009). Parent-child relationships during adolescence. In R. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology, Vol 2: Contextual influences on adolescent development* (3rd ed., pp. 3-42) Hoboken, NJ: John Wiley & Sons Inc.
- Lazarus, R.S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.
- Lekes, N., Gingras, I., Philippe, F.L., Koestner, R., & Fang, J. (2010). Parental autonomy-support, intrinsic life goals, and well-being among adolescents in China and North America. *Journal of Youth and Adolescence, 39*, 858-869.
- Lent, R.W., do Céu Taveira, M., Sheu, H-B., & Singley, D. (2009). Social cognitive predictors of academic adjustment and life satisfaction in Portuguese college students: A longitudinal analysis. *Journal of Vocational Behavior, 74*, 190-198.
- Lent, R.W., Singley, D., Sheu, H-B., Gainor, K.A., Brenner, B.R., Treistman, D., & Ades, L. (2005). Social Cognitive Predictors of Domain and Life Satisfaction: Exploring the Theoretical Precursors of Subjective Well-Being. *Journal of Counseling Psychology, 52*, 429-442.

- Lent, R W., Singley, D., Sheu, H-B., Schmidt, J.A., & Schmidt, L.C. Relation of social-cognitive factors to academic satisfaction in engineering students. *Journal of Career Assessment*, 15, 87-97.
- Leondari, A., & Kiosseoglou, G. (2000). The relationship of parental attachment and psychological separation to the psychological functioning of young adults. *The Journal of Social Psychology*, 140, 451-464.
- Lerner, R.M. (2002). *Concepts and theories of human development* (3rd ed.). Mahwah, New Jersey: Lawrence Erlbaum.
- Leung, J-P., & Leung, K. (1992). Life satisfaction, self-concept, and relationship with parents in adolescence. *Journal of Youth and Adolescence*, 21, 653-665.
- Leung, K., Lau, S., & Lam, W. (1998). Parenting styles and academic achievement: A cross-cultural study. *Merrill-Palmer Quarterly*, 44, 157-172.
- Li, Y., Costanzo, P.R., & Putallaz, M. (2010). Maternal socialization goals, parenting styles, and social-emotional adjustment among Chinese and European American young adults: Testing a mediation model. *The Journal of Genetic Psychology*, 17, 330-362.
- Lim, S-L., & Lim, B.K. (2004). Parenting style and child outcomes in Chinese and immigrant Chinese families- Current findings and cross-cultural considerations in conceptualization and research. *Marriage and Family Review*, 35, 21-43.
- Lin, N. (1989). Measuring depressive symptomatology in China. *The Journal of Nervous and Mental Disease*, 177, 121-131.
- Lin, C-Y., & Fu, V.R. (1990). A comparison of child-rearing practices among Chinese, immigrant Chinese, and Caucasian-American parents. *Child Development*, 61, 429-433.
- Lin, J-D, Lin, P-Y., & Wu, C-L. (2010). Wellbeing perception of institutional caregivers working for people with disabilities: Use of Subjective Happiness Scale and Satisfaction with Life Scale analyses. *Research in Developmental Disabilities*, 31, 1083-1090.
- Lin, H-C., Tang, T-C., Yen, J-Y., Ko, C-H., Huang, C-F., Liu, S-C., & Yen, C-F. (2008). Depression and its association with self-esteem, family, peer and school factors in a population of 9586 adolescents in southern Taiwan. *Psychiatry and Clinical Neurosciences*, 62, 412-420.
- Lyubomirsky, S., & Lepper, H.S. (1997). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46, 137-155.

- MacFarlane, A.H., Bellissimo, A., & Norman, G.R. (1995). Family structure, family functioning and adolescent well-being: The transcendent influence of parenting style. *Journal of Child Psychology and Psychiatry*, 36, 847-864.
- Manzeske, D.P., Stright, A.D. (2009). Parenting styles and emotion regulation: The role of behavioral and psychological control during young adulthood. *Journal of Adult Development*, 16, 223-229.
- Markus, H.R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253.
- McEwen, C., & Flouri, E. (2009). Fathers' parenting, adverse life events, and adolescents' emotional and eating disorder symptoms: the role of emotion regulation. *European Journal of Child and Adolescent Psychiatry*, 18, 206-216.
- McElhaney, K.B., Allen, J. P., Stephenson, J.C., & Hare, A.L. (2009). Attachment and autonomy during adolescence. In R.M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology, Vol 1: Individual bases of adolescent development* (3rd ed., pp. 358-403). Hoboken, NJ: John Wiley & Sons Inc.
- McKinlay, N.J., Pattison, H.M., & Gross, H. (1996). An exploratory investigation of the effects of a cultural orientation programme on the psychological well-being of international university students. *Higher Education*, 31, 379-395.
- Merikangas, K.R., Zhang, H., Avenevoli, S., Acharyya, S., Neuenschwander, M., & Angst, J. (2003). Longitudinal trajectories of depression and anxiety in a prospective community study. *Archives of General Psychiatry*, 60, 993-1000.
- Mesquita, B., & Albert, D. (2007). The cultural regulation of emotions. In JJ. Gross (Ed.), *Handbook of emotion regulation* (pp. 486-503). New York: The Guildford Press.
- Mikulincer, M., & Shaver, P.R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York, NY: Guilford Press.
- Montgomery, M. (2005). Psychosocial intimacy and identity: from early adolescence to emerging adulthood. *Journal of Adolescent Research*, 20, 346-374.
- Moore, J.L., & Constantine, M.G. (2005). Development and initial validation of the Collectivistic Coping Styles Measure with African, Asian, and Latin American international students. *Journal of Mental Health Counseling*, 27, 329-347.
- Morris, A.S., Silk, J.S., Steinberg, L., Myers, S.S., & Robinson, L.R. (2007). The role of the family context in the development of emotion regulation. *Social Development*, 16, 361-388.

- Mounts, N.S. (2004). Contributions of parenting and campus climate to freshmen adjustment in a multiethnic sample. *Journal of Adolescent Research, 19*, 468-491.
- Nelson, L.J., Padilla-Walker, L.M., Christensen, K.J., Evans, C.A., & Carroll, J.S. (2011). Parenting in emerging adulthood: An examination of parenting clusters and correlates. *Journal of Youth and Adolescence, 40*, 730-743.
- Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The path taken: Consequences of attaining intrinsic and extrinsic aspirations in post-college life. *Journal of Research in Personality, 43*, 291-306.
- Ojeda, L., Flores, L.Y., & Navarro, R.L. (2010). Social cognitive predictors of Mexican American college students' academic and life satisfaction. *Journal of Counseling Psychology, 10*, 1-22.
- Park, I.J.K., Sulaiman, C., Schwartz, S.J., Kim, S.Y., & Ham, L.S. (2011). Self-construals and social anxiety among Asian American college students: Testing emotion suppression as a mediator. *Asian American Journal of Psychology, 2*, 39-50.
- Pedersen, P.B. (1991). Counseling international students. *The Counseling Psychologist, 19*, 10-58.
- Peterson, G.W., Cobas, J.A., Bush, K.R., Supple, A., & Wilson, S.M. (2004). Parent-youth relationships and the self-esteem of Chinese adolescents: Collectivism versus individualism. *Marriage and Family Review, 36*, 173-200.
- Pettit, J.W., Roberts, R.E., Lewinsohn, P.M., Seeley, J.R., & Yaroslavsky, I. (2011). Developmental relations between perceived social support and depressive symptoms through emerging adulthood: Blood is thicker than water. *Journal of Family Psychology, 25*, 127-136.
- Popadiuk, N., & Arthur, N. (2004). Counseling international students in Canadian schools. *International Journal for the Advancement of Counselling, 26*, 125-145.
- Pritchard, M.E., Wilson, G.S., & Yamnitz, B. (2007). What predicts adjustment among college students? A longitudinal panel study. *Journal of American College Health, 56*, 15-21.
- Radloff, L. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401.
- Robbins, R. J. (1994). An assessment of perceptions of parental autonomy support and control: Child and parent correlates. Unpublished Doctoral Dissertation, Department of Psychology, University of Rochester, 1994.
- Roberts, E.L., & Bengston, V.L. (1996). Affective ties to parents in early adulthood and self-esteem across 20 years. *Social Psychology Quarterly, 59*, 96-106.

- Rohner, R.P., & Pettengill, S.M. (1985). Perceived parental acceptance-rejection and parental control among Korean adolescents. *Child Development, 56*, 524-528.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Russell, S.T., Crockett, L.J., Shen, Y.-L., & Lee, S.-A. (2007). Cross-ethnic invariance of self-esteem and depression measures for Chinese, Filipino, and European American adolescents. *Journal of Youth and Adolescence, 37*, 15-35.
- Russell, D., Peplau, L.A., & Cutrona, C.E. The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology, 39*, 472-480.
- Rutter, M., & Sroufe, L.A. (2000). Developmental psychopathology: Concepts and challenges. *Development and Psychopathology, 12*, 265-296.
- Ryan, R.M., Deci, E.L., Grolnick, W. S., & La Guardia, J.G. (2006). The significance of autonomy and autonomy support in psychological development and psychopathology. In D. Cicchetti & D.J. Cohen (Eds.), *Developmental psychopathology, Vol 1: Theory and method* (2nd ed., pp. 795-849). Hoboken, NJ: John Wiley & Sons Inc.
- Ryan, R.M., & Lynch, J.H. (1989). Emotional autonomy versus detachment: Revisiting the vicissitudes of adolescence and young adulthood. *Child Development, 60*, 340-356.
- Sam, D. L. (2001). Satisfaction with life among international students: An exploratory study. *Social Indicators Research, 53*, 315-337.
- Schulenberg, J.E. & Zarrett, N.R. (2006). Mental health during emerging adulthood: Continuity and discontinuity in courses, causes, and functions. In J. Arnett & J. Tanner (Eds.), *Emerging adults in America: Coming of age in the 21st century* (pp. 135-172). Washington, DC: American Psychological Association.
- Segal, M. (1985). A study of maternal beliefs and values within the context of an intervention program. In I.E. Sigel (Ed.), *Parental belief systems: The psychological consequences for children* (pp. 271-286). New Jersey: Lawrence Erlbaum & Associates.
- Shek, D.T.L. (2000). Differences between fathers and mothers in the treatment of, and relationship with, their teenage children: Perceptions of Chinese adolescents. *Adolescence, 35*, 135-146.
- Shek, D.T.L. (2007). A longitudinal study of perceived parental psychological control and psychological well-being in Chinese adolescents in Hong Kong. *Journal of Clinical Psychology, 63*, 1-22.

- Shulman, S., & Ben-Artzi, E. (2003). Age-related differences in the transition from adolescence to adulthood and links with family relationships. *Journal of Adult Development, 10*, 217-226.
- Silk, J.S., Morris, A.S., Kanaya, T., & Steinberg, L. (2003). Psychological Control and Autonomy Granting: Opposite Ends of a Continuum or Distinct Constructs? *Journal of Research on Adolescence, 13*, 113-128.
- Silk, J.S., Steinberg, L., & Morris, A.S. (2003). Adolescents' emotion regulation in daily life: Links to depressive symptoms and problem behavior. *Child Development, 74*, 1869-1880.
- Singley, D.B., Lent, R.W., & Sheu, H-B. (2010). Longitudinal test of a social cognitive model of academic and life satisfaction. *Journal of Career Assessment, 18*, 133-146.
- Sobel, M.E. (1982). Asymptotic intervals for indirect effects in structural equations models. In S. Leinhard (Ed.), *Sociological methodology* (pp. 290-312). San Francisco: Jossey-Bass.
- Soenens, B., Vansteenkiste, M., Lens, W., Luyckx, K., Goossens, L., Beyers, W., & Ryan, R. M. (2007). Conceptualizing parental autonomy support: Adolescent perceptions of promotion of independence versus promotion of volitional functioning. *Developmental Psychology, 43*, 633-646.
- Soenens, B., Vansteenkiste, M., & Sierens, E. (2009). How are parental psychological control and autonomy-support related? A cluster-analytic approach. *Journal of Marriage and Family, 71*, 187-202.
- Solomon, R. (1971). *Mao's revolution and the Chinese political culture*. Berkeley: University of California Press.
- Soto, J.A., Perez, C.R., Kim, Y.-H., Lee, E.A., & Minnick, M.R. (2011). Is expressive suppression always associated with poorer psychological functioning? A cross-cultural comparison between European Americans and Hong Kong Chinese. *Emotion, 6*, 1450-1455.
- Sroufe, L.A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development, 7*, 349-367.
- Statistics Canada. (2006). *Report on the demographic situation in Canada – 2003 and 2004*. (Cat. No. 91-209-XIE). Retrieved from Statistics Canada website: <http://www.statcan.gc.ca>.
- Steinberg, L., & Silk, J.S. (2002). Parenting adolescents. In M.H. Bornstein (Ed.), *Handbook of parenting: Children and parenting* (2nd ed., pp. 103-133). Mahwah, NJ: Erlbaum.
- Steinberg, L., & Silverberg, S.B. (1986). The vicissitudes of autonomy in early adolescence. *Child Development, 57*, 841-851.

- Stewart, S.M., Bond, M.H., Kennard, B.D., Ho, L.M., & Zaman, R.M. (2002). Does the Chinese construct of guan export to the West? *International Journal of Psychology, 37*, 74-82.
- Stewart, S.M., Lee, P.W.H., & Tao, R. (2010). Psychiatric disorders in the Chinese. In M.H. Bond (Ed.), *The Oxford handbook of Chinese psychology* (pp. 367-382). Oxford: Oxford University Press.
- Stewart, S.M., Rao, N., Bond, M.H., McBride-Chang, C., Fielding, R. & Kennard, B.D. (1998). Chinese dimensions of parenting: Broadening Western predictors and outcomes. *International Journal of Psychology, 33*, 345-358.
- Swami, V. (2008). Translation and validation of the Malay Subjective Happiness Scale. *Social Indicators Research, 88*, 347-353.
- Thompson, R.A. (1994). Emotion regulation: In search of definition. *Monographs of the Society for Research in Child Development, 59*, 25-52.
- Thorton, A., Orbuch, T.L., Axinn, W.G. (1995). Parent-child relationships during the transition to adulthood. *Journal of Family Issues, 16*, 538-564.
- Triandis, H.C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.
- Tucker, K.L., Ozer, D.J., Lyubomirsky, S., & Boehm, J.K. (2006). Testing for measurement invariance in the satisfaction with life scale: A comparison of Russians and North Americans. *Social Indicators Research, 78*, 341-360.
- Turner, A.P., Sarason, I.G., & Sarason, B.R. (2001). Exploring the link between parental acceptance and young adult adjustment. *Cognitive Therapy and Research, 25*, 185-199.
- Van Ijzendoorn, M.H., & Sagi, A. (1999). Cross-cultural patterns of attachment: Universal and contextual dimensions. In J. Cassidy & P.R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 713-734). New York, NY: Guilford Press.
- Van Wel, F., ter Bogt, T., & Raaijmakers, Q. (2002). Changes in the parental bond and the well-being of adolescents and young adults. *Adolescence, 37*, 317-333.
- Vansteenkiste, M., Zhou, M., Lens, W., & Soenens, B. (2005). Experiences of autonomy and control among Chinese learners: Vitalizing or immobilizing? *Journal of Educational Psychology, 97*, 468-483.
- Wang, Q., & Chang, L. (2010). Parenting and child socialization in contemporary China. In M.H. Bond (Ed.), *The Oxford handbook of Chinese psychology* (pp. 53-67). New York: The Oxford University Press.

- Wang, Q., Pomerantz, E.M., & Chen, H. (2007). The role of parents' control in early adolescents' psychological functioning: A longitudinal investigation in the United States and China. *Child Development, 78*, 1592-1610.
- Wang, M., & Saudino, K.J. (2011). Emotion regulation and stress. *Journal of Adult Development, 18*, 95-103.
- Wang, C.-C., & Song, Y.S. (2010). Adult attachment reconceptualized: A Chinese perspective. In P. Erdman & K.-M. Ng (Eds.), *Attachment: Expanding the cultural connections* (pp. 15-33). New York, NY: Routledge/Taylor & Francis Group.
- Wei, M., Liao, K.Y.-H., Heppner, P.P., Chao, R., & Ku, T.-Y. (2012). Forbearance coping, identification with heritage culture, acculturative stress, and psychological distress among Chinese international students. *Journal of Counseling Psychology, 59*, 97-106.
- Watson, D., & Clark, L. A. (1991). *The mood and anxiety symptom questionnaire*. (Unpublished manuscript). University of Iowa, Department of Psychology, Iowa City.
- Watson, D.C., & Sinha, B. (2008). Emotion regulation, coping, and psychological symptoms. *International Journal of Stress Management, 15*, 222-234.
- Wei, Y-M., & Liu, Y-X. (2008). Reliability and validity of the Cognitive Emotion Regulation Questionnaire (CERQ) in Chinese college students. *Chinese Mental Health Journal, 22*, 281-284.
- Wight, R.G., Sepúlveda, J.E., & Aneshensel, C.S. (2004). Depressive symptoms: How do adolescences compare with adults? *Journal of Adolescent Health, 34*, 314-323.
- Wintre, M.G., & Sugar, L.A. (2000). Relationships with parents, personality, and the university transition. *Journal of College Studies, 41*, 202-214.
- Yan, K. & Berliner, D.C. (2011). Chinese international students in the United States: Demographic trends, motivations, acculturation features and adjustment challenges. *Asia Pacific Education Review, 12*, 173-184.
- Yang, X-L., & Yao, S-Q. (2009). Reliability and validity of the Chinese version of the Mood and Anxiety Symptoms Questionnaire for university students. *Chinese Journal of Clinical Psychology, 17*, 142-144.
- Yap, M.B.H., Schwartz, O.S., Byrne, M.L., Simmons, J.G., & Allen, N.B. (2010). Maternal positive and negative interaction behaviors and early adolescents' depressive symptoms: Adolescent emotion regulation as a mediator. *Journal of Research on Adolescent, 20*, 1014-1043.

- Yeh, C.J., Arora, A.K., & Wu, K.A. (2006). A new theoretical model of collectivistic coping. In P.T.P. Wong, & L.C.J. Wong (Eds.), *Handbook of multicultural perspectives on stress and coping* (pp. 55-72). New York: Springer.
- Yen, S., Robins, C.J., & Lin, N. (2000). A cross-cultural comparison of depressive symptom manifestation: China and the United States. *Journal of Consulting and Clinical Psychology, 68*, 993-999.
- Zhu, X., Auerbach, R.P., Yao, S., Abela, J.R.Z., Xiao, J., & Tong, X. (2008). Psychometric properties of the Cognitive Emotion Regulation Questionnaire: Chinese version. *Cognition and Emotion, 22*, 288-307.

Appendix A: Consent Form for Students Participating through Psychology Research Participation System

Relationships with Parents, Managing Emotions, and Well-Being Among Chinese and Canadian Emerging Adults

You are invited to participate in a study entitled “Relationships with Parents, Managing Emotions, and Well-Being among Chinese and Canadian Emerging Adults” that I (Céline Koryzma, M.Sc.) am conducting under the supervision of Bonnie Leadbeater, Ph.D. (Professor in the Department of Psychology) and Catherine Costigan, Ph.D. (Associate Professor in the Department of Psychology). I am a Ph.D. student in the Department of Psychology at the University of Victoria and you may contact me by phone (250-853-3788) or by e-mail (ckoryzma@uvic.ca) if you have any questions. You may also contact my supervisors. Dr. Leadbeater can be reached by phone (250-721-7523) or by email (bleadbea@uvic.ca). Dr. Costigan can also be reached by phone (250-721-7529) or by e-mail (costigan@uvic.ca).

The purpose of this research project is to understand Chinese and Canadian emerging adults’ (individuals between the ages of 18-25) parents’ support and how this might relate to their ability to manage negative emotions, such as depression and loneliness, and to their well-being and academic satisfaction. This research is important because it will help professionals, such as counsellors working with university students. This research will also help increase our understanding of the similarities and differences between Chinese and Canadian culture and how this affects well-being in university students.

You are being asked to participate in this study because you are either a Canadian or an international Chinese student between the ages of 18-25 enrolled in undergraduate studies at the University of Victoria.

If you agree to voluntarily participate in this research, your participation will include completing a series of multiple-choice questionnaires. The study will take approximately 45 minutes and will be conducted either in a classroom or research office at the University of Victoria.

Participation in this study may cause some inconvenience to you, including a commitment of time, as the questionnaires will take approximately 45 minutes to complete.

There are *minimal risks* to you from participating in this research. Thinking about your parents, how you manage your emotions, and your well-being can be emotional topics at times, and you may feel some mild emotional discomfort while answering some of the questions. During the course of the research study, you are free to stop participating at any time. You may also choose not to answer a particular question if you do not feel comfortable doing so. Copies of UVic Counselling Services pamphlets *and* a list of community mental health services, including free or low-cost services, will be available to you if you are looking for professional assistance.

The *potential benefits* of your participation in this research include giving researchers and counsellors more information about how parents of both international and Canadian students can support youth as they transition to university. Also, participants in similar studies have sometimes found it interesting and constructive to reflect upon their relationships with their parents and personal well-being while completing these questionnaires.

As a way to thank you for your participation, you will be given 1.5 bonus course credit points for your Psychology course. If you agree to participate in this study, this form of compensation must not be coercive to you. It is unethical to provide undue compensation or inducements to research participants. If you would not participate if the compensation was not offered, then you should decline.

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study your data will not be used in the study and you will still receive your full bonus points for your Psychology course.

Since I will be administering questionnaires face-to-face in a group format (or individual format for those who prefer), people will know you are a participant. However, anonymity will be maintained in all aspects of the study. Your name will not appear on any of the questionnaires. Instead of your name a random number will be assigned to the questionnaires to protect your anonymity. No one can link your name to your identification number, including myself.

All data will be protected by locking all questionnaires in a secure filing cabinet in a locked research office. Only research team members will have access to the locked filing cabinet. Signed consent forms will also be kept separately in a secured filing cabinet in a locked office.

The results of this study will be used for the researchers' dissertation project and may be discussed in classes, presented at professional conferences, and published in scholarly journals, but **never** with any identifying information. Moreover, if you are interested in the results of the study, a summary of the research findings will be provided to you.

The paper questionnaire data from this study will be disposed of seven years after any publication of research findings in professional journals, as this is how long the American Psychological Association requires researchers to keep such data in order to answer questions about their publications. Subsequently, all questionnaires will be shredded.

In addition to being able to contact the researcher and her supervisor at the aforementioned phone numbers, you may verify the ethical approval of this study or raise any concerns you might have by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca).

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers.

| | | |
|----------------------------|------------------|-------------|
| <i>Name of Participant</i> | <i>Signature</i> | <i>Date</i> |
|----------------------------|------------------|-------------|

A copy of this consent form will be left with you, and a copy will be taken by the researcher.

Appendix B: Consent Form for Students *Not* Participating through Psychology Research Participation System

Relationships with Parents, Managing Emotions, and Well-Being Among Chinese and Canadian Emerging Adults

You are invited to participate in a study entitled “Relationships with Parents, Managing Emotions, and Well-Being among Chinese and Canadian Emerging Adults” that I (Céline Koryzma, M.Sc.) am conducting under the supervision of Bonnie Leadbeater, Ph.D. (Professor in the Department of Psychology) and Catherine Costigan, Ph.D. (Associate Professor in the Department of Psychology). I am a Ph.D. student in the Department of Psychology at the University of Victoria and you may contact me by phone (250-853-3788) or by e-mail (ckoryzma@uvic.ca) if you have any questions. You may also contact my supervisors. Dr. Leadbeater can be reached by phone (250-721-7523) or by email (bleadbea@uvic.ca). Dr. Costigan can also be reached by phone (250-721-7529) or by e-mail (costigan@uvic.ca).

The purpose of this research project is to understand Chinese and Canadian emerging adults’ (individuals between the ages of 18-25) parents’ support and how this might relate to their ability to manage negative emotions, such as depression and loneliness, and to their well-being and academic satisfaction. This research is important because it will help professionals, such as counsellors working with university students. This research will also help increase our understanding of the similarities and differences between Chinese and Canadian culture and how this affects well-being in university students.

You are being asked to participate in this study because you are either a Canadian or an international Chinese student between the ages of 18-25 enrolled in undergraduate studies at the University of Victoria.

If you agree to voluntarily participate in this research, your participation will include completing a series of multiple-choice questionnaires. The study will take approximately 45 minutes and will be conducted either in a classroom or research office at the University of Victoria.

Participation in this study may cause some inconvenience to you, including a commitment of time, as the questionnaires will take approximately 45 minutes to complete.

There are *minimal risks* to you from participating in this research. Thinking about your parents, how you manage your emotions, and your well-being can be emotional topics at times, and you may feel some mild emotional discomfort while answering some of the questions. During the course of the research study, you are free to stop participating at any time. You may also choose not to answer a particular question if you do not feel comfortable doing so. Copies of UVic Counselling Services pamphlets *and* a list of community mental health services, including free or low-cost services, will be available to you if you are looking for professional assistance.

The *potential benefits* of your participation in this research include giving researchers and counsellors more information about how parents of both international and Canadian students can support youth as they transition to university. Also, participants in similar studies have sometimes found it interesting and constructive to reflect upon their relationships with their parents and personal well-being while completing these questionnaires.

As a way to thank you for your participation, you will be entered into a draw to receive one of two \$50 Starbucks gift cards. If you agree to participate in this study, this form of compensation must not be coercive to you. It is unethical to provide undue compensation or inducements to research participants. If you would not participate if the compensation was not offered, then you should decline.

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study your data will not be used in the study and you will still be entered into the draw to receive one of two \$50 gift cards.

Since I will be administering questionnaires face-to-face in a group format (or individual format for those who prefer), people will know you are a participant. However, anonymity will be maintained in all aspects of the study. Your name will not appear on any of the questionnaires. Instead of your name a random number will be assigned to the questionnaires to protect your anonymity. No one can link your name to your identification number, including myself.

All data will be protected by locking all questionnaires in a secure filing cabinet in a locked research office. Only research team members will have access to the locked filing cabinet. Signed consent forms will also be kept separately in a secured filing cabinet in a locked office.

The results of this study will be used for the researchers' dissertation project and may be discussed in classes, presented at professional conferences, and published in scholarly journals, but **never** with any identifying information. Moreover, if you are interested in the results of the study, a summary of the research findings will be provided to you.

The paper questionnaire data from this study will be disposed of seven years after any publication of research findings in professional journals, as this is how long the American Psychological Association requires researchers to keep such data in order to answer questions about their publications. Subsequently, all questionnaires will be shredded.

In addition to being able to contact the researcher and her supervisor at the aforementioned phone numbers, you may verify the ethical approval of this study or raise any concerns you might have by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca).

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers.

Name of Participant

Signature

Date

A copy of this consent form will be left with you, and a copy will be taken by the researcher.

Appendix C: Demographic Questionnaire

Please enter your demographic information below, or circle the option that applies.

Please provide some demographic information about yourself:

1. Your gender: Male / Female / Other (Please circle one)
2. Your date of birth (month/date/year): _____
3. Your age: _____
4. Your Country of birth: _____
5. Your City of birth: _____
6. Your first language: _____
7. What is your ethnic background? (e.g., Chinese, Canadian, French Canadian etc.)

8. How long have you lived in Canada? (months or years): _____
- 9a. Place of residence: On campus / Off campus (Please circle one)
- 9b. Please describe your living situation (e.g., apartment off-campus, residence, home-stay, alone or with roommates): _____
10. Student status in university: Canadian student / International student (Please circle one)
11. Year of study in university: 1 / 2 / 3 / 4 / 5 / more than 5 (Please circle one)
12. Declared or intended major study area (if unknown, leave blank): _____
13. Have you ever received treatment for a mental health concern (e.g., gone to see a doctor, counsellor, psychologist or other professional)? Yes / No (Please circle one)
 - 13b. If you circled “Yes”, were you diagnosed with a specific mental health difficulty (e.g., depression)? Yes / No (Please circle one)
 - 13c. If you circled “Yes”, please describe your diagnosis, or write “unknown”

Please provide some information about your parents and your relationship with them:

The following questions ask about your mother and father. By ‘mother’ and ‘father’ we mean whomever you consider to be your mother and father. For example, she or he could be your biological, adoptive, step mother or father. If you do not have a current relationship with either your mother or father, please do not answer the questions regarding that parent.

Please indicate your **male** parent's relationship to you (e.g., biological father, stepfather, adoptive father): _____

Please indicate your **female** parent's relationship to you (e.g., biological mother, stepmother, adoptive mother): _____

14. Do you currently live with your parents? Yes / No (Please circle one)

15. How long ago did you live with your parents for a period of one month or more (indicate number of months or years): _____

16a. How often do you speak with your mother? (Please check one)

_____ More than once a week

_____ About once a week

_____ A few times a month

_____ About once a month

_____ Less than once a month

16b. How often do you speak with your father? (Please check one)

_____ More than once a week

_____ About once a week

_____ A few times a month

_____ About once a month

_____ Less than once a month

17. Where were your parents born? (If unsure, write “unknown”)

17a. Mother’s country of birth: _____ Mother’s city of birth: _____

17b. Years Mother has lived in Canada (if none, write “0”) _____

17c. Father’s country of birth: _____ Father’s city of birth: _____

17d. Years Father has lived in Canada (if none, write “0”) _____

18. Your biological parents' marital status is...

Married or common-law- married how long? _____ years

18b. If your biological parents are *not married*, please answer the following questions for your mother and father:

My mother is...

_____ Divorced and currently single- single how long? _____ years

_____ Divorced and currently remarried- remarried how long? _____ years

_____ Other (Please explain _____)

My father is...

_____ Divorced and currently single- single how long? _____ years

_____ Divorced and currently remarried- remarried how long? _____ years

_____ Other (Please explain _____)

19. Which parent do you generally go to for *emotional support and advice*? (Check one)

_____ My mother

_____ My father

_____ My mother and father equally

20. Current socioeconomic status of family of origin: working class / lower middle class / upper middle class / upper class (Please circle one)

Appendix D: Parental Warmth Questionnaire- Mother Version

Please circle the number that best represents how much you agree with the following statements regarding your mother:

| | 1 Strongly Disagree | 2 Disagree | 3 Slightly Disagree | 4 Slightly Agree | 5 Agree | 6 Strongly Agree |
|--|---------------------------|---------------|---------------------------|------------------------|------------|------------------------|
| My mother really understands me. | 1 | 2 | 3 | 4 | 5 | 6 |
| My mother makes me feel that I am a burden to her. | 1 | 2 | 3 | 4 | 5 | 6 |
| I find it hard to please my mother. | 1 | 2 | 3 | 4 | 5 | 6 |
| I don't really feel that my mother loves me. | 1 | 2 | 3 | 4 | 5 | 6 |
| I know that my mother will "be there" for me if I need her. | 1 | 2 | 3 | 4 | 5 | 6 |
| My mother doesn't pay attention when I talk about things that are important to me. | 1 | 2 | 3 | 4 | 5 | 6 |
| My mother really enjoys spending time with me. | 1 | 2 | 3 | 4 | 5 | 6 |
| My mother lets me know through her words or actions that she loves me. | 1 | 2 | 3 | 4 | 5 | 6 |

Appendix E: Parental Warmth Questionnaire- Father Version

Please circle the number that best represents how much you agree with the following statements regarding your father:

| | 1 Strongly Disagree | 2 Disagree | 3 Slightly Disagree | 4 Slightly Agree | 5 Agree | 6 Strongly Agree |
|--|---------------------------|---------------|---------------------------|------------------------|------------|------------------------|
| My father really understands me. | 1 | 2 | 3 | 4 | 5 | 6 |
| My father makes me feel that I am a burden to him. | 1 | 2 | 3 | 4 | 5 | 6 |
| I find it hard to please my father. | 1 | 2 | 3 | 4 | 5 | 6 |
| I don't really feel that my father loves me. | 1 | 2 | 3 | 4 | 5 | 6 |
| I know that my father will "be there" for me if I need him. | 1 | 2 | 3 | 4 | 5 | 6 |
| My father doesn't pay attention when I talk about things that are important to me. | 1 | 2 | 3 | 4 | 5 | 6 |
| My father really enjoys spending time with me. | 1 | 2 | 3 | 4 | 5 | 6 |
| My father lets me know through his words or actions that he loves me. | 1 | 2 | 3 | 4 | 5 | 6 |

Appendix F: Parental Volitional Autonomy Support Questionnaire- Mother Version

Please circle the number that best represents your thoughts about your mother:

| | 1 | 2 | 3 | 4 | 5 |
|---|--------------------|---|------------------|---|----------------------|
| | Not at all True | | Somewhat True | | Very Much True |
| My mother seems to know how I feel about things. | 1 | 2 | 3 | 4 | 5 |
| My mother tries to tell me how to run my life. | 1 | 2 | 3 | 4 | 5 |
| My mother, whenever possible, allows me to choose what to do. | 1 | 2 | 3 | 4 | 5 |
| My mother listens to my opinion or perspective when I've got a problem. | 1 | 2 | 3 | 4 | 5 |
| My mother allows me to decide things for myself. | 1 | 2 | 3 | 4 | 5 |
| My mother insists upon my doing things her way. | 1 | 2 | 3 | 4 | 5 |
| My mother is usually willing to consider things from my point of view. | 1 | 2 | 3 | 4 | 5 |
| My mother helps me choose my own direction. | 1 | 2 | 3 | 4 | 5 |
| My mother isn't very sensitive to many of my needs. | 1 | 2 | 3 | 4 | 5 |

Appendix G: Parental Volitional Autonomy Support Questionnaire-Father Version

Please circle the number that best represents your thoughts about your father:

| | 1 | 2 | 3 | 4 | 5 |
|---|--------------------|---|------------------|---|----------------------|
| | Not at all True | | Somewhat True | | Very Much True |
| My father seems to know how I feel about things. | 1 | 2 | 3 | 4 | 5 |
| My father tries to tell me how to run my life. | 1 | 2 | 3 | 4 | 5 |
| My father, whenever possible, allows me to choose what to do. | 1 | 2 | 3 | 4 | 5 |
| My father listens to my opinion or perspective when I've got a problem. | 1 | 2 | 3 | 4 | 5 |
| My father allows me to decide things for myself. | 1 | 2 | 3 | 4 | 5 |
| My father insists upon my doing things his way. | 1 | 2 | 3 | 4 | 5 |
| My father is usually willing to consider things from my point of view. | 1 | 2 | 3 | 4 | 5 |
| My father helps me to choose my own direction. | 1 | 2 | 3 | 4 | 5 |
| 9. My father isn't very sensitive to many of my needs. | 1 | 2 | 3 | 4 | 5 |

Appendix H: Parental Training Questionnaire- Mother Version

Please circle the number that best represents your thoughts about your mother:

| | 1 | 2 | 3 | 4 | 5 |
|---|----------------------|--------------------|-------------|-----------------|-------------------|
| | Strongly Disagree | Mildly Disagree | Not Sure | Mildly Agree | Strongly Agree |
| My mother emphasizes absolute obedience to her. | 1 | 2 | 3 | 4 | 5 |
| My mother shows me how much she loves me with hugs and kisses. | 1 | 2 | 3 | 4 | 5 |
| *My mother is one of my best teachers. | 1 | 2 | 3 | 4 | 5 |
| *My mother has a very important influence on the development of my attitudes and beliefs. | 1 | 2 | 3 | 4 | 5 |
| Once I entered school, my mother let all my education take place there. | 1 | 2 | 3 | 4 | 5 |
| I always do what my mother says, no matter what. | 1 | 2 | 3 | 4 | 5 |
| My mother shares my achievements with her friends as a way of expressing how much she cares about me. | 1 | 2 | 3 | 4 | 5 |
| I do not question the authority of my mother. | 1 | 2 | 3 | 4 | 5 |
| My mother praises me for lots of things, not just academic achievement. | 1 | 2 | 3 | 4 | 5 |
| *My mother continues to teach me, even though I am in school. | 1 | 2 | 3 | 4 | 5 |
| My mother makes a point of telling me she loves me on a regular basis. | 1 | 2 | 3 | 4 | 5 |

**Items marked with an asterisk represent those included in final parent as teacher measure*

Appendix I: Parental Training Questionnaire- Father Version

Please circle the number that best represents your thoughts about your father:

| | 1 | 2 | 3 | 4 | 5 |
|--|----------------------|--------------------|-------------|-----------------|-------------------|
| | Strongly Disagree | Mildly Disagree | Not Sure | Mildly Agree | Strongly Agree |
| My father emphasizes absolute obedience to him. | 1 | 2 | 3 | 4 | 5 |
| My father shows me how much he loves me with hugs and kisses. | 1 | 2 | 3 | 4 | 5 |
| *My father is one of my best teachers. | 1 | 2 | 3 | 4 | 5 |
| *My father has a very important influence on the development of my attitudes and beliefs. | 1 | 2 | 3 | 4 | 5 |
| Once I entered school, my father let all my education take place there. | 1 | 2 | 3 | 4 | 5 |
| I always do what my father says, no matter what. | 1 | 2 | 3 | 4 | 5 |
| My father shares my achievements with his friends as a way of expressing how much he cares about me. | 1 | 2 | 3 | 4 | 5 |
| I do not question the authority of my father. | 1 | 2 | 3 | 4 | 5 |
| My father praises me for lots of things, not just academic achievement. | 1 | 2 | 3 | 4 | 5 |
| *My father continues to teach me, even though I am in school. | 1 | 2 | 3 | 4 | 5 |
| My father makes a point of telling me he loves me on a regular basis. | 1 | 2 | 3 | 4 | 5 |

**Items marked with an asterisk represent those included in final parent as teacher measure*

Appendix J: Cognitive Emotion Regulation Questionnaire

How do you cope with events?

Everyone gets confronted with negative or unpleasant events now and then, and everyone responds to them in his or her own way. Please respond to the following questions by indicating what you generally think when you experience negative or unpleasant events.

| | 1 (almost) Never | 2 Sometimes | 3 Regularly | 4 Often | 5 (almost) Always |
|---|------------------------|----------------|----------------|------------|-------------------------|
| I feel that I am the one to blame for it. | 1 | 2 | 3 | 4 | 5 |
| I think that I have to accept that this has happened. | 1 | 2 | 3 | 4 | 5 |
| I think about how I feel about what I have experienced. | 1 | 2 | 3 | 4 | 5 |
| I think of nicer things than what I have experienced. | 1 | 2 | 3 | 4 | 5 |
| I think of what I can do best. | 1 | 2 | 3 | 4 | 5 |
| I think that I can learn something from the situation. | 1 | 2 | 3 | 4 | 5 |
| I think that it all could have been much worse. | 1 | 2 | 3 | 4 | 5 |
| I think that what I have experienced is much worse than what others have experienced. | 1 | 2 | 3 | 4 | 5 |
| I feel that others are to blame for it. | 1 | 2 | 3 | 4 | 5 |
| I feel that I am the one who is responsible for what has happened. | 1 | 2 | 3 | 4 | 5 |
| I think that I have to accept the situation. | 1 | 2 | 3 | 4 | 5 |
| I am preoccupied with what I think and feel about what I have experienced. | 1 | 2 | 3 | 4 | 5 |
| I think of pleasant things that have nothing to do with it. | 1 | 2 | 3 | 4 | 5 |
| I think about how I can best cope with the situation. | 1 | 2 | 3 | 4 | 5 |
| I think that I can become a stronger person as a result of what has happened. | 1 | 2 | 3 | 4 | 5 |
| I think that other people go through much worse experiences. | 1 | 2 | 3 | 4 | 5 |
| I keep thinking about how terrible what I have experienced is. | 1 | 2 | 3 | 4 | 5 |

| | 1 (almost) Never | 2 Sometimes | 3 Regularly | 4 Often | 5 (almost) Always |
|--|------------------------|----------------|----------------|------------|-------------------------|
| I feel that others are responsible for what has happened. | 1 | 2 | 3 | 4 | 5 |
| I think about the mistakes I have made in this matter. | 1 | 2 | 3 | 4 | 5 |
| I think that I cannot change anything about it. | 1 | 2 | 3 | 4 | 5 |
| I want to understand why I feel the way I do about what I have experienced. | 1 | 2 | 3 | 4 | 5 |
| I think of something nice instead of what has happened. | 1 | 2 | 3 | 4 | 5 |
| I think about how to change the situation. | 1 | 2 | 3 | 4 | 5 |
| I think that the situation also has its positive sides. | 1 | 2 | 3 | 4 | 5 |
| I think that it hasn't been too bad compared to other things. | 1 | 2 | 3 | 4 | 5 |
| I think that what I have experienced is the worst that can happen to a person. | 1 | 2 | 3 | 4 | 5 |
| I think about the mistakes others have made in this matter. | 1 | 2 | 3 | 4 | 5 |
| I think that I am basically the cause of this experience. | 1 | 2 | 3 | 4 | 5 |
| I think that I must learn to live with it. | 1 | 2 | 3 | 4 | 5 |
| I dwell upon the feelings the situation has evoked in me. | 1 | 2 | 3 | 4 | 5 |
| I think about pleasant experiences. | 1 | 2 | 3 | 4 | 5 |
| I think about a plan of what I can do best. | 1 | 2 | 3 | 4 | 5 |
| I look for the positive side of the experience. | 1 | 2 | 3 | 4 | 5 |
| I tell myself that there are worse things in life. | 1 | 2 | 3 | 4 | 5 |
| I continually think about how horrible the situation has been. | 1 | 2 | 3 | 4 | 5 |
| I feel that others are basically the cause of this experience. | 1 | 2 | 3 | 4 | 5 |

Appendix K: Depression Questionnaire

Please circle the number for each statement which best describes how often you felt or behaved this way during the past week.

During the past week ...

| | 0 | 1 | 2 | 3 |
|---|---|---|---------------------------------------|--|
| | Rarely or none of the time (Less than 1 Day) | Some or a little of the time (1-2 Days) | A lot of the time (3-4 Days) | Most or all of the time (5- 7 Days) |
| I was bothered by things that usually don't bother me. | 0 | 1 | 2 | 3 |
| I did not feel like eating; my appetite was poor. | 0 | 1 | 2 | 3 |
| I felt that I could not shake off the blues even with help from my family or friends. | 0 | 1 | 2 | 3 |
| I felt that I was just as good as other people. | 0 | 1 | 2 | 3 |
| I had trouble keeping my mind on what I was doing. | 0 | 1 | 2 | 3 |
| I felt depressed. | 0 | 1 | 2 | 3 |
| I felt that everything I did was an effort. | 0 | 1 | 2 | 3 |
| I felt hopeful about the future. | 0 | 1 | 2 | 3 |
| I thought my life has been a failure. | 0 | 1 | 2 | 3 |
| I felt fearful. | 0 | 1 | 2 | 3 |
| My sleep was restless. | 0 | 1 | 2 | 3 |
| I was happy. | 0 | 1 | 2 | 3 |
| I talked less than usual. | 0 | 1 | 2 | 3 |
| I felt lonely. | 0 | 1 | 2 | 3 |
| People were unfriendly. | 0 | 1 | 2 | 3 |
| I enjoyed life. | 0 | 1 | 2 | 3 |
| I had crying spells. | 0 | 1 | 2 | 3 |
| I felt sad. | 0 | 1 | 2 | 3 |
| I felt that people disliked me. | 0 | 1 | 2 | 3 |
| I could not get "going" (or motivated). | 0 | 1 | 2 | 3 |

Appendix L: Loneliness Questionnaire

The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by circling the appropriate number.

Here is an example: How often do you feel happy?

If you never felt happy, you would respond 1, if you always feel happy, you would respond 4.

| | 1 | 2 | 3 | 4 |
|---|-------|--------|-----------|--------|
| | Never | Rarely | Sometimes | Always |
| How often do you feel that you are “in tune” with the people around you? | 1 | 2 | 3 | 4 |
| How often do you feel that you lack companionship? | 1 | 2 | 3 | 4 |
| How often do you feel that there is no one you can turn to? | 1 | 2 | 3 | 4 |
| How often do you feel alone? | 1 | 2 | 3 | 4 |
| How often do you feel part of a group of friends? | 1 | 2 | 3 | 4 |
| How often do you feel that you have a lot in common with the people around you? | 1 | 2 | 3 | 4 |
| How often do you feel that you are no longer close to anyone? | 1 | 2 | 3 | 4 |
| How often do you feel that your interests and ideas are not shared by those around you? | 1 | 2 | 3 | 4 |
| How often do you feel outgoing and friendly? | 1 | 2 | 3 | 4 |
| How often do you feel close to people? | 1 | 2 | 3 | 4 |
| How often do you feel left out? | 1 | 2 | 3 | 4 |
| How often do you feel that your relationships with others are not meaningful? | 1 | 2 | 3 | 4 |
| How often do you feel that no one really knows you well? | 1 | 2 | 3 | 4 |
| How often do you feel isolated from others? | 1 | 2 | 3 | 4 |
| How often do you feel that you can find companionship when you want it? | 1 | 2 | 3 | 4 |
| How often do you feel that there are people who really understand you? | 1 | 2 | 3 | 4 |
| How often do you feel shy? | 1 | 2 | 3 | 4 |
| How often do you feel that people are around you but not with you? | 1 | 2 | 3 | 4 |
| How often do you feel that there are people you can talk to? | 1 | 2 | 3 | 4 |
| How often do you feel that there are people you can turn to? | 1 | 2 | 3 | 4 |

Appendix M: Anxiety Symptoms Questionnaire

Please indicate the extent to which each of the following statements describe you during the past week, including today.

| | 1 Not at all | 2 A little | 3 Somewhat | 4 Moderately | 5 Extremely |
|--|--------------------|------------------|---------------|-----------------|----------------|
| Felt dizzy or light-headed. | 1 | 2 | 3 | 4 | 5 |
| Had hot or cold spells. | 1 | 2 | 3 | 4 | 5 |
| Hands were cold or sweaty. | 1 | 2 | 3 | 4 | 5 |
| Hands were shaky. | 1 | 2 | 3 | 4 | 5 |
| Had a very dry mouth. | 1 | 2 | 3 | 4 | 5 |
| Was trembling or shaking. | 1 | 2 | 3 | 4 | 5 |
| Muscles twitched or trembled. | 1 | 2 | 3 | 4 | 5 |
| Felt numbness or tingling in my body. | 1 | 2 | 3 | 4 | 5 |
| Felt faint. | 1 | 2 | 3 | 4 | 5 |
| Had to urinate frequently. | 1 | 2 | 3 | 4 | 5 |
| Heart was racing or pounding. | 1 | 2 | 3 | 4 | 5 |
| Was short of breath. | 1 | 2 | 3 | 4 | 5 |
| Had trouble swallowing. | 1 | 2 | 3 | 4 | 5 |
| Felt like I was choking. | 1 | 2 | 3 | 4 | 5 |
| Had pain in my chest. | 1 | 2 | 3 | 4 | 5 |
| Felt like I was going crazy. | 1 | 2 | 3 | 4 | 5 |
| Was afraid I was going to lose control. | 1 | 2 | 3 | 4 | 5 |
| Startled easily. | 1 | 2 | 3 | 4 | 5 |
| Was afraid I was going to die. | 1 | 2 | 3 | 4 | 5 |

Appendix N: Subjective Happiness Scale

For each of the following statements and/or questions, please circle the point on the scale that you feel is most appropriate in describing you.

1. In general, I consider myself:

| | | | | | | |
|--------------|---|---|---|---|---|--------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| not a very | | | | | | a very |
| happy person | | | | | | happy person |

2. Compared to most of my peers, I consider myself:

| | | | | | | |
|-------|---|---|---|---|---|-------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| less | | | | | | more |
| happy | | | | | | happy |

3. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?

| | | | | | | |
|--------|---|---|---|---|---|---------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| not at | | | | | | a great |
| all | | | | | | deal |

4. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?

| | | | | | | |
|--------|---|---|---|---|---|---------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| not at | | | | | | a great |
| all | | | | | | deal |

Appendix O: Satisfaction with Life Questionnaire

Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by circling the appropriate number. Please be open and honest in your responding.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--|----------------------|----------|----------------------|-------------------------------------|-------------------|-------|-------------------|
| | Strongly Disagree | Disagree | Slightly Disagree | Neither Agree nor Disagree | Slightly Agree | Agree | Strongly Agree |
| In most ways my life is close to my ideal. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The conditions of my life are excellent. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I am satisfied with my life. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| So far I have gotten the important things I want in life. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| If I could live my life over, I would change almost nothing. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Appendix P: Academic Satisfaction Questionnaire

Using the scale below, indicate your level of agreement with each of the following statements:

| | 1 | 2 | 3 | 4 | 5 |
|---|----------------------|----------|-----------|-------|-------------------|
| | Strongly Disagree | Disagree | Undecided | Agree | Strongly Agree |
| I feel satisfied with the decision to major in my intended field. | 1 | 2 | 3 | 4 | 5 |
| I am comfortable with the educational atmosphere in my major field. | 1 | 2 | 3 | 4 | 5 |
| For the most part, I am enjoying my coursework. | 1 | 2 | 3 | 4 | 5 |
| I am generally satisfied with my academic life. | 1 | 2 | 3 | 4 | 5 |
| I enjoy the level of intellectual stimulation in my courses. | 1 | 2 | 3 | 4 | 5 |
| I feel enthusiastic about the subject matter in my intended major. | 1 | 2 | 3 | 4 | 5 |
| I like how much I have been learning in my classes. | 1 | 2 | 3 | 4 | 5 |

Appendix Q: Emotion Regulation as Observed Variables Analyses

For theoretically-driven reasons described in the Methods, positive and negative emotion regulation were treated as observed variables in the main SEM analyses. Empirical analyses further supported this decision. When positive and negative emotion regulation were treated as latent variables with four indicators each, many error terms were required to be correlated in order to improve model fit; however, model fit remained inadequate despite these multiple correlated errors, $\chi^2(38) = 82.447, p < .001, CFI = .708, RMSEA = .069$ (90% CI [.062, .089]), and $\chi^2/df = 2.843$. Notably, when positive and negative regulation were entered as observed variables, model fit improved, $\chi^2(42) = 92.869, p < .001, CFI = .908, RMSEA = .061$ (90% CI [.052, .074]), and $\chi^2/df = 2.171$.

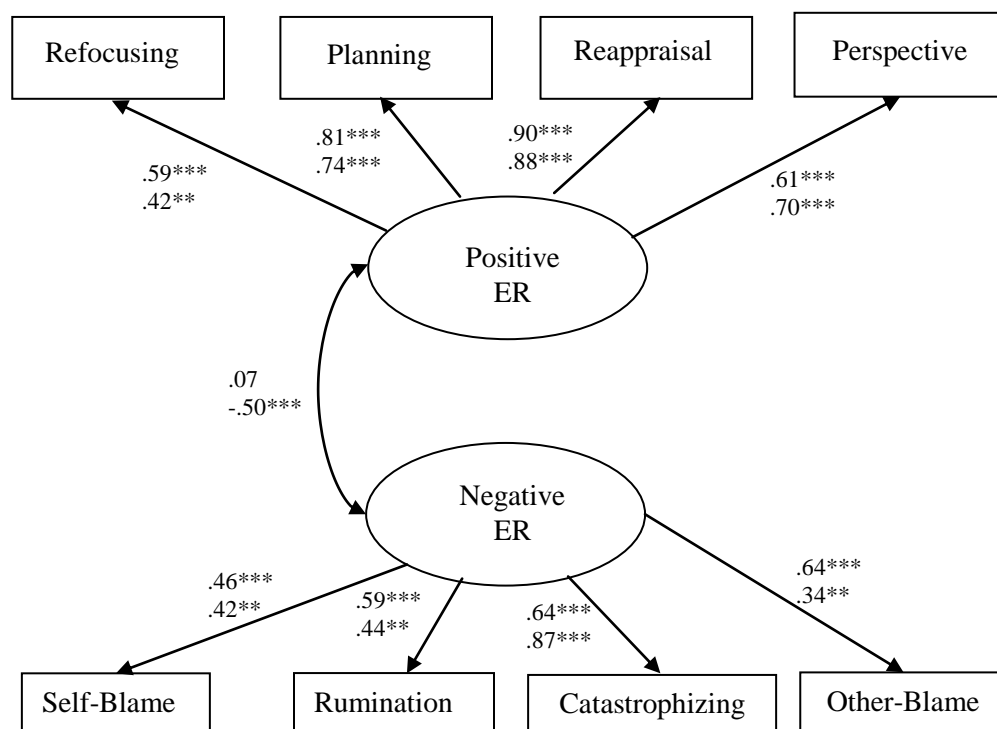


Figure 5. Measurement model for positive and negative emotion regulation. On each path the standardized path coefficients for Chinese students are presented on top, and for Canadians below. ER = emotion regulation; Refocusing = positive refocusing; Planning = refocus on planning; Reappraisal = positive reappraisal; Perspective = putting into perspective.

** $p < .01$. *** $p < .001$.

Appendix R: Parent Contact and Emotion Support Analyses

Further analyses were conducted to determine how amount of reported contact with mothers and fathers and how which parent students reported they sought out for emotional support were related to the main study variables.

Correlation analyses revealed that amount of contact was significantly related to students' perceptions of their parents' positive parenting practices. For both Chinese and Canadian students, the more contact they reported having with their mothers and fathers, the higher their reported levels of parental warmth ($r = .28, p = .017$; $r = .49, p = .001$, for Chinese students' reports on their mothers and fathers respectively, and $r = .24, p = .01$; $r = .59, p = .001$ for Canadian students' reports). A positive relation was also found for the relations between reported amount of contact with mothers and fathers and student reports of their parents as teachers ($r = .38, p = .001$; $r = .53, p = .001$, for Chinese students' reports on their mothers and fathers respectively, and $r = .41, p = .001$; $r = .53, p = .001$ for Canadian students' reports). For Chinese students, amount of contact with their mothers was significantly positively related with their reports of mothers' level of autonomy support ($r = .31, p = .006$), but amount of contact with their fathers was not related to reports of fathers' level of autonomy support ($r = .21, p = .074$). For Canadian students, the inverse was revealed; amount of contact with their mothers was not significantly related with their reports of mothers' level of autonomy support ($r = .11, p = .225$), but amount of contact with their fathers was significantly positively related with their reports of fathers' level of autonomy support ($r = .44, p = .001$).

A series of multivariate ANCOVAs were performed to evaluate differences in Chinese and Canadian students' reports of their mothers and fathers parenting practices based on which parent they generally seek out for emotional support. There was not a significant multivariate

effect for emotional support for Chinese students' reports of their mothers' parenting practices, $F(3, 71) = 1.421, p = .210, \eta_p^2 = .001$. In contrast, Canadian students reports' of their mothers parenting practices revealed a significant multivariate effect, $F(3, 116) = 5.071, p = .002, \eta_p^2 = .002$. Univariate effects were therefore examined to determine which parenting variables accounted for the multivariate effect for Canadian students. Univariate analyses revealed that Canadian students who reported primarily seeking out their mothers or their mothers and fathers equally for emotional support as compared to their fathers, reported higher levels of mothers' warmth, $F(2, 117) = 5.506, p = .005, \eta^2 = .001$, as well as higher levels of mothers' role as teachers, $F(2, 117) = 5.741, p = .004, \eta^2 = .001$.

For both Chinese and Canadian students' reports of fathers' parenting, there was a significant multivariate effect for emotional support for Chinese students, $F(3, 71) = 7.590, p = .000, \eta_p^2 = .003$ and for Canadian students, $F(3, 116) = 8.304, p = .000, \eta_p^2 = .004$. Chinese students who reported primarily seeking out their fathers or their mothers and fathers equally for emotional support, as compared to seeking out their mothers, reported higher levels of fathers' warmth, $F(2, 71) = 10.931, p = .000, \eta^2 = .003$, autonomy support, $F(2, 71) = 4.756, p = .011, \eta^2 = .001$, and role as teacher, $F(2, 71) = 4.133, p = .005, \eta^2 = .020$. This pattern was repeated for Canadian students. Canadian students who reported primarily seeking out their fathers or their mothers and fathers equally for emotional support, as compared to seeking out their mothers, reported higher levels of fathers' warmth, $F(2, 117) = 12.077, p = .000, \eta^2 = .003$, autonomy support, $F(2, 117) = 7.144, p = .001, \eta^2 = .002$, and role as teachers, $F(2, 117) = 7.547, p = .001, \eta^2 = .002$.