The Developmental Role of Attachment in Anxiety and Depression

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Abstract

The current literature review examines how attachment styles affect the development of anxiety and depression in childhood through to young adulthood. First, attachment theory proposed by John Bowlby and Mary Ainsworth is discussed, which explains how attachment types are developed through infant-caregiver relationships. The differing roles of maternal and paternal caregivers in the attachment relationship are also considered. Discussion in terms of anxiety in relationship to attachment is first addressed with separation anxiety in infancy, and continues to discuss how attachment styles relate to anxiety and depression throughout childhood and adolescence as well as into early adulthood. This review then turns to a newer, different attachment-anxiety/depression relationship between humans and pets and how this relationship may be similar to that of human-human relationships. Lastly, some potential mediators that may help explain the relationship between attachment and anxiety and depression are discussed. Overall, the literature concludes that insecure attachment is related to higher levels of both anxiety and depression than secure attachments from childhood to early adulthood and across different relationships.

The Developmental Role of Attachment in Anxiety and Depression

Attachment theory, developed by John Bowlby and Mary Ainsworth in the 1950s, plays an important role in helping explain anxiety and depression issues throughout the lifespan, across different relationships. This theory defines attachment through describing the infant-parent bond, with the parental figure serving as a sense of security and comfort for the infant. According to the theory, the parental figure is unable to be wholly interchangeable (Bowlby, 1969). When attachment relationships are not formed successfully, emotional problems such as anxiety and depression issues can result. The earliest form of anxiety experienced by infants is separation anxiety, which can serve as a precursor to anxiety later in life (Sroufe, 1996). For example, those who experience separation anxiety in the earlier years may be at risk for anxiety issues with peers in later childhood, as well as social phobias and school phobias (Bar-Haim, Dan, Eshel, & Sagi-Schwartz, 2007). Longitudinal studies have proven that anxiety issues in childhood may persist into adolescence (Warren, Huston, Egeland, & Sroufe, 1997). Also, depression can result from attachment issues, with research showing that it can persist into young adulthood. Furthermore, attachment in relation to both anxiety and depression can help us understand the success or failures among different types of relationships such as romantic relationships and human-pet relationships. The following literature review will further discuss attachment theory and its relationship with anxiety and depression, and how this relationship continues throughout the developmental phases from childhood to early adulthood as well as across different types of relationships.

Attachment and Anxiety Throughout Infancy and Adolescence

Attachment Theory and Separation Anxiety

In order to understand how attachment plays a role in the development of anxiety and depression, it is necessary to understand the mechanisms of attachment theory. John Bowlby formed the basic ideas of attachment theory through studying the infant-parent bond and the issues that may arise as the result of this bond being interrupted through infant-parent separation (Bretherton, 1992). Mother-infant attachment is typically referred to as bonding, and is inferred from observable actions of the mother toward her infant such as smiling, touching, and fondling. This bonding implies a special relationship, one that is affectionate, enduring, and responsible. Bowlby was focused on the role of behavioural factors in attachment and was inspired Konrad Lorenz's 1935 paper on imprinting (Bretherton, 1992; Hoover, 2002). Imprinting derives from ethology, which is the study and biology of behaviour (Burkhardt, 2005), with imprinting defined as an instinctual emotional bond of the young to the parent (Hess, 1964). Bowlby used these ideas of imprinting to define attachment as the complexity of imprinting among humans (Hoover, 2002).

Ainsworth further contributed to attachment theory, classifying infant-parent attachment styles into three general categories of secure, ambivalent, and avoidant, according to the results of her Strange Situation Study (1982). This study was a 20-minute experiment measuring infant attachment styles whereby children were in a room with toys and were either accompanied by the mother, stranger, or were alone (Ainsworth, Blehar, Waters, & Wall, 2015). Ainsworth found that upon reunion after a period of separation, an infant who is securely attached will seek the comfort of his/her mother, then proceed to freely explore his/her environment. An infant who maintains an ambivalent attachment to his/her mother may seek close bodily contact with his/her caregiver and also maintain close proximity, for fear that the attachment figure may leave again (Ainsworth et al., 2015). An infant who maintains an avoidant attachment will exhibit no

sense of relief or happiness toward the caregiver upon reunion and thus shows that he/she no longer desires the attachment relationship.

Insecure mother-child attachment relationships may impact various aspects of the child's psychological development (Herbert, Sluckin & Sluckin, 1982). Avoidance and neglect by the parental figure, which may lead to insecure parent-child attachment relationships, increase the risk of developing childhood depression and anxiety, with these attachment issues carrying forward to future relationship (Rudolph, Flynn, & Abaied, 2008). In infancy and early childhood, attachment security is achieved through close, physical proximity, but this security is achieved mostly through communication and self-disclosure in adolescence (Ainsworth, 1989). It is believed that insecurely attached infant response systems are always activated due to fear and stress of the caregiver leaving, even in low risk situations. Such overly cautious behaviours are equivalent to symptoms of anxiety (Manassis, 2001).

The earliest type of anxiety, developed in infancy, is separation anxiety, resulting from attachment issues between parent and child. Bowlby (1960) identified three phases in the separation response, which may lead to such anxiety: protest, despair, and detachment. He described protest as the most important phase, as it consists of the infant expressing acute distress of the mother's absence and fighting with his/her limited resources for her return. Strong ambivalence of the infant to his/her mother therefore can result in separation anxiety for the infant, whereby he/she assumes that when the mother leaves she will not return (Bowlby, 1960). These symptoms may progress with subsequent neglect and/or loss as the child develops, possibly continuing into adolescence (Bowlby, 1980).

Severe forms of separation anxiety can be the result of not only parental neglect but also past experience of intense conflict (Ainsworth et al., 2015). Such conflicts may consist of

multiple negative family experiences, such as threats of abandonment by parents or the death of a parent or sibling that the child feels responsible for (Bowlby, 1960). Separation anxiety can be resolved, however it is likely to take a while after reunion before a more securely attached relationship is achieved (Ainsworth et al., 2015). Therefore, much positive experience is needed to gain a sense of security in order to reverse separation anxiety, which was caused by negative experience.

More recent research on the severity of separation anxiety in the earlier years suggests that separation anxiety symptoms at 1.5 years is expected to gradually resolve by the age of 4.5 years. However, severe levels of separation anxiety that persist beyond the age of 1.5 years deserve special concern, as this severity may lead to the development of separation anxiety disorder (Battaglia et al., 2016). Anxiety symptoms present in infancy tend to increase within the first five years and such symptoms may be related to disruptions in the mother-infant attachment relationship. This suggests that insecure infant-mother attachments are important for predicting the progression of depression and anxiety as the child develops. Enduring anxiety from childhood to adolescence in those with insecure attachment style has been proven by a study, which found that infants of 12 months of age with anxiety maintained anxiety at 17.5 years of age, when both variables of maternal anxiety and infant temperament were controlled for (Warren et al., 1997). Early childhood experiences of insecure attachment along with high anxiety and withdrawal can increase the risk of later developing anxiety and depression (Jakobsen, Horwood, & Fergusson, 2012). Other studies show that insecure child-parent attachment relationships are associated with the course of depression from adolescence to adulthood (Agerup, Lydersen, Wallander, & Sund, 2015).

Perhaps these psychological problems persist through development for those with insecure attachment styles due to the assumption that past difficult situations will persist into the future, as it may be difficult to change this negative mindset. This idea was suggested by Cassidy (1995) and seems to be a fair, logical explanation. Specific types of anxiety issues may be of concern in the earlier years of development, such as social anxiety, which will be discussed next.

Attachment and Social Anxiety

Children who possess insecure attachments are at risk of developing social anxiety, with research showing that social anxiety emerges in middle childhood. Children's social interactions most typically involve interactions with peers, making it a good place to investigate the relationship between attachment and social anxiety (Brumarui & Kerns, 2008). Elicker, Englund and Sroufe (1992) specified three reasons as to why secure infant attachments should lead to successful peer relationships. First, the secure infant-caregiver bond formed by the caregiver's consistent availability and comfort should lead the child to expect the same success in social relationships. Secondly, in developing a secure relationship with his/her caregiver, a child learns about empathy in relationships and how successful relationships require work by both parties involved. Thirdly, the child being used to such sufficient care will enable the child to develop a sense of self-worth. As compared to securely attached children, those who are insecurely attached also tend to have higher social phobia. Bar-Haim et al (2007) concluded this after having infants of 12 months of age participate in Ainsworth's Strange Situation system, and then assessing these same children at 11 years of age using The Screen for Child Anxiety Related Emotional Disorders (SCARED).

Although our knowledge of the long-term effects of attachment and childhood anxiety is unfortunately limited, some interesting conclusions have been achieved in the social area. Some

research suggests that boys who are insecurely attached in early childhood are more likely than securely attached boys to be socially withdrawn (Lewis, Feiring, McGuffog, & Jaskir, 1984). Other longitudinal studies also show that lower attachment security along with higher ambivalence (insecure attachment) is related to higher social anxiety levels and that present measures of anxiety are related to current attachment styles, while controlling for earlier attachment (Brumariu & Kerns, 2008). Another longitudinal study assessed children both at 15 months of age and again at 8-9 years using the Strange Situation and measured social anxiety using the Separation Anxiety Test. This study found that those who were securely attached were more socially active and more popular among peers and also reported less social anxiety than those who were insecurely attached (Bohlin, Hagekull, & Rydell, 2000)

Social Anxiety and Academic Struggles

Childhood anxieties can also lead to impediments in ability to reach certain developmental goals, such as academic goals (Kerns, Siener, & Brumariu, 2011). For example, children who express symptoms of anxiety in middle childhood tend to have issues with academic performance (McLeod, Wood, & Weisz, 2007). Mother-child engagement has been shown to be an important factor in children's cognitive functioning and academics. A study which assessed children at 6 years of age and, again at 8 years of age, found that children who were securely attached versus insecurely were more successful in both communication and academics and that insecurely attached kids had the lowest motivation scores (Moss & St-Laurent, 2001). This seems quite reasonable, since it relates back to the original claims of attachment theory. Children who have a secure attachment with their mother should feel safe to explore his/her environment, in this case, the academic environment, and thus be motivated to become successful.

Maternal and Paternal Roles in Anxiety

As claimed by Bowlby's work in the 1950s, the mother typically plays the leading role in infancy caregiving, while the father's typical role is to emotionally support his wives' caregiving (Bretherton, 1992). However, this does not mean that infants cannot form attachments with the father figure, but rather that infants seek security from their mother and father in different forms. It is more typical of the father to engage in interactive games with his child, which helps establish a sense of security for the child through stimulation, guidance and support, aiding in the development of problem-solving skills (Grossmann, Grossmann, & Kindler, 2005). Specific contributions of the mother figure include creating a secure base by tending to her child's needs and providing reassurance when the child faces distress or pain (Grossmann et al, 2002). It is possible that a child can form a secure attachment with either one of his/her parents and not the other, with both parents, or with neither parent (Bowlby, 2008).

Insecure parent-child attachment along with parental treatment plays a role in childhood anxiety (Gottman, Katz, & Hooven, 1995). It is possible that the maternal rather than the paternal figure may have a greater contribution to her child's anxiety risk. This has been suggested by a study concerning parents' impact on their children's internalizing problems which found that the mother's role accounted for 56% of the variance of internalizing problems whereas the father's role accounted for only 30% of the variance of internalizing problems (Cohn, Cowan, Cowan, & Pearson, 1992). Therefore, it is reasonable to assume that this could hold true for anxiety issues, since anxiety is due to internal emotional issues. There is evidence that low attachment security to the father, along with personal freedom (autonomy) granting by the mother plays a role in the child developing anxiety and also predicts that the anxiety will persist into adolescence (Parrigon & Kerns, 2016). Also, parental rejection (an aspect of insecure attachment style) disrupts a child's ability to regulate his/her emotions, and thus potentially puts the child at risk of developing anxiety

(Gottman et al., 1995). Parental treatment may even worsen a child's anxiety once the child has already become anxious, as a study by Hudson and Rapee (2001) showed that mothers of anxious children were more intrusive and negative during mother-child interactions, thus contributing to the child's anxious behaviors. Also, parents' overprotection of their children, especially of girls since they tend to experience anxiety more than boys, may lead to worsening anxiety rather than helping alleviate anxiety symptoms (Weiss & Last, 2001).

There is also some research that suggests how both parental figures may work together to contribute to child anxiety due to attachment in infancy. Maternal attachment along with the sensitive and challenging paternal support of the child's exploration influences the child's secure exploration of cognitive challenges, and this influence continues as the child develops through adolescence (Grossmann, Grossmann, Kindler, & Zimmermann, 2008).

It is important to note that the link between parental roles and childhood anxiety is not always a strong one, as some studies have shown that parenting may account for as low as 4% of childhood anxieties. Such findings consisted of meta-analyses that included a series of 47 studies. Moderator tests concluded that such low percentage for parental influence on child anxiety might be attributed to the ways in which this relationship is assessed, such as autonomy granting which accounted for 18% of the variance in this relationship (McLeod et al., 2007). Further research is needed to assess parental roles in childhood anxiety, however, parental treatment may play a role in the anxieties aforementioned in this review such as separation anxiety and social anxiety.

Attachment and Depression from Childhood to Adulthood

Childhood to Adolescence

Although it is difficult to assess, it has been argued for decades that depressive symptoms may also arise as a result of attachment issues (Bowlby, 1961). Research has shown that children

whose parents suffer from depression are at a high risk of developing depression themselves, and that subsequent child and/or parental depressive symptoms can maintain or increase the insecurity of their attachment relationship (Cummings & Cincchetti, 1993). Martins and Gaffan (2000) found that infants (under three years) whose mothers were clinically depressed were likely to develop insecure attachments. Relating back to Bowlby's earlier work (1960, 1961) regarding separation anxiety, extended periods of separation from the primary caregiver can lead the child to feel that he/she is unworthy of love and that he/she has lost his/her parental figure (Cummings & Cincchetti, 1993). Subsequently, these circumstances and feelings lead to mourning and therefore depressive episodes among these children. These early experiences of loss are crucial as they play a role in molding the child's future well-being (Cummings & Cincchetti, 1993). Therefore, depressive symptoms due to parent-infant attachment issues should be given close consideration, as addressing these issues may help reduce depressive symptoms later on.

It has been suggested that although depressive symptom are evident in the earlier years, it may be easier to diagnose and study depression as a result of attachment issues in the adolescent years (McLeod et al., 2007; Zahn–Waxler, Klimes–Dougan, & Slattery, 2000; Cummings & Cicchetti, 1993). Traditional theories of depression, which focus on adult depression, are useful in understanding youth depression, however, an assessment of how anxieties may change and develop as one matures must be considered. To help combat or prevent depression, it is useful to gain a better understanding of how attachment with parental figures affects depression not only in childhood but also throughout the critical life-changing developmental period of adolescence (Duchesne & Ratelle, 2014). There is support for the idea that attachment insecurity is associated with maintained depressive symptoms throughout adolescence (Allen, Porter, McFarland, McElhaney, & Marsh, 2007). Several studies, which have examined children from infancy to

adolescence, have found that self-esteem issues are associated with earlier insecure attachment issues and that these issues also play a further role in increasing the risk of depression (Morley & Moran, 2011).

One way of examining depression in adolescence in terms of attachment issues is to study whether attachment issues in parent-child relationships extend to peer relationships. There is evidence based on both pre-adolescent and adolescent studies that those suffering from depression due to attachment issues may develop difficulties with peer relationships (McLeod et al., 2007). It has been shown that pre-adolescent depressed children have poorer relationship skills than children who are non-depressed and therefore struggle more with the ability to achieve best friend relationships. These findings were related to issues in the mother-child attachment relationship among those kids with depressive symptoms (Puig et al., 1978). It has also been suggested by a study of 1,144 eighth graders in Taiwan that those who have a secure attachment to their parents have higher peer support, less negative peer expectations, as well as fewer depressive symptoms (Liu, 2006). There is also evidence that attachment to a parent of the same sex is more strongly related to adolescent's perceived peer support (Liu, 2006). Having negative peer expectations may be due to the child or adolescent having negative expectations for oneself and others as a result of insecure parental child attachment, causing difficulties with flexible and successful interactions in peer relationships (Liu, 2006; Irons & Gilbert, 2005). Insecure peer attachment has also been shown to be more of an issue for developing anxiety and depression among adolescent girls than boys (Gorrese, 2016).

Attachment and Depression in Late Adolescence into Adulthood

Attachment is also important to consider during the likely stressful developmental period from adolescence into early adulthood, where there is a high risk for depression (Kenny & Sirin,

2006). A study that annually followed youth participants aged 11 to 16 found that insecure child-parent attachment relationships are associated with the course of depression from adolescence to adulthood (Agerup et al., 2015). This is a period where most adolescents move away from home, leaving their base of security (Kenny, 1987). A study found that among males in their first year of college, high levels of paternal attachment was predictive of depressive mood at the end of the first semester (Berman & Sperling, 1991). For those who have developed secure attachments with their parents, leaving home may be less difficult since this gives the opportunity to freely and safely explore and master a new environment, knowing that his/her parents will be available in times of stress or concern. Fortunately, most adolescents who move away from home are securely attached and therefore find this transition to be less difficult than those who are insecurely attached (Kenny, 1987). Having developed a securely attached relationship with their parental figure allows young adults to transfer the security gained through this relationship into being able to successfully deal with new life challenges and develop independence, without having to directly consult the parental figure for help in the majority of challenging situations (Kenny & Sirin, 2006).

Transitions in attachment from adolescence to adulthood may also affect depression issues in adulthood. A study showed that those who maintained a secure attachment type in adolescence through to adulthood were less likely to be depressed in adulthood, compared to those who maintained insecure attachments or transitioned from secure to insecure or vice versa (Cook, Heinze, Miller, & Zimmerman, 2016). However, the two transitioning attachment groups had faster declining rates of depression over time than the two stable groups. These results suggest that findings are mixed concerning depression from adolescence to adulthood in terms of whether attachment styles are stable or not during this transition.

There are also longitudinal studies that give insight to the idea that childhood anxiety and depression due to insecure attachment may persist into the adult years. Jakobsen and colleagues (2012) found in their 30-year longitudinal study that increased rates of anxiety in childhood and adolescence lead to increased risk of later anxiety and depression, whereas positive child-parent attachment in adolescence leads to a reduced risk for developing these disorders. Therefore, this gives reason to believe that negative or insecure attachment in adolescence is likely to lead to an increased risk of developing anxiety and/or depression in later adulthood. Next, romantic relationships, a typical component of adulthood, will be examined in terms of attachment issues and anxiety and depression.

Anxiety and Depression in Different Relationships

Attachment and Anxiety/Depression in Romantic Relationships

Most research regarding the role of attachment styles in romantic relationships has focused on young adults and married couples (Furman, Simon, Shaffer, & Bouchey, 2002). Adolescents may depend on their parental relationships for guidance towards the basics of how to form intimate relationships with others, with their relationships with the opposite sex parent being more attributable to forming these relationships (Furman et al., 2002; Collins & Read, 1990). However, friendships may be more closely related to the mutual intimacy and reciprocity that form the essential elements of romantic relationships (Furman et al., 2002). This makes sense since anyone with much close friendship experience likely tends to disclose more personal information to trusted friends rather than to their parents. So, the level of self-disclosure in close friendships rather than in child-parent relationships is likely more similar to disclosure levels in romantic relationships, although maybe more intense for different topics in our romantic relationships. Furthermore,

Furman et al. (2002) suggests that both friendships and romantic relationships share some common, central characteristics such as collaboration and reciprocity.

There may be a link between attachment in romantic relationships and anxiety and depression. This seems probable since a longitudinal study consisting of 144 dating couples found that for both men and women, those with secure attachment styles had greater relationship interdependence, trust, commitment and relationship satisfaction, whereas the opposite was true for those with insecure attachment styles (Simpson, 1990). So, those with secure attachment, maintaining happier relationships are most likely at a lower risk for developing anxiety and depression issues in romantic relationships.

Aattachment and Anxiety/Depression in Human-Pet Relationships

A newer area of study that is steadily growing involves attachment between human and non-human animals (Rockett & Carr, 2014). It is clear that domestic animals are becoming more and more important to humans, as we spend money on them such as buying holiday presents, dressing them in clothes, taking them on vacation, and essentially treating them as family. Since attachment styles develop among so many different species, there has been some recent research suggesting that these attachments exist not only within species, but also between, such as dogs forming attachment to their human companions (Palmer & Custance, 2008). Support for this claim is offered by studies that have mimicked Ainsworth's Strange Situation study, placing dogs in an unfamiliar room with both their companion as well as a stranger. It has been found that dogs interact more with the stranger when their companion is present. Thus, dogs use their companions as a secure base, which they can explore from, just as humans do (Palmer & Custance, 2008).

On the reverse side of this relationship, pets may also serve as a secure base for their human companions. A study where participants took place in a distress-eliciting task either in the physical or cognitive presence of a pet versus no pet presence showed that participants had lower blood pressure and higher self-confidence while in either the physical or cognitive presence of a pet. Therefore, the pet was able to provide a secure base for the participants (Zilcha-Mano, Mikulincer, & Shaver, 2012). Other studies have yielded mixed results for pet ownership and emotional health, suggesting that although pets may help reduce emotional distress in some cases, this may not be the general consensus over all situations and age groups (Stallones, Marx, Garrity, & Johnson, 1990). However, since human-pet attachments appear to be similar to human-human attachments, this suggests that human-pet attachments may influence anxiety and depression as well.

Although evidence is fairly limited, pet attachments may be similar to human-human attachments in terms of anxiety and depression. A study which assessed human-pet attachment and measured anxiety and depression showed that human-pet insecure attachment results in similar increased risks for anxiety and depression as does human-human insecure attachments (Beck & Madresh, 2008). A dissertation that was unpublished as of 2009 showed that humans expressing insecure attachment replicated previous research that these people are at a higher risk for depression but it also gives light to an interesting, opposite attachment-depression relationship than what the literature typically reveals for human-human attachments (Burnett, 2009). The dissertation suggests that pet owners with higher levels of depression tend to have higher levels of attachment to their pet, rather than lower levels as we often see in human relationships. As aforementioned, these findings are inconclusive since they have not been peer-reviewed. However, being able to personally relate to this claim, I struggle with depression and I

am certainly very attached to my dog, as she is to me. I treat her as a child and I find that she really makes me feel better when I face tough times. Therefore, it would certainly be interesting to see more research in this area in the future.

Pet type may also be important in the relationship between pet attachment and anxiety. According to Beck and Madresh (2008), pet type may have an impact on anxiety in romantic relationships. It was found that those who own dogs have less relationship anxiety and those who own multiple dogs enjoy their dog's company in a similar way as they enjoy human company and spend quality time with them. Interestingly, owning cats may be associated with loneliness, which leads to more partner anxiety in romantic relationships (Beck & Madresh, 2008). This seems plausible since, at least from my experience and knowledge, although cats do have personalities, they seem to not have the same compassionate personalities as dogs do, and therefore cats may generally tend to serve less comfort or contentment for owner. Perhaps this is also partially due to the fact that cats require lower maintenance, usually requiring the basics of care like being fed and needing their litter changed while dogs require a little more work since we have to not only feed them but also take them for walks, keep them groomed, play with them, and they typically spend more quality time with their owners. Therefore, in terms of romantic relationships, dogs are probably more beneficial than cats in helping fill the void where one's partner may be causing anxiety since dogs are typically more present and affectionate in emotional comfort.

Despite minimal research in this area, depression may result from humans' attachment relationship with their pets. Studies have shown that being faced with the death of one's pet, with whom they have created an affectionate bond, is directly related to grief, which is therefore related to the development of depression (Testoni, Cataldo, Ronconi, & Zamperini, 2017). The

strength of the human-pet attachment as well as attachment anxiety is associated with more intense grief over the loss of a pet and the continuing attachment to a deceased pet may also act as a partial mediator in the strength of the human-pet attachment in the past and the severity of grief experienced by the owner (Field, Orsini, Gavish, & Packman, 2009). I can personally relate to these claims since I experienced the pet grieving process when I lost my first dog about ten years ago. Although I was only a child, I developed a close, affectionate relationship with my dog and not only experienced the grief of losing him myself, but also experienced how this loss affected my parents and my brother. Even a couple years after he passed, my mother and I would get emotional when speaking about him, since we were so attached to him and it was a very painful loss to experience. It took many years before my family and I agreed that we were ready for another dog companion in our lives, since the thought of going through that devastating loss again was too much to handle. Therefore, I can certainly understand the link between pet loss and long-lasting grief, possibly leading to the development of depressive symptoms.

Potential Mediators in the Attachment-Anxiety/Depression Relationship

It is also useful to consider some possible factors that mediate the relationship between attachment styles and anxiety and depression throughout the developmental stages of childhood to adolescence. It is important to be aware that the attachment-anxiety and/or depression relationship isn't always straight forward and that other factors may be in need of consideration for why this relationship occurs. First of all, in regards to peer relationships, adolescents perceived peer support can mediate the relationship between attachment styles and the development of anxiety and depression. A recent longitudinal study showed adolescents with secure attachments to be a positive predictor of high levels of perceived peer support as well as a negative predictor of anxiety and depression, whereas adolescents having insecure attachments was a negative predictor of

perceived peer support and thus a positive predictor of anxiety and depression (Pace, Zappulla, & Di Maggio, 2016).

It has also been suggested that social anxiety may serve as a mediator for the attachment-depression relationship. (Manes et al., 2016) found that social anxiety mediates the interrelation of insecure attachments and depression. They also mentioned the importance of considering that this insecure attachment-depression relationship does exist even beyond the mediating effect of social anxiety.

Also, it has been found in studies of emerging adults that perceived self-worth could mediate the relationship between reports of parent-attachment relationships and depressive symptoms (Kenny & Sirin, 2006). Furthermore, emerging adults' personal perspective concerning their attachment relationships with their parents is more predictive of their self worth than their parents' perspective of the relationship.

Lastly, despite minimal study of the construct, it has been suggested that emotional regulation may also be a mediator in the insecure attachment-anxiety relationship. A fairly recent study consisting of youth aged 9-16 showed that those who were securely attached had better emotion regulation than those who were insecurely attached and therefore possessed less anxiety symptoms (Bender, Sømhovd, Pons, Reinholdt-Dunne, & Esbjørn, 2015). This finding suggests secure attachment allows one to better control his/her emotions, reducing the risk of emotional issues leading to anxiety. Therefore, perceived peer support, social anxiety, and emotional regulation can help explain why the insecure attachment-anxiety/depression relationship exists.

Conclusion

The current literature review has discussed attachment theory and how mechanisms of this theory, insecure attachment relationships in particular, may underlie anxiety and depression

in childhood through to adolescence and early adulthood. Research has consistently shown that those who develop insecure attachments in childhood tend to suffer more anxiety and depression issues (Bohlin, Hagekull, & Rydell, 2000). Specifically, this review concerns attachment and its association with anxiety and depression across different relationships including parent-child, peer, romantic, as well as relationships between humans and pets. Some possible mediators, which may help explain the relationship between insecure attachment and anxiety and depression such as emotion regulation and social anxiety have also been considered.

The stability of attachment styles over time may also be important in understanding the relationship between attachment and anxiety and/or depression. Research in this area is mixed, as some studies show that attachment types developed in infancy are not always stable throughout the lifespan, as people may develop different attachment styles such as during the transition from adolescence to adulthood (Weinfield, Sroufe, & Egeland, 2000). There is a prototype perspective, which claims that attachment styles remain fairly stable from infancy to adulthood, with earlier experiences continuing to influence later ones. Opposing this view is the revisionist perspective, which claims that early attachment styles are subject to change due to different experiences throughout life, therefore attachment styles in adulthood may not reflect those of childhood. It has also been suggested that being either securely or insecurely attached in early childhood doesn't make one invulnerable or doomed, respectively, to later developing anxiety and depression issues (Lewis et al., 1984). Since findings in the stability of attachment styles over time appears to be an area of uncertainty, I think it would certainly be useful for future studies to investigate this topic more closely, since this could help in understanding the risks of developing anxiety and depression. For example, perhaps researchers could look at

whether temperament or personality may play a role in whether attachment styles remain stable or change over time.

There are also some limitations in assessing the relationship between insecure attachment relationships and the development of anxiety and depression. It is important to consider that it isn't always clear as to whether the ambivalent division of insecure attachment (Warren et al., 1997) versus the avoidant division (Erlbaum, Goldberg, Gotowiec, & Simmons, 1995) plays a larger role in the risk of anxiety and depression. Possible sample bias is also useful to consider with these findings, since some studies have involved samples of chronically ill children and/or children from low socioeconomic families, which may suggest that these results of the insecure attachment-anxiety relationship may only be true under certain circumstances (Erlbaum et al., 1995). Also, close attention should be given to the validity of the measures used to test the relationship between attachment and anxiety and/or depression since the majority of adult studies concerning attachment depression have relied on self-report measures. Such measures do not necessarily yield solid evidence for this relationship due to the subjectivity of self-reports (Morley & Moran, 2011). There are also studies that have found that insecure attachment style serves as a mediator rather than an independent variable, mediating the relationship between parental rejection and subsequent anxiety development (Breinholst, Esbjørn, & Reinholdt-Dunne, 2015). Therefore, the relationship between insecure parent-child attachment styles and the development of anxiety and depression is certainly complex. Nevertheless, the findings presented in this review assure that a link certainly does exist between insecure attachment and anxiety and depression in childhood through to adulthood, across different relationships.

References

Ainsworth, M. S. (1989). Attachments beyond infancy. *American Psychologist*, *44*(4), 709.

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. N. (2015). The strange situation procedure. *Patterns of attachment: A psychological study of the strange situation*. Retrieved from https://books.google.ca.

Agerup, T., Lydersen, S., Wallander, J., & Sund, A. M. (2015). Associations between parental attachment and course of depression between adolescence and young adulthood. *Child Psychiatry & Human Development*, *46*(4), 632-642.

Allen, J. P., Porter, M., McFarland, C., McElhaney, K. B., & Marsh, P. (2007). The relation of attachment security to adolescents' paternal and peer relationships, depression, and externalizing behavior. *Child Development*, *78*(4), 1222-1239.

Bar-Haim, Y., Dan, O., Eshel, Y., & Sagi-Schwartz, A. (2007). Predicting children's anxiety from early attachment relationships. *Journal of Anxiety Disorders*, *21*(8), 1061-1068.

Battaglia, M., Touchette, É., Garon- Carrier, G., Dionne, G., Côté, S. M., Vitaro, F., ... & Boivin, M. (2016). Distinct trajectories of separation anxiety in the preschool years: Persistence at school entry and early- life associated factors. *Journal of Child Psychology and Psychiatry*, *57*(1), 39-46.

Beck, L., & Madresh, E. A. (2008). Romantic partners and four-legged friends: An extension of attachment theory to relationships with pets. *Anthrozoös, 21*(1), 43.

Bender, P. K., Sømhovd, M., Pons, F., Reinholdt-Dunne, M. L., & Esbjørn, B. H. (2015). The impact of attachment security and emotion dysregulation on anxiety in children and adolescents. *Emotional and Behavioural Difficulties*, *20*(2), 189-204.

Berman, W. H., & Sperling, M. B. (1991). Parental attachment and emotional distress in the transition to college. *Journal of Youth and Adolescence*, *20*(4), 427-440.

Bohlin, G., Hagekull, B., & Rydell, A. M. (2000). Attachment and social functioning: A longitudinal study from infancy to middle childhood. *Social Development*, *9*(1), 24-39.

Bowlby, J. (1960). Separation anxiety. *The International Journal of Psychoanalysis, 41*, 89.

Bowlby, J. (1961). The Adolf Meyer lecture childhood mourning and its implications for psychiatry. *American Journal of Psychiatry*, *118*(6), 481-498.

Bowlby, J. (1969). Attachment and loss. *Attachment.* New York: Basic Books.

Bowlby, J. (Eds.). (1980). *Attachment and loss*. New York: Basic Books.

Bowlby, J. (2008). Caring for children. *A secure base: Parent-child attachment and healthy human development*. Retrieved from http://books.google.com.

Breinholst, S., Esbjørn, B. H., & Reinholdt-Dunne, M. L. (2015). Effects of attachment and rearing behavior on anxiety in normal developing youth: A mediational study. *Personality and Individual Differences*, *81*, 155-161.

Bretherton, I. (1992). The origins of attachment theory: John Bowlby and Mary Ainsworth. *Developmental Psychology*, *28*(5), 759.

Brumariu, L. E., & Kerns, K. A. (2008). Mother–child attachment and social anxiety symptoms in middle childhood. *Journal of Applied Developmental Psychology*, *29*(5), 393-402.

Burkhardt, R. W. (2005). *Patterns of behavior: Konrad Lorenz, Niko Tinbergen, and the founding of ethology*. University of Chicago Press.

Burnett, A. M. (2009). *Level of depression as a function of the human -animal bond and attachment -related avoidance features* (Doctorate dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 305160169)

Cassidy, J. (1995). Attachment and generalized anxiety disorder. In D. Cicchetti & T. Sheree (Ed.), *Emotion, cognition, and representation* (pp. 343-370). Rochester, NY, US: University Rochester Press.

Cohn, D. A., Cowan, P. A., Cowan, C. P., & Pearson, J. (1992). Mothers' and fathers' working models of childhood attachment relationships, parenting styles, and child behavior. *Development and Psychopathology*, *4*(03), 417-431.

Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, *58*(4), 644.

Cook, S. H., Heinze, J. E., Miller, A. L., & Zimmerman, M. A. (2016). Transitions in friendship attachment during adolescence are associated with developmental trajectories of depression through Adulthood. *Journal of Adolescent Health*, *58*(3), 260-266.

Cummings, E. M., & Cicchetti, D. (1993). Toward a transactional model of relations between attachment and depression. In M.T. Greenberg, D. Cicchetti, & M.E. Cumminga (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 339-372), Chicago: Chicago University Press.

Duchesne, S., & Ratelle, C. F. (2014). Attachment security to mothers and fathers and the developmental trajectories of depressive symptoms in adolescence: Which parent for which trajectory? *Journal of Youth and Adolescence*, *43*(4), 641-654.

Elicker, J., Englund, M., & Sroufe, L. A. (1992). Predicting peer competence and peer relationships in childhood from early parent-child relationships. In R. Parke & G. W. Ladd (Eds.), *Family and Peer Relationships: Modes of Linkage* (pp. 77–106). Hillsdale, NJ.

Erlbaum, L., Goldberg, S., Gotowiec, A., & Simmons, R. J. (1995). Infant-mother attachment and behaviour problems in healthy and chronically ill preschoolers, *Development and Psychopathology, 7*, 267-282.

Field, N. P., Orsini, L., Gavish, R., & Packman, W. (2009). Role of attachment in response to pet loss. *Death Studies*, *33*(4), 334-355.

Furman, W., Simon, V. A., Shaffer, & Bouchey, H. A. (2002). Adolescent's working models and styles for relationships. *Child Development, 73*(1), 241-255.

Gorrese, A. (2016). Peer attachment and youth internalizing problems: A meta-analysis. *Child & Youth Care Forum*, *45*(2), 177-204.

Grossmann, K., Grossmann, K. E., Fremmer-Bombik, E., Kindler, H., Scheuerer, Englisch, H., & Zimmermann, P. (2002). The uniqueness of the child-father attachment relationship: Fathers' sensitive and challenging play as a pivotal variable in a 16-year longitudinal study. *Social Development, 11*(3), 307–331.

Grossmann, K., Grossmann, K. E., & Kindler, H. (2005). Early care and the roots of attachment and partnership representations. *Attachment From Infancy to Adulthood. The Major Longitudinal Studies* (pp. 98-136). London, NY: Guilford Press.

Grossmann, K., Grossmann, K. E., Kindler, H., & Zimmermann, P. (2008). A wider view of attachment and exploration: The influence of mothers and fathers on the development of psychological security from infancy to young adulthood. *Handbook of Attachment: Theory, Research, and Clinical Applications, 2,* 857-879.

Herbert, M., Sluckin, W., & Sluckin, A. (1982). Mother-to-infant "bonding". *Journal of Child Psychology and Psychiatry*, *23*(3), 205-221

Hess, E. H. (1964). Imprinting in birds. *Science*, *146*(3648), 1128-1139.

Hoover, J. H. (2002). John Bowlby on human attachment. *Reclaiming Children and Youth, 11*(1), 58-60.

Hudson, J. L., & Rapee, R. M. (2001). Parent–child interactions and anxiety disorders: An observational study. *Behaviour Research and Therapy*, *39*(12), 1411-1427.

Irons, C., & Gilbert, P. (2005). Evolved mechanisms in adolescent anxiety and depression symptoms: The role of the attachment and social rank systems. *Journal of Adolescence*, *28*(3), 325-341.

Jakobsen, I. S., Horwood, L. J., & Fergusson, D. M. (2012). Childhood anxiety/withdrawal, adolescent parent–child attachment and later risk of depression and anxiety disorder. *Journal of Child and Family Studies*, *21*(2), 303-310.

Kenny, M. E. (1987). The extent and function of parental attachment among first-year college students. *Journal of Youth and Adolescence*, *16*(1), 17-29.

Kenny, M. E., & Sirin, S. R. (2006). Parental attachment, self- worth, and depressive symptoms among emerging adults. *Journal of Counseling & Development*, *84*(1), 61-71.

Kerns, K.A., Siener, S. and Brumariu, L.E. (2011) 'Mother–child relationships, family context, and child characteristics as predictors of anxiety symptoms in middle childhood', *Development and Psychopathology*, *23*(2), 593–604.

Lewis, M., Feiring, C., McGuffog, C., & Jaskir, J. (1984). Predicting psychopathology in six year-olds from early social relations. *Child development*, *55*(1), 123-136.

Liu, Y. L. (2006). Paternal/maternal attachment, peer support, social expectations of peer interaction, and depressive symptoms. *Adolescence*, *41*(164), 705.

Manassis, K. (2001). Child–parent relations: Attachment and anxiety disorders. *Anxiety Disorders in Children and Adolescents*. Retrieved from http://books.google.ca.

Manes, S., Nodop, S., Altmann, U., Gawlytta, R., Dinger, U., Dymel, W., ... & Ritter, V. (2016). Social anxiety as a potential mediator of the association between attachment and depression. *Journal of Affective Disorders*, *205*, 264-268.

Martins, C., & Gaffan, E. A. (2000). Effects of early maternal depression on patterns of infant mother attachment: A meta- analytic investigation. *Journal of Child Psychology and Psychiatry*, *41*(6), 737-746

McLeod, B. D., Wood, J. J., & Weisz, J. R. (2007). Examining the association between parenting and childhood anxiety: A meta-analysis. *Clinical Psychology Review*, *27*(2), 155-172.

Morley, T. E., & Moran, G. (2011). The origins of cognitive vulnerability in early childhood: Mechanisms linking early attachment to later depression. *Clinical Psychology Review*, *31*(7), 1071-1082.

Moss, E., & St-Laurent, D. (2001). Attachment at school age and academic performance. *Developmental Psychology*, *37*(6), 863.

Pace, U., Zappulla, C., & Di Maggio, R. (2016). The mediating role of perceived peer support in the relation between quality of attachment and internalizing problems in adolescence: a longitudinal perspective. *Attachment & Human Development*, *18*(5), 508-524.

Palmer, R., & Custance, D. (2008). A counterbalanced version of Ainsworth's strange situation procedure reveals secure-base effects in dog–human relationships. *Applied Animal Behaviour Science*, *109*(2), 306-319.

Parrigon, K. L. S., & Kerns, K. A. (2016). Family processes in child anxiety: The long term impact of fathers and mothers. *Journal of Abnormal Child Psychology*, *4*(7), 1253 1266.

Puig-Antich, J., Blau, S., Marx, N., Greenhill, L. L., & Chambers, W. (1978). Prepubertal major depressive disorder: A pilot study. *Journal of the American Academy of Child Psychiatry*, *17*(4), 695-707.

Rockett, B., & Carr, S. (2014). Animals and attachment theory. *Society & Animals*, *22*(4),415 433.

Rudolph, K. D., Flynn, M., & Abaied, J. L. (2008). A developmental perspective on interpersonal theories of youth depression. *Handbook of Depression in Children and Adolescents*, 79-102.

Simpson, J. A. (1990). Influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology, 59*(5), 971-980.

Sroufe, L. A. (1996). *Emotional development: The organization of emotional life in the early years*. New York: Cambridge University Press.

Stallones, L., Marx, M. B., Garrity, T. F., & Johnson, T. P. (1990). Pet ownership and attachment in relation to the health of US adults, 21 to 64 years of age. *Anthrozoös*, *4*(2), 100-112.

Testoni, I., De Cataldo, L., Ronconi, L., & Zamperini, A. (2017). Pet loss and representations of death, attachment, depression, and euthanasia. *Anthrozoös*, *30*(1), 135-148.

Warren, S. L., Huston, L., Egeland, B., & Sroufe, L. A. (1997). Child and adolescent anxiety disorders and early attachment. *Journal of the American Academy of Child & Adolescent Psychiatry*, *36*(5), 637-644.

Weinfield, N. S., Sroufe, L. A., & Egeland, B. (2000). Attachment from infancy to early adulthood in a high- risk sample: Continuity, discontinuity, and their correlates. *Child Development*, *71*(3), 695-702.

Weiss, D. D., & Last, C. G. (2001). Developmental variations in the prevalence and manifestation of anxiety disorders. *The Developmental Psychopathology of Anxiety*, *1*, 27-42.

Zahn–Waxler, C., Klimes–Dougan, B., & Slattery, M. J. (2000). Internalizing problems of childhood and adolescence: Prospects, pitfalls, and progress in understanding the development of anxiety and depression. *Development and Psychopathology*, *12*(3), 443-466.

Zilcha-Mano, S., Mikulincer, M., & Shaver, P. R. (2012). Pets as safe havens and secure bases: The moderating role of pet attachment orientations. *Journal of Research in Personality*, *46*(5), 571-580.