

Self-Criticism and Self-Compassion in University Students:  
Origins and Psychological Correlates

by

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### Abstract

The origins of self-criticism were investigated with 507 participants. A questionnaire assessed parental behaviours, attachment, peer victimization, and self-compassion. Multiple linear regression analyses were employed to assess parental attachment's association with self-criticism, parental criticism's mediating effects, and moderating effects of self-compassion, peer victimization, gender, parental substance abuse, and parental divorce. Low parental attachment predicted self-criticism; maternal criticism mediated maternal attachment's effects on self-criticism; peer victimization moderated paternal attachment's effects on self-criticism; and maternal substance abuse moderated maternal attachment's effects on self-criticism. Self-compassion, parental divorce, and gender did not moderate any relationships. Secure attachment to parents decreased participants' likelihood of developing self-criticism; protective factors of paternal attachment appear vulnerable to peer victimization; and maternal influences on the development of self-criticism may reflect that mothers being more influential than fathers in molding how their children view themselves and others. Results may reflect qualitative or quantitative differences in mothers' relationships with their children.

*Keywords:* self-criticism, parental criticism

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It is often said that we are our own worst self-critics. However, those who tend to be severely self-critical invariably fare worse than their counterparts who are not. Self-criticism is a pernicious psychological trait that is typified by engaging in constant harsh self-scrutiny, negative self-evaluation, and feeling worthless (Blatt, 1974). Moreover, this trait has been linked with depression as a vulnerability marker (Bagby, Cox, Schuller, Levitt, Swinson, & Joffe, 1992), and has been linked with suicidal behaviour (Donaldson, Spirito, & Farnett, 2000) as well as numerous personality and anxiety disorders (Cox, MacPherson, Enns, & McWilliams, 2004). According to Blatt and Zuroff (1992), self-critical individuals “engage in constant and harsh self-scrutiny and evaluation and have a chronic fear of being disapproved and criticized, and of losing the approval and acceptance of significant others” (p. 528). People who possess this trait tend to strive for perfection and excessive achievement in efforts to convince themselves and others that they are deserving of their approval. These individuals can also be overly critical of themselves and others due to their extreme competitiveness and tend to overcompensate in efforts to be approved and be accepted by others (Blatt, 1974). Some posit that this pernicious trait stems from one’s fear of losing the acceptance and approval of highly punitive, critical, and controlling parents (Blatt & Homann, 1992). Further, when self-critics’ attempts for success fail, they are vulnerable to experiencing “introjective depressions” whereby the person feels overwhelmed by feelings of worthlessness and shame (p. 547). Zuroff and colleagues (1994) also found that those who were self-critical at age 12 were less likely to be involved in activities in high school and by age 31 were more likely to complete fewer years of education, experience personal/social

maladjustment as well as experience much dissatisfaction with parenthood and their primary relationships.

Although extensive research has been conducted regarding self-criticism's numerous associations with various Axis I and II disorders – a tremendous paucity exists in the literature regarding the origins of self-criticism. Further, the research that does exist that has investigated the origins of self-criticism has primarily linked it with critical parents. Accordingly, the purpose of the proposed study was to assess the origins of self-criticism from a developmental perspective, beginning with parental attachment, as well as to evaluate the contribution of a range of variables that have been identified in the literature as likely contributors to the childhood development of self-criticism. Specifically, I reviewed the association between parental attachment and self-criticism and the mediating effects of parental criticism on this relationship. In addition, as research suggests that the effects of self-criticism are moderated by self-compassion, the role of self-compassion was also examined as well as gender, peer victimization, parental divorce, and parental substance abuse as moderators below.

### **Attachment and Self-Criticism**

Attachment is conceptualized as a strong bond that an individual forms between themselves and another being (Ainsworth & Bell, 1970). It is important to note that attachment is not a mere connection one feels with another person – rather it is a strong bond whereby one desires to have regular contact with a certain individual and experiences some form of distress when separated from them. This important emotional bond also provides children with a sense of security and thereby enabling them to safely explore their environment and it is believed that differences in attachment derives from how sensitive and responsive an infant perceives their

caregivers to be (Mikulincer & Shaver, 2007). Moreover, attachment theory posits explanations for the various disturbances in personalities (i.e., emotional detachment, anger) – which seem to occur in people who have suffered an unwilling separation, or loss of specific attachment relationships (Bowlby, 1982). These symptoms were also found in those who have experienced emotionally unhealthy and/or abusive parenting (Ainsworth, Blehar, Waters, & Wall, 1978).

Theorists believe that attachment, as the first social relationship, provides the basis for all of an infant's later social relationships (Waters & Cummings, 2000). Thus, it is postulated that attachment does not solely pertain to infants and children, but rather influences individuals “from the cradle to the grave” (Bowlby, 1979, p. 129). That is, how one relates to their parents during their childhood has great implications for their psychological well-being and future social relationships. For instance, over the years, it has been emphasized that the quality of attachment a child has to their parents has much influence on the adaptive (or maladaptive) developmental course throughout their teenage years (Sloman, Gilbert, & Hasey, 2003). In particular, associations have been made between insecure attachment and social withdrawal (Rubin, 2004), anxiety symptoms (Warren, Huston, Egeland, & Sroufe, 1997), depression (Muris, Meesters, van Melick, & Zwambag, 2001), low self-esteem (Salzman, 1996), as well as both internalizing and externalizing behaviors throughout early adulthood (Allen, Aber, & Leadbeater 1990). Moreover, findings from a study by Buist and colleagues (2004) suggest that youngsters who had secure attachment styles evinced less internalizing and externalizing problems the subsequent year compared to their counterparts who had insecure attachment styles.

In order to develop secure attachment, it is imperative to have caregivers who are attentive as well as responsive – which can be enervating, especially with little one who have

difficult temperaments. For instance, babies who fuss often and are difficult to console are more prone to insecure attachment (Seifer, Schiller, Sameroff, Resnik, & Roirdan, 1996). Insecure attachment may also be more likely when a temperamental, emotional infant has a mother whose personality is rigid and traditional rather than accepting and flexible (Mangelsdorf, Gunnar, Kostenbaum, Lang, & Andreas, 1990). Rigid mothers do not adjust well to the often erratic demands of their temperamentally onerous babies and instead want the baby to adjust to them. This finding suggests that rigid mothers less often provide the responsive, sensitive care that leads to secure attachment. Secure attachment is most likely achieved when parents are sensitive and responsive rather than insensitive and dismissive. Invariably, not all caregivers react to babies in a reliable and reassuring manner – some respond intermittently or only after the child has cried long and hard. When these caregivers finally respond, however, they are sometimes annoyed by the infant's demands and may misinterpret the infant's intent. Over time, these babies tend to see social relationships as inconsistent and often frustrating – conditions that do little to foster trust and confidence. Further, as children grow, parenting behaviours tend to remain consistent, which lends to the belief of attachment remaining relatively stable throughout a person's life (Bretherton, 1985). Further, attachment behaviours in adulthood should (and usually do) resemble those observed in infancy (for better or for worse) given that parental care is often more or less consistent and continuous. This continuity in parental behaviours in response to the child in turn aids in patterns of attachment becoming stable (Bretherton, 1985).

Consistent with the belief that attachment begins at the cradle, maternal personality has been shown to greatly influence a child's attachment style. A study by Egeland and Farber (1984) indicated that maternal personality plays an integral role in accounting for differences in a

child's attachment. Results demonstrated that mothers of securely attached babies at 12 months and anxiously attached at 18 months were rated as more hostile and suspicious on measures given both prenatally and three months postpartum compared to mothers of securely attached babies at both 12 and 18 months. The maternal characteristics that seemed to be the predominant influence in the development of anxious/avoidant attachments were that they lacked confidence, had a tendency to be tense and irritable, and reacted negatively to motherhood. It is noteworthy, however, that the child's capacity and needs for interaction are different by their second year of life, and consequently, the hostile/suspicious mother (despite adequate skills) was no longer able to fulfill those needs and provide a secure base. Therefore, seeing as the attachment relationship is continuous, it is logical that maternal personality would assume greater importance the longer mother and child are together. Thus, results supported a transactional model of maternal, neonatal, and interactive factors contributing to the development of qualitatively disparate attachment relationships. Thus, before any other environmental influences are experienced, the quality of attachment a child experiences with their parent(s) seems to have a profound impact on the socioemotional development of children.

In relation to self-criticism, the attachment literature has found that those who were insecurely attached during childhood were at an increased risk of developing self-criticism than their securely attached counterparts (Davila, 2001; Mikulincer & Shaver, 2007). Consequently, these individuals have a propensity to experience their close and personal relationships plagued with severe distrust and dissatisfaction (Zuroff & Fitzpatrick, 1995).

Supporting earlier research, results from a study by Irons and colleagues (2006) suggested that fearfully attached people were significantly more self-critical and self-loathing

than those who were securely attached. Researchers also posited that those who experienced neglect and who were threatened during childhood had a greater likelihood of developing self-critical tendencies (Gilbert & Irons, 2005). Further, a study by Irons and colleagues (2006) purported that secure attachment and self-critical tendencies to be consistently negatively associated with one another whereas insecure attachment and self-criticism to be consistently positively related (Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006).

Recent literature suggests that those high in attachment anxiety (i.e., insecure attachment) are not only more self-critical than those low in attachment anxiety (Cantazaro & Wei, 2010), but also experience difficulty in self-soothing and regulating their emotions (Shaver & Mikulincer, 2009). Akin to infant attachment, adult attachment is conceptualized in terms of secure and insecure attachment (insecure attachment consisting of two dimensions: attachment anxiety as well as attachment avoidance) (Mikulincer & Shaver, 2007). Attachment avoidance in adulthood is typified by the tendency to avoid and feel uncomfortable with intimacy and closeness, whereas attachment anxiety reflects one's fear of abandonment and rejection, feeling negatively about oneself, and concerns regarding close relationships— both of which seem to characterize those with self-critical tendencies.

Blatt and Homann (1992) postulated that insecure attachment is one factor that leads to developing self-critical tendencies. According to their model, the distorted view of the self and other that characterizes insecure attachment may lead to self-criticism; insecure attachment implies an internal working model that views those around them as untrustworthy and unreliable and in turn, themselves as undeserving and unworthy (Bartholomew, 1990). This view can easily mature into the constant self-reproaching, distrustful nature that typifies self-criticism.

Further, individuals who are insecurely attached are prone to indirect and inappropriate expressions of anger (Main & Weston, 1981) and are more likely to experience unsatisfying relationships – which in turn reinforces this negative model of viewing oneself and others, thereby further accelerating and perpetuating the development of self-criticism. Although a strong consensus exists within the literature regarding the association of insecure attachment and self-criticism, fewer studies have investigated variables that may potentially influence this relationship (i.e., variables that may strengthen or weaken this association).

In terms of measuring attachment, this task becomes more cumbersome when assessing adult attachment rather than infant attachment. For instance, attachment behaviours in babies are easier to observe than adult attachment behaviour given that it is more overtly expressed rather than covertly expressed and can be easily provoked (Ainsworth et al., 1978). Adult attachment behaviour, on the other hand, is more difficult to evaluate in adult relationships given that it is expressed via language rather than behaviour. Thus, researchers have placed much emphasis on measures that use language and perceptions (i.e., measures of self-report and interviews in place of behaviour observations) (Hazan & Shaver, 1994).

Although the Adult Attachment Interview (AAI; Main, Kaplan, & Cassidy, 1985) remains the most established instrument in measuring adult attachment, much training and time is needed to administer, transcribe and code when utilizing this measure. Aside from the various resources required of an attachment instrument, another factor to consider concerns the classification of attachment into categories versus dimensions. Researchers believe that clinical settings would benefit more from categories given that they provide clinicians with more detail in terms of a person's differences – which helps tailor interventions for clinicians (Ravitz,

Maunder, Hunter, Sthankiya, & Lancee, 2010). Conversely, when interviews are not practical or when attachment is the focal point, dimensional self-report measures of attachment are more suitable (Ravitz et al., 2010).

Given that attachment was a central component of the current study and interviews and observational measures were not feasible, the present study used the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) to measure respondents' levels of attachment to their parents and peers as it measures one's attachment dimensionally on a continuum rather than categorically by using a typology. Further, seeing as insecure attachment (in general) is associated with the dimensional trait of self-criticism (Blatt & Homann, 1992), it seemed appropriate to assess participants' levels attachment to their parents dimensionally in order to assume generally and more broadly that lower levels of attachment (i.e., insecure attachment) would predict higher levels of self-criticism. Thus, the patterns of attachment avoidance and anxiety (in relation to the IPPA) would fall within the continuum of being low on attachment security rather than being high on attachment security (i.e., insecure attachment in general would be indicated on the lower end of the IPPA scale of attachment security). That is, higher scores on the parental attachment scale would indicate higher levels of attachment (i.e., scoring higher in attachment security would imply a more secure attachment) and lower scores on the scale would indicate lower levels of attachment (i.e., scoring lower in attachment security would imply a less secure attachment such as an anxious or avoidant attachment).

Although numerous attachment measures exist, many contain a burdensome amount of items (e.g., 75 items for the Attachment and Object Relations Inventory; Buelow, McCain, & McIntosh, 1996; 70 items for the Mother Father Peer Scale; Epstein, 1983) the IPPA contains 25

items per parent. Moreover, the IPPA follows Bowlby's attachment theory assumes that as one cognitively matures, internalized parental attachment figures (rather than actual parental attachment figures) play a larger role in the consistency and continuity of one's mental well-being and stability (Bowlby, 1982). Thus, the IPPA assesses the level of mental security one receives from those close to them and investigates the perceived quality of attachment to peers and parents in particular. Furthermore, this self-report questionnaire seems to be a useful method of evaluation given that it has been increasingly used in international research in recent years (Wilkinson & Walford, 2001; Baiocco, Laghi, & Paola, 2009). Also, researchers report the IPPA to demonstrate valid measures of attachment of those who between the ages of mid-adolescence to early adulthood (Gullone & Robinson, 2005) – which was highly suitable for the population of the present study. This instrument assesses both negative and positive mental and emotional components of teens' relationships with their peers and parents – however, the peer attachment variable was not utilized as we did not find it relevant to self-criticism.

### **Attachment, Parental Criticism, and Self-Criticism**

Blatt and Homann's (1992) model proposes that negative parental perceptions lead to cold and rejecting parenting behaviour, which in turn results in the child becoming insecurely attached. It is believed that critical and rejecting parents play a major role by contributing to and reinforcing the development of insecure attachment in their youngsters. Researchers suggest that this insecure attachment leads to self-critical tendencies and that parents' dissatisfaction with their offspring or their interactions with them has an association with children developing self-critical tendencies. Further, a link has been found between maternal criticism of children and children's criticism of themselves (Jaenicke et al., 1987). Because this criticism need not be

expressed directly, it is argued that much of the self-perceptions that children learn may be acquired implicitly rather than explicitly and that parental approval of children is often as predictive of children's self-perceptions as are children's perceptions of parental approval (Brewin, Andrews, & Furnham, 1996).

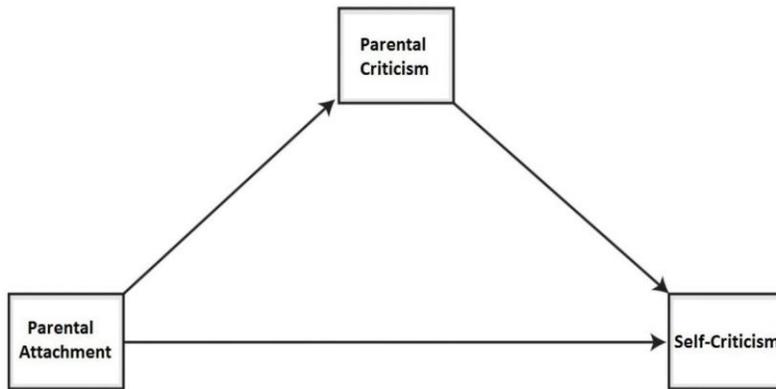
Further, researchers suggest that experiencing less (or inconsistent) love, affection, and attention from one's parents and more harshness and control is associated with developing self-critical tendencies (Andrews & Brewin, 1990; Frost, Lahart & Rosenblate, 1991). In addition, social learning theory postulates that behaviour (in general) is acquired through reinforcement and modeling and that children learn to behave morally, largely via the imitation and observation of adults close to them (Bandura, 1977). Thus, regardless if the parent's modeled behaviour is adaptive or maladaptive, verbal or non-verbal (e.g., demonstrating self-critical attitudes), many children often learn by example and tend to internalize their parents' beliefs and attitudes – for better or for worse. A common phrase uttered by many parents is, “Do as I say, not as I do,” whereby they fail to practice what they preach. Sadly, many do not realize that their actions speak volumes and are often more powerful than their words. Although most parents are already aware that they lead by example, they often overlook just how influential modeling can be.

Recent research suggests that self-critical people typically learned in childhood that their parents' love was conditional – usually contingent on performance and achievement (Soenens, Vansteenkiste, & Luyten, 2010). Not surprisingly, the essential issue for self-critics is the fusion of their self-esteem with performance and achievement whereby they were often punished for doing anything less than perfect. Several studies have also demonstrated strong associations between parental pressuring and controlling and self-criticism (Amitay, Mongrain, & Fazaa,

2008; Mongrain, 1998). Researchers found that perfectionistic parents do not accept children, but instead urge them to do better (Frost et al., 1991). In turn, this lack of acceptance fosters perfectionism.

Building on these findings, the current study assessed the mediating effects of parental criticism on the relationship between parental attachment and self-criticism. This basic mediational model is presented in Figure 1. This core model is further elaborated below through the identification of potential moderators.

*Figure 1.* Process model 4. Parental criticism mediating the effects of parental attachment on the self-criticism.



Much of the speculation regarding the causes and relational correlates of self-criticism and perfectionism has emphasized attachment-related concepts and processes (Flett, Hewitt, Oliver, & Macdonald, 2002). For instance, descriptions of maladaptive perfectionists' parents tend to include being perfectionistic, exercising much control as well as having unrealistic standards and expectations of their youngsters and consequently become sources of fear and anxiety for their children rather than sources of safety and comfort. In order to capture the role of

parental perfectionism in parental criticism, the present study utilized a measure of parental criticism, the Multidimensional Perfectionism Scale (MPS; Frost, Marten, Lahart, & Rosenblate, 1990), which includes parental perfectionism as a component.

Although a plethora of research has substantiated the link between parental criticism and self-criticism, a significant portion of the research proposes parental criticism preceding parental attachment (rather than the reverse) and that parental criticism predicts self-criticism. Further, much of the existing research suggests self-criticism originates from either insecure parental attachment or from having critical parents rather than viewing these two components together by one affecting the other. Therefore, seeing as children's attachment patterns to their parents are already evident during infancy – thus occurring prior to language acquisition (i.e., attachment occurring before the comprehension of parental criticism) – the present study adopted a unique approach by viewing parental criticism not as a predictor of self-criticism, but rather as a variable mediating the effect of parental attachment on self-criticism.

### **Parental Divorce**

Another factor that seems to impact a child's attachment and potential development of self-criticism is parental divorce. A study by Sirvanli-Ozen (2005) observed that parental divorce has the potential to exacerbate any existing problems children may have as well as have deleterious effects on their attachment style. Some researchers have found a positive association between parental divorce and insecure attachment in adulthood (Crowell, Treboux, & Brockmeyer, 2009), whereas some researchers have failed to find significant links between parental divorce and adult romantic attachment styles (Brennan & Shaver, 1993). Regardless, other researchers have found parental divorce to be negatively correlated with being securely

attached and in turn positively correlated with being insecurely attached (Mickelson, Kessler, & Shaver, 1997). Mickelson and colleagues (1997) suggest that this minor distinction between avoidant attachment and anxious attachment may indicate that growing up with divorced parents is perhaps a reflection of how the child perceives their attachment figures. Thus, youngsters may perceive their parents as inconsistently available (instead of being cold or rejecting – which has been linked with self-criticism).

Nonetheless, an imperative factor to consider whenever discussing the consequences of divorce on children is the child's age during which parental divorce occurs. For instance, it is difficult for young children to comprehend the various reasons behind their parents' divorce due to their cognitive immaturity and are therefore more likely to blame themselves for their parents' separation. Conversely, older children are better able to understand the various reasons responsible for their parents' marital breakup (e.g., incompatible personalities, strong differences of opinion, and lack of caring for one another) (Mazur, 1993). Adolescents also possess the ability to accurately assign blame – which may in turn reduce some of the pain children feel.

In addition to the child's age, the child's temperament and gender are also other important factors to keep in mind when examining the impact of parental divorce on children. For instance, problems are exacerbated when children with difficult temperaments experience much stress in addition to inadequate parenting (Lengua, Wolchik, Sandler, & West, 2000). Conversely, temperamentally easy children have better coping skills and are less likely to be the recipient of their parents' anger.

The aforementioned findings help enable a better understanding of gender disparities regarding children's reactions to parental breakups. It has been found that girls are more likely

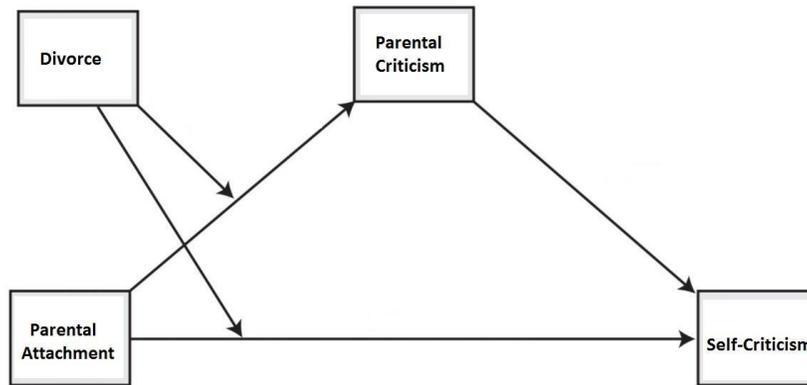
to withdrawal, cry, and criticize themselves; although more often, they show demanding, attention-getting behaviour. However, in mother-custody families, boys typically experience more serious adjustment problems (Berk, 2003).

Nonetheless, most children adjust to the parental divorce roughly two years after the marital breakup. However, many youngsters experience persisting emotional distress and declines in school achievement that contribute to serious adjustment difficulties into young adulthood (Chase-Lansdale, Cherlin, & Kiernan, 1995). Furthermore, various long-term consequences stem from parental divorce experienced during childhood as numerous researchers indicate that overall, children of parental divorce are less likely to be socially competent, have lower self-esteem and experience more emotional and behavioural difficulties than their counterparts from intact families (Amato, 2000). Thus, children of divorced families may be particularly vulnerable to developing self-criticism seeing as parental divorce appears to negatively impact their social and emotional well-being as well as exacerbate any previously existing problems.

Although much literature exists regarding the effects of parental divorce on children's social, emotional, and psychological development, no research (to my knowledge) has been conducted that included parental divorce as a moderating variable in a model assessing the relationship between parental attachment and self-criticism. Thus, my study addressed this gap in the literature by investigating the potential moderating effects of parental divorce on the relationship between parental attachment and parental criticism as well as on the relationship between parental attachment and self-criticism as shown in Figure 2. However, seeing as parental divorce can occur relatively early (i.e., less than seven years old) or later on in the

child's experience (i.e., more than nine or ten years of age), its impact needs to be considered at multiple points in the mediation model.

*Figure 2.* Process model 8. Parental divorce moderating the effect of parental attachment on parental criticism and the effect of parental attachment on of self-criticism.



### **Parental Substance Abuse**

Self-criticism also seems to be a pervasive trait experienced by many adult children of alcoholics – whereby 2 of the 13 common characteristics identified among this select population appear to resemble this maladaptive trait (i.e., “judge themselves without mercy,” and “constantly seek approval and affirmation.”) (Woititz, 1983). It seems as though many of these self-critical adults seldom received praise or approval from their parent(s) as children; and as a result, they feel inadequate and consequently spend much of their later years desperately seeking the approval of others and never feeling “good enough” due to their self-critical mentality. Relative to other children, children of alcoholics have lower self-esteem and perceive their families as more stressed and less supportive (Tweed & Ryff, 1991; Werner & Broida, 1991). Further, parental substance abuse has been associated with avoidant attachment styles in children

in both a nationally representative and college samples (Mickelson, Kessler, & Shaver, 1997; Brennan, Shaver, & Tobey, 1991). Mickelson and colleagues (1997) postulate that negative life experiences that involve adults directly betraying a child's trust have the most deleterious effects on adult attachment. They further posited that substance abuse tends to be linked with avoidant attachment styles in adulthood (rather than anxious attachment styles) perhaps because those with afflicted caregivers may come to believe (through life experiences) that it is only safe to rely and depend on themselves.

Moreover, most individuals reared by alcoholic parents recalled a more emotionally abusive home life than those with non-alcoholic parents (Tweed & Ryff, 1991). For instance, numerous children from alcoholic families often recalled their parents never validating their feelings (e.g., telling them that it is okay to feel angry/sad), frequently using guilt and shame to rationalize their drinking (e.g., "If you weren't such a rotten kid, I would not have to drink."), and teaching them to repress anger because they witness their parents making situations worse when they express it (Woititz, 1990). These children also learned not to trust because they were frequently lied to and disappointed by their parents and felt that had they been lovable and worthy, their needs might have been met. Ergo, it is suspected that these experiences have negatively affected their self-esteem and self-confidence in one way or another (Bey & Bey, 2007). Thus, adult children of alcoholics appear to be at a heightened risk for developing self-criticism given that their early attempts to offset parental criticism they received was often represented by perfectionism.

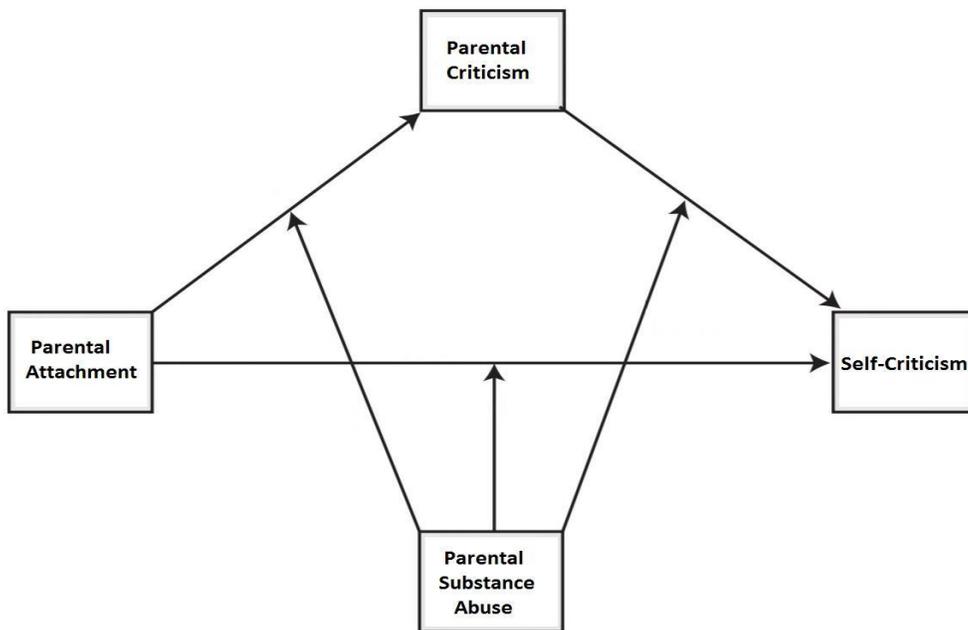
In addition, children reared within an alcoholic environment often evince perfectionistic behavior in efforts to offset punishment and/or in hopes to stop their parents from drinking since

they often believed that they were the cause of their parent's alcoholism (Bey & Bey, 2007). Moreover, since children of alcoholics tend to be constantly criticized – and even though many of the criticisms were nonsensical – they eventually believe in these criticisms and internalize them as negative self-feelings once they are said often enough. Consequently, these youngsters successfully maintain a negative self-image even when there is evidence to the contrary (Woitz, 1990). For instance, children with alcoholic parents learn that if anything goes wrong, it is their responsibility – whereby somehow, had they done something differently, things would have been better. Conversely, these children learn to believe that anything that goes right had to do with something other than themselves. For instance, they will believe that this positive outcome would have occurred anyway, or, if it was clear that they were responsible for the positive outcome, they dismiss it by saying that it was easy or that it was due to luck. Thus, children reared within an alcoholic environment learn to attribute positive outcomes to external reasons (e.g., “I scored the goal because it was a lucky shot”) and negative outcomes to internal reasons (e.g., “I failed the test because I'm stupid”). This readiness to dismiss responsibility for positive outcomes is not a sense of humility but rather a distortion of reality as these children feel safer and more comfortable to keep and maintain a negative self-image simply because they are used to it. It is easier and comforting to gravitate to the familiar – even when it is negative.

Perhaps this supposed susceptibility to developing self-criticism may partially help explain why adult children of alcoholics are more vulnerable to psychiatric illness than adults who were not raised in such an environment (Berk, 2003). And although much research has investigated the self-critical traits of many children (and adult children) of alcoholics as well as their mental health outcomes, a major gap exists within the literature in which parental

alcoholism is often not included in studies assessing the origins of self-criticism. Further, it appears that no other study has specifically utilized the role of parental alcoholism as a potential moderating variable regarding its relation to the development of self-criticism. Thus, this paucity in the literature was addressed by assessing whether or not parental alcoholism moderates the relationship between parental attachment and parental criticism, parental attachment and self-criticism, and parental criticism and self-criticism as shown in Figure 3.

*Figure 3.* Process model 59. Parental substance abuse moderating the effects of parental attachment on parental criticism, the effects of parental attachment on self-criticism, and the effects of parental criticism on self-criticism.



## Gender Differences

### **Self-criticism via same-gender modeling hypothesis.**

Researchers have demonstrated significant associations between restrictive and rejecting parenting and the development of self-critical tendencies within their children – and that these effects are more salient when the recipient of the criticism is the same gender as their critical parent (Koestner et al., 1991). In terms of how restrictive and rejecting behaviour received from the same-gender parent impacts one's development can be conceptualized in social learning terms. Bandura (1977) viewed self-criticism as resulting from faulty self-regulation and postulated that children acquire self-reinforcement standards via observational learning. He found that youngsters who experience parental rejection and receive strict demands are more prone to adopt a similar non-accepting and strict way of being. Therefore, with respect to investigating the origins of self-criticism, the behaviour of the same-gender parent is expected to demonstrate a larger impact on the development of self-critical tendencies given that similar models often have the most powerful effects on observational learning (Bandura, 1977).

Researchers propose that emulating parental criticism may stem from same-gender interactions (e.g., mothers and daughters) based on Bandura's (1977) aforementioned theory. For instance, Parker (1995) investigated the relation between parents' and children's perfectionism and discovered that fathers' perfectionism accounted for 11% of their children's scores whereas mothers' perfectionism accounted for nearly double that of fathers' (i.e., 21%). Moreover, mothers' perfectionism had more explanatory power regarding daughters' perfectionism than sons' perfectionism, however, the reverse was true for fathers.

Further, numerous researchers have found a positive correlation amongst perfectionism found in mothers (but not perfectionism found in fathers) and perfectionism found in daughters (Frost et al., 1991; Soenens, Vansteenkiste, Luyten, Duriez, & Goossens, 2005). Another study demonstrated that maternal perfectionism (but not paternal perfectionism) had a stronger association with daughters' perfectionism than with sons' perfectionism as well as a positive link amongst self-critical daughters and self-critical mothers – however, no association was found with sons (Clark & Coker, 2009).

Similarly, Frost and colleagues (1991) found maternal (but not paternal) perfectionism to predict increased perfectionism in women. In further support of the same-sex modeling hypothesis, Vieth and Trull (1999) found a correlation between perfectionistic participants and perfectionistic same-gender parent. Similarly, previous findings suggest a positive association between perfectionism levels in daughters and perfectionism levels in mothers whereas perfectionism levels in father-daughter dyads were unrelated (Chang, 2000; Frost et al., 1991).

Although much research exists to support the same-sex modeling hypothesis, the findings are mixed. Some researchers have found significant perfectionism relationships between mothers and sons (Brewin, Andrews, & Furnham, 1992), whereas other researchers suggest that it is the specific parental criticisms that were made by both parents that predicted self-critical tendencies (Harris & Howard, 1984). Similarly, Amitay and colleagues (2008) found that having self-critical parents in general predicted self-criticism in girls. Moreover, several studies have found stronger associations of self-criticism with mothers and their children – regardless of gender (Whisman & McGarvey, 1995; Brewin, Firth-Cozens, Furnham, & McManus, 1992).

### **Self-Criticism via Primary Caregiver Hypothesis**

Although most would agree that parental attachment plays a fairly significant role in one's life in general, there is a growing interest with respect to assessing primary attachment figures during people's formative years. Research over the years has suggested that youngsters' attachment to their mothers is higher than to their fathers even throughout their adolescent years (Freeman & Brown, 2001; Haigler, Day, & Marshall, 1995)

Thus, in contrast to the same-sex modeling hypothesis, many believe that self-criticism may have a stronger association with primary caregivers since many individuals tend to have more exposure to their mothers than to their fathers during their formative years (in Western society at least). Several studies have demonstrated self-criticism scores of individuals to be more predictive of their mothers' scores as opposed to their fathers' – thereby supporting the theory that one's self-critical tendencies are more closely linked with the self-critical tendencies of their primary caregivers. For instance, a study by Whisman and colleagues (1995) suggested that those during childhood who were vulnerable to or upset with their primary caregiver's criticism may have a greater likelihood to develop an insatiable appetite to achieve and be more prone to depression after failure. Further, although a study by Parker (1999) found that maternal perfectionism was most closely related to daughters' perfectionism, mothers' perfectionism levels had a stronger association with children of either gender than the fathers' perfectionism levels overall.

In addition, Frost and colleagues (1991) found that parental perfectionism (specifically, maternal perfectionism) was correlated with perfectionism in youngsters (girls in particular). However, due to the sample being solely comprised of women, this finding could not be

generalized to offspring of both sexes. Moreover, although one study found self-critical individuals reporting worse relations with both parents, significant patterns were only shown for mothers (Brewin, Firth-Cozens, Furnham, & McManus, 1992). Further, a study by Cheng and Furnham (2004) demonstrated that maternal care (but not paternal care) was a significant predictor of self-criticism.

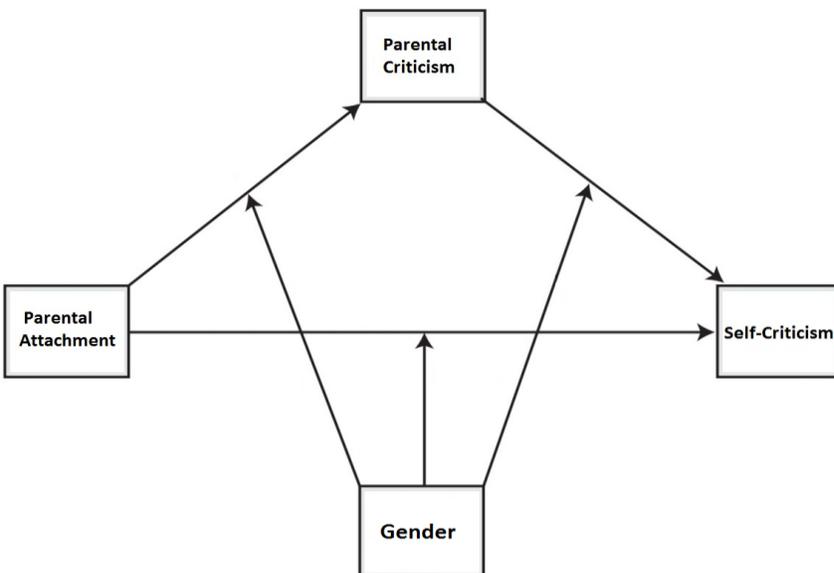
Although the primary caregiver hypothesis has been supported by several studies, other researchers have found contradictory findings. An earlier study by McCranie and Bass (1984) demonstrated that participants with dependency issues described solely their mothers as the controlling and domineering parent, whereas self-critical individuals described *both* of their parents as equally domineering. These findings may reflect that self-criticism is not necessarily exclusively association with one's mother and that mixed feelings may be involved regarding both parents. Further, a study conducted by Vieth and Trull (1999) assessed both the same-same modeling and primary caregiver hypothesis and only found support for the former.

All in all, the gender of the controlling or critical parent and its influence on the development of self-criticism has accrued conflicting results. While numerous studies have suggested mothers to be the more influential parent in general (Main, Kaplan, & Cassidy, 1985; Parker, 1983; Parker & Had-Pavlovic, 1984), both mother and father (McCranie & Bass, 1984; Blatt et al., 1991), others have suggested the same-gender parent (Matussek, Molitor, & Seibt, 1985, Vieth & Trull, 1999), or fathers (Parker & Lipscombe, 1980) to be of utmost influence. Unfortunately, many do not assess paternal influence at all (i.e., studies of mothers with depression). Nonetheless, the gender of the participants seems to be an important variable to

review along with the perceptions of attachment and criticism from both mother and father – regardless of the conflicting findings.

Although a plethora of research has investigated same- and opposite-sex relationships of parent-child associations of self-criticism, no study has assessed gender as playing a moderating role in the associations between parental attachment and self-criticism, parental attachment and parental criticism, and parental criticism and self-criticism. Thus, the current study addressed this deficiency in the literature as shown in Figure 4. I hypothesized that an interaction would exist whereby maternal criticism will predict higher levels of self-criticism in participants overall, with a greater effect on females than males.

*Figure 4.* Process model 59. Gender moderating the effects of parental attachment on parental criticism, the effects of parental attachment on self-criticism, and the effects of parental criticism on self-criticism.



### **Gender Differences of Self-Critical Individuals**

Aside from potential gender differences amongst same-sex interactions (e.g., mothers and daughters) regarding the transmission of self-critical traits, gender differences may exist within self-critical individuals themselves. For instance, researchers reported that in addition to both non-clinical and clinical populations, a large sample of university students demonstrated that men scored a little higher on self-critical measures than women when tested by the Depressive Experiences Questionnaire (DEQ; Zuroff, Quinlan, & Blatt, 1990) – which was similar to previous findings (Chevron, Quinlan, & Blatt, 1978; Blatt, Schaffer, Bers, & Quinlan, 1992). Moreover, a study by Cheng and Furnham (2004) demonstrated that females had lower self-esteem and higher self-criticism scores than males overall – which has been found in previous studies. Regarding earlier years of self-critics, Leadbeater and colleagues (1999) found self-criticism to be more stable in middle school aged males compared to their female counterparts. Consistent with the belief of males being more self-critical than females, Blatt (2004) hypothesized that males would be more self-critical than females in Western culture given that Westerners value independence in men (compared to relatedness and attachment valued in women). However, gender differences in self-criticism were not found.

During the early formative years, males have their primary identification figure change from mother to father – thereby placing great value and importance on independence and (perhaps) self-criticism. Conversely, little girls do not experience a change in primary identification figure (Millon, 2011). These findings may be a reflection of society imposing norms and expectations of men being autonomous and tough (Deaux & Kite, 1993). Further solidifying the link between autonomy and self-criticism, a study by Persons and colleagues

(1991) suggested that those who are more autonomous are more likely to feel guilty, blame themselves and withdraw from close relationships.

Blatt and Schichman (1983) proposed a model of psychological development which proposed that females are more prone to feelings of depression in response to interpersonal problems (i.e., dependency) and men to feel depressed in response to that which threatens how they define themselves (i.e., self-criticism) as a result of shifts in developmental demands. For instance, it was posited that in early childhood, girls experience a change of affection from their mother to their father whereas boys experience a change in identification from their mother to their father. Moreover, Blatt and Schichman's (1983) model emphasizes the beliefs, attitudes, and behaviours of the same-gender parent with respect to children's likelihood of developing depression.

A study conducted by Bromet and colleagues (1998) that assessed adults who experienced posttraumatic stress disorder found that self-criticism was not significantly associated with females (after traumas and other factors were controlled for), whereas both self-criticism and neuroticism had significant associations in males (Cox, MacPherson, Enns, & McWilliams, 2004). In contrast, a longitudinal study demonstrated self-criticism to be more stable for females by endorsing this trait from age 12 to age 31; however, there was no association between self-criticism at 12 years of age and 31 years of age for males (Koestner et al., 1991). Thus, females appeared to be more consistently self-critical than their male counterparts from early their teenage years and continuing on to adulthood.

Similarly, the self-compassion literature reflects this finding by consistently showing women being less self-compassionate and more self-judgemental than men (Neff, 2003a). Neff (2003a) found females to be less self-compassion than their male counterparts – whereby they were more likely than males to judge themselves and to feel overwhelmed by their negative emotions. Neff's (2003a) findings were congruent with past research that females are more likely to have self-critical tendencies as well as fixate on their negative affect more than their male counterparts (Nolen-Hoeksema, Larson, & Grayson, 1999; Nolen-Hoeksema & Corte, 2004). Thus, this tendency may be reflected in higher prevalence rates of depression amongst women (Nolen-Hoeksema, 1987; Leadbeater, Blatt, & Quinan, 1995).

Despite the conflicting literature regarding gender differences in self-criticism, I believe identifying the gender of the individual to be an important variable to review. And although an extensive amount of research has assessed supposed gender differences in self-criticism, no other study has determined the moderating effects of gender on the relationships between parental attachment and self-criticism, parental attachment and parental criticism, and parental criticism and self-criticism. Ergo, the present study has addressed this unanswered research question as shown in Figure 4 above.

### **Gender Differences in Attachment**

Some argue that gender disparities in attachment patterns could be expected that may stem from the extent to which males and females are subjected to differing socialization expectations – particularly with respect to emotion regulation in close relationships (Bartholomew, 1994). An earlier study that assessed attachment relationships in high-risk mother-infant pairs by Egeland and Farber (1984) purported several gender differences in

attachment. Regarding male infants, they tended to be more vulnerable to caretaker differences (as evidenced by the observations of interaction during feeding and play), and mothers of anxious/avoidant boys were less sensitive and less cooperative than mothers of securely attached boys. Conversely, maternal cooperation and sensitivity did not discriminate among attachment classifications for infant girls and these female youngsters appeared to be more vulnerable to stressful life events than males. However, more recent studies supported the idea that gender differences do not exist in avoidance or anxiety in infants and young children (Bakermans-Kranenburg & van IJzendoorn, 2009).

Interestingly, there seems to be consistent findings that attachment patterns begin to be more gender-biased by middle childhood (i.e., girls being more anxious and boys being more avoidant) (Corby, 2006; Kerns, Abraham, & Schlegelmich, 2007). These results have been found via the utilization of various methods as well as across cultures. Further, in light of innate differences, researchers have investigated the gender disparities in attachment via the biological hypothesis by Taylor and colleagues (2000). This hypothesis explains the sexually dimorphic responses that exist with respect to how one responds to threatening and stressful situations – referred to as the “tend-and-befriend” and “fight-or-flight” hypotheses (David & Lyons-Ruth, 2005). Results demonstrated that little girls would go up to their mother (more than little boys) when she evinced startling behaviours, whereas little boys (particularly when stressed) were more likely to behave aggressively. Moreover, a meta-analysis study indicated small gender-related effects which demonstrated that same-gender siblings had a slightly better chance to be both securely attached or both insecurely attached compared to their mixed-gender paired counterparts (van Ijzendoorn, 2000).

Some research suggests that males and females have been disproportionately associated with avoidant and anxious attachment, respectively. For instance, Giudice (2008) found gendered effects in attachment styles of little children from approximately 7-11 years of age. Results demonstrated that insecure attachment styles were stratified by gender whereby boys displayed more avoidant tendencies whereas girls evince more anxious tendencies.

It has been noted that in terms of children's behaviour, avoidance is often manifested by externalizing disorders, acting aggressively or having an inflated self-esteem and anxiety, in contrast, is usually evinced via internalizing disorders, peer victimization, and being passive (Finnegan, Hodges, & Perry, 1996; Card & Hodges, 2003). Adults, on the other hand, exhibit avoidant behaviour by refraining from commitment and emotional investment in intimate relationships as well as being typified by promiscuity. Conversely, anxiety in adults is often indicated by commitment in relationships, a mixture of sexually impulsive behaviour, as well as females having the tendency to do whatever they can to prevent their partners from leaving them (Del Giudice, 2009). It is noteworthy that the various traits and disorders that are associated with avoidance in children are also related to males in adulthood (e.g., aggression, externalizing disorders), and in turn, the traits and disorders associated with anxiety in children are often linked with females in adulthood (e.g., passivity, internalizing disorders) (Leadbeater et al., 1999). Thus, it seems consistent regarding research on adult romantic attachment with males reporting more avoidance and less anxiety than females.

The aforementioned findings suggest the effect of anxious and avoidant attachment on self-criticism is likely to be moderated by gender with avoidant attachment having more effect on males and anxious attachment having more impact on females. However, rather than

replicating how numerous studies investigated the relation between attachment and self-criticism (i.e., categorizing participants' attachment as secure, anxious, or avoidant and determining which gender is more self-critical in relation to their attachment style), the present study instead utilized the IPPA and assessed how one's attachment to their mother and father during childhood influences the development of self-criticism and had gender serve as a moderating variable. Furthermore, the IPPA assesses parental attachment dimensionally rather than categorically (i.e., scoring either higher or lower on attachment security), thus classifying attachment avoidance and anxiety as being low on attachment security.

### **Gender Differences in Parental Criticism**

The differential nature of maternal and paternal involvement has been described in numerous studies, whereby mothers have typically reported performing more of the childcare and household work as well as to interact with the children more often than do fathers (Videon, 2005). More frequent interactions and greater responsibility for their child's care tend to create more opportunities for mothers to get exposed to conflicts with their child that eventually may elicit critical mothering. On the other hand, fathers have been found to spend less time with their little ones and instead engage in activities like playing or talking with their child (Lamb, 2000). It is noteworthy that although both parents tend to spend less time with their youngsters in adolescence than in childhood, patterns of maternal and paternal involvement seem to remain similar despite the child's age (Collins & Russell, 1991). Consequently, less involved fathers may have less knowledge and interest in child development and parenting practices. Therefore, fathers' criticism toward their externalizing children may be interpreted as a parenting style that is less responsive to a particular child's behavior.

In addition, a meta-analysis demonstrated parental caregiving and child externalizing behaviors to be more strongly related in mothers than in fathers (i.e., more caregiving is associated with less externalizing behaviour) (Rothbaum & Weisz, 1994). As interpreted by these authors, mothers are usually the primary caregivers and, in turn, are more involved with their children. Thus, a more involved parent is more likely to get influenced by or have a greater influence on the child.

Aneti and Bemporad (1980) examined the childhood family backgrounds of a small sample of depressed adults, judging the family structure to be highly stable, with one dominant parent and little tolerance for non-conformity to an expected norm of good behavior. In early childhood, deviations from such expectations were punished by threats of abandonment and in later childhood by the inducing of guilt or shame. When the parents demanded achievement and worldly success as conditions of acceptance, the child developed the dominant-goal (self-criticism) predisposition. Instead of submission and passivity, both parents demand achievement and success as conditions of acceptance, with the child reacting by striving to win their approval through performance. However, McCranie and Bass (1984) found that self-critical tendencies were linked with reports of recalling both parents as inconsistently expressing attention and affection, as well as emphasizing achievement. Contrary to expectation, however, self-criticism was not associated with greater paternal dominance, exhibiting instead little association with perceptions of either parent as consistently more influential in decision making.

Lending further support to the finding that mothers are the more influential parent, according to the theory of identification, children develop the ability to control themselves, depend on themselves, and punish themselves by imitating their caretaker (i.e., their mother)

(Baldwin, 1980). The various encouragements, instigations, and controls for behaviour that are first carried by the parent(s) become internalized so that children function independently. Thus, identification involves imitation of another person's behaviours, beliefs, mannerisms, and values. Children reinforce themselves by saying to themselves the approving (or disapproving) words of their parent(s), control themselves by warning themselves of the consequences of their behaviour, and punish themselves by reproving their own acts (Baldwin, 1980). Therefore, the motivation for children to identify with their parents is twofold: to reproduce and maintain their parents' characteristics as sources of nurturance and gratification, and to reduce their anxiety levels that are elicited by the threat of their punishment or rejection. Identification, then, primarily involves the imitation of another person – and more likely of a person who the child experiences the most. Consequently, for better or for worse, a child is more likely to endorse, adopt, and internalize the values, beliefs, and behaviours of their mother (presumably).

Although numerous studies have investigated whether or not parental criticism is related to their kin's self-criticism, a general consensus has not been reached. Seeing as some studies suggest low association (Chang, 2000), others have demonstrated that zero association exists (Ablard & Parker, 1997), and many showed significant correlations with solely the same-gender parent (Vieth & Trull, 1999; Frost, Lahart, & Rosenblate, 1991). However, despite these conflicting research findings, it is clear that both mothers and fathers are major contributors to their youngster's development of self-concept/self-esteem, and in turn, those who have low self-esteem tend to judge themselves negatively and critically. A child who is habitually and continuously criticized is unlikely to develop feelings of self-worth and more likely to develop self-critical tendencies. As a result, it may be the case that a caregiver's critical or rejecting

words become internalized as feelings of unworthiness, inferiority and ultimately – self-criticism. Therefore, given that maternal involvement remains more pervasive than paternal involvement throughout a child’s life, I predicted that maternal criticism would have greater influence on participants’ levels of self-criticism than paternal criticism. In addition, the current study contributes to the pre-existing literature by uniquely assessing both parental criticism and parental attachment in a mediation model predicting the development of self-criticism.

### **Gender Differences in Maternal and Paternal Substance Abuse**

Studies linking gender role arrangements to alcohol use and abuse have assessed the extent to which women's and men's marital, parental and work-role statuses and responsibilities are differentially linked to drinking behaviors (Wilsnack & Wilsnack, 1992). Moreover, gender-related research linking parenthood with problem drinking vulnerability has typically focused on situations involving either role overload or role deprivation. The role-overload theory views women's large scale entrance into the labor force during recent decades as resulting in overwhelming role demands (Hochschild, 1989). However, despite their occupational roles, women have continued to shoulder the major burden for household and childcare activities (Ross, Mirowsky, & Huber, 1983). Nonetheless, employed women have generally evinced better or comparable mental health in comparison with housewives (Wilsnack & Wilsnack, 1992). Yet, if domestic responsibilities are particularly stressful following entrance into parenthood, the role overload hypothesis predicts that following parenthood employed women should manifest greater distress and vulnerability to problem drinking compared to homemakers and fathers. Moreover, perceptions of doing too much and an unfair amount of work should also be linked to problem drinking.

Relative to the limited empirical support for the role-overload thesis, Wilsnack and Cheloha (1987) suggested that the assumption of few rather than many social roles (role deprivation) may be accompanied by greater loneliness, lower self-esteem and more limited social support. Their study showed a significant link between fewer role relationships and problem drinking in women. From this perspective, homemakers who relinquish previous occupational roles following parenthood should be most vulnerable to problem drinking.

Finally, life transitions can also be accompanied by roles that are not lost but, rather, diminished in their perceived quality over time (role deterioration). The transition to parenthood may, in the process of tending to the needs of a new-born, entail a shift in energy from other social relationships. In particular, the presence of young children constrains the attention that spouses can give to each other and leads to decreased marital support (Richman, Raskin, & Gaines, 1991). Since social support functions as an aid in coping with stress, when its availability decreases, alcohol may be used to self-medicate distress. From this perspective, both men and women who experience decreased support across the transition to parenthood may be vulnerable to problem drinking following parenthood.

Regarding gender differences in parental substance abuse, Kuntsche and colleagues (2011) found that a negative relationship was more often demonstrated between family-related indicators (i.e., division of chores and child-care responsibilities, age and number of children) and drinking habits of women than men. Results also suggested that maternal responsibilities may somehow safeguard from alcohol use, however, maternal responsibilities may in turn have deleterious effects if mothers are simultaneously employed.

Previous studies have also found that in accordance with the multiple burden hypothesis, childcare and household duties coupled with paid employment may result in additional stress, whereby role overload could result in eroding any positive aspects of one's career may possess (Doyal, 1995; Macran, Clarke, & Joshi, 1996). Thus, strains and stress stemming from "between role stressors" (where family and work obligations conflict) may consequently result in heavier alcohol use (Frone, 1999). In addition, a cross-national study indicated that working mothers were more likely to consume more alcohol resulted than stay-at-home mothers (Kuntsche, Knibbe, & Gmel, 2009). These results are congruent with the multiple burden hypothesis and rather conflicts with role accumulation theory. Therefore, these findings suggest that family duties and obligations may overwhelm employed mothers, thereby increasing their vulnerability to drink to alleviate stress.

Additionally, past research has indicated that alcohol abusing mothers may consume more discretely and within their home compared to fathers (e.g., Berkowitz & Perkins, 1988; Stout & Mintz, 1996), whereas men drink earlier than women and tend to become problem drinkers at an earlier age. Thus, females seem to develop problem drinking later in life (Gomberg, 1993) and appear to move through a sequences of alcohol events and/or consequences for a shorter duration and more compressed than their male counterparts (albeit, these results were not replicated for substance abuse) (Filstead, 1984). Numerous studies suggest that women with alcoholism experience an expedited progression of sequences of events that result in dependence ("telescoping effect") and premature onset of severe negative effects of alcoholism (Johnson et al., 2005). Therefore, results suggest that females are at an increased risk to develop chronic alcohol consumption than males. Moreover, given women's propensity to

experience alcohol's effects at a more accelerated rate than men, children of alcoholic parents may perceive more negative interactions with and/or be affected more negatively by their alcohol-abusing mother. In other words, drinking may cause a greater hindrance to alcoholic mothers' ability to carry out their parental and daily life tasks than alcoholic fathers.

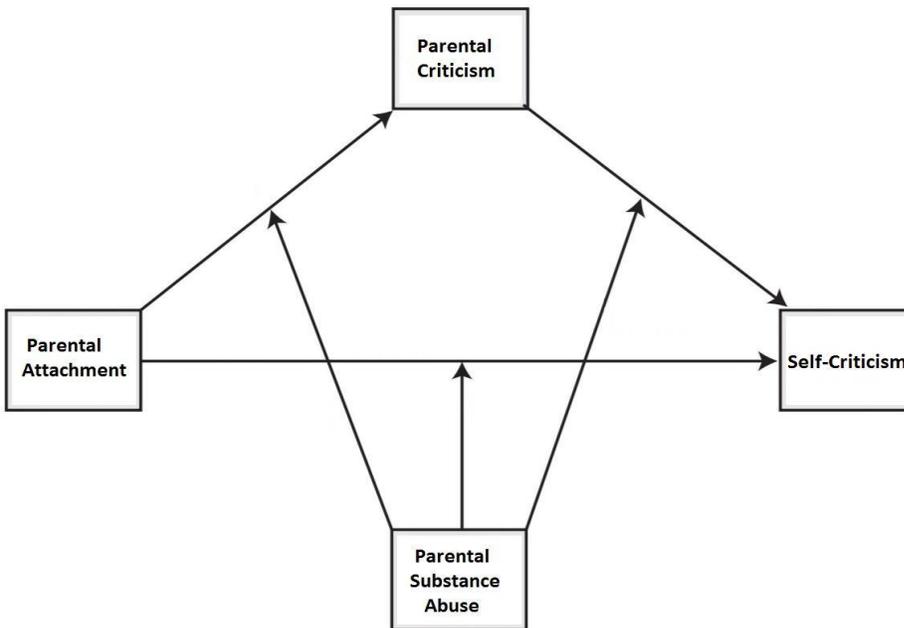
Although more recent research still supports the finding that females begin drinking later in age and become enveloped by alcoholism much quicker than males (Ehlers et al., 2010), others suggest that females enter treatment for alcoholism sooner than men and are not more likely to progress to alcoholism more quickly than their male counterparts (Lewis & Nixon, 2014; Alvanzo et al., 2014). Regardless, a finding that seems consistent is that psychiatric comorbidity is more common amongst females who drink heavily and are alcohol dependent (Mann, Hintz, & Jung, 2004; Flensburg-Madsen et al., 2011). For instance, studies suggest that compared to alcohol dependent men, alcohol dependent women have increased alcohol cravings and increased intensity of depressive symptoms (Boykoff et al., 2010), have an increased vulnerability to severe long-term detrimental consequences on their physical, emotional, and psychological well-being due to alcohol (Polen, Green, Perrin, Anderson, & Weisner, 2010), and have increased rates of concurrent anxiety and mood disorders (Boykoff et al., 2010; Goldstein et al., 2012). Moreover, females of all ages differ from males in that they more often drink when feeling depressed, drink when alone, and are also more likely to drink due to pressure from their partners and to have partners who drink heavily (Wilsnack & Wilsnack, 1997).

As previously stated, studies have shown significant gender disparities concerning the differential onset, course and effects of alcoholism, whereby females progress much more rapidly than males in developing alcoholism. Further, with respect to average age of onset,

previous findings indicate that women typically seek treatment for their alcoholism in their 30s (Gomberg, 1993). Earlier studies have demonstrated a cohort effect in the pattern of women's alcohol and other drug use whereby drinking was two and a half times greater in women aged 35 years and older (Harrison, 1989). Also, recent trends indicate that more women have been delaying their first children until they are well into their 30s (Altucher & Williams, 2003) – which may suggest that many women who struggle with alcoholism today are likely alcohol dependent with at least one child under the age of 10. Thus, not only are some of these children raised by an alcoholic mother, but a sicker one.

Additionally, a study by Epstein and colleagues (2007) purported increased alcohol use disorder prevalence rates in younger women whereby the rate was several times higher than that of their male counterparts. As previously mentioned, women are at an elevated risk for severe mental and physical complications compared to their male counterparts due to biological differences in how they metabolize alcohol. Seeing as females seem to be impacted that much more quickly and severely by alcoholism than their male counterparts and that they are more likely to drink at home, I hypothesized that maternal substance abuse would have the greatest negative effect overall on the development of self-criticism as shown in Figure 5. To my knowledge, no other study has investigated the moderating effects of parental substance abuse on the effects of parental attachment on parental criticism, the effects of parental attachment on self-criticism, or the effects of parental criticism on self-criticism. Thus, the present study has made an original contribution to the literature by addressing this gap in research.

*Figure 5.* Process model 59. Parental substance abuse moderated the effects of parental attachment on self-criticism, the effects of parental attachment on self-criticism, and the effects of parental criticism on self-criticism.



### Peer Victimization

Given the finding that self-critical individuals are more likely to lack social skills, they may also find themselves the target of peer harassment within the school environment. Many alcoholic families, for example, do not have people over, do not go out, or engage in small talk. Thus, children in a substance abusing home often do not have positive social role models to base their behaviour on – and consequently become easy targets for peer victimization due to being (to a certain extent) social pariahs (Bey & Bey, 2007). Like black sheep (Marques, Abrams, & Serodio, 2001), or social misfits (Wright, Giammarino, & Parad, 1986), children and young adults who suffer from peer victimization deviate from their group’s perception of what is “normal” and are thereby more likely to be socially anxious and lonely (Graham, 2005). In turn,

the causal attributions to which they ascribe the reasons for such harassment are more likely to implicate the self. Graham (2005) found that the relationship between peer victimization and psychological maladjustment is mediated by attributions that implicate one's character. Thus, victims of peer victimization were more likely to endorse characterological self-blaming attributions for peer harassment (e.g., "It's something about *me*, things will always be this way, and there is nothing I can do to change it") than behavioural self-blaming (e.g., "I should have been more careful this time") compared to non-victims.

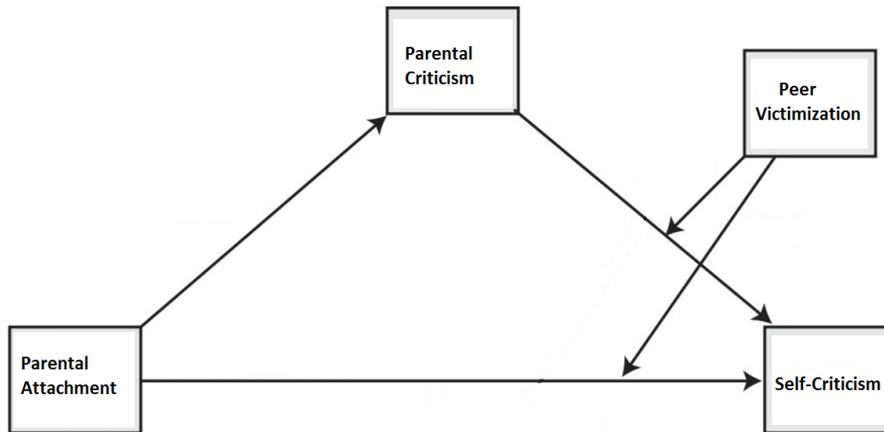
It is difficult, however, to determine whether or not self-criticism precedes peer harassment, peer harassment induces self-criticism, or if an interplay exists with no causal direction. Moreover, a burgeoning empirical literature has found numerous social, psychological, as well as academic consequences of being the recipient of peer victimization (Kochenderfer-Ladd, & Ladd, 2001). Victims of such maltreatment are more likely to feel depressed and insecure and to have lower self-esteem in comparison to those who have not been non-victimized. Thus, there appears to be a profound interplay amongst self-critical tendencies, social skills deficits, and peer abuse/rejection.

More recently, a new kind of bullying has been observed among students in school – "cyber bullying." This form of bullying stems from recent developments in technology utilized by youth that are creating more and more environments whereby youngsters can exercise peer victimization behaviours in the classroom by means of electronic devices (Ayas & Horzum, 2010). This new kind of bullying has been identified as a type of psychological bullying by means of electronic devices (i.e., blogs, web sites, cell phones, chat rooms) (Shariff & Gouin, 2005) as well as a form of social aggression (Lacey, 2007). Thus, in cyber bullying, aggression

occurs via electronic forms of contact. Given that cyber bullying is not restricted to the school day and can occur at any time, children's vulnerabilities are heightened with the omnipresence of this form of bullying. Interestingly, recent research suggests that there is an association between traditional bullying victimization (i.e., physical: assault; verbal: threats; relational: social exclusion; indirect: spreading rumours) and an elevated likelihood of suicidal ideation, whereas both cyber bullying and traditional bullying are correlated with mental health problems among females (Bannink, Broeren, van de Looij-Jansen, de Waart, & Raat, 2014).

Much research exists regarding the association between peer victimization and self-criticism; however, a paucity exists amongst the literature in which no other study has utilized peer victimization as a moderating variable to assess whether or not it could moderate the effects of parental criticism on self-criticism or the effects of parental attachment on self-criticism (as shown in Figure 6). Thus, my study investigated these relationships. Seeing as peer victimization (both online and offline) are associated with negative effects on one's future mental health, peer victimization was predicted to moderate the relationship between parental criticism and self-criticism as well as moderate the association between parental attachment and self-criticism. Therefore, peer victimization may reduce or remove this support entirely and thus leave a child less defended against the effects of parental criticism.

*Figure 6.* Process model 15. Peer victimization moderating the effects of parental attachment on self-criticism and the effects of parental criticism on self-criticism.



### Self-Compassion

Self-compassion is defined as the ability to respond to painful and negative events with compassion and warmth (Neff, 2003a). Research suggests that those who are more self-compassionate tend to experience less anxiety and depression (Raes, 2010) in addition to feeling happier and more optimistic (Neff, Rude, & Kirkpatrick, 2007). Thus, rather than reacting harshly and punitively to oneself in response to negative circumstances, some face their shortcomings in stride and do not let it get the best of them (Leary, Tate, Adams, Batts Allen, & Hancock, 2007). These people who take their failures and imperfections in stride may possess self-compassion – a psychological trait that could help self-critical individuals in dealing with life’s quandaries (Neff, 2003a, 2003b).

Self-compassion appears to be a promising protective factor for people who suffer from extreme forms of negative self-evaluations and is believed by some to be the “antidote” to self-criticism (McKay & Fanning, 1992). Irons and Gilbert (2005) posit that others can be taught how to be self-compassionate and thereby assist in fostering self-soothing skills. Therefore, learning this may have additional therapeutic properties in attenuating the pernicious effects of self-criticism (Gilbert, 2000). Thus, protective qualities may come from self-compassion that

may help individuals become more resilient in the face of adversity given that a self-compassionate person is more likely to see their shortcomings and weaknesses more accurately and react kindly and compassionately (rather than harshly and critically).

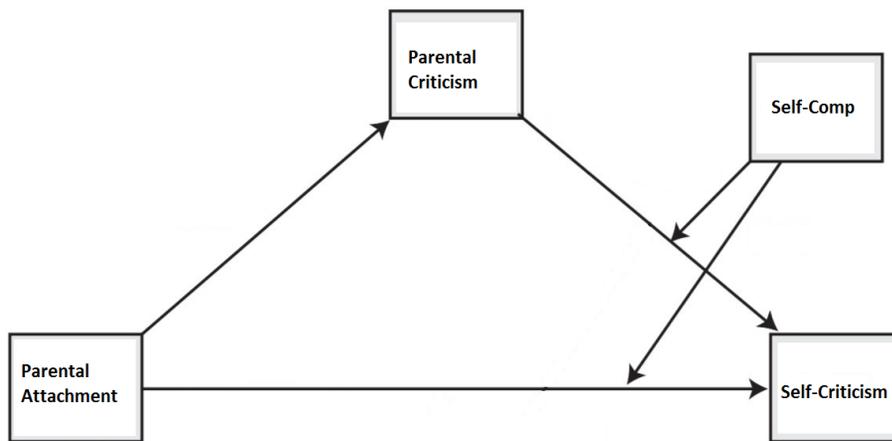
However, it is important to recognize the distinction between self-compassion and self-esteem whereby self-compassion has protective qualities that buffer against unfortunate circumstances whereas self-esteem is linked with thinking that one is appreciated by others and good feelings toward the self (Leary & MacDonald, 2003). Nonetheless, those who are highly self-compassionate tend to similarly have high self-esteem (Neff, 2003b) – possibly due to responding with warmth and kindness to oneself rather than critically. This warm and kind response to the self in turn promotes positive feelings regarding oneself. Interestingly, even when self-esteem is controlled for, lower levels of self-compassion provides explanations for a good proportion of the variance found in anxiety and depression – which may indicate that self-compassion aids in one's well-being in ways which may be mutually exclusive from those of self-esteem (Leary et al., 2007).

A study by Pepping and colleagues (2015) found that parental overprotection and rejection was related to being less self-compassionate and that this association was mediated by attachment anxiety. Their findings further suggest that experiences of parental criticism and rejection are negatively linked with self-compassion via heightened attachment anxiety and demonstrated that enhancing attachment security can increase one's levels of self-compassion. Therefore, being securely attached is correlated with higher levels of self-compassion.

Although numerous studies exist regarding the associations between self-compassion and self-criticism, no other study has investigated the potential moderating effects of self-compassion

on the relationship between parental criticism and self-criticism or between parental attachment and self-criticism as the current study has, as shown in Figure 7.

*Figure 7.* Process model 15. Self-compassion moderating the effects of parental attachment on self-criticism and the effects of parental criticism on self-criticism.



### **Purpose of the Proposed Study**

In light of the foregoing literature review, the purpose of the proposed study was to examine the role of attachment in the childhood origins of self-criticism retrospectively reported by young adults, the possible mediating effect of parental criticism on the relationship between parental attachment and self-criticism, and the potential moderating role of participant and parental gender, parental divorce, peer victimization, parental substance abuse, and self-compassion on this mediational model.

### **Hypotheses**

1. Lower levels of parental attachment is associated with higher levels of self-criticism.
2. Parental criticism mediates the direct relationship between parental attachment and self-criticism through a negative indirect effect.

3. Participants' gender moderates the effect of parental attachment on self-criticism, the effect of parental attachment on parental criticism, and the effect of parental criticism on self-criticism whereby same-gender matches with participants and parents will produce stronger negative effects.
4. Parental divorce moderates the effect of parental attachment on self-criticism and the effect of parental criticism on self-criticism with a stronger negative effect.
5. Peer victimization moderates the effect of parental attachment on self-criticism and the effect of parental criticism on self-criticism with a stronger negative effect.
6. Self-compassion moderates the effect of parental attachment on self-criticism and the effect of parental criticism on self-criticism whereby self-compassion weakens the relationship between parental criticism and self-criticism and weakens the association between lower parental attachment and self-criticism
7. Parental substance abuse moderates the effects of parental attachment on self-criticism, the effects of parental attachment on parental criticism, and effects of parental criticism on self-criticism by disrupting protective qualities of parental attachment on parental criticism and self-criticism (a stronger negative effect), and strengthening the relationship between parental criticism and self-criticism.

The primary interest of the current study was in parental attachment predicting self-criticism whereby lower levels of parental attachment would predict higher levels of self-criticism. The secondary interest of the present research was in a mediational model, that maternal and paternal criticism (assessed independently) would mediate the expected

relationship between maternal and paternal attachment (assessed independently) and self-criticism. I was also interested in exploring and testing moderator hypotheses on the aforementioned mediation model, such as the interaction of different parental variables (i.e., divorce, substance abuse), participants' gender, peer victimization, and self-compassion.

### **Research Design**

The present study was quantitative and cross-sectional in nature. The research was conducted in a single-step with a single-condition design. The questionnaire was available online and at any location of the respondent's choice.

## **Method**

### **Participants**

Participants were 507 undergraduate students enrolled in Introduction to Psychology at the University of Manitoba who completed this online study in exchange for academic credit. In order to achieve the desired power (i.e., .80) for an estimated small effect size of .05 (Cohen's  $f^2$  effect size), with an alpha of .05, a minimum number of 293 participants was required. Six hundred participants were recruited as a 3:1 ratio of females to males was expected. Accordingly, a larger sample was required to obtain 150 male respondents. The sample was comprised of 260 females and 247 males aged 18 and older. Most participants self-identified as White/European (57.8%) although several other ethnicities also were present (Filipino 14.99%, South Asian 5.9%, Chinese 5.53%, Black 3.55%, Metis 3.55%, Aboriginal 1.38%, South East Asian 5.9%, Japanese.4%, Other 4.93%). All participants were raised by both their biological parents up until

at least 10 years of age and 27 participants experienced parental divorce. Participants were not asked to indicate their age as this variable was not relevant in a sample of first year psychology students.

## Measures

### *Potential Covariates*

*Sociodemographic variables.* Students were asked several questions regarding sociodemographic information. First, participants were asked to indicate their gender (i.e., “male,” “female,” or “other”). Second, participants were asked to indicate their ethnicity whereby their response options were: Aboriginal/First Nations, Black, Chinese, Filipino, Japanese, Korean, Metis, South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan), South East Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese), White/European (e.g., English, French, Scottish, Irish, etc.), and Other. Third, participants were asked to specify how many siblings they have (i.e., 0, 1, 2, 3, 4, 5, or over 5). Fourth, participants were asked to indicate their birth order; response options were: first, second, third, fourth, fifth, sixth (or more), and last. Fifth, students were asked to indicate who had raised them from 0-10 years of age (the nine responses options were: I was raised by both *biological* parents, I was raised by *adoptive* parents, I was raised by my biological mother, I was raised by my biological mother and step-father, I was raised by my biological father, I was raised by my biological father and step-mother, I was raised by my adoptive mother, I was raised by my adoptive father, or Other). Next, participants were asked if their parents had divorced when they were between 0-10 years of age. Seventh, students whose parents divorced when they were 0-10 years provided how old they were when

their parents divorced (responses were: 0-5 years old, 6-10 years old, 11 years old and older, and N/A). Participants whose parents did not divorce or separate when they were 0-10 years of age then chose one of five responses that would best describe their parents' relationship when they were under the age of 10 (i.e., "Mostly happy," "Fairly happy," "Not overly happy or unhappy, but they got along with each other," "Fairly unhappy," and "Mostly unhappy"). Participants who had experienced parental divorce prior to age 10 were then asked if they had gained a step-parent and answered either "YES – I gained a step-mother," "YES – I gained a step-father," or "NO." Lastly, students who gained a step-mother or step-father were subsequently asked to indicate at what age their step-mother or step-father entered their life (0-5 years old, 6-10 years old, 11 years old and older, or N/A).

***Self-Deceptive Denial scale.*** Participants answered questions from the Self-Deceptive Denial scale that is part of the Balanced Inventory of Desirable Responding (SDD; Paulhus, 1991). Participants were asked 20 questions relating to their denial of undesirable, but common, negative feelings (e.g., "I enjoy it when obnoxious people get put down"). Participants answered the items on a 7-point response scale ranging from 1 (*Not true*) to 7 (*Very true*). Only extreme responses (i.e., endorsements of negations items at 6 and 7, or denials of positively worded items at 1 and 2) are scored (Paulhus & Reid, 1991).

### **Independent Variables**

***Parental Attachment.*** Attachment levels were assessed using the self-report Inventory of Parent and Peer Attachment questionnaire (referring to when they were from 0-10 years of age) (IPPA; Armsden & Greenberg, 1987). Congruent with Bowlby's attachment theory, components of the IPPA assesses participants' perceived psychological security from their relationships with

those close to them. In particular, this 70-item questionnaire measures the quality of attachment as well as the cognitive and affective qualities to both parents and peers and includes subscales that assesses three components of attachment relationships (i.e., trust, alienation, communication). However, rather than subscale scores, total scale scores were used for the present study. Further, the present study solely utilized the parental attachment measures and did not include peer attachment as we did not find it relevant to self-criticism.

The IPPA assessed two separate dimensions of attachment relationships: (1) the participants' "felt security" or quality of affect toward each of their parents, and (2) proximity seeking – defined in terms of the participants' utilization or seeking of significant others in times of emotional need. Greenberg and colleagues (1983) demonstrated that security in relation to parents is predictive of various indices of young adults' well-being over and above security with peers. Results also suggested that emotional utilization of parents was moderately positively associated with security and that parental utilization was not a function of age – rather parents continue to be an important emotional resource across adolescence and on. These findings are consistent with several other perspectives on adolescence (Bell & Bell, 1983; Kandel & Lesser, 1969). Thus, those who are higher on attachment security have a greater likelihood of reaching out to significant others (i.e., parents, spouses, etc.). Therefore, items were created in efforts to measure the respondent's perceived sense of security, the degree to which attachment figures understood and respected their needs, and that they perceived their parents as responding sensitively to their concerns and were tentative to their emotional needs. Seeing as detachment or intense and frequent expressions of anger are often indicative of a disruption in the attachment relationship, items were incorporated that measured emotional detachment from attachment

figures as well as feelings of anger (e.g., “I felt there was no use letting my feelings show around my mother,” “I felt angry with my father”). Sample parental attachment items include “My mother was able to sense when I was upset about something” and “I told my father about my problems and troubles.” Participants indicated from 1 “*almost never*” to 5 “*almost always*” regarding how often each statement was true for them. The alpha for the scale totals for IPPA Mother and IPPA Father were .95 and .96, respectively.

Koon (1997) reported Cronbach’s alpha levels that varied from 0.87 to 0.92 for the Mother, Father, and Peer total scores and demonstrated strong validity as well as reliability for those of early adulthood age (Cotterell, 1992). Given that the quality of parental attachment was paramount to the present study – total scale scores were utilized rather than the three subscales. Other researchers have also demonstrated the IPPA to have good internal consistency (alpha for mother relationship quality scale total = 0.87; alpha for father relationship quality scale total = 0.89) (Hilt, Nock, Lloyd-Richardson, & Prinstein, 2008) and validity (Armsden & Greenberg, 1987; Fergusson, Woodward, & Horwood, 2000). Hilt and colleagues (2008) also demonstrated very high internal consistency for the IPPA total scales for both mother and father attachment (all alphas > 0.94) as well as McCarthy and colleagues (2001) (paternal and maternal attachment scales obtained alpha levels of 0.95 and 0.93 respectively). The questionnaire was altered in such a way that students answered the items retrospectively (i.e., concerning how they felt about their parent when they were between 0-10 years of age) rather than relative to the present. For instance, rather than being asked “Talking over my problems with my father makes me feel ashamed or foolish,” participants were asked “Talking over my problems with my father made me feel ashamed or foolish.”

Convergent validity has been reported in relation to moderate associations between various measures and the IPPA, such as the Social Self-Concept subscale ( $r = 0.46$  with Parent attachment) as well as the Family Self-Concept subscale of the Tennessee Self-Concept Scale ( $r = 0.78$  with parental attachment). The results of factor analysis conducted by McCarthy et al. (2001) further demonstrated that each scale that assessed maternal and paternal attachment from the IPPA had loaded onto their respective maternal and paternal attachment factors. Significant positive associations have also been demonstrated between attachment and the three subscales of the Family Environment Scale (FES): Expressiveness ( $r = 0.52$ ), Organization ( $r = 0.38$ ), and Cohesion ( $r = 0.56$ ). Furthermore, strong negative associations were found regarding two subscales of the FES: Conflict ( $r = -0.36$ ) and Control ( $r = -0.20$ ) (Armsden & Greenberg, 1987). Thus, the parent attachment scales have been frequently utilized in past studies (Laible, Carlo, & Roesch, 2004; Ma & Huebner, 2008), exhibited predictive validity (Laible, Carlo, & Raffaelli, 2000), and are still commonly used in the literature (McCarthy et al., 2001). Lapsley and colleagues (1990) found the IPPA to be predictive of personal and social identity as well as of aspects of college adjustment (e.g., academic, personal-emotional, and social). Further, associations have been found between less secure parental attachment and separation anxiety, suicidal ideation, depression, and hopelessness (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990). Moderate correlations have also been found between parental attachment and seeking out parents when stressed or in times of need.

Evidence of discriminant validity is that unlike Parental attachment, Peer attachment is unrelated to the measures of family environment. Also, when compared to the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979) and Parental Attachment Questionnaire

(PAQ; Kenny, 1997), subscales of the IPPA significantly inter-correlate with those of the PBI and PAQ (all of which demonstrate adequate to excellent psychometric properties). Convergent validity for the IPPA, PBI, and PAQ have been established.

### **Potential Mediator Variables**

***Perceived Parental Criticism.*** Perceived parental criticism was assessed by Frost's Multidimensional Perfectionism Scale (MPS; Frost, Marten, Lahart, & Rosenblate, 1990) – which contains several subscales, including Parental Expectations and Parental Criticism. The MPS is a 35-item inventory that is rated using a 5-point response scale (*strongly disagree* – *strongly agree*) with all items in the form of statements. Although the MPS is comprised of six subscales (i.e., Doubts about Actions, Concern over Mistakes, Organization /Order, Personal Standards, Parental Expectations, and Parental Criticism), for the purposes of the current study, respondents only completed the Parental Expectations (PE) and Parental Criticism (PC) subscales in efforts to assess their perceived parental criticism as a potential developmental source of self-criticism. PE (high standards/goals) includes five items whereas the PC (punishment for being less than perfect) contains four. According to Frost et al. (1990), the PE subscale reflects “the tendency to believe that one's parents set very high goals and are overly critical” (p. 453). Two of the five items from this scale include “Only outstanding performance is good enough in my family” and “My parents wanted me to be the best at everything.” The PC subscale reflects parents' tendencies to engage in critical evaluations of their children in addition to children's tendencies to highly value these criticisms. Two of the four items from this subscale include “As a child, I was punished for doing things less than perfect” and “I never felt like I could meet my parents' expectations.” Construct validity is evident of the Frost MPS scales as

Frost and Marten (1990) found that individuals from nonclinical samples with high general perfectionism scores had more difficulty with an evaluative task and rated their performance more critically than their less perfectionistic counterparts.

For the purposes of this study, both the PE and PC subscales were reworded to address each parent separately (i.e., “My mother wanted me to be the best in everything,” “My father wanted me to be the best in everything.”). Participants completed the measure referring to when they were from 0-10 years of age. Regarding the present study, the PC for participants’ mothers and fathers both had an alpha of .88 and the PE for participants’ mother and father were .87 and .88 respectively. As the PE and PC constructs are closely related and the correlation between the PE and PC scales for participants’ mothers ( $r = .435, p < .01$ ) and fathers ( $r = .532, p < .01$ ) were large, the two scales were combined in the present study. The alphas for the combined scales for participants’ mothers were .88 and .90 for participants’ fathers.

### **Potential Moderator Variables**

**Peer Victimization.** Peer victimization experienced by participants during their childhood (i.e., under age 10) was assessed with the 21-item School Bullying Severity Scale (SBSS; Chen, Liu, & Cheng, 2011). Participants completed the questionnaire based on their recollections when they were from 0-10 years of age consistent with the focus on this time period for other measures used in this study. The SBSS assesses four categories of bullying: cyber bullying (e.g., “Been the target of an online rumour”), relational bullying (e.g., “Been ostracized”), verbal bullying (e.g., “Been spoken ill of in public”), and physical bullying (e.g., “Been tripped”). Participants answered each item with response options measuring the severity of the behaviours using a 5-point response scale (*less serious – more serious*). All items exhibited high item–total

correlations (ranging between .67 and .86). The SBSS scale has been validated with Rasch analysis, and the results demonstrated good evidence of reliability and validity (Chen, Lui, & Cheng, 2012). Moreover, all items have demonstrated high item–measure correlations (all above .67), which supported the technical quality of items. Regarding structure, the results of the principal component analysis of residuals (PCAR) indicated no shared secondary dimension among items, which supported the unidimensionality of the SBSS. With respect to generalizability, the person-separation reliability coefficient of the SBSS was satisfactory (Chen, Lui, & Cheng, 2012). For the current study, a scale total was utilized (rather than subscales) and obtained an alpha level of .95 for the present sample.

***Parental Alcohol and Substance Abuse.*** The Children of Alcoholics Screening Test (CAST; Jones, 1981) is comprised of 30 true or false items (i.e., “yes” or “no”) scale designed to identify those who were raised by alcoholic parents. The widely utilized CAST has differentiated between adult children of alcoholics self-help group members and those who were not members (Bradley & Schneider, 1990), as well as from those who identified themselves as individuals who were reared by alcoholic parents (Jones, 1983). This measure has been demonstrated to have good test-retest reliability, possess internal reliability, and to be in concordance with other scales. With respect to construct validity, the CAST has correlated well with measures of poor family functioning as well as with measures of parental alcoholism (Clair & Genest, 1992) and emotional difficulties (Staley & El-Guebaly, 1991). CAST scores were also found to be unrelated to family expressiveness (Dinning, & Berk, 1989).

In efforts to provide a more concise and efficient, yet equally effective screening measurement, the CAST-6 (a 6-item measure) was developed (Hodgins, et al., 1993). The

CAST-6 has been deemed as a practical and succinct screening measure for identifying adults who were reared by alcoholic parents and obtained a Cronbach's alpha range from .86 to .92 across the three samples the measurement derived from (i.e., a sample of students studying medicine, psychiatric outpatients, and people attending drug abuse treatment from programs) (Hodgins & Shimp, 1995). Across the three samples, the CAST-6 obtained a 97% accuracy rate while utilizing the suggested cut-off score (i.e., 3) as the benchmark for the CAST measure.

This shortened measure has been demonstrated to possess good test-retest reliability, internal reliability, as well as to agree with various other scales, such as the Michigan Alcoholism Screening Test (MAST; Selzer, Vinokur, & van Rooijen, 1975), the Renard Diagnostic Interview (RDI; Helzer, Robins, Croughan, & Welner, 1981), the Family Tree Questionnaire (FTQ; Mann, Sobell, Sobell, & Pavan, 1985), and the Family History Research Diagnostic Criteria Interview (FH-RDC; Andreasen, Endicott, Spitzer, & Winokur, 1977). Compared with the original CAST that obtained a Cronbach's alpha (Cronbach, 1970) of 0.97, the CAST-6 achieved an alpha level of 0.87. The CAST and CAST-6 were highly correlated with one another (i.e., coefficients ranging from 0.92 to 0.94) and similarly possessed high item-total correlations.

The CAST-6's liberal criterion utilizes a cut-off score of 2 (which includes "problem drinkers"), whereas the conservative criterion consists of scoring 3 or greater (Hodgins, Maticka-Tyndale, El-Guebaly, & West, 1995). For the purposes of the present study, the questions were modified to ask participants about their mother and father separately and was further modified to include other substance abuse in addition to alcohol (i.e., modified items such as "Have you ever thought that one of your parents had a drinking problem?" to "Have you ever thought that your

father had a drinking/drug problem?”). Furthermore, a question was added regarding whether parenting was negatively affected by a drinking/drug problem (i.e., “Did you ever think that your mother’s parenting was negatively affected by a drinking/drug problem? (e.g., she failed to pick you up from school/practice because she passed out at home, failed to carry out household duties because of her drinking?”). Respondents responded “Yes” or “No” to all CAST-6 items as well as the parenting item for both mother and father (See Appendix E). Participants completed the measure referring to when they were from 0-10 years of age. The sample’s intraclass correlation for the modified CAST-6 pertaining to mothers was .92 and .89 for fathers.

***Sociodemographics.*** Participants’ were asked to identify their gender in the questionnaire by answering either “Male,” “Female,” or “Other.” Please refer to the description above.

***Self-Compassion.*** The Self-Compassion Scale (SCS) assesses participants’ current levels of self-compassion using a 5-point response scale (1 = *almost never or never true*, 5 = *almost always or always true*) and is comprised of 26 items that measures and has an alpha level of 0.92 (Neff, 2003a). However, in efforts to keep the response burden on participants reasonable and thereby achieve an adequate response rate, a short version of the SCS, as developed by Raes and colleagues (2011), was incorporated in the present survey that entailed 12 questions pertaining to participants’ levels of self-compassion. The shortened measure possesses a very high correlation with the original SCS ( $r \geq 0.97$ ) with no significant loss with respect to internal reliability for total scores despite the reduction of scale items (i.e., 50%) (SCS-SF; Neff, 2003a). Raes and colleagues (2011) demonstrated that the shortened, 12-item Self-Compassion Scale-Short Form (SCS-SF) can be effective and efficient when utilized as a practical and efficient alternative to the original SCS. However, in order to prevent auto-correlation with the self-

criticism measure, the SCS-SF scale was further shortened to 10 questions due to the omission of two self-criticism questions that stemmed from the Self-Judgment subscale (i.e., “I’m disapproving and judgmental about my own flaws and inadequacies” and “I’m intolerant and impatient towards those aspects of my personality I don’t like.”). Ergo, the modified SCS-SF was adequate for the use of the time- and cost-sensitive survey for the proposed study given that it possesses the same factor structure as well as obtained a very high correlation and acceptable internal reliability in relation to the original SCS. The alpha values for the long version (i.e., 26 items) was .93 (Neff, 2003a), short version (i.e., 12 items) was .86 (Raes, Pommier, Neff, & Van Gucht, 2011), and shorter version used for the current study (i.e., 10 items) was .75. Two of the 10 items from the SCS-SF used for the current study were “When something upsets me I try to keep my emotions in balance,” and “When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.”

### **Dependent Variable**

*Self-Criticism.* Participants’ current levels of self-criticism were assessed by using the Depressive Experiences Questionnaire Reconstructed (DEQR; Bagby, Parker, Joffe, & Buis, 1994), an extensive psychometric refinement of the DEQ (Blatt et al., 1976). The DEQR is associated with numerous psychological problems, poor self-concept, disturbed interpersonal relationships, as well as both internalizing and externalizing disorders. This scale is designed to assess two personality configurations that are associated with depression—self-criticism and dependency. For the purposes of the current study, only the items relating to self-criticism were utilized. The Self-Criticism (DEQR-SC) scale consists of nine items (e.g., “I often find that I don’t live up to my own standards or ideals.”), with participants answering each item using a 7-

point Likert scale (*strongly disagree – strongly agree*). These nine items are summed (with one item reverse scored) to provide a summary score that may range from 9 to 63 points. Bagby et al. (1994) documented the good internal consistency (greater than, or equal to alpha of .80), test-retest reliability, discriminant validity, and factor structure of this scale in a variety of samples. The participants' alpha level on the self-criticism scale of the DEQR in the current study was .87.

### **Procedure**

Students enrolled in Introduction to Psychology at the University of Manitoba signed up to partake in the present study via an online subject pool and received two experimental research credits in exchange for completing the online survey. The present study was described as an investigation into broad and specific personality traits and their interrelations and potential childhood origins; direct references to self-criticism were eliminated given that questions about undesirable constructs could have elicited “fake good,” untruthful responding (Van de Mortel, 2008). After signing up for the current study, participants received an email containing a link to the survey – which took approximately 30-40 minutes to complete. Students received two research credits in exchange for their participation. The questionnaire can be found in Appendix B.

Students began the questionnaire by first reviewing a consent form and indicated their consent by clicking on an “I agree” button and that the study was approved by the UM Human Ethics Review Board. Subsequently, respondents answered 8-11 preliminary questions regarding their gender, ethnicity, number of siblings, birth order, whether or not their parents divorced, whether or not their parents remained in an unhappy marriage/cohabitation, whether or not their parents had separated, who primarily raised them, at what age they experienced parental

divorce/separation, and depending whether or not they had experienced parental divorce – if they gained a step-parent. Furthermore, if the participant gained a step-parent, they were asked at what age their step-mother entered their lives, then at what age their step-father entered their lives. Students would only answer the first eight questions if they did not experience parental divorce and automatically began the second portion of the questionnaire regarding nine questions that assessed their level of self-criticism, then completed 10 questions that assessed their level of self-compassion.

Fourth, participants completed the Inventory of Parent and Peer Attachment (answered separately for each parent or only for one parent if they were only raised by one) and indicated if the items were almost always or always true, often true, sometimes true, seldom (rarely) true, or almost never or never true. There were 25 items asked separately for each parent. Fifth, participants completed the CAST-6 in addition to a parenting question for each parent to assess whether or not they grew up with a substance abusing parent (i.e., seven questions per parent). Sixth, participants completed 18 questions of the MPS whereby they were asked five questions regarding parental expectations of their mother and father separately, and four questions regarding maternal criticism and paternal criticism. Seventh, students answered eight questions regarding peer victimization.

In efforts to protect against disingenuous responding, participants were reminded at the beginning and end of the questionnaire that their anonymity was guaranteed and were asked two questions regarding how truthful they were in their responses (i.e., “How truthful were you throughout the survey?” and “How attentive were you throughout this survey?”). Those who answered 1 (“*Not at all truthful*”) or 2 (“*Slightly truthful*”) were omitted from the analyses.

Students' responses were reviewed for invariant responding who answered 1 ("*Not at all attentive*") or 2 ("*Slightly attentive*") in response to "How attentive were you throughout this survey?" In addition, students completed Paulhus' 20-item self-deception scale (e.g., "I could never enjoy being cruel") and answer on a 7-point scale (1= *not true*, 7 = *very true*) (Paulhus & Reid, 1991). Furthermore, in anticipation of some respondents feeling a sense of loyalty and obligation to honour their parents by answering favourably to paint their parents in a more positive light in spite of experiencing less-than-optimal parental practices, they were prefaced with the following statement: "In the following questionnaire you will indicate how critical your parent(s) was/were. We recognize that our parents have many good qualities. This isn't a complete picture of your parents' parenting skills nor a complete picture of who they are as individuals." More truthful responding was hoped to be achieved given that this preamble may enable more students to respond more freely without feeling disloyal to their parents.

## Results

### Planned Analysis

The purpose of the current study was to investigate the origins of self-criticism; specifically, to examine the relationship between parental attachment and self-criticism (utilizing Pearson's correlation) as well as between parental attachment and self-criticism via parental criticism (utilizing a mediation model), and potential influencing factors (i.e., peer victimization, parental substance abuse, parental divorce, and self-compassion) on the aforementioned variables on the development of self-criticism (using various moderated mediation models). Thus, mediation analyses were employed to help explain how parental criticism (*M*) may influence the

development of self-criticism ( $Y$ ) in relation to parental attachment ( $X$ ); and various moderation analyses were conducted on this mediation model to help determine who would be more/less affected and by what (e.g., those who were severely victimized by their peers, those who had a substance abusing mother, etc.).

By definition, a mediating variable is considered to be a third variable that is required to have associations in particular directions to the independent variable and predicted variable – and thereby shifts the significance of the relationship between the independent variable and variable of interest (i.e., outcome variable). The mediator is viewed as associated within the linkage of the relationship that is being assessed and thus, much emphasis is placed on the mechanism that operates between the two predictors and the outcome. A mediator assists in explaining how external phenomena (i.e., parental criticism) take on psychological significance (i.e., self-criticism). According to Baron and Kenny (1986), a mediating variable is a variable which “accounts for the relation between the predictor and the criterion” (p. 1176). Therefore, while moderator variables specify when certain effects will hold, mediators in turn illustrate how or why such effects unfold. Further, in mediation, the mediator variable and predictor variable are assumed to be related to one another to some degree and possesses a causal aspect (whereas moderation does not). In contrast, moderators describe the case in which a third variable (i.e., the moderator variable) is utilized to describe under what conditions the predictor variable is correlated with the outcome in particular ways. Thus, moderation explicitly involves an interaction term between the two independent variables.

Initially, most have used Baron and Kenny’s (1986) methods in mediation analyses that consisted of four conditions that needed to be met. Firstly, the independent variable is required to

have significant associations with the dependent variable (path c). Secondly, the independent variable needs to significantly regress on the mediator variable (i.e., have a significant effect on the mediator variable, path a). Thirdly, the dependent variable needs to significantly regress on the mediator variable (path b) whereby the mediator variable must have a significant effect on the dependent variable while controlling for the independent variable. Lastly, there must be a decrease observed in the negative effect of the independent variable when the mediator variable is incorporated into the analysis (path  $c' < c$ ). Baron and Kenny (1986) explicitly stated that “the strongest mediation demonstration is when  $c'$  is zero” (p. 1176). They further posited that the incidental size reduction in coefficient  $c$  is on a continuum whereby a larger reduction suggests a larger degree of mediation. Therefore, when the coefficient  $c'$  is absolutely zero, this suggests the presence of only one mediator variable. However, if the size reduction of  $c'$  occurs without reaching zero, this suggests that more than one mediator variable is likely taking place.

Consequently, Baron and Kenny's (1986) proposal differentiates between total mediation (all of the effect of the independent variable goes through the mediator variable) and partial mediation (only part of the effect of the independent variable goes through the mediator variable). That is, data are compatible with the total mediation hypothesis when the association between  $X$  and  $Y$  completely disappears when controlling for the mediator variable (i.e., when coefficient  $c'$  is zero), and data are compatible with the partial mediation hypothesis when the association between  $X$  and  $Y$  is significantly reduced when controlling the mediator variable – but does not completely disappear (i.e., when the absolute value of coefficient  $c'$  is smaller than  $c$  and, simultaneously, greater than zero).

Although Baron and Kenny's (1986) proposal has been the dominant strategy to analyze statistical mediation within health and social sciences, their strategy has been criticized and holds many limitations. Firstly, their causal steps approach does not require any inferential test nor does it formally quantify the indirect effect. Instead, when utilizing this approach, the existence of an indirect effect is logically inferred from the direct outcome of a set of null hypothesis tests regarding a quantification of something other than the indirect effect (Hayes, 2013). Secondly, one must successfully reject all three null hypotheses in order to claim that a variable is a mediator. Consequently, due to Baron and Kenny's reliance on so many hypothesis tests, their causal steps approach is one of the least powerful approaches to testing mediation. Hayes (2013) posits that all that is required is a single inferential test of the indirect effect. Thirdly, failing to reject the null hypothesis for the total effect of  $X$  on  $Y$  leads one to conclude that the remaining criteria to establish the variable in question as a mediator are irrelevant – causing the procedure to completely stop in its tracks. However, it is possible for  $X$  to have an effect on  $Y$  indirectly through the mediator variable even if the total effect is not different from zero. Thus, Baron and Kenny's (1986) causal steps approach to mediation analysis leads to one of three outcomes:  $M$  completely mediates the effect of  $X$  on  $Y$ ,  $M$  only partially mediates that effect, or  $M$  does not mediate the effect at all.

In contrast to Baron and Kenny's (1986) approach, Hayes (2013) and others (Bollen, 1989; Cerin & MacKinnon, 2009; Rucker, Preacher, Tormala, & Petty, 2011) conceptualize mediation differently by no longer imposing the precondition that  $X$  and  $Y$  need to be significantly associated with one another. They believe that lack of association (between  $X$  and  $Y$ ) does not necessarily imply zero causation and that correlation is neither a sufficient nor

necessary condition for causality. One can then proceed to investigate how  $X$  may transmit its effects on  $Y$  through a potential mediator variable without  $X$  and  $Y$  needing to be correlated with one another. Nevertheless, Hayes (2013) underscores the assumption that  $X$  causes  $M$ , which in turn causes  $Y$  – ergo, the mediator variable cannot carry out  $X$ 's effect on  $Y$  if it is not located causally between  $X$  and  $Y$ .

Because Baron and Kenny's (1986) tests of mediation have received some criticism in the literature (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Hayes, 2009), the present study utilized bootstrapping to assess mediation analyses (Hayes, 2009; Preacher and Hayes, 2008). Bootstrapping is among the recent and recommended procedures for testing mediation (MacKinnon *et al.*, 2002) whereby it draws from a researcher's sample size  $n$  with replacement and generates values for independent, mediating, and dependent variables. Consequently, this results in an empirical sampling distribution equal to researcher's sample size  $n$  for calculating the indirect relationship between independent variables and dependent variables. Ninety-five percent confidence intervals are then calculated for indirect relationships, and mediation is established if the confidence intervals do not include zero (Hayes, 2009; Preacher and Hayes, 2008).

In addition, in mediation, one estimates the direct effect of the independent variable on the dependent variable with the  $c'$  path. This  $c'$  path deciphers the degree to which two cases that vary by one unit on the independent variable are approximated to vary on the dependent variable (which would have independence of the effect of the mediator variable on the outcome variable). In relation to the present study, the direct effect of parental attachment ( $X$ ) on self-criticism ( $Y$ ) is estimated with  $c'$  whereby it quantifies the degree to which two cases vary by one unit on

parental attachment ( $X$ ) are approximated to vary on levels of self-criticism ( $Y$ ) independent of the effect of parental criticism ( $M$ ) on self-criticism ( $Y$ ) (i.e.,  $c' = c_1 - a_1b_1$ ). Next, the indirect effect of the predictor variable on the outcome variable via the mediator variable is estimated as  $a_1b_1$  (the product of pathways  $a_1$  and  $b_1$ ). The direct and indirect effects of the independent variable on the dependent variable sum to produce the total effect of the independent variable on the outcome variable. Thus, the total effect is approximated as  $c_1$ . Since  $c_1 = c'_1 + a_1b_1$ , simple algebra shows that the indirect effect of the independent variable on the outcome variable via the mediator variable is equal to the variance between the direct and total effects of the independent variable (i.e.,  $a_1b_1 = c_1 - c'_1$ ). Therefore, when one makes inferences regarding the indirect effect, one simultaneously infers about the difference between the total and direct effects of the independent variable as well.

A Conditional Process Model (Hayes, 2013) was used in the present study. Rather than employing a simple analysis of the effect of parental attachment on a self-criticism, a mediation analysis was used in efforts to explain “how” other variables can influence that effect. Various moderation analyses were then employed to help decipher and explain “when” these effects occur. Thus, the model is based on the assumptions that: first, all effects function through some kind of mechanism (mediation); second, they are contingent on something (moderation); and third, any analysis which focuses only on mediation or moderation but not both is going to be incomplete in some ways (Hayes, 2013). Therefore, a Conditional Process Model was seen to be a significant improvement over the traditional mediation analysis proposed by Baron and Kenny (1986).

Regarding moderation analysis, attempts are made to conclude whether or not the direction or magnitude of the effect of some presumed causal independent variable (parental attachment) on the dependent variable (self-criticism) is interacting with (i.e., is dependent on) a moderator variable (e.g., gender). That is, if the mechanism linking  $X$  to  $Y$  through a mediator variable ( $M$ ) is somehow associated with (i.e., a function of) another variable, then it can be said to be moderated by that variable. To infer moderating effects (a significant interaction), the confidence interval for the regression coefficient of the product of (for instance)  $X$  and the moderator variable cannot include zero (e.g., the regression coefficient of the product of parental attachment and parental divorce). A formal test of moderated mediation based on a quantification of the association between the proposed moderator variable and the size of the indirect effect is required to determine whether the indirect effect depends on the moderator. Process thereby generates a bootstrap confidence interval for the index of moderated mediation (a 95% bootstrap confidence interval for this index, the slope of this function). For instance, if a confidence interval does not include zero, and obtains a negative upper bound, one would conclude that the indirect effect of the mediator variable (e.g., parental criticism) on  $Y$  (e.g., self-criticism) through  $X$  (e.g., parental attachment) is negatively moderated by the moderator variable (e.g., parental divorce).

In terms of the present study, conditional mediated analyses were utilized whereby moderated mediation was employed to ascertain whether or not the mediation model of parental attachment ( $X$ ), parental criticism ( $M$ ), and self-criticism ( $Y$ ) would be influenced depending on participants' gender, parental substance abuse, parental divorce, peer victimization, or self-compassion. The various moderated mediation models utilized in the present study (i.e., Process

model 59, Process model 18, and Process model 15) are illustrated in Figures 10 through 19 below).

### **Data Preparation**

The original sample began with 710 participants. However, due to the omission of 29 with a completion time of less than eight minutes, 16 with a completion time of two hours or more, one with invariant responding, 76 non-completers (i.e., failed to complete the questionnaire after merely answering preliminary questions), 35 duplicates, 23 who were not solely raised by both biological parents, 13 who were truthful approximately half the time or less, and 10 who had more than one item missing – 507 participants remained of the initial 710. Thus, of the initial 710 participants, 507 remained.

All completed questionnaires were evaluated with respect to accuracy, completeness, and time spent. For instance, I reviewed the duration of time that respondents utilized to complete the survey, as captured by Qualtrics as the duration of time the survey was open, and eliminated those who took eight minutes or less ( $N = 29$ ) and two hours or more ( $N = 16$ ) to complete the survey. I examined the data for invariant responding (e.g., if a participant only put “1’s” for all parts in a section) ( $N = 1$ ), and eliminated non-completers (i.e., those who completed the questionnaire after merely answering preliminary questions) ( $N = 76$ ), as well as duplicates ( $N = 35$ ). An additional 23 participants were omitted in efforts to achieve a more homogeneous sample comprised of participants solely raised by both biological parents (regardless if families were divorced, separated, or intact) rather than those who were raised by grandparents, aunts and uncles, or blended families (e.g., biological mother and step-father, biological father and step-

mother, etc.). Regarding truthful responding, only respondents who responded with a score of 3 (“*Truthful about half the time*”), 4 (“*Mostly truthful*”), or 5 (“*Completely truthful*”) were included in the analysis with respect to their attentiveness. Thus, those who responded with a score of 1 (“*Not at all truthful*”) ( $N = 1$ ) or 2 (“*Slightly truthful*”) ( $N = 12$ ) were further omitted from the sample. Lastly, those who missed more than one question were removed from the analysis ( $N = 10$ ).

To determine whether or not missing values were randomly missing, the Little’s Missing Completely at Random (MCAR) test was utilized on all of the aforementioned variables, which rendered a non-significant result ( $\alpha = .076$ ) – meaning that the missing data was MCAR. Item-level missing data as well as scale-level missing data was also considered– with item-level missing data referring to the number of items missing within a given scale whereas scale-level missing data referring to the number of cases with missing scale scores (i.e., the amount of participants with missing scaled scores). On most scales, one or two items missing was common, only a few had more items missing.

All scales were assessed for missing values prior to analysis. Although some recommend utilizing multiple imputation for item-level missing data, this strategy was not feasible as this would not allow us to use Process. Therefore, in situations where there were missing values, these were replaced by an estimation based on the mean score from the remaining questions in efforts to preserve as much data as possible by including participants with missing values at random. As a result, the missing items were addressed via mean imputation whereby each student’s scores that were missing were imputed with the average value of their recorded scores. This procedure is routinely applied in instances when the missing response items do not exceed

past 20%, and when the stated threshold is exceeded by the number of incomplete items – analysts tend to consider the whole record as missing.

This method is often employed with a wide variety of respondents, such as those with posttraumatic stress disorder, (Neugebauer et al., 2014), anxiety and depression (Forand & DeRubeis, 2014; Hazel, Oppenheimer, Technow, Young, & Hankin, 2014), as well as those with personality disorders (Krabbendam, et al., 2015), and so forth. Thus, it appears that item-level missing data is commonly encountered by analysts and that missing scores are routinely imputed with the mean of the remaining scores of the individual with missing items to deal with the problem.

All independent variables were centered prior to being used in the analysis to facilitate interpretation of moderator analyses and, and previously mentioned, the survey was assessed for missing values whereby the missing values were replaced using mean imputation if the participant had responded to 80% of the questions (Newman, 2009).

Residuals were also examined to meet the assumptions of multiple regression (i.e., linearity, independence of error, homogeneity of error, and normality of error). I have visually reviewed the plots of the residuals against values of my predictor variables for the main analyses and the plots supported the assumption of homoscedasticity.

### **Covariates**

All predictive analyses were adjusted for potential covariates in order to control for the possible influence of these factors. The following covariates were used:

*Other parent's level of attachment.* Given that each parent's attachment occurs within the context of the other parent's attachment in an intact couple, the scores of the other parent's

attachment level (e.g., Father's attachment) were used as a covariate in analyses of the target parent's attachment (e.g., Mother's attachment).

*SDD: Self-deceptive denial (part of the Balanced Inventory of Desirable Responding, Paulhus, 1991)*. Respondents' score on self-deception/denial was used as a covariate in the Process analyses in order to control for non-conscious bias toward denial of negative feelings.

### **Descriptive Statistics**

Descriptive statistics (i.e., frequencies, correlation matrix) are presented below in Tables 1-6. All independent, dependent, and sociodemographic variables are included. Regarding gender and age, as shown in Table 1, the current sample was comprised of 260 females and 247 males; and it was presumed that the majority were between the ages of 18 to 24 given that the students were enrolled in a first year course (participants were not asked to identify their age in the questionnaire). As can be seen in Table 8, respondents were primarily White (57.79%), followed by those of Asian descent (28.8%), Metis/Aboriginal (4.93%), other (4.93%), and Black (3.55%). Regarding their birth order, 42.8% of students were born first, 19.7% were born in the middle, and 37.3% were born last (one participant did not indicate their birth order) as depicted in Table 2. With respect to the sample's number of siblings, Table 6 shows that 7.3% of respondents were only children, 73.8% had one to two siblings, 16.2% had three to four siblings, and 2.6% had five or more siblings (one participant did not indicate how many siblings they had). Regarding parental divorce, 27 (5.3%) respondents experienced parental divorce between 0-10 years of age (as shown in Table 3). Further, as parental substance abuse was measured separately, 109 (21.5%) students experienced paternal substance use to varying degrees (as seen in Table 5, scores ranged from one to a total of seven), whereas 39 (7.7%) participants

experienced maternal substance use (as seen in Table 4 – also with scores ranging from one to a total of seven). The respondents' scores covered the entire range of each measure listed below with adequate variability. Tables 7 and 9 display the descriptive statistics for all scaled measures and a correlation matrix of self-criticism, maternal and paternal substance abuse, self-compassion, maternal and paternal criticism, maternal and paternal Attachment, peer victimization, self-deception denial, gender, and parental divorce.

Table 1

*Distribution of Gender of Participants*

		Frequency	Percent
Valid	Female	258	50.9
	Male	245	48.3
Missing		4	.8
Total		507	100.0

Table 2

*Distribution of Birth Order of Participants: First,**Middle, or Last*

		Frequency	Percent
Valid	First	217	42.8
	Middle	100	19.7
	Last	189	37.3
Missing		1	.2
Total		507	100.0

Table 3

*Distribution of Parental divorce experienced between 0-10 years of age*

		Frequency	Percent
Valid	Yes	27	5.3
	No	480	94.7
Total		507	100.0

Table 4

*Distribution of Maternal Substance Abuse scores on the CAST-6*

		Frequency	Percent
Valid	.00	468	92.3
	1.00	13	2.6
	2.00	5	1.0
	3.00	3	.6
	4.00	5	1.0
	5.00	3	.6
	6.00	5	1.0
	7.00	5	1.0
Total		507	100.0

Table 5

*Distribution of Paternal Substance Abuse scores on the CAST-6*

		Frequency	Percent
Valid	.00	398	78.5
	1.00	22	4.3
	2.00	20	3.9
	3.00	19	3.7
	4.00	12	2.4
	5.00	15	3.0
	6.00	12	2.4
	7.00	9	1.8
Total		507	100.0

Table 6

*Distribution of Number of Siblings among Participants*

		Frequency	Percent
Valid	no siblings	37	7.3
	one sibling	222	43.8
	two siblings	152	30.0
	three siblings	70	13.8
	four siblings	12	2.4
	five siblings	8	1.6
	more than 5 siblings	5	1.0
Missing		1	.2
Total		507	100.0

Table 7

*Descriptive statistics for all scaled measures*

	Self-Crit	Maternal Subst. Abuse	Paternal Subst. Abuse	Self- Comp	Maternal Crit	Paternal Crit	Maternal Attach	Paternal Attach	Peer Vic	SDD
Mean	30.39	.26	.74	30.63	25.86	26.13	96.36	90.81	39.85	85.05
Std. Dev.	9.99	1.09	1.68	5.61	7.01	7.39	18.23	20.59	18.14	14.27
Range	52.00	7.00	7.00	30.00	36.00	36.00	99.00	96.00	84.00	97.00
Min.	9.00	.00	.00	14.00	9.00	9.00	26.00	29.00	21.00	37.00
Possible Max	61.00	7.00	7.00	44.00	45.00	45.00	125.00	125.00	105.00	134.00
Possible										

*Note.* Self-Crit = Self-Criticism; Subst. = Substance; Self-Comp = Self-Compassion; Crit = Criticism; Attach = Attachment; Vic = Victimization; SDD = Self-Deceptive Denial.

Table 8

*Distribution of Participants by Ethnicity*

	Frequency	Percent
Valid Aboriginal/First Nations	7	1.4
Black	18	3.6
Chinese	28	5.5
Filipino	76	15.0
Japanese	2	.4
Korean	4	.8
Metis	18	3.6
South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)	30	5.9
South East Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese)	6	1.2
White/European (e.g., English, French, Scottish, Irish, Ukrainian)	293	57.8
Other	25	4.9
Total	507	100.0

Table 9

*Correlation Matrix of Self-Criticism, Maternal/Paternal Substance Abuse, Self-Compassion, Maternal/Paternal Criticism, Maternal/Paternal Attachment, Peer Victimization, Self-Deception Denial, Gender, and Parental Divorce*

		Self-Crit	Mom Subst. Abuse	Dad Subst. Abuse	Self-Comp	Mom Crit	Dad Crit	Mom Attach	Dad Attach	Peer Vic	SDD	Gender	Parental Div
Self-Crit	Pearson	1	.105*	.126**	-.559**	.324**	.290**	-.417**	-.413**	.245**	-.244**	-.120**	.079
Mom Subst. Abuse	Pearson	.105*	1	.255**	-.024	.095*	.050	-.165**	-.062	.170**	-.144**	.016	.024
Dad Subst. Abuse	Pearson	.126**	.255**	1	-.008	.055	.115**	-.075	-.274**	.130**	-.125**	-.024	.062
Self-Comp	Pearson	-.559**	-.024	-.008	1	-.095*	-.119**	.285**	.269**	-.133**	.150**	.204**	-.047
Mom Crit	Pearson	.324**	.095*	.055	-.095*	1	.584**	-.447**	-.232**	.203**	-.206**	.138**	-.059
Dad Crit	Pearson	.290**	.050	.115**	-.119**	.584**	1	-.312**	-.435**	.170**	-.212**	.104*	-.023
Mom Attach	Pearson	-.417**	-.165**	-.075	.285**	-.447**	-.312**	1	.483**	-.188**	.194**	.006	-.093*
Dad Attach	Pearson	-.413**	-.062	-.274**	.269**	-.232**	-.435**	.483**	1	-.110*	.190**	-.008	-.004
Peer Vic	Pearson	.245**	.170**	.130**	-.133**	.203**	.170**	-.188**	-.110*	1	-.279**	-.003	.008
SDD	Pearson	-.244**	-.144**	-.125**	.150**	-.206**	-.212**	.194**	.190**	-.279**	1	-.265**	-.011
Gender	Pearson	-.120**	.016	-.024	.204**	.138**	.104*	.006	-.008	-.003	-.265**	1	-.126**
Parental Divorce	Pearson	.079	.024	.062	-.047	-.059	-.023	-.093*	-.004	.008	-.011	-.126**	1

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

*Note.* Self-Crit = Self-Criticism; Subst. = Substance; Crit = Criticism; Attach = Attachment; Vic

= Victimization; SDD = Self-Deceptive Denial, Div = Divorce.

All correlations with self-criticism were in the expected direction for the various variables.

### **Analysis of Hypotheses**

Multiple linear regression analyses were employed to assess the hypotheses. Hayes (2013) Process software (v. 2.15) was employed to facilitate mediation and conditional process analyses. Cohen (1994) recommends the inclusion of confidence intervals to aid in the interpretation of the significance of effect sizes. Therefore, 95% confidence intervals have been presented in tables.

A p-value of .05 was utilized to test my hypotheses in efforts to control for type I error (i.e., falsely stating that self-criticism is associated with parental substance abuse, peer victimization, and perceived parental criticism when it actually is not).

#### Hypothesis 1

The first hypothesis proposed that lower levels of parental attachment would predict higher levels of self-criticism. Full and partial correlations were utilized to test this hypothesis (controlling for other parent's attachment and self-deceptive denial). The correlation between perceived maternal attachment during ages 0-10 and current self-criticism was  $r = -.417, p < .01$ ; and that between perceived paternal attachment and current self-criticism was  $r = -.413, p < .01$ . Partial correlations, controlling for the other parent's level of attachment and self-deceptive denial were  $r = -.257, p = .01$ ; and  $r = -.251, p = .01$ ; for self-criticism's relationship with mother and father attachment respectively. Thus, higher levels of parental attachment were negatively associated with self-criticism.

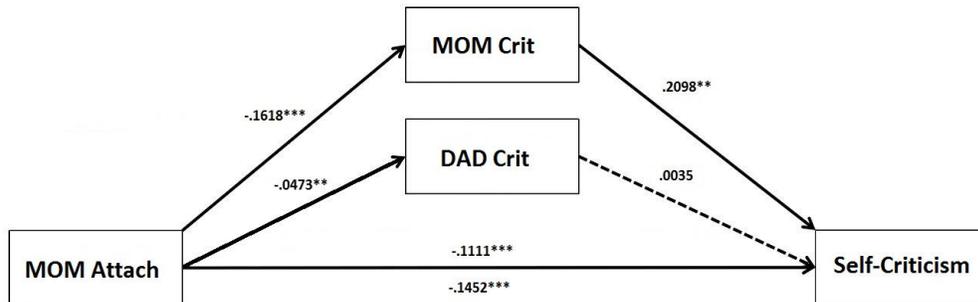
## Hypothesis 2

The second hypothesis proposed that the effect of attachment on self-criticism would be mediated by parental criticism. I tested this hypothesis using two separate mediation analyses. In the first analysis, maternal attachment served as the independent variable, maternal and paternal criticism each served as simultaneous parallel mediators, self-criticism served as the dependent variable, and paternal attachment and self-deceptive denial served as covariates. In the second analysis, paternal attachment was used as the independent variable and maternal attachment was included as a covariate while all other variables remained identical.

The results for the first analysis are shown in Figure 8. Overall, maternal criticism, but not paternal criticism, mediated the effect of maternal attachment on self-criticism, controlling for the effects of denial and paternal attachment. As shown in the figure, higher maternal attachment was associated with lower maternal criticism, ( $a_1 = -.1618$ ,  $SE = .0175$ ,  $p < .001$ ), and lower maternal criticism was associated with lower self-criticism, ( $b_1 = .2098$ ,  $SE = .0731$ ,  $p < .01$ ). A 95 % confidence interval for this indirect effect ( $a_1b_1 = -.0340$ ) based on 5,000 bootstrap samples was entirely below zero ( $-.0629$ ,  $-.0070$ ). Higher maternal attachment was also associated with lower paternal criticism ( $a_2 = -.0473$ ,  $SE = .0184$ ,  $p = .0104$ ), but lower paternal criticism was not associated with lower self-criticism ( $b_2 = .0035$ ,  $SE = .0695$ ,  $p = .96$ ). A 95% confidence interval for this indirect effect ( $a_2b_2 = -.0002$ ) based on 5,000 bootstrap samples included zero ( $-.0085$ ,  $.0079$ ). Higher maternal attachment continued to be independently associated with lower self-criticism after controlling for the mediators, ( $c' = -.1111$ ,  $SE = .0262$ ,  $p < .001$ ), consistent with partial mediation. Approximately 27% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .2693$ ). A comparison of the two indirect effects

revealed that the difference between the two indirect effects (-.0338) fell entirely below zero within a 95% confidence interval constructed from 5000 bootstrap samples (-.0682, -.0020) indicating that the indirect effect for maternal criticism was larger than that for paternal criticism. Overall, the indirect effect of maternal attachment on self-criticism was mediated by maternal criticism and maternal attachment independently predicted self-criticism in regression. Thus, the effects of maternal attachment on self-criticism varied according to maternal criticism and had an overall negative indirect effect on the development of self-criticism. That is, higher maternal attachment was associated with lower maternal criticism (were negatively associated with one another) and maternal criticism, in turn, was positively associated with self-criticism.

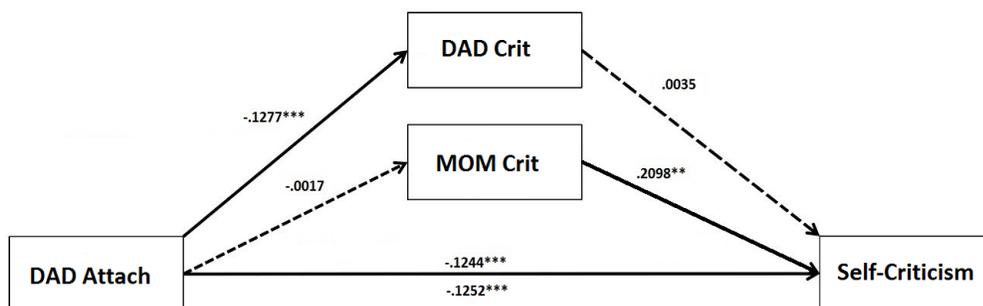
Figure 8. Results of Process model 4 mediation analysis of maternal attachment, maternal criticism, and self-criticism.



The results of the second analysis are shown in Figure 9. Overall, neither maternal criticism nor paternal criticism mediated the effect of paternal attachment on self-criticism while controlling for the effects of denial and maternal attachment. As shown in the figure, higher paternal attachment was associated with lower paternal criticism, ( $a_1 = -.1277$ ,  $SE = .0163$ ,  $p < .001$ ), but lower paternal criticism was not associated with lower self-criticism, ( $b_1 = .0035$ ,  $SE =$

.0695,  $p = .9593$ ). A 95 % confidence interval for this indirect effect ( $a_1b_1 = -.0005$ ) based on 5,000 bootstrap samples included zero (-.0204, .0201). Higher paternal attachment was also not associated with lower maternal criticism ( $a_2 = -.0017$ ,  $SE = .0154$ ,  $p = .9126$ ), but lower maternal criticism was associated with lower self-criticism ( $b_2 = .2098$ ,  $SE = .0731$ ,  $p = .01$ ). A 95% confidence interval for this indirect effect ( $a_2b_2 = -.0004$ ) based on 5,000 bootstrap samples included zero (-.0085, .0074). Higher paternal attachment continued to be independently associated with lower self-criticism after controlling for the mediators, ( $c' = -.1244$ ,  $SE = .0230$ ,  $p < .001$ ), consistent with partial mediation. Approximately 27% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .2693$ ). A comparison of the two indirect effects revealed that the difference between the two indirect effects (-.0001) included zero within a 95% confidence interval constructed from 5000 bootstrap samples (-.0203, .0233) indicating that the indirect effect for paternal criticism was smaller than that for maternal criticism. Overall, paternal attachment independently predicted self-criticism in regression, however, the effects of paternal attachment on self-criticism were not mediated by paternal criticism. Thus, the effects of paternal attachment on self-criticism did not vary according to paternal criticism.

Figure 9. Results of Process model 4 mediation analysis of paternal attachment, paternal criticism, and self-criticism.



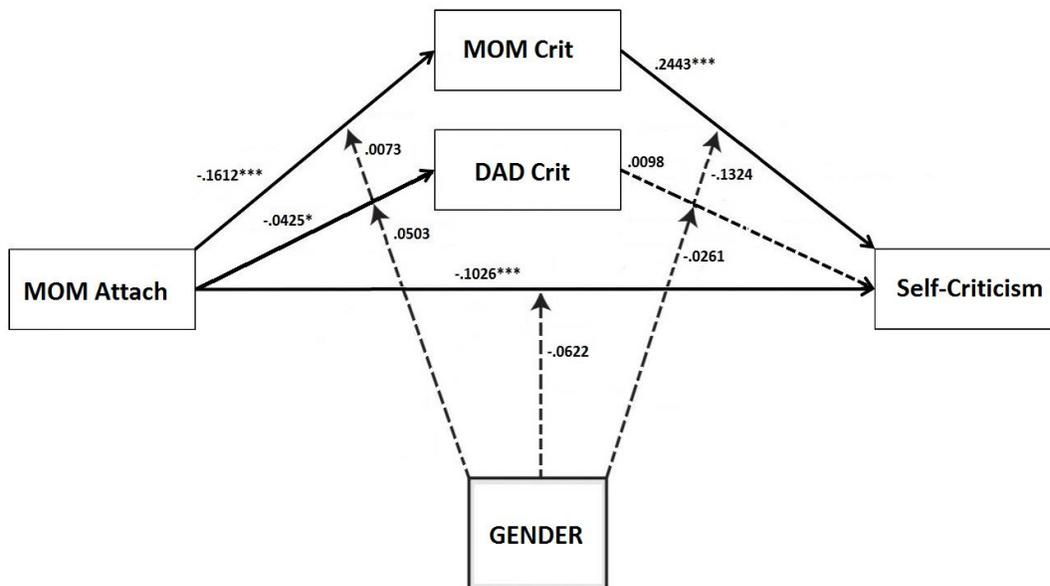
### Hypothesis 3

The third hypothesis proposed that participants' gender would moderate each pathway of the aforementioned mediation model whereby the effect of attachment on self-criticism, the effect of attachment on parental criticism, and the effect of parental criticism on self-criticism would be moderated by participants' gender. I tested this hypothesis using two separate moderation analyses. In the first analysis, maternal attachment served as the independent variable, maternal and paternal criticism each served as simultaneous parallel mediators, self-criticism served as the dependent variable, participants' gender served as the moderator, and paternal attachment and self-deceptive denial served as covariates. In the second analysis, paternal attachment was used as the independent variable and maternal attachment was included as a covariate while all other variables remained identical.

The results for the first analysis are shown in Figure 10. Overall, participants' gender did not moderate any of the pathways for paternal or maternal criticism nor the effect of maternal attachment on self-criticism, controlling for the effects of denial and paternal attachment. As shown in the figure, maternal attachment and maternal criticism was not moderated by participants' gender, ( $a_1 = .0073$ ,  $SE = .0311$ ,  $p = .8148$ ), maternal criticism and self-criticism were not moderated by participants' gender, ( $b_1 = -.1324$ ,  $SE = .1460$ ,  $p = .3648$ ). Maternal attachment and paternal criticism were not moderated by participants' gender ( $a_2 = .0503$ ,  $SE = .0330$ ,  $p = .1276$ ), and paternal criticism and self-criticism was not moderated by participants' gender ( $b_2 = -.0261$ ,  $SE = .1279$ ,  $p = .8381$ ). Maternal attachment and self-criticism were also not moderated by participants' gender ( $c' = -.0622$ ,  $SE = .0475$ ,  $p = .1911$ ). Approximately 31% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .3056$ ). Overall, the

direct and indirect effect of maternal attachment via parental criticism did not vary according to the gender of the respondent. Thus, support was not found for the hypothesis that same-gender matches with participants and parents would produce stronger results.

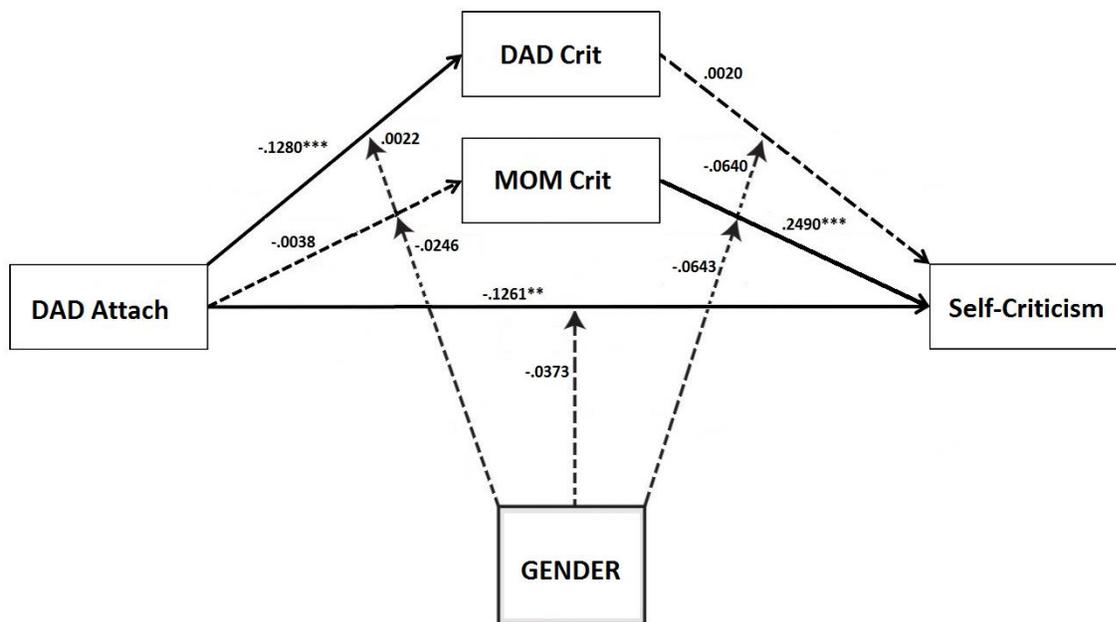
Figure 10. Results of Process model 59 moderated mediation analysis of maternal attachment, maternal criticism, gender, and self-criticism.



The results of the second analysis are shown in Figure 11. Overall, participants' gender did not moderate any of the pathways for maternal or paternal criticism nor the effect of paternal attachment on self-criticism, controlling for the effects of denial and maternal attachment. As shown in the figure, paternal attachment and paternal criticism were not moderated by gender, ( $a_1 = .0022$ ,  $SE = .0285$ ,  $p = .9379$ ), and paternal criticism and self-criticism were not moderated by gender, ( $b_1 = -.0640$ ,  $SE = .1378$ ,  $p = .6426$ ). Paternal attachment and maternal criticism were not moderated by gender ( $a_2 = -.0246$ ,  $SE = .0269$ ,  $p = .3603$ ), and maternal criticism and self-

criticism were not moderated by gender ( $b_2 = -.0643$ ,  $SE = .1373$ ,  $p = .6395$ ). Paternal attachment and self-criticism were also not moderated by gender, ( $c' = -.0373$ ,  $SE = .0408$ ,  $p = .3617$ ). Approximately 30% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .3043$ ). Overall, the direct and indirect effect of paternal attachment via parental criticism did not vary according to the gender of the respondent whereby support was not found for the hypothesis that same-gender matches with participants and parents would produce stronger results.

Figure 11. Results of Process model 59 moderated mediation analysis of paternal attachment, paternal criticism, gender, and self-criticism.



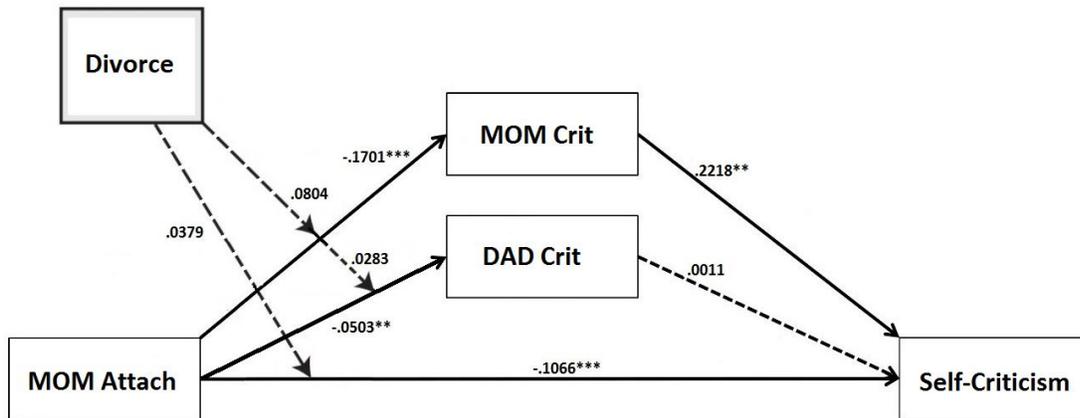
Hypothesis 4

The fourth hypothesis proposed that effect of parental attachment on self-criticism and the effect of parental attachment on parental criticism would both be moderated by parental divorce (which was experienced by 27 respondents, or 5.3% of the sample). I tested this

hypothesis using two separate moderation analyses. In the first analysis, maternal attachment served as the independent variable, maternal and paternal criticism each served as simultaneous parallel mediators, self-criticism served as the dependent variable, parental divorce served as the moderator, and paternal attachment and self-deceptive denial served as covariates. In the second analysis, paternal attachment was used as the independent variable and maternal attachment was included as a covariate while all other variables remained identical.

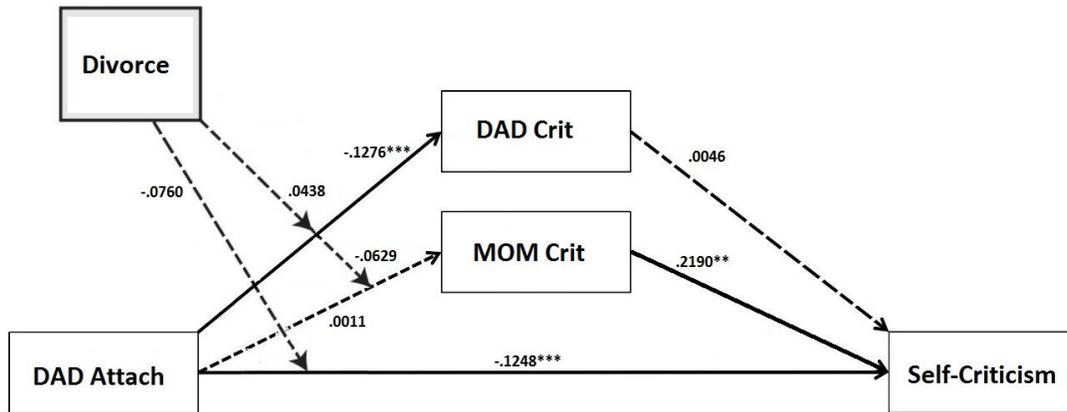
The results for the first analysis are shown in Figure 12. Overall, parental divorce did not moderate any effects of parental attachment on parental criticism nor any of the effects of parental attachment on self-criticism, controlling for the effects of denial and paternal attachment. As shown in the figure, the effect of maternal attachment on maternal criticism was not moderated by parental divorce, ( $a_1 = .0804$ ,  $SE = .0594$ ,  $p = .1763$ ). The effect of maternal attachment on paternal criticism was also not moderated by parental divorce ( $a_2 = .0283$ ,  $SE = .0629$ ,  $p = .6533$ ). The effect of maternal attachment on self-criticism was not moderated by parental divorce, ( $c' = .0379$ ,  $SE = .0824$ ,  $p = .6462$ ). Approximately 27% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .2741$ ). The direct and indirect effect of maternal attachment via parental criticism did not vary according to parental divorce.

*Figure 12.* Results of Process model 8 moderated mediation analysis of maternal attachment, maternal criticism, parental divorce, and self-criticism.



The results of the second analysis are shown in Figure 6. Overall, parental divorce did not moderate any effects of parental attachment on parental criticism nor any of the effects of parental attachment on self-criticism, controlling for the effects of denial and maternal attachment. As shown in the figure, the effect of paternal attachment on paternal criticism was not moderated by parental divorce, ( $a_1 = .0438$ ,  $SE = .0654$ ,  $p = .5039$ ). The effect of paternal attachment on maternal criticism was also not moderated by parental divorce ( $a_2 = -.0629$ ,  $SE = .0618$ ,  $p = .3093$ ). The effect of paternal attachment on self-criticism was not moderated by parental divorce, ( $c' = -.0760$ ,  $SE = .0858$ ,  $p = .3762$ ). Approximately 27% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .2749$ ). The direct and indirect effect of paternal attachment via parental criticism did not vary according to parental divorce.

*Figure 13.* Results of Process model 8 moderated mediation analysis of paternal attachment, paternal criticism, parental divorce, and self-criticism



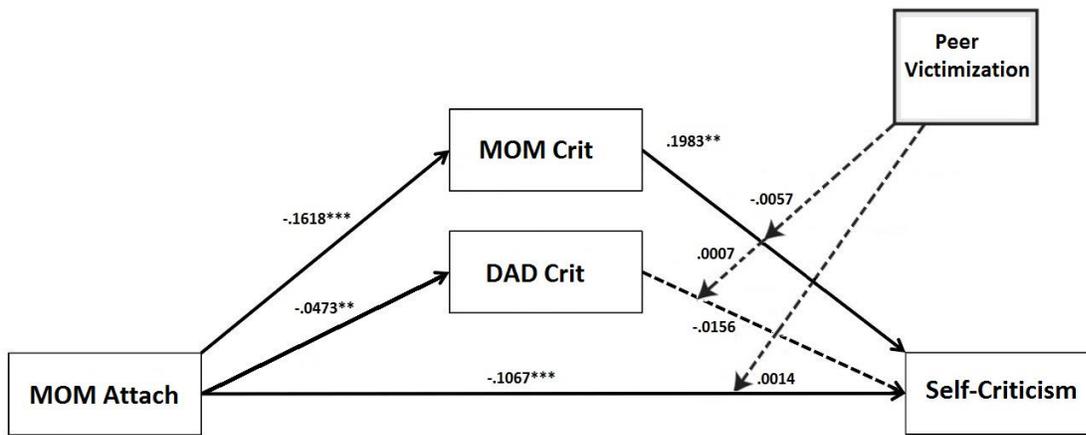
Hypothesis 5

The fifth hypothesis proposed that effect of parental criticism on self-criticism and the effect of parental attachment on self-criticism would both be moderated by peer victimization. I tested this hypothesis using two separate moderation analyses. In the first analysis, maternal attachment served as the independent variable, maternal and paternal criticism each served as simultaneous parallel mediators, self-criticism served as the dependent variable, peer victimization served as the moderator, and paternal attachment and self-deceptive denial served as covariates. In the second analysis, paternal attachment was used as the independent variable and maternal attachment was included as a covariate while all other variables remained identical.

The results for the first analysis are shown in Figure 13. Overall, peer victimization did not moderate any effects of parental criticism on self-criticism nor any of the effects of maternal attachment on self-criticism, controlling for the effects of denial and paternal attachment. As shown in the figure, the effect of maternal criticism on self-criticism was not moderated by peer victimization, ( $b_1 = -.0057, SE = .0039, p = .1384$ ). The effect of paternal criticism on self-criticism was also not moderated by peer victimization ( $b_2 = .0007, SE = .0034, p = .8449$ ). The effect of maternal attachment on self-criticism was not moderated by parental divorce, ( $c' =$

.0014, SE = .0012,  $p = .2342$ ). Approximately 29% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .2945$ ). The direct and indirect effect of maternal attachment via parental criticism did not vary according to peer victimization.

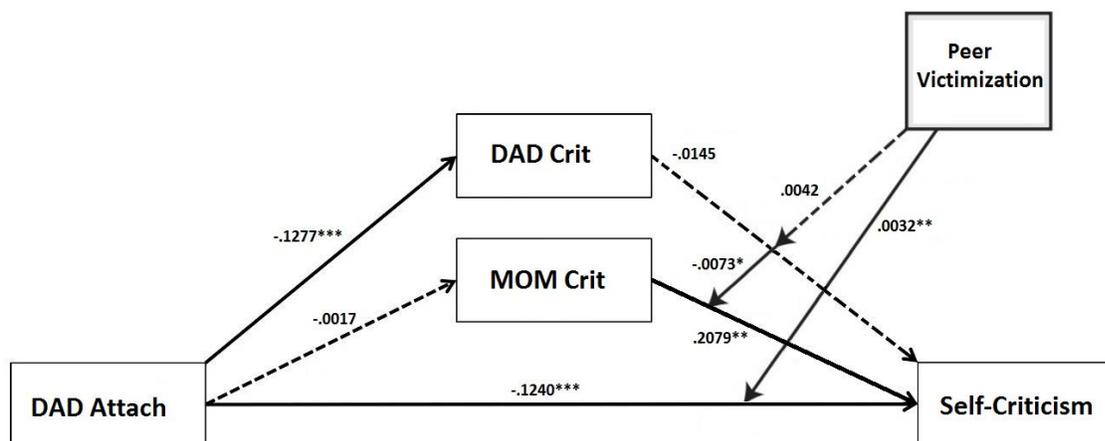
Figure 14. Results of Process model 15 moderated mediation analysis of maternal attachment, maternal criticism, peer victimization, and self-criticism



The results of the second analysis are shown in Figure 14. Overall, peer victimization moderated the effects of maternal criticism on self-criticism and the effects of paternal attachment on self-criticism, but not the effects of paternal criticism on self-criticism, controlling for the effects of denial and maternal attachment. As shown in the figure, the effect of paternal criticism on self-criticism was not moderated by peer victimization, ( $b_1 = .0042$ , SE = .0036,  $p = .2487$ ). The effect of maternal criticism on self-criticism was moderated by peer victimization ( $b_2 = -.0073$ , SE = .0036,  $p = .0398$ ). The effect of paternal attachment on self-criticism was moderated by peer victimization, ( $c' = .0032$ , SE = .0011,  $p = .0040$ ). Approximately 30% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .3042$ ). The direct effect of paternal attachment on self-criticism varied according to peer victimization; however, the

indirect effects of paternal attachment on self-criticism via parental criticism did not vary according to peer victimization. Thus, it appeared that the relationship between paternal attachment and self-criticism is made weaker by experiencing an elevated degree of peer victimization. That is, paternal attachment reduces the likelihood of developing self-criticism, however, if peer victimization is experienced to a strong enough degree – it may overwhelm and overpower the positive effects that paternal attachment may provide.

Figure 15. Results of Process model 15 moderated mediation analysis of paternal attachment, paternal criticism, peer victimization, and self-criticism



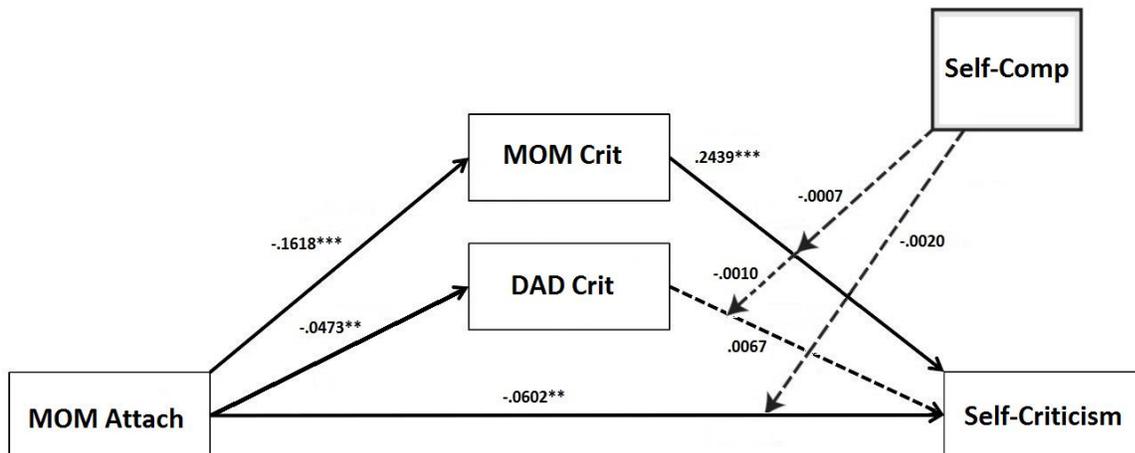
Hypothesis 6

The sixth hypothesis proposed that effect of parental criticism on self-criticism and the effect of parental attachment on self-criticism would both be moderated by self-compassion. I tested this hypothesis using two separate moderation analyses. In the first analysis, maternal attachment served as the independent variable, maternal and paternal criticism each served as simultaneous parallel mediators, self-criticism served as the dependent variable, self-compassion served as the moderator, and paternal attachment and self-deceptive denial served as covariates.

In the second analysis, paternal attachment was used as the independent variable and maternal attachment was included as a covariate while all other variables remained identical.

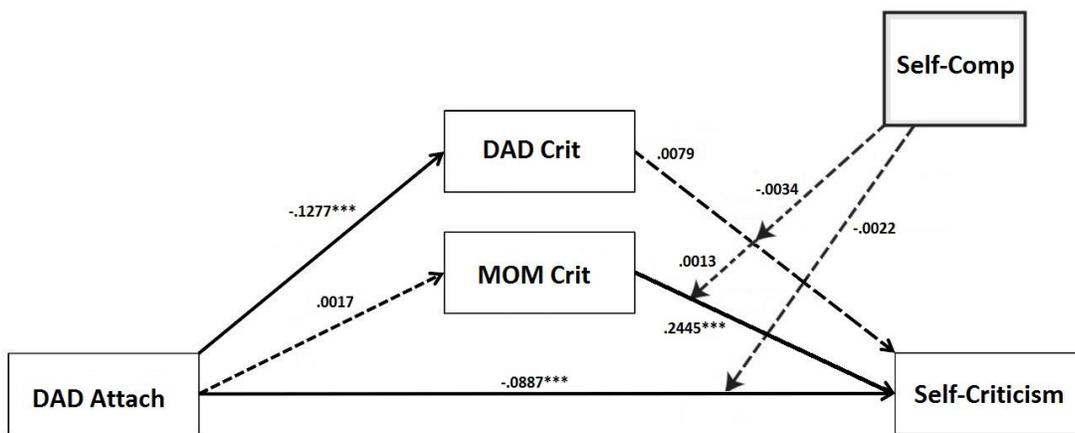
The results for the first analysis are shown in Figure 15. Overall, self-compassion did not moderate any effects of parental criticism on self-criticism nor any of the effects of maternal attachment on self-criticism, controlling for the effects of denial and paternal attachment. Thus, self-compassion did not serve as a buffer against parental criticism or lower parental attachment. As shown in the figure, the effect of maternal criticism on self-criticism was not moderated by self-compassion, ( $b_1 = -.0007$ ,  $SE = .0101$ ,  $p = .9437$ ). The effect of paternal criticism on self-criticism was also not moderated by self-compassion ( $b_2 = -.0010$ ,  $SE = .0092$ ,  $p = .9101$ ). The effect of maternal attachment on self-criticism was not moderated by self-compassion, ( $c' = -.0020$ ,  $SE = .0032$ ,  $p = .5338$ ). Approximately 45% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .4491$ ). The direct and indirect effects of maternal attachment via parental criticism did not vary according to respondents' levels of self-compassion.

Figure 16. Results of Process model 15 moderated mediation analysis of maternal attachment, maternal criticism, self-compassion, and self-criticism



The results of the second analysis are shown in Figure 16. Overall, self-compassion did not moderate the effects of parental criticism on self-criticism nor the effects of paternal attachment on self-criticism, controlling for the effects of denial and maternal attachment. Thus, self-compassion did not demonstrate any buffering effects against parental criticism or lower parental attachment. As shown in the figure, the effect of paternal criticism on self-criticism was not moderated by self-compassion, ( $b_1 = -.0034$ ,  $SE = .0100$ ,  $p = .7357$ ). The effect of maternal criticism on self-criticism was not moderated by self-compassion ( $b_2 = -.0013$ ,  $SE = .0097$ ,  $p = .8964$ ). The effect of paternal attachment on self-criticism was not moderated by self-compassion, ( $c' = -.0022$ ,  $SE = .0029$ ,  $p = .4540$ ). Approximately 45% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .4493$ ). The direct and indirect effects of paternal attachment via parental criticism did not vary according to respondents' levels of self-compassion.

Figure 17. Results of Process model 15 moderated mediation analysis of paternal attachment, paternal criticism, self-compassion, and self-criticism.



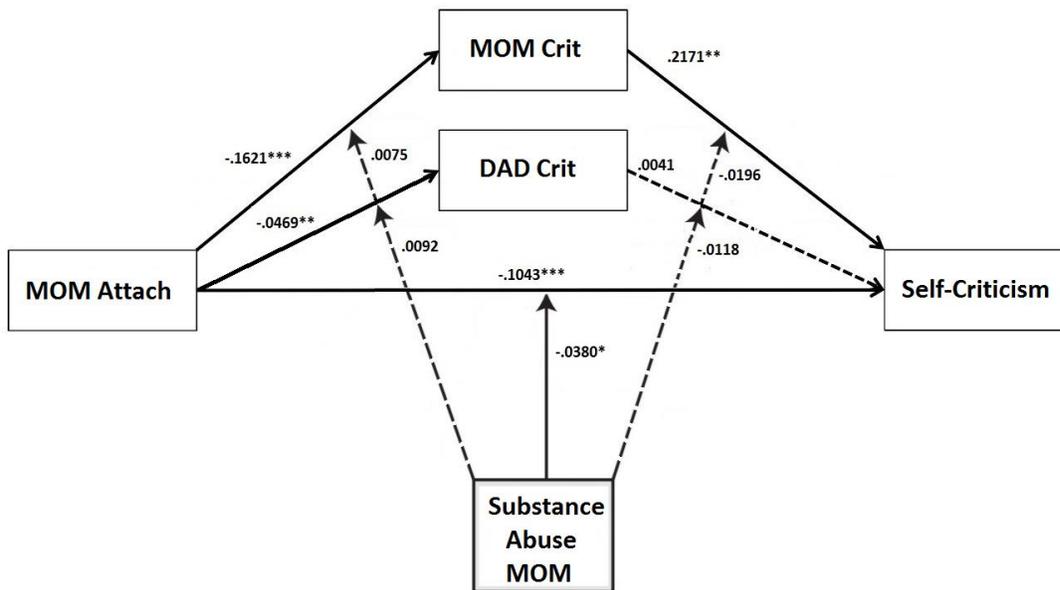
### Hypothesis 7

The seventh hypothesis proposed that effect of parental attachment on parental criticism, the effect of parental criticism on self-criticism, and the effect of parental attachment on self-criticism would each be moderated by parental substance abuse. This hypothesis was tested by employing two separate moderation analyses. In the first analysis, maternal attachment served as the independent variable, maternal and paternal criticism each served as simultaneous parallel mediators, self-criticism served as the dependent variable, parental substance abuse served as the moderator, and paternal attachment and self-deceptive denial served as covariates. In the second analysis, paternal attachment was used as the independent variable and maternal attachment was included as a covariate while all other variables remained identical.

The results for the first analysis are shown in Figure 17. Overall, maternal substance abuse only moderated the effect of maternal attachment on self-criticism, controlling for the effects of denial and paternal attachment. As shown in the figure, the effect of maternal attachment on maternal criticism was not moderated by maternal substance abuse, ( $a_1 = .0075$ ,  $SE = .0122$ ,  $p = .5364$ ). The effect of maternal criticism on self-criticism was also not moderated by maternal substance abuse ( $b_1 = -.0196$ ,  $SE = .0825$ ,  $p = .8121$ ). The effect of maternal attachment on paternal criticism was not moderated by maternal substance abuse ( $a_2 = -.0092$ ,  $SE = .0128$ ,  $p = .4718$ ). The effect of paternal criticism on self-criticism was not moderated by maternal substance abuse ( $b_2 = -.0118$ ,  $SE = .0721$ ,  $p = .8695$ ). The effect of maternal attachment on self-criticism was moderated by maternal substance abuse, ( $c' = -.0380$ ,  $SE = .0180$ ,  $p = .0354$ ). Approximately 28% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .2765$ ). The indirect effects of maternal attachment on self-criticism via parental criticism

did not vary according to maternal substance abuse; however, the direct effect of maternal attachment on self-criticism varied according to maternal substance abuse. That is, maternal substance abuse seemed to weaken the relationship between maternal attachment and self-criticism whereby the protective quality of maternal attachment is disrupted.

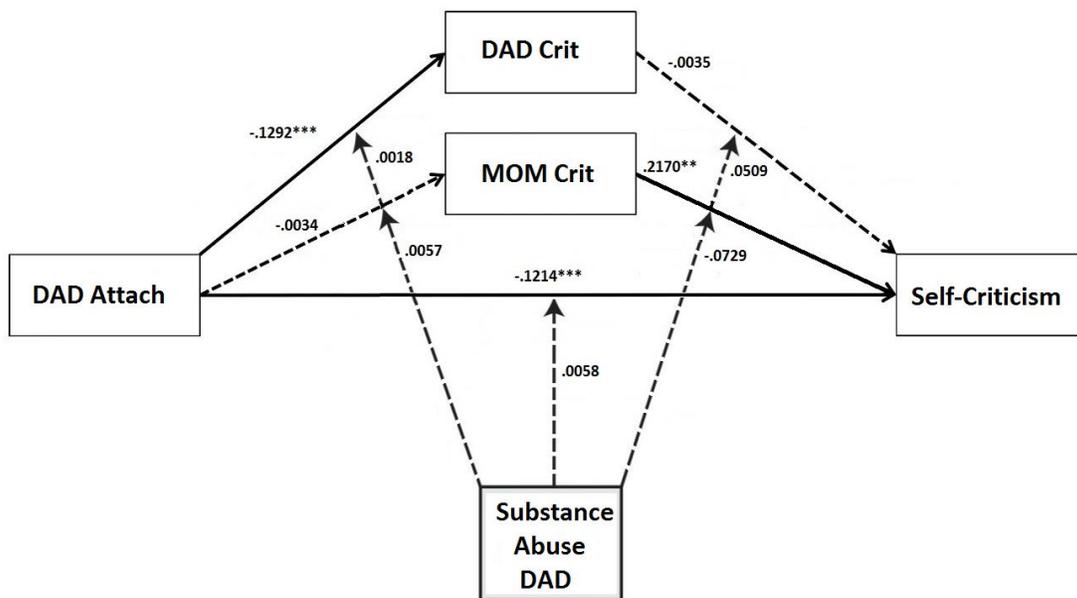
Figure 18. Results of Process model 59 moderated mediation analysis of maternal attachment, maternal criticism, maternal substance abuse, and self-criticism.



The results of the second analysis are shown in Figure 18. Overall, paternal substance abuse did not produce any moderating effects. As shown in the figure, the effect of paternal attachment on paternal criticism was not moderated by paternal substance abuse, ( $a_1 = .0018$ ,  $SE = .0122$ ,  $p = .5364$ ). The effect of paternal criticism on self-criticism was also not moderated by paternal substance abuse ( $b_1 = .0509$ ,  $SE = .0366$ ,  $p = .1653$ ). The effect of paternal attachment on maternal criticism was not moderated by paternal substance abuse ( $a_2 = .0057$ ,  $SE = .0070$ ,  $p = .4148$ ). The effect of maternal criticism on self-criticism was not moderated by paternal

substance abuse ( $b_2 = -.0729$ ,  $SE = .0391$ ,  $p = .0631$ ). The effect of paternal attachment on self-criticism was moderated by paternal substance abuse, ( $c' = .0058$ ,  $SE = .0107$ ,  $p = .5856$ ). Approximately 27% of the variance in self-criticism was accounted for by the predictors ( $R^2 = .2749$ ). The indirect effects of paternal attachment via parental criticism and the direct effect of paternal attachment on self-criticism did not vary according to paternal substance abuse.

Figure 19. Results of Process model 59 moderated mediation analysis of paternal attachment, paternal criticism, paternal substance abuse, and self-criticism.



**Discussion**

**Interpretation of Findings**

*Parental attachment and self-criticism*

This study explored the relationship between parental attachment and self-criticism whereby lower levels of parental attachment predicted higher levels of self-criticism. The findings were consistent with previous research that suggests those who insecurely attached

during childhood (i.e., lower levels of parental attachment) were more vulnerable to developing self-critical tendencies than those who had experienced secure attachment (Davila, 2001; Mikulincer & Shaver, 2007). Results also reflect the literature that has found self-criticism to be negatively associated with attachment security and positively related to fearful attachment (i.e., insecure attachment) (Irons et al., 2006).

*Mediation analysis: Parental Attachment, parental criticism, and self-criticism*

The current research also explored the mediating role of parental criticism on the relationship between parental attachment and self-criticism as well as the moderating effects of gender, parental divorce, peer victimization, self-compassion, and parental substance abuse. Results supported the first mediation model of maternal criticism (but not paternal criticism) mediating the effects of maternal attachment on self-criticism, and a direct effect from parental attachment to self-criticism remained after accounting for parental criticism. However, support was not found for parental criticism mediating the effects of paternal attachment on self-criticism. Thus, it appears that higher levels of maternal attachment is associated with lower levels of maternal criticism (negatively associated), which in turn is associated lower levels of self-criticism (positively associated). No such mediating effect was found for paternal criticism or for maternal criticism as a mediator of paternal attachment. That is, maternal criticism appears to play an important role as a mechanism through which low or ambivalent feelings of maternal attachment are expressed and affect child self-criticism. These findings are consistent with previous research that finds self-criticism to have a stronger association with primary caregivers (Frost et al., 1991; Brewin et al., 1992; Whisman & McGarvey, 1995). Conceivably, the mediating effect of maternal criticism may be a consequence of developing of a negative view of

self during childhood with one's mother, which in turn leads to higher levels of maternal criticism that ultimately results in higher levels of self-criticism. Therefore, individuals with low maternal attachment may develop a negative internal working model of the self and may consequently be plagued by feelings of inadequacy. In response, these children may utilize their self-critical tendencies in efforts to motivate themselves for improvement as well chase after love, affection, approval from others that they did not experience during childhood.

#### *Moderating effects of gender*

The third hypothesis whereby participants' gender was expected to moderate the effects of parental attachment on self-criticism, parental attachment on parental criticism, and parental criticism on self-criticism was not supported by results. Given that the literature has mixed findings regarding same-gender modeling of self-criticism, the results were not entirely surprising. Nonetheless, my findings appear to be consistent with previous studies that have found stronger associations of self-criticism with mothers and their children – regardless of gender (Whisman & McGarvey, 1995; Brewin, Firth-Cozens, Furnham, & McManus, 1992). The results may therefore, perhaps suggest that the relationship between a child and their primary caregiver may be stronger and thus more influential (regardless of the child's gender) than the relationship between a child and their same-gender parent. Given that the association between parental attachment and self-criticism remained consistently significant throughout all analyses and that maternal (but not paternal) criticism mediated the effects of maternal attachment on self-criticism – the current study may lend further support to the literature that finds maternal attachment and criticism to be more influential than paternal attachment and criticism on the development of self-criticism. Further, this consistent significant association between parental

attachment and self-criticism may be a reflection of whether or not respondents had at least one strong, loving, and supportive parent (that may compensate for the attachment that may be lacking in the other parent) whereby the combination of the two attachments may account for whether or not they develop self-critical tendencies.

*Moderating effects of parental divorce*

Similarly, results did not support the fourth hypothesis whereby parental divorce was expected to moderate the effects of parental attachment on self-criticism as well as the effects of parental attachment on parental criticism, albeit a direct effect remained from parental attachment to self-criticism after accounting for parental criticism. Given that parental divorce has been found to have a negative association with attachment security and a positive relationship with anxious (but not avoidant) attachment in a nationally representative sample (Mickelson et al., 1997), the present results were surprising. Conversely, however, other researchers have failed to demonstrate significant effects of parental divorce on grown-up children's attachment styles (albeit in college students) (Brennan & Shaver, 1993). The current study's results thereby suggest that the relationship between the sample's parental attachment and parental criticism was not affected via parental divorce, nor was the association between parental attachment and self-criticism. However, my results seem to lend support to previous research that suggests children may perceive their parents to be inconsistently available rather than as rejecting when experiencing parental divorce (the latter being more strongly associated with self-criticism than the former) (Mickelson et al., 1997). Thus, it appears that parental divorce may not have a major influence on the development of self-criticism.

*Moderating effects of peer victimization*

The fifth hypothesis found support for peer victimization moderating the effects of paternal attachment on self-criticism and a direct effect from parental attachment to self-criticism remained after accounting for parental criticism. However, no moderating effects were observed regarding the relationship between maternal attachment on self-criticism nor parental criticism on self-criticism. In other words, results suggest that once a child experiences peer victimization severe enough, the role of higher paternal attachment becomes obsolete. Perhaps the role of paternal attachment becomes ineffectual after a certain elevated degree of peer victimization as a result of a “trauma effect” (i.e., the peer victimization was so traumatic that the resources that used to be sources of comfort are no longer comforting as the resulting stress exceeded the available resource). This finding of paternal attachment being associated with peer relations is consistent with the literature that suggests that paternal (but not maternal) attachment is an important predictor of social competence (Rice, Cunningham, & Young, 1997).

However, given that mothers are often the preferred attachment figure (within Western society), it is slightly surprising that maternal attachment did not have a stronger association with the development of closeness and intimacy in social relations than paternal attachment. Regardless, inconsistencies exist in the literature whereby even though numerous researchers have demonstrated maternal attachment to have more significant associations regarding their children’s friendships with their peers than paternal attachment (Main et al., 1985; Suess, Grossmann, & Sroufe, 1992), several others have shown the reverse to be true (Kerns & Barth, 1995; Youngblade, Park, & Belsky, 1993). Moreover, children’s attachment to both parents (compared to attachment to mothers alone,) has suggested to be a stronger indicator of youngsters’ social abilities. Also, a study Koon (1997) found that paternal attachment (but not

maternal attachment) was been highly correlated with Mastery of External World (from the Offer Self-Image Questionnaire; Offer et al., 1992), whereas maternal attachment was significantly associated with Psychopathology (OSIQ; Offer et al., 1992). It may be the case that fathers simply play more with their children, thereby perhaps teaching emotion regulation skills through play. Further research could investigate the role of fathers in efforts to gain a better comprehension regarding the nature of their influence on their youngsters' development.

*Moderating effects of self-compassion*

Results further demonstrated that self-compassion did not moderate the effects of parental criticism on self-criticism, but a direct effect from parental attachment to self-criticism remained after accounting for parental criticism. This finding is consistent with the theory that by the time severe self-critics have reached their adolescent years, the self-critical tendencies have not only firmly molded their way of thinking, but has become deeply ingrained and cemented within them. Also, it may be a possibility that self-compassion and self-criticism are polar opposite constructs whereby the former is characterized by treating oneself in a compassionate, empathic, and non-judgmental manner, whereas the latter is typified by severe self-scrutiny. Thus, for one to be both pathologically self-critical – yet simultaneously possess self-compassionate traits – may be highly unlikely.

As for self-compassion intervention strategies, a study by Gilbert and Procter (2006) attempted to foster compassionate acceptance in people with high self-criticism and shame and were unable to significantly impact participants' self-correcting self-attacking. Although self-critics often endorse this trait as a positive (e.g., a way of motivating themselves) – another factor as to why a significant change was not observed may have been due to their small sample

size (i.e., thus having weak power to detect change). However, other researchers (Johnson & O'Brien, 2013) have demonstrated that self-compassion training can increase self-compassion in addition to decreasing shame and depressive symptoms. Therefore, there may still be some promise in teaching self-critics to be more self-compassionate.

Further, the finding that self-compassion did not possess any moderating effects may reflect results from a study by Gilbert and colleagues (2006) that generating self-compassionate and self-forgiving feelings is often a cumbersome task for self-critics. Moreover, self-criticism has been consistently positively associated with insecure attachment styles and negative thinking in general (Kopala-Sibley, Zuroff, Leybman, & Hope, 2013; Thompson & Zuroff, 1999), whereas self-reassurance has been linked with secure attachment and in turn negatively associated with self-criticism (Irons et al., 2006). Also, while self-criticism has strong associations with numerous psychopathologies (i.e., anxiety, depression, self-harm), self-compassion, in contrast, is inversely related with such psychopathologies. Thus, it is possible that these two very disparate mental constructs may be mutually exclusive to one another.

Many self-critics also tend to fear developing self-compassion as they may view it as a weakness (e.g., letting themselves “off the hook”), as dangerous (as they would need to “let their guard down”) and thereby may fear that it will make them vulnerable – which may feel strange, overwhelming, and/or frightening (Gilbert & Procter, 2006). Often self-critics view being self-forgiving and understanding to their own troubles as weakness and therefore feel reluctant to shed self-critical tendencies. This constant inner battle may reflect the “good-bad self-paradox” whereby self-critics feel anxious if they were to forego their self-critical tendencies in fear that they will lose the acceptance and approval of others of that their performance will drop. Also,

self-criticism is often linked with one's identity – as some have reported feeling “weird” in giving it up and feeling “naked” without it (Gilbert & Procter, 2006).

In addition, numerous self-critics also appear to have a conditioned emotional response whereby they feel anxious in response to those who approach them with care, concern, and warmth due to experiencing rejection and/or abuse from a source that was supposed to provide care, love, and affection (i.e., one's parents). Consequently, some of these self-critical individuals may have never been taught how to reassure themselves or how to self-soothe. Therefore, it may be very difficult for those who are severely self-critical to feel much (if any) self-compassion towards themselves – which may have been reflected in the results.

However, self-criticism and self-compassion may not be entirely mutually exclusive whereby being high on one does not necessarily mean (or require) that one be low on the other. For instance, one could be high on both self-criticism and self-compassion if one was “naturally” self-critical but have acquired skills via therapy in being more self-compassionate. For instance Gilbert and Procter (2006) developed compassionate mind training (CMT) for those afflicted by shameful feelings and self-critical tendencies and demonstrated a profound positive influence on a wide range of negative emotions (e.g., shame, inferiority) and mood, albeit self-correcting and self-attacking tendencies were not significantly affected. Many participants still endorsed self-criticism as a motivating trait, therefore perhaps making it more difficult/resistant to relinquish or dampen its effects. Consequently, although some researchers see self-compassion as somewhat of a remedy to self-criticism (McKay & Fanning, 1992), it appears that these feelings of self-assurance, warmth, and self-soothing must be taught given that most severe self-critics often have histories of neglect and trauma and consequently seldom ever felt reassured or safe.

Therefore, it seems logical that self-assurance or warm/positive feelings are sometimes unnerving for these individuals and not readily or easily accepted.

*Moderating effects of parental substance abuse*

The last hypothesis found support for maternal substance abuse moderating the effects of maternal attachment on self-criticism but did not find support for paternal substance abuse moderating the effects of paternal attachment on self-criticism nor the effects of parental attachment on self-criticism or the effects of parental criticism on self-criticism. This significant finding suggests that the more a child's mother abuses substances, the more that child's attachment to their mother becomes imperative and crucial in predicting whether or not they develop severe self-critical tendencies as they grow older. Seeing as children tend to have stronger attachments to their mothers overall and tend to spend a disproportional amount of time with their mothers compared to their fathers, it is not surprising that maternal substance abuse seems to have a more substantial impact on the association between maternal attachment and self-criticism than the impact of paternal substance abuse on the association between paternal attachment and self-criticism. Therefore, results coincide with the literature that underscores the importance of secure maternal attachment.

**Limitations**

Although the present study controls for numerous potential sources of error, several limitations should be acknowledged. First, the self-report nature of data collection is vulnerable to social desirability and impression management biases given that people may be reluctant to admit that they have very low views of themselves or that their parents abused substances during

their childhood. Even though attempts were made to control for social desirability and impression management, only one type of impression management was controlled for and other forms may have been at play. Regardless, these anonymous self-report questionnaires were imperative due to the sensitive nature of some questions and were required to protect participant identity. In efforts to help counteract this problem, students were asked at the end of the survey about the degree of honesty they exercised with the answers they provided throughout the questionnaire (i.e., “How truthful were you throughout the survey?”), and with participants answering the item using a 5-point response scale format ranging from 1 (*Not at all truthful*) to 5 (*Completely truthful*). Analyses were employed only with participants who answered at least 3 (“*Truthful about half the time*”) or greater, and results were controlled for non-conscious desirability bias and self-deceptive denial. Many may have also felt a moral obligation to their parents whereby they may feel guilt or shame if they were to report negatively when reflecting on their relationship with their parents and their parents’ behaviour.

Second, the retrospective nature of the current study is another drawback whereby participants’ recollections of parental attachment, criticism and/or substance abuse could be suspect. It is quite possible for participants to either minimize or overrate their recollections of parental criticism and parental alcohol/drug abuse for various reasons. Students’ biased recollections/reporting may stem from skewed perceptions resulting from drastic changes in their relationships with their parents. For instance, some participants may have had a tumultuous and volatile relationship with their parent(s) during their childhood, however, this relationship may have improved since then and may be currently more positive than before (thus possibly making it more difficult to recall the more negative experiences more accurately that they may have

experienced several years previously). Therefore, such drastic changes in terms of quality of relationship with their parents (from childhood to early adulthood) may have potentially contorted their recollections.

Third, students may have become cognizant of the study's true purpose, thereby resulting in disingenuous responding. One precaution taken to buffer against this possible limitation was replacing the "Origins Measure" title with "Childhood Experiences Questionnaire." Another limitation to the current study was the fact that participants were allowed to access the questionnaire at a location of their choice whereby they may have been distracted or answered dishonestly if they completed the survey in a public or crowded area for instance. To address this limitation, validity questions were incorporated into the survey regarding participants' honesty, inattention, as well as privacy concerns. Also, those who completed the questionnaire too quickly (i.e., less than eight minutes) or took too long to finish (i.e., over two hours) were eliminated from the study in efforts to protect against inattentiveness.

Fifth, two variables (i.e., parental divorce and parental substance abuse) were not highly prevalent within the sample whereby the prevalence found in the sample did not come close to resembling statistics found within the general population. Parental divorce during childhood was experienced by relatively few participants (5.3%), which may have limited the present study's ability in finding this variable to be a significant moderator. Similarly, only 7.7% and 21.5% experienced maternal and paternal substance abuse, respectively, compared to the statistic of nearly 29% of all children (within the United States.) are subjected to familial alcohol dependence or abuse (Grant, 2000). However, the prevalence rate of paternal substance abuse found in the current sample resembled those found in a more recent study demonstrated by a

Swedish national survey whereby 20.1% of adolescents recalled having parents with alcohol problems (Elgan & Leifman, 2013). Thus, one must be cautious regarding committing a Type II error by dismissing results too quickly as non-significant due to the variable not possessing moderating qualities (e.g., not all parental divorces are tumultuous/have deleterious effects on children) rather than perhaps resulting from a sample size too small and/or not randomly selected. Moderation effects are difficult to find to begin with and even more difficult to find if the variable in question is scarcely represented within the sample (e.g., less likely to find significant associations with parental divorce when less than 6% of sample experienced it compared to 20-30%).

Further, the generalizability of the results is limited by the relative homogeneity of the sample and the cross-sectional design of this study made cause-effect determination impossible. For instance, it may be the case that many severely self-critical individuals and many of those who grew up with severe degrees of parental substance abuse may not even make it to university (as well as those who cannot afford to attend university, those who have severe psychopathology, etc.). Thus, for all of the aforementioned reasons, results were interpreted with a fair degree of caution.

### **Significance of Findings**

The current study made an original contribution to the literature by assessing various moderator variables in attempts to determine what may influence the unique mediation model of parental attachment's effects on self-criticism via parental criticism. Various studies have sided with the notion that parental criticism precedes parental attachment; however, the current study postulated the exact opposite – that one's attachment to their parents is primary whereby this

process precedes any other interaction and may begin before the child is even born. Further, the present study assessed mothers and fathers separately, thereby enabling investigations of the differential effects of each parent, whereas most previous studies either solely focused on the mother or both parents jointly as one unit/influence (rather than separate influences).

The present study has several important implications regarding the effects of parental attachment, maternal criticism, maternal substance abuse, and peer victimization on the development of self-criticism. First, the findings found support for the hypothesis regarding parental attachment predicting self-criticism which reflect previous research that suggests secure attachment (or high on attachment security) gives rise to internal working models of perceiving other people as sources of comfort and safety (Mikulincer & Shaver, 2005) and for those with insecure attachment (or low on attachment security), however, to perceive others as sources of threat and to not be trusted. In this context, insecurely attached individuals thereby possibly become more susceptible to developing self-criticism. Thus, the current study has highlighted the imperative role that attachment with both parents plays in the development of self-criticism.

Further, the finding that maternal criticism had mediated the relationship between maternal attachment and self-criticism whereas paternal criticism did not may connote that mothers, as primary caregivers, perhaps are more influential in molding children's views of themselves and others (e.g., that they are worthy human beings deserving of love and affection and that they can trust and rely on others, or that they are unworthy people who should experience love and affection conditionally and to not trust or depend on others). However, seeing as commentary cannot be made regarding the causal directions of the observed associations, it is quite possible that respondents' temperaments in childhood played a role in eliciting maternal criticism or

dissatisfaction in mothers prone to respond in this manner. To clarify this issue, prospective longitudinal studies are required.

Moreover, seeing as self-criticism/perfectionism is linked with punitive parenting practices within student populations (Kawamura, Frost, & Harmatz, 2002), and that many Millennials (i.e., those born roughly between 1982-1995) are the common recipients of “helicopter parenting” (the overinvolvement of parents in their children’s lives) – the current generation of young adults may be increasingly self-critical. This potential rise in self-criticism may be a reaction to global changes in the economy coupled with the greater competitiveness (and higher tuition) for entry into university and securing a stable career. Helicopter parenting has been found to be negatively associated with psychological well-being (e.g., low self-esteem) and positively associated with recreational use of pain pills as well as consumption of anxiety/depression medication (LeMoyne & Buchanan, 2011). This kind of parenting has become a very commonplace phenomenon; therefore, it may be that much more imperative for future research to investigate the importance of assisting self-critics develop self-assuring and soothing skills or find better ways to help modify maladaptive thinking.

Further, the finding that peer victimization moderated the effect of paternal attachment on self-criticism may suggest that the protective value of paternal attachment is particularly vulnerable to being undermined by peer victimization. If children believe that a father’s role is in part to help them master the external environment and/or protect them from harm from others, peer victimization experiences may cause individuals to question whether they are worthy of such protection or mastery training.

Lastly, seeing as maternal substance abuse moderated the effect of maternal attachment on self-criticism underscores the importance of secure attachment on the development of self-criticism – especially when one’s mother experiences substance abuse issues during their early formative years. Children of alcoholic parents are already at an elevated risk for developing various internalizing and externalizing disorders in addition to self-critical tendencies – and thus the current findings suggest that one’s attachment to their substance abusing mother may make these possibilities more or less likely depending on how securely (or insecurely) attached they are to their mother.

### **Implications and Conclusions**

Implications of the present study’s findings are relevant for potential intervention strategies. For instance, it would be beneficial to help better educate parents regarding basic child development (i.e., help foster reasonable expectations of their children by informing them about children’s milestones, typical behaviour to expect during certain age ranges, etc.). Providing and disseminating all of this information in convenient, cost-effective, and easily accessible pamphlets in waiting rooms of family doctors (or those who specialize in neonatal care) may help facilitate this intervention strategy.

Moreover, it would be incredibly beneficial to invest in research that could help determine more successful ways to help those who are severely self-critical better cope with or attenuate their chronic fear of rejection and disapproval they experience via this deeply ingrained pernicious trait. An intervention strategy with promise, however, is found within the social psychology literature whereby a psychotherapeutic cognitive treatment – attribution retraining (AR) – modifies a person’s attributional schemas and encourages *adaptive* attributions for

transgressions or negative outcomes (i.e., internal/unstable/controllable causes) (Haynes, Daniels, Stupnisky, Perry, & Hladkyj, 2008). Studies have shown that university students who received AR had higher final grades (Hall et al., 2006) and better overall grade-point-averages (Haynes et al., 2006) as well as many other positive academic outcomes than those who did not receive AR. Although AR has been primarily applied to academic and achievement settings in efforts to enhance one's achievement and increase one's motivation, it seems highly applicable to self-critical individuals given their proclivity to make maladaptive attributions for their failures.

Although severely self-critical people may never fully cease their self-attacking tendencies, it may make a world of a difference if they can learn how to slightly modify their maladaptive attributions to positive attributions regarding their failures. Modifying one's attributions from the maladaptive to the adaptive influences their subsequent motivations that could make the difference between dropping out of university and persevering in attaining a Ph. D or between settling for a low-paying menial/unrewarding job (consequently living paycheque-to-paycheque) and pursuing a more lucrative and challenging/rewarding vocation (resulting in living more comfortably). In short, AR training seems highly applicable to self-critics as they often attribute their failures to factors that leave them feeling worthless and hopeless (as many first year students do in academic settings – where it has been predominantly researched). It would be worth investing in research to determine whether or not these beneficial effects can be generalized from classrooms to clinical settings of self-critical individuals.

As society changes, it would also be interesting to research whether or not there will be a shift in parental roles and/or patterns in later years. Perhaps there may be a growing equality of parental roles, or possibly fathers playing a more active nurturing role in their children's lives. Lastly, it would be worth exploring maternal influence at the process level and assess if these strong maternal influence findings are possibly a reflection of quantity versus quality. Perhaps mothers are that much more influential than fathers as a result of availability (i.e., time spent with child), or possibly due to the quality of the interaction (i.e., mothers are more likely to view it as part of their "job" to mold their child's approach to life, see their child as a reflection of themselves, etc.). Most people are usually familiar with the term "nagging mom" or it has been often uttered that "mom never lets things go" – which may be more indicative of qualitative disparities in their interactions with their children rather than quantitative differences in the amount of time spent with their children.

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## Appendix A

**Consent Form**

**Title of Research Study:** Self-Criticism and Self-Compassion in University Students: Origins and Psychological Correlates

**Primary Researcher:** Lydia Worobec

*This online consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to contact the Primary Researcher (worobec@cc.umanitoba.ca). Please take the time to read this carefully and to understand any accompanying information.*

I understand that I am being asked to complete a series of questionnaires that should only take between thirty and sixty minutes to finish. In exchange for my participation I will receive two experimental credits.

The risks of participation in this study are relatively minor and may include some minor emotional discomfort when reading about personal negative self-perceptions and/or recollections of unpleasant childhood memories. You will be granted 2 experimental credits even if you decline to answer particular questions or withdraw from the study part-way through. The researchers would like to thank you very much in advance for your participation because it will greatly benefit the planned research program and the answers it seeks to identify. On a final note, we assure you that all of your responses will be kept confidential and entered into a computer database. We ask that you click on the box next to "YES, I consent" to verify that you consent to participate in this study. The data you provide in this study is identifiable only by your UM email address. The online data you provide will reside initially within the Qualtrics server platform and, once it is downloaded into an electronic data file, it will also reside on the computer in the Research Supervisor's lab. The data will be stored in a password-protected file on the lab computer that is accessible only to the Principal Investigator and Research Supervisor. So long as the email addresses are on the datasets in those two locations, your identity is potentially identifiable. Once all data has been collected, the identifying aspect (UM email) will be stripped from the data file, rendering it anonymous. This means that no one, including the Principal Investigator and the Research Supervisor, will be able to identify you with your data. The data will be housed within the research supervisor's computer lab and within the Qualtrics platform until the end of the study and during this time it will be password-protected. Once it is downloaded to SPSS, it will be deleted from the Qualtrics platform. Both processes are anticipated to occur by March/April 2015. Once the study data has been made anonymous, it will be maintained indefinitely on the Principal Investigator's research computer.

*By clicking on the box next to "YES, I consent" below on this page indicates that you have read and understood to your satisfaction the information regarding your participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions you prefer to omit, without prejudice or consequence.*

*The University of Manitoba may look at your research records to see that the research is being done in a safe and proper way.*

*This research has been approved by the Psychological Research and Ethics Board. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Coordinator (HEC) at (204) 474-7122 and*

*[Margaret.Bowman@umanitoba.ca](mailto:Margaret.Bowman@umanitoba.ca).*

If you have read the information presented in this form and do not have any questions about this study, please click "YES, I agree" when you are ready to begin. You should only click "YES, I

*agree*” if you agree to participate with full knowledge of the study presented to you in this information and consent form and of your own free will. We suggest that you be in a quiet place, when you have up to 60 minutes free, and where you can complete this survey on your own and without interruption. We would appreciate it if you could turn off all instant messaging programs, as well as any other programs, currently running on your computer before continuing. Thank you for your consideration.

We strongly encourage you to print a copy of this consent form now for your records, as it will not be available later.

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

\_\_\_\_\_ YES, I consent (proceed to survey)

\_\_\_\_\_ NO, I do not consent (exit)

## Appendix B

**Preliminary Questions:****Gender:**

- Male
- Female
- Other

**Ethnicity:**

- Aboriginal/First Nations
- Black
- Chinese
- Filipino
- Japanese
- Korean
- Metis
- South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)
- South East Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese)
- White/European (e.g., English, French, Scottish, Irish, etc.)
- Other

**Number of Siblings:**

- 0
- 1
- 2
- 3
- 4
- 5
- Over 5

**Birth Order:**

- First
- Second
- Third
- Fourth
- Fifth
- Sixth (or more)
- Last

**Please choose one of the following that best describes who raised you between 0-10 years of age:**

- 1.) I was raised by both *biological* parents.
- 2.) I was raised by *adoptive* parents.
- 3.) I was raised by my biological mother
- 4.) I was raised by my biological mother and step-father
- 5.) I was raised by my biological father.
- 6.) I was raised by my biological father and step-mother.
- 7.) I was raised by my adoptive mother.
- 8.) I was raised by my adoptive father.
- 9.) Other: \_\_\_\_\_.

**Did your parents divorce when you were between 0-10 years of age?**

- YES
- NO

**At what age did you experience parental divorce?**

- 0-5 years old
- 6-10 years old
- 11 years old and older
- N/A

**If your parents did not divorce or separate when you were between 0-10 years of age, please choose one of the following that best describes your parents' relationship when you were under the age of 10:**

- Mostly happy
- Fairly happy
- Not overly happy or unhappy, but they got along with each other
- Fairly unhappy
- Mostly unhappy

**If YES (you experienced parental divorce at or before age 10), did you gain a step-parent? (i.e., the spouse of your parent by subsequent marriage).**

- YES – I gained a step-mother
- YES – I gained a step-father
- NO

**At what age did your step-mother enter your life?**

- 0-5 years old
- 6-10 years old
- 11 years old and older
- N/A

**At what age did your step-father enter your life?**

- 0-5 years old
- 6-10 years old
- 11 years old and older
- N/A

Also, while you are filling out the survey, please consider the significant moments in the interval of when you were from **0-10 years of age**.

## Appendix C

A sample of Self-Criticism items from the Depressive Experiences Questionnaire Reconstructed (DEQR-SC)

(Respondents answered each item using a 7-point response rating format ranging from 1 = *Strongly Disagree*, 7 = *Strongly Agree* based on their current levels of self-criticism)

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Self-Criticism items of the Depressive Experiences Questionnaire Reconstructed (DEQR)

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- 1.) I often find that I don't live up to my own standards or ideals.
  - 2.) Many times I feel helpless.
  - 3.) There is a considerable difference between how I am now and how I would like to be.
-

## Appendix D

A sample of items from the Self-Compassion Scale-Short Form (SCS–SF).

(Respondents answered each item using a 5-point response rating format ranging from 1 = *Almost Never*, to 5 = *Almost Always* based on their current levels of self-compassion)

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Items of the Self-Compassion Scale-Short Form (SCS–SF)

---

1. When I fail at something important to me I become consumed by feelings of inadequacy.
  2. I try to be understanding and patient towards those aspects of my personality I don't like.
  3. When something upsets me I try to keep my emotions in balance.
-

## Appendix E

A sample of parental attachment items from the Inventory of Parent and Peer Attachment (IPPA) questionnaire.

(Respondents answered each item using a 5-point response rating format ranging from 1 = *Almost Always*, to 5 = *Almost Never* based on when they were 0-10 years of age)

Regarding your mother (or female guardian):

1. My mother respected my feelings.
2. Talking over my problems with my mother made me feel ashamed or foolish.

Regarding your FATHER (or male guardian):

1. I didn't know if I could depend on my father during my childhood.

## Appendix F

A sample of the modified items of the CAST-6 (Short-form of the Children of Alcoholics Screening Test).

(Respondents answered each item with either “YES” or “NO” based on when they were 0-10 years of age)

Regarding your MOTHER (or female guardian):

- 1) Have you ever thought that your mother had a drinking/drug problem?
- 2) Did you ever think that your mother’s parenting was negatively affected by a drinking/drug problem?  
  
(e.g., she failed to pick you up from school/practice because she passed out at home, failed to carry out household duties because of her drinking)

Regarding your FATHER (or male guardian):

- 1.) Have you ever heard your father fight with your other parent (or other family member) while he was drunk/under the influence of drugs?

## Appendix G

A sample of the items from the Multidimensional Perfectionism Scale (MPS).

(Respondents answered each item using a 7-point response rating format ranging from 1 = *Strongly Agree*, to 7 = *Strongly Disagree* based on when they were 0-10 years of age)

**Parental Expectations of MOTHER (PE)**

- 1.) My mother set very high standards for me.
- 2.) Only outstanding performance is good enough for my mother.

**Paternal Criticism (referring to your father) (PC)**

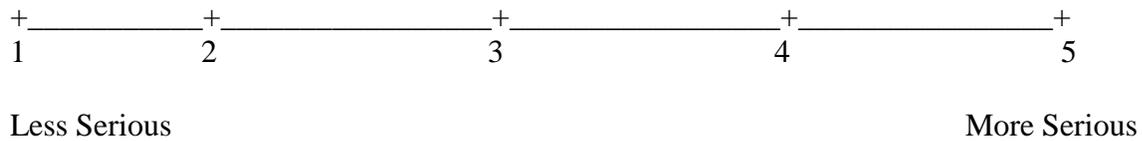
- 3.) As a child, my father punished for doing things less than perfect.

## Appendix H

A sample of items from the School Bullying Severity Scale (SBSS).

(Respondents answered each item using a 5-point response rating format ranging from 1 = *Less Serious*, to 5 = *More Serious* based on when they were 0-10 years of age)

How severely did you experience the following:



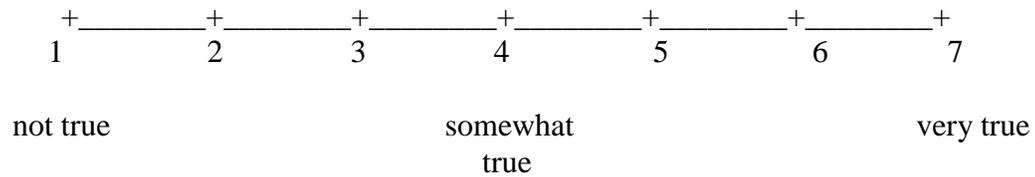
- 1.) Been tripped.
- 2.) Been ostracized.
- 3.) Been the target of an online rumour.

## Appendix I

A sample of items from the Self-Deceptive Denial (SDD) scale from the Balanced Inventory of Desirable Responding (BIDR-SDD).

(Respondents answered each item using a 5-point response rating format ranging from 1 = *Not True*, to 5 = *Very True*)

Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.



- 1) I have never felt joy over someone else's failure
- 2) I have gotten so angry at a friend that I felt like hitting him (her).
- 3) I enjoy it when obnoxious people get put down.

## Appendix J

**End of survey question:**

1.) How truthful were you throughout the survey?

<i>Not at all truthful</i>	<i>Slightly truthful</i>	<i>Truthful about half the time</i>	<i>Mostly truthful</i>	<i>Completely truthful</i>
1	2	3	4	5

2.) How attentive were you throughout the survey?

<i>Not at all attentive</i>	<i>Slightly attentive</i>	<i>Attentive about half the time</i>	<i>Mostly attentive</i>	<i>Completely attentive</i>
1	2	3	4	5