



Linking Parenting Styles to Separation Anxiety Disorder and Neurological Responses

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Abstract

Today, nearly 20% of the US experience an anxiety disorder, one of the most prevalent in children being Separation Anxiety Disorder (SAD). SAD is defined as a child's fear of being separated from a central attachment figure and therefore refusal to do so. This literature review focused on the correlation between three of the four parenting styles (authoritarian, authoritative, and permissive) and SAD. The results of this review found that SAD is most commonly associated with the authoritarian parenting style which is defined as the parent inciting high demand but low support for this child. This review also found that separation anxiety is closely correlated with the amygdala, including responsiveness and size. In addition, authoritarian parenting has been found to be linked to slower neurological responsiveness to a child's success by the parent.

Introduction:

Separation Anxiety Disorder (SAD) is a type of anxiety disorder in which children experience intense fear or distress when separated from a central attachment figure, usually a parent (Lewinsohn et al., 2008). While commonly seen in early childhood, some children continue to experience SAD into later childhood or adolescence, making it an important but understudied area of research. This paper will examine how different parenting styles, specifically authoritarian, permissive, and authoritative, relate to the development and persistence of SAD in older children and adolescents.

Anxiety disorders are among the most prevalent mental health conditions, affecting nearly one in five adults in the United States (19.1%) (Harvard Medical School, 2007). Symptoms of anxiety include excessive fear, avoidance of perceived threats in external and internal situations, panic, and physiological distress (tachycardia, breathlessness, muscle tension) (Craske et al., 2017).

Beyond separation anxiety, there are many different types of anxiety disorders, including specific phobias, social anxiety disorder, panic disorder, selective mutism, and generalized anxiety. Importantly, anxiety can also co-occur with other mental disorders, such as depression. In fact, in a survey, 45.7% of participants with Major Depressive Disorder (MDD) had experienced one or more anxiety disorders in their lifetime which ultimately reflects a high rate of comorbidity between anxiety and depression (Kessler et al., 2016). Overall, anxiety is not only distressing on its own, but also increases the likelihood of developing other mental health disorders.

Importantly, anxiety has become even more prevalent in children and adolescents, with evidence showing that anxiety disorders are one of the most prevalent mental disorders in children (Child and Adolescent Health Measurement Initiative, 2022-2023). In fact, most anxiety disorders develop during childhood, adolescence, or sometimes early adulthood (Craske et al., 2017). Parenting styles often have a large influence on the development of a child and their

general mental wellbeing (Joseph & John, 2008). One way that researchers have investigated this correlation has been through the formation of specific parenting styles. Psychologist Diana Baumrind created the four parenting styles known as authoritarian, authoritative, permissive, and uninvolved which are largely used in developmental psychology today. Most relevant to this study will be authoritarian, permissive, and authoritative parenting styles. Authoritarian parenting can be defined as an approach where parents are high in demandingness but low in support (Baumrind, 1991) often resulting in more obedient and proficient children but suffer from lower self esteem and higher levels of aggression (Masud et al., 2019; Jadon & Tripathi, 2017). Permissive parenting describes a parenting style where parents are high in support and low in demandingness (Baumrind, 1991), and their children are more likely to have problems with authority and experience low amounts of self-regulation (Leeman et al., 2014; Piotrowski et al., 2013). Meanwhile, authoritative parents are high in demandingness and high in support (Baumrind, 1991), usually resulting in the healthiest outcomes for their children with higher rates of self-regulation and better performance in school (Pong et al., 2010; Masud et al., 2019).

Understanding how parenting approaches relate to SAD can provide insight into risk factors and inform strategies for prevention and intervention. This paper first examines the relationship between parenting styles particularly authoritarian, permissive, and authoritative as well as the development and persistence of Separation Anxiety Disorder in children and adolescents. Next, it explores research on the neurological effects of SAD, focusing on the role of the amygdala in fear processing and anxiety regulation. Finally, the review considers potential factors that contribute to authoritarian parenting and how these parenting behaviors may influence the presence and severity of SAD.

Parenting Styles & Childhood Separation Anxiety

Although relatively few studies have shown a consensus on a specific correlation between parenting styles and separation anxiety in particular, there has been research on other anxiety related factors which can be linked to the development or presence of SAD. Specifically, there has been increased awareness towards causes of anxiety sensitivity. Anxiety sensitivity is the tendency to fear the physical or emotional sensations of anxiety because of the belief that these sensations could have harmful psychological, social, or physical consequences (Starcevic & Berle, 2006). For example, a child might feel their heart racing before giving a presentation and worry that this means something is seriously wrong with their health, even though it is a normal response to stress. This heightened fear of anxiety symptoms can make everyday situations feel threatening and increase the likelihood of developing anxiety disorders, including separation anxiety (Erozkan, 2012). This is significant because there is growing evidence that shows how anxiety sensitivity is often a risk factor for anxiety disorders, and may even be linked to parenting styles.

Specifically, authoritarian and protective-demanding parenting styles have been shown to be strong predictors of anxiety sensitivity, which could potentially lead to SAD later in life (Erozkan, 2012). Although protective-demanding is not one of the parenting styles defined by Baumrind, protective parenting is also a predictor of anxiety symptoms and SAD development (Kiel et al., 2019). By definition, a protective-demanding parenting style strongly relates to authoritarian parenting, characterized by the parent enforcing strict control over the child. Anxiety is thought to be developed early in one's life, particularly childhood, emphasizing how

parenting styles are important in anxiety development as they strongly influence child development.

Similarly, studies show that the overprotective parenting style, which is described as parents being overly restrictive towards their children in an effort to protect them by Clarke et al., (2013), is a significant mediator of the relationship between maternal trait anxiety and separation anxiety in children (Clarke et al., 2013; Orgilés et al., 2018). This means that parents, specifically mothers, who embrace an overprotective parenting style with their children are more likely to pass on their own anxiety to their children in the form of SAD (Orgilés et al., 2018). More specifically, this research shows that separation anxiety is most prevalent in preschool children (3-6 years old) which understandably is when parents are most overbearing with their children.

In a study that focused on older elementary school children (age 7-12), researchers found that permissive parenting was associated with a lower likelihood of developing SAD (Rostami & Saadati, 2015), suggesting that high support and low parental demands may protect against anxiety in middle childhood. The permissive parenting style is often thought of as a polar to the authoritarian parenting style, as permissive parenting entails high support as well as low demandingness from parents while the authoritarian parenting style depicts quite the opposite with high demandingness but low support. This study therefore connects to the previous study as it illustrates how a more supportive parenting style runs a far smaller risk for SAD than the authoritarian parenting style (Orgilés et al., 2018; Rostami & Saadatim, 2015). Since this study was done on an older age group, we see how a more supportive parenting style maintains a negative correlation with SAD as the child matures.

Another study examining children aged 10-13 found that those with authoritarian parents were significantly more anxious than peers with other parenting styles (Yaffe, 2018), reinforcing the link between strict, low-support parenting and the development of SAD. Moreover this study developed their consensus by examining three anxieties: social anxiety, school anxiety, and most importantly separation anxiety. Ultimately compared to controlling and demanding parenting, supportive parenting may protect children against developing SAD.

Overall, although separation anxiety in particular is not well studied in terms of which parenting styles best predict the development of SAD, most relevant studies signify a correlation between the authoritarian parenting style and SAD. This development would be worthy of further investigation to solidify the strong correlation.

Neural Impact of Separation Anxiety & the Development of Authoritarian Parenting

Besides having a profound effect on the emotional wellbeing of children, studies show that separation anxiety can also have neurological effects. The most significant part of the brain to be focused on for SAD is likely the amygdala as it is the emotional processing center of the brain – particularly where fear is processed (Davidson, 2002). The amygdala is also where this emotion is remembered in the brain (Fanselow & Gale, 2003), which is significant as fear is one of the most common symptoms of SAD (Lewinsohn et al., 2008).

SAD affects not only children's emotions and behavior but also significantly impacts their brain function, particularly the amygdala, which processes and stores fear. One study which focused on children who experienced deprivation early in their lives (such as living in an orphanage or group home) found that on average, the children's amygdalas were unable to

respond to a negative stimulus were more likely to develop/worsen SAD in the next two years (Green et al., 2016). This study is particularly interesting because it suggests that early scans of the amygdala can be used to predict future anxiety in children, allowing for caretakers to take initiative to mitigate these disorders before full development. Although the results differed, another study supported that the amygdala had an important correlation to SAD. This study found that pre-teenage children (mean age from this study 11.5 years) with SAD had a strong responsiveness in their right side of their amygdala when provided with a stimulus (Redlich et al., 2015). The study also found that subjects with separation anxiety had more amygdala grey matter volume meaning larger amygdala size and showed that no other part of the brain exhibited any differences that had a correlation to SAD (Redlich et al., 2015) illustrating that the amygdala has a strong correlation with SAD. These findings indicate that differences in amygdala structure and function may predispose children to persistent anxiety, helping explain why SAD develops or persists.

Parents' neural responses may help explain why some adopt authoritarian parenting styles. One study in particular found that a caregivers' neural response to a success from their child is related to parenting behavior associated with authoritarian parenting (Levinson et al., 2017). Specifically, the authors of this study found that authoritarian parents had less of an electrocortical response (the response when met with a stimulus from the cerebral cortex of the brain which is crucial to basic perception of events) when finding out a success accomplished by their child (Levinson et al., 2017). The findings from this study potentially provide a neurological basis for why authoritarian parents often have lower levels of satisfaction with their children than those who implement more positive parenting styles such as authoritative and permissive parenting. Importantly, these parenting behaviors may increase children's anxiety and the risk of SAD.

Overall, there seems to be very minimal research on the effects of separation anxiety on different parts of the brain; however, the few studies which have delved into the neuroscience behind SAD have found a strong association between the amygdala and SAD. Together, these studies suggest that both children's and parents' neural responses contribute to the development and maintenance of SAD, highlighting the interplay between brain function and parenting style.

Conclusion

We conclude there are significantly few neuroimaging experiments exploring specifically separation anxiety. There are lots of findings on parenting styles but very few which show a similar consensus on the correlation between parenting styles and separation anxiety. However, the results from this literature review show that the authoritarian parenting style is most significantly linked to separation anxiety in children and adolescents. This review also found that SAD can be linked to increased amygdala grey matter volume and responsiveness. Ultimately, this provides some explanation behind symptoms that are associated with SAD and what can be investigated further in research focused on mitigating the development of SAD in children.

There seems to be strong findings which support the relationship between authoritarian parenting and SAD (Orgilés et al., 2018; Rostami & Saadatim, 2015; Yaffe, 2017). With more studies focused on this correlation, the potential for mitigating separation anxiety in the future is strong. In addition, with more neurological based studies on SAD, more will be known about the effect of this disorder on physical features of the brain as well as how impactful it really can be on the development of children. Overall, the causes & physical effects of SAD hold a lot of

potential to be researched further. In the future, we would like to see researchers focus on surveying children from infancy through middle school years on their levels of separation anxiety as well as the most influencing factors of their disorder at each age. Particularly, the causes and effects of the authoritarian parenting style should be investigated further as they seem to have a strong correlation with SAD.

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