ISSN – 2277-7911
Impact Factor – 5.958

YOUNG RESEARCHER
A Multidisciplinary Peer-Reviewed Refereed Research Journal

Jan-Feb-Mar 2025
Vol. 14 No. 1

# Family And Parenting Factors With Special References To Its Social Interaction In Early Adolescent

**Dr. Kumar Amit**

*Ph. D. (Education), Post graduate and Research Institute, Dakshina Bharat Hindi Prachar Sabha, Madras (Tamil Nadu), India.*

***Corresponding Author: Dr. Kumar Amit***

**DOI - 10.5281/zenodo.10656209**

***ABSTRACT:***

*A prominent tripartite model proposes that parent role modelling of emotion regulation, emotion socialization behaviours, and the emotional climate of the family are important for young people's emotional development. However, limited research has examined the neural mechanisms at play. Here, we examined the associations between family and parenting factors, the neural correlates of emotional reactivity and regulation, and internalizing symptoms in early adolescent girls. Sixty-four female adolescents aged 10–12 years with elevated internalizing symptoms completed emotional reactivity, implicit (affect labelling) and explicit (cognitive reappraisal) emotion regulation tasks during functional magnetic resonance imaging. Positive family emotional climate was associated with greater activation in the anterior cingulate and middle temporal cortices during emotional reactivity. Maternal emotion regulation difficulties were associated with increased frontal pole and supramarginal gyrus activation during affect labelling, whereas supportive maternal emotion socialization and positive family emotional climate were associated with activation in prefrontal regions, including inferior frontal and superior frontal gyri, respectively, during cognitive reappraisal. No mediating effects of brain function were observed in the associations between family/parenting factors and adolescent symptoms. These findings highlight the role of family and parenting behaviours in adolescent emotion regulation neurobiology, and contribute to prominent models of adolescent emotional development.*

***Keywords: Early Adolescence, Developmental Period, Biological And Socio-Emotional Changes Adolescent Problem Behaviour, Social Interaction Parenting, Parenting Style, Parenting Behaviour, Social And Emotional Health, Parents Emotion Regulation.***

## INTRODUCTION:

Early adolescence is a developmental period characterized by a flux of biological and socio-emotional changes, and has been associated with a heightened risk of internalizing symptoms such as depression and anxiety, especially in girls. Internalizing symptoms during this period tend to persist into adulthood and have a long-lasting impact on well-being and functioning. Prevention and

intervention efforts have focused on identifying pathways leading to the development of internalizing symptoms in young people, and there is converging evidence to suggest that difficulties in emotion regulation could be a trans diagnostic feature of internalizing symptoms. Given the central role of emotion regulation in internalizing difficulties, it is imperative to understand factors that may influence emotion regulation development. A large body of research suggests that parents are amongst the most influential environmental factors in shaping emotion regulation development in children, and continue to be important, in early adolescence. A number of family and parenting factors have been included in an overarching theoretical model the tripartite model of family impact on children's emotion regulation and adjustment. This model proposes three interconnected processes through which parents can influence their children's emotion regulation development, and in turn, internalizing outcomes: (1) children's observation of parents 'emotion regulation, (2) parental emotion socialization behaviours, such as parents' reactions to children's emotions and discussions about emotions, and (3) emotional climate of the family, reflected in parenting styles, marital relationships, parent-child relationships, and family emotionality. Evidence from meta-analyses has consistently provided support for this model, such that more adaptive parental emotion regulation, supportive emotion socialization behaviours, and more positive family emotional climate are linked with better emotion regulation skills and lower internalizing problems in young people. While behavioural studies have established a link between family and parenting factors and emotion regulation in young people, the associations with neural correlates of emotion regulation remains relatively unexplored. Neural networks supporting emotion regulation undergo substantial development and restructuring in early adolescence. During this period, there is differential development of limbic and prefrontal control regions, proposed to contribute to increased risk of emotion dysregulation and internalizing problems. The developmental changes, coupled with heightened neuroplasticity, render early adolescents particularly sensitive to environmental influences such as parenting, which present both vulnerabilities and opportunities for emotion regulation development.

**IMPLICATIONS:**

Functional neuroimaging research investigating implicit and explicit emotion regulation has been more limited. Implicit (automatic) emotion regulation involves incidental regulation processes that occur without

conscious awareness, and can be captured in neuroimaging paradigms such as affect labelling. Explicit (conscious) emotion regulation refers to effortful processes employed to regulate emotion, and is commonly assessed using paradigms that instruct participants to downregulate their emotional responses to emotional stimuli via strategies such as cognitive reappraisal. While there are studies examining the relationship between parenting and adolescent brain activity during tasks that may engage emotion regulation neurocircuitry (e.g.parental criticis, peer evaluation tasks), only two studies have used an emotion regulation paradigm. Findings from these two studies are mixed: Cosgrove et al. (2020) found that adolescents aged 14 to 16 who reported more unsupportive parental emotion socialization showed increased activation in the supplementary motor area and decreased activation in the amygdala and paracentral gyrus during implicit emotion regulation, although they did not observe significant associations during cognitive reappraisal. On the other hand, Telzer et al. (2014) found no association between parental warmth and brain activity during affect labelling in older adolescents with a mean age of 18 years. These findings are difficult to reconcile, given variation in the parenting factors and adolescent age ranges. In addition, despite the critical developmental period of early adolescence, task-based fMRI studies investigating the relationship between family and parenting factors and early adolescent brain function are still lacking, particularly in adolescents with elevated internalizing symptoms. Such investigation would shed light on the role of parenting and family factors in the neurobiological mechanisms underlying emotional reactivity and regulation in adolescents at risk of poor mental health outcomes, and aid the development and tailoring of targeted interventions. Guided by the tripartite model, this study aimed to comprehensively examine the associations between family and parenting factors proposed to influence child emotion regulation and the neural correlates of emotional reactivity and regulation in early adolescents with elevated internalizing symptoms. A secondary exploratory aim of this study was to examine if brain function mediates the relationship between family and parenting factors and adolescent internalizing symptoms. Of note, this study focuses on female adolescents and their mothers given sex differences in the neural correlates of emotional reactivity and regulation; higher rates of internalizing symptoms in females than males during adolescence maternal influence on adolescent internalizing outcomes has been found to be stronger among females compared to males. In line with prior research, we hypothesized that

maternal emotion regulation, maternal emotion socialization behaviours, and the emotional climate of the family would be associated with activation in the PFC and amygdala during emotional reactivity and regulation. Exploratory whole-brain analyses were conducted to investigate other potential significant effects. Given the limited evidence and the lack of clarity regarding the relationship between parenting and different neural processes of emotion regulation (reactivity, implicit, explicit), as it did not have specific predictions on the direction of the effects for each process. In addition, based on meta-analytical findings which indicate that child emotion regulation mediates the relationship between family factors and child/adolescent internalizing symptoms, we hypothesized that brain function during emotional reactivity and regulation would also mediate this relationship.

**METHODS:**

**Participants:**

Sixty-four mother-daughter dyads (adolescents age M = 11.45 years, SD = 0.77, 10–12 years) participated in the study. Female adolescent participants were included if they had elevated internalizing symptoms as determined by scores above the 50th percentile (raw scoresFootnote1 > 44) on the self-reported Revised Children's Anxiety and Depression Scale (RCADS) [24] at a screening assessment (raw score M = 66.84, SD = 17.15, Range = 45–115). Given emotion regulation difficulties are implicated in a range of internalizing symptoms, we examined broad internalizing symptoms rather than depression and anxiety symptoms separately. Exclusion criteria included: (1) current diagnosis of a developmental or intellectual disorder as reported by mothers; (2) current use of psychotropic medication; (3) any contraindications to MRI; (4) indications of claustrophobia; (5) history of head trauma or loss of consciousness for 5 min or more; (6) obesity (BMI > 30). Forty-six adolescents were reported by their mothers to be White/Caucasian (71.9%), followed by Mixed Heritage (14.1%) and Asian (7.8%). All participants provided verbal and written consent and were reimbursed $60 AUD for their time for participation. The study was approved by The Royal Children's Hospital Human Research Ethics Committee (HREC 77,884).

**Measures:**

All measures have demonstrated good validity and reliability. All Cronbach's alphas (α) below are based on the current study sample.

**Adolescent Internalizing Symptoms:**

Adolescent internalizing symptoms were assessed by adolescent report on the RCADS, 0 = Never to 3 = Always). The RCADS includes 47 items and six subscales: social phobia, panic disorder, major depression,

separation anxiety, generalized anxiety, and obsessive-compulsive symptoms. A total raw score was used, with higher scores indicating greater internalizing symptoms (α = 0.91).

**Maternal Emotion Regulation:**

Maternal emotion regulation was assessed by mothers' self-report on the Difficulties in Emotion Regulation Scale (DERS, 1 = Almost never to 5 = Almost always). The DERS includes 36 items comprising six subscales: lack of emotional awareness, lack of emotional clarity, difficulties controlling impulsive behaviours, difficulties engaging in goal-directed behaviour, non-acceptance of negative emotional responses, and limited access to effective emotion regulation strategies. Example items include "When I'm upset, I become out of control" and "I have no idea how I am feeling". A total score was used, with higher scores indicating greater difficulties (α = 0.8).

**Maternal Emotion Socialization Behaviours:**

Maternal emotion socialization behaviours were assessed by adolescent report on the Emotions as a Child scale (1 = Never to 5 = Very often). The EAC scale includes 45 items, measuring maternal emotion socialization of sadness, anger, and fear across five domains: reward, punish, override, neglect, and magnify. Six items were reverse scored. Items were summed into supportive (reward subscale, 3 items, α = 0.93) and unsupportive (neglect and punish subscales, 6 items, α = 0.89) emotion socialization subscales based on a previous study30. Example items include "When my child was sad, I comforted them" (reward), "When my child was sad, I did not pay attention to their sadness (neglect)", and "When my child was sad, I told my child to stop being sad" (punish).

**Emotional Climate of the Family:**

Emotional climate of the family was assessed by adolescent report on two subscales from the Parenting to Reduce Adolescent Depression and Anxiety Scale (PRADAS], 0 = Never to 3 = Often). The parent-child relationship subscale (6 items) assesses parental warmth, evasiveness, affection, and emotional availability. The home environment subscale (6 items) assesses family conflict, parental criticism, and parental modelling of conflict management. Example items include "My mom cares about my opinions" and "I hear my parents arguing with each other". A total score of items across the two subscales was used, with higher scores indicating more positive family emotional climate (α = 0.79).

**Cognitive Reappraisal Task:**

We used a block-design cognitive reappraisal task to assess emotional reactivity and explicit emotion regulation. Participants were presented with neutral or negative pictures and were asked to either regulate or observe them naturally. In the 'reappraisal'

condition, participants were presented with negative pictures and instructed to think about the picture in a way that made them feel better about it. In the 'look' condition, participants were instructed to look at the picture and let themselves feel whatever the picture made them feel. There were 12 counterbalanced blocks and three conditions (reappraisal, look negative, look neutral). Each block began with a cue word 'make it better' or 'look' for 2s, followed by three picture stimuli each presented for 8s. Participants then rated how they were feeling on a scale from 1 (neutral) to 4 (very bad) using a button box (note that ratings were not included in the modelling of these conditions). The rating question was presented for 3.5s and there was an interstimulus interval of 0.5s between each picture stimulus and the rating. All participants completed a practice before the task where they were given examples of reappraisal and were asked to report their reappraisals aloud. The pictures were comparable to previous studies using a cognitive reappraisal task in children and adolescents.

**CONCLUSIONS:**

**Clinical Considerations for Parental Emotion Regulation:**

Emotion dysregulation is a core mechanism underlying a number of clinical disorders. Notably, there is accumulating evidence that the childbearing years, as well as the event of childbirth itself, are related to increased incidence of mood disorders, especially for women (Weissman et al., 1993), and that psychiatric disorder are common during pregnancy as well as the postpartum period (Yonkers, Vigod, & Ross, 2011). Furthermore, accumulating research suggests that parental psychopathology may have detrimental consequences for parenting, impacting both parent and child. For instance, postpartum depression (Murray & Cooper, 1996; Waxler, Thelen, & Muzik, 2011) and maternal substance use (Cash & Wilke, 2003) are each associated with poorer outcomes in offspring. However, the precise mechanisms that drive these outcomes remain poorly understood. From a neurobiological perspective, mothers with postpartum depression (Laurent & Ablow, 2012a) as well as substance use (Landi et al., 2011), show an attenuated neural response to infant cues, relative to healthy controls. These findings are consistent with the notion that neurobiological markers associated with psychopathology impact caretaking responsivity, which may further add to emotional dysregulation in the mother-infant dyad. Maliken and Katz (2013) have proposed there would be value in adopting a transdiagnostic approach to parental psychopathology and the development of parenting interventions, focusing on improving emotion regulation in parental samples. Consistent with this notion, including mood management and stress coping

skills in an Enhanced Triple P (Positive Parenting Program) led to greater improvements in child outcomes relative to the typical Triple P curriculum that did not include these emotion regulation relevant skills but continued with providing other skills to facilitate parenting (Sanders, Markie-Dadds, Tully, & Bor, 2000). Thus, given that the dysregulation of emotion is related to many clinical disorders, interventions designed to teach strategies to facilitate emotion regulation may be valuable. These strategies may serve to decrease negative mood and increase positive mood, improve interpersonal functioning, and reduce risky behaviours, all of which could aid in parenting. In particular, intervention programs that directly target constructs related to parenting, mentalization, and mindfulness show promise for improving regulation outcomes in both parents and children. Metallization-based interventions teach parents to take a reflective stance in thinking about their child's mental states instead of focusing on the child's expressed behaviours. This metallization-based approach to intervention trains parents to recognize mental states, both in themselves and others, and to develop an understanding of how mental states can influence each other and change behaviour. Moreover, across the course of the intervention, parents are trained in the complexity of interactions of mental states and behaviours between different individuals (Slade, 2007). Minding the Baby (MTB) is one example of a mentalization-based intervention for parents (Slade, Sadler, et al., 2005). Delivered through in-home services, MTB recruits mothers during pregnancy and continues to work with mothers until their child is 24 months. Relative to a control group of families receiving care as usual in their community, younger mothers enrolled in MTB had less disrupted interactions with their infant at 4 months, and across all mothers, children of mothers in MTB had higher rates of secure attachment at 24 months (Sadler et al., 2013). Interventions targeting improvements in mentalization in substance-using mothers have also been developed with a specific focus to enhance the relationship between mother and child, also showing positive outcomes for the women enrolled (Suchman et al., 2010).

**REFERENCES:**

1. Telzer et al. (2014) Adolescent development and risk for the onset of social-emotional disorders: a review and conceptual model. Behav Res Ther 123:103501
2. Suchman et al., 2010 -DaddsA systematic review of the persistence of childhood mental health problems into adulthood.

3. Slade, 2007,Sanders, Markie Neurosci Biobehavioral Reviews 129:182–205
4. Tully, & Bor, 2000, Maliken and Katz (2013) Emotion regulation as a transdiagnostic factor in the development of internalizing and externalizing psychopathology: current and future directions. Dev Psychopathol 28(4pt1):927–946.
5. Landi et al., Murray & Cooper, 1996) the role of the Family Context in the development of emotion regulation. Soc Dev 16(2):361–388.
6. Sanders, Markie-Dadds, Tully, & Bor, 2000, Waxler, Thelen, & Muzik, 2011, Telzer et al. (2014) Emotion socialization parenting interventions targeting emotional competence in young children: a systematic review and meta-analysis of randomized controlled trials. Clin Psychol Rev 100:102252.
7. The Royal Children's Hospital Human Research Ethics Committee (HREC 77,884).