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Blue kaleidoscope: disentangling family perspectives in the context of adolescent depression

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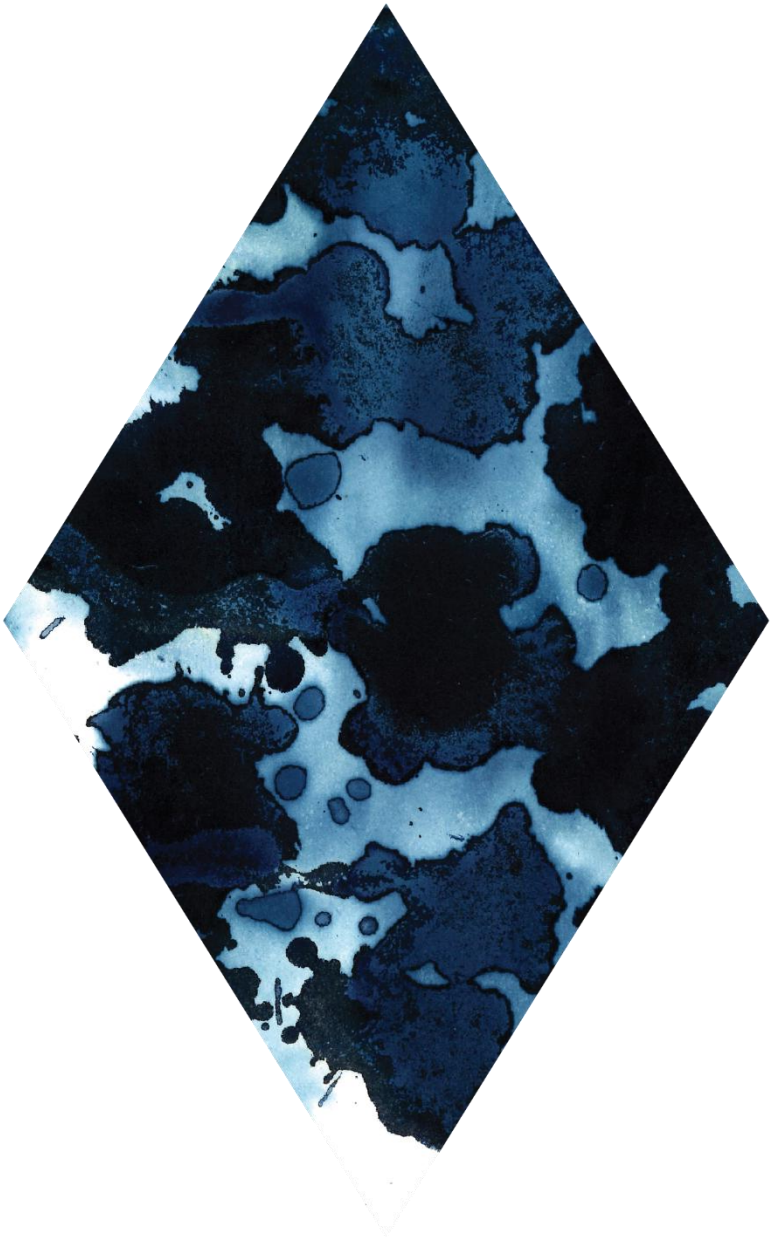


Chapter 1 | General introduction

The family system can be seen as a kaleidoscope. Looking from the outside it is one unit, but when looking through the lens one sees a complex dynamic of shapes and colors. This dynamic consists of unique parts, but these parts also move and overlap each other, thereby creating new colors and visual optics than when lying (further) apart from each other. One can only see the true optic of a kaleidoscope when looking at the whole of the dynamic of shapes and colors moving over time. Families (the unit) consist of multiple members that each have many different characteristics, behaviors, and perspectives (the shapes and colors). As with a kaleidoscope, looking at these aspects of the developing child as well as their parents, and looking at the position of these towards each other, helps to see and understand the complexity of family dynamics.

Along this line, in theories of developmental psychology and pedagogy the family system is often emphasized in understanding the child's functioning and wellbeing, such as in the family systems theory (Bowen, 1966) and ecological systems theory (Bronfenbrenner, 1977). In the current dissertation I will focus on adolescent clinical depression, because depressive disorders are among the most common of mental disorders (Alonso et al., 2004; Trimbos, 2023) and about half of all mental disorders start by age 14 (WHO, 2024). Further, a first-time episode of depression in adolescence is accompanied by an increased risk of recurrence later in life and increased suicidal tendencies (Fernando et al., 2011; Rohde et al., 2013). This highlights the importance to particularly study depression as an aspect of child wellbeing, and to do so specifically during adolescence.

Research shows that the lack of positive and presence of negative parenting form risk factors for the development and maintenance of adolescent depression (e.g., Dobson & Dozois, 2011; McLeod et al., 2007). However, most studies relate child/adolescent-reports of general levels of parenting cross-sectionally to child/adolescent depression, restricting conclusions that parenting *practices* should be improved. Paralleling a kaleidoscopic view, in this multi-method multi-informant dissertation I aim to examine multiple perspectives of adolescents with a clinical depression and their parents. This may ultimately provide input for clinical practice. Treatment options for adolescent depression generally have an individualistic approach (e.g., cognitive behavioral therapy, interpersonal therapy) (Federatie Medisch Specialisten, 2024; Nederlands Jeugdinstituut, 2018). There is inconsistent evidence for the efficacy of system-based (family) therapy in treating adolescent depression (Dardas et al., 2018; Nederlands Jeugdinstituut, 2018), with only some beneficial effects for an integrative involvement of parents (Dardas et al., 2018). Disentangling different perspectives in families may provide information on essential targets for system-based interventions.

First, I will qualitatively study the beliefs of adolescents with depression and their parents about the causes of their own (child's) depression, and examine discrepancies within families. Adolescents' causal beliefs have been previously

studied, whereas parents' perspectives and the level of within family discrepancies have not yet been studied. The perspective of parents may substantially differ from the adolescent's perspective and provide important insights about factors at play in the adolescent's life. Examining this may ultimately help building the (diagnostic) case and treatment plan for the adolescent's depression.

Second, I will examine the role of different perspectives on parenting behaviors and of discrepancies in these perspectives in the context of adolescent depression, including observable ('objective') behaviors, adolescent- and parent-perceived parenting in specific parent-adolescent interactions. So far, research showed that negative parenting indeed relates to adolescent depression (McLeod et al., 2007; Yap et al., 2014), but very little is known about different perspectives on parenting (i.e., observed, adolescent-perceived, parent-perceived) and how these relate to each other in the context of adolescent depression. In this dissertation I aim to disentangle these perspectives on parenting.

Developmental Perspective on Adolescent Depression

Adolescence constitutes the transitional period from childhood to adulthood and is an important phase in life during which many developments and experiences take place, with highs and lows, that resonate with individuals for the rest of their life. Biological, psychological, cognitive, emotional, and social changes take place that serve five main developmental tasks: autonomy, body image, cognitive skills, peer relations, and (personal and sexual) identity (Christie & Viner, 2005). These developments and accompanying experiences can add to meaning in life (e.g., building long-lasting friendships) and lay the foundation for future functioning and wellbeing (e.g., Romppanen et al., 2021). However, not all adolescents ultimately thrive in light of the changes and challenges taking place during adolescence. This is reflected in the rise of, amongst others, (clinical) depressive symptoms (Lewinsohn et al., 1998; Ormel et al., 2015; Solmi et al., 2022). Depressive disorders are among the most common psychiatric disorders among adults (Alonso et al., 2004; Trimbos, 2023) as well as adolescents (Sacco et al., 2024), have high societal costs (Bodden et al., 2022; Coretti et al., 2019), and a large disease burden (Clayborne et al., 2019; Fernando et al., 2011; Rao & Chen, 2009; Rohde et al., 2013). Following the Diagnostic and Statistical Manual of mental disorders (DSM-V), depressive disorders are characterized by the presence of a sad, empty, or irritable mood and/or a loss of pleasure or interest, accompanied by somatic and cognitive changes and impairment in areas of functioning (APA, 2013). Specifically for clinical depression during adolescence, irritability and negative self-perceptions are among the key symptoms (Crowe et al., 2006; Nardi et al., 2013; Orchard et al., 2017; Parker & Roy, 2001). Further, adolescent depression is accompanied by a greater risk of suicidality than a depressive disorder in adulthood (Fernando et al., 2011; Rohde et al., 2013). Other key

symptoms vary substantially across studies, indicating heterogeneity of the disorder.

Many of the depressive symptoms concern aspects that are highly relevant to daily functioning and a depressive episode thereby typically impairs the adolescent in life areas as the social, academic, and family domain (Clayborne et al., 2019). Symptoms can concern cognitive, sleep, and appetite disturbances, anhedonia, fatigue, feelings of hopelessness, pessimism, and guilt (Crowe et al., 2006; Khalil et al., 2010; Nardi et al., 2013; Orchard et al., 2017; Pataki & Carlson, 1995). Each of these symptoms can have a substantial negative impact on adolescents' daily functioning. A first-time episode of clinical depression during adolescence is accompanied by an increased risk of recurrence later in life (Curry et al., 2011; Johnson et al., 2018; Rohde et al., 2013). Imagine an adolescent who rarely attends school because of their depression; they miss out on important experiences (e.g., learning, social experiences, building friendships) that impact development (e.g., loss of friendships), which can subsequently increase the risk of a depressive episode later in life. It is therefore of particular importance to study, prevent, and intervene on depression during adolescence.

Family Perspectives on Causal Beliefs about Adolescent Depression

Substantial progress has been made in research on adolescent depression. Epidemiological studies show that various biological (e.g., genetics, neural structures, neurochemicals, immune system), cognitive (e.g., pessimism, cognitive schemas, information processing, ruminative style), and social factors (e.g., family dynamics, relational issues, low social support, negative life events) pose a risk for the development of depression (Dobson & Dozois, 2011). In addition to this quantitative work, it is of value to qualitatively study personal causal beliefs about adolescent depression. In clinical practice, adolescent's beliefs about the causes of their own depression are relevant for the diagnosis and treatment plan, and have been found to impact treatment preference, adherence, and outcome (Hagmayer & Engelmann, 2014). Qualitative research shows that adolescents generally tend to think about the causes of their own depression in a multi-dimensional way and that their causal beliefs largely align with epidemiological work; including psychosocial adversities (comparable to social factors; Bear et al., 2021; Midgley et al., 2017; Viduani et al., 2021; Wisdom & Green, 2004), personality factors (comparable to cognitive factors; (Bear et al., 2021; Midgley et al., 2017; Wisdom & Agnor, 2007), and intergenerational vulnerability (including biological and social explanations; Bear et al., 2021; Midgley et al., 2017; Wisdom & Agnor, 2007).

So far, no studies included the beliefs of parents about the causes of the depression of their adolescent child, and no studies included parents' insights into the causal beliefs of their child. Similarly, the relation between adolescent and parent perspectives has not yet been studied. These perspectives may overlap, but may also substantially differ from each other. Parents' causal beliefs may therefore

provide additional insights that are relevant for assessment and treatment in addition to the adolescent's own causal beliefs. Discrepant causal beliefs and/or parents' inaccurate understanding of their child's causal beliefs may further be a source of conflict and tension. In Chapter 2 I will therefore examine causal beliefs of adolescents and parents, within family overlap of these perspectives, and (the accuracy of) parents' insights into their child's causal beliefs.

Perspectives on Parenting

Despite the increase in autonomy, focus on peer relations, and decrease in (physical) parent-adolescent proximity, parents remain an important source of support throughout adolescence. Five decades ago, Bronfenbrenner (1977) stated in his ecological approach that humans develop in close bidirectional interaction with several systems around them, of which the family system is among the one's closest to the child (microsystem). Similarly, in the family systems theory it is stated that in each family there is a (variable) degree of interdependence, because of the emotional connectedness and reactivity between family members (Bowen, 1966). Changes in the state of one member, are said to be followed by reciprocal changes in others. With the changes and developments that happen during adolescence, parents must learn to renegotiate interactions with their adolescent child while remaining a secure bond. They must find balance in providing their child with warmth, guidance, and safety on the one hand, and with chances for experiences and expressions of the adolescent's autonomy and identity on the other hand.

A large body of research has examined the link between parenting and adolescent depression in an attempt to study factors relevant to understand, prevent, and intervene on adolescent depression. Parenting can be defined as "the continual relationship of parent(s) and a child or children that includes caring, teaching, leading, communicating, and providing to the needs of a child consistently and unconditionally" (Seay et al., 2014, p. 207). Negative parenting may pose a risk factor to the development of adolescent depression as indicated by epidemiological research (Dobson & Dozois, 2011). Moreover, as emphasized by the social interaction theory (Coyne, 1976), the association between negative parenting and depression is bidirectional in nature. According to the social interaction theory, adolescent depressive behaviors (e.g., irritable affect, negative thoughts, struggles with daily life) may elicit negative affect in parents, resulting in less positive and more negative parenting behaviors, which may maintain or worsen the adolescent's depressive symptoms (Coyne, 1976; Pineda et al., 2007). Uni- and bidirectional theories share that parents' presence of positive and lack of negative behaviors may benefit the adolescent's wellbeing. It may also function as a protective factor, especially when an adolescent experiences difficulties or negative life events, preventing the development of adolescent depression and/or it may break the 'negative cycle', relieve the adolescent's depressive symptoms, and enhance treatment effects.

When looking at the strength of the evidence, meta-analyses show a significant, small relation between parenting and childhood/adolescent depression (McLeod et al., 2007; Yap et al., 2014; Yap & Jorm, 2015; Zhang & Ji, 2024). These meta-analyses highlight the relevance of parental criticism (rejection towards the child's characteristics, thoughts, and feelings), a lack of warmth (lack of showing positive affect, caring about and genuinely liking the child), and overparenting (overinvolvement and restrictive parenting, communicating the child lacks in competence) in the context of childhood/adolescent depression. However, the vast majority of studies in these meta-analyses concerned child/adolescent-reports of general levels of parenting that are cross-sectionally related to child/adolescent depression.

So far, we can thus conclude that adolescents' general experiences of their parents' behavior relate to the adolescent's (clinical) depression at the same time point. However, negative perception and memory biases are well-known characteristics of depression (Everaert & Koster, 2020; Platt et al., 2017), restricting conclusions that parenting *practices* should be improved. Existing meta-analyses show strongest effects for child-reported parenting compared to observed parenting (McLeod et al., 2007; Yap & Jorm, 2015), and thus confirm that the perspectives on parenting matter. More research is needed in order to disentangle observed and perceived parenting behaviors as this is an important requirement when thinking about designing (family) interventions and treatment. I aim to do so by addressing four gaps in research in the current dissertation.

Meta-Analytic Evidence on Parent-Child Interactions and Childhood Depression

First of all, existing meta-analyses on the link between parenting and childhood and adolescent depression include no or a limited number of studies on observed behaviors, do not distinguish between different types of observed behaviors (McLeod et al., 2007; Yap et al., 2014; Yap & Jorm, 2015; Zhang & Ji, 2024), and two of these meta-analyses did not include longitudinal studies (McLeod et al., 2007; Zhang & Ji, 2024). One exception to these gaps in research is the study by Chapman et al. (2016), the authors reviewed studies on the (longitudinal) link between observed parent-child interaction behaviors and childhood and adolescent depression. More studies have been published since the review by Chapman et al. (2016), the review does not include dissertations, and does not quantify the relation between observed parent-child interactions and childhood depression. In Chapter 3 I will extent this line of research by meta-analytically testing the relation between observed parent-child interactions and childhood and adolescent depression, providing quantitative effect sizes, and distinguishing between different types of behaviors and between cross-sectional and longitudinal research.

Observed Parental Autonomy Support and Psychological Control

Second, even though there are numerous studies on parental warmth and criticism, there is a gap in research on observational measures on parental autonomy support and psychological control. Autonomy support refers to parents' attempts to structure and support a child in exploring and expressing their self-endorsed decisions, feelings, and cognitions (Deci & Ryan, 2000; McCurdy et al., 2020). Contrary, psychological control refers to parents' controlling or manipulating attempts to force the adolescent into a parent-directed perspective, these behaviors are intrusive to the adolescent's decisions, feelings, and cognitions (Barber et al., 2005; Deci & Ryan, 2000; Soenens & Vansteenkiste, 2010). These parental constructs have been shown to be relevant for adolescent autonomous functioning (as one of the central developmental tasks of this life stage) and mental health (Barber et al., 2005; Chyung et al., 2022; Costa et al., 2016; Gorostiaga et al., 2019; Van der Giessen et al., 2014; Vasquez et al., 2016). Further, parental autonomy support and psychological control are particularly relevant in the context of adolescent depression. Parental autonomy support can actively promote adolescents in dealing with their (negative) thoughts and feelings within a secure relation (Deci & Ryan, 2000). Contrary, parental psychological control is a negative manner of parental control and may dysregulate adolescents' (negative) thoughts and feelings (Barber, 1996; Ryan & Deci, 2000). With negative thoughts and feelings at the center of depression, these parental behaviors may play an important role. Empirical studies indeed showed that low autonomy support and high psychological control relate to increased adolescent depressive symptomatology (Chyung et al., 2022; Gorostiaga et al., 2019; Van der Giessen et al., 2014; Vasquez et al., 2016). However, few studies included observed levels of these behaviors and examined the relations in a sample of adolescents with a clinical depression and therefore conclusions regarding clinical samples and for parenting behaviors remain limited. In sum, it is relevant to study parental autonomy support and psychological control specifically in adolescence, particularly in adolescents with depression, and there is a need for a coding system for observed levels of these behaviors. The aim of Chapter 4 is to develop such a coding system and apply this to compare families with an adolescent with a clinical depression to families with an adolescent without psychopathology (i.e., healthy control; HC).

Discrepancies in Perspectives on Parenting

A fourth and last gap in research is the lack of studies on reporter-discrepancies of parenting in specific parent-adolescent interactions. In addition to disentangling observed, adolescent- and parent-perceived levels of parenting, discrepancies in these perspectives may play a role in adolescent wellbeing and depression. Empirical research on the relation between parent-adolescent discrepancies, mainly based on questionnaire data, and adolescent outcomes has been meta-analyzed: These meta-analytic results showed variation between studies, but also

indicated that, generally, larger discrepancies (more negative adolescent than parent perspective) relate to worse adolescent outcomes (Hou et al., 2020). For example, if an adolescent shares a negative experience with their parent, the adolescent may feel even more negative after a conversation if they perceived their parent as emotionally unsupportive, and the parent perceived themselves as emotionally *supportive*. The adolescent in this example may feel unsupported and misunderstood, making them feel worse than would be the case if the adolescent and parent shared the view that the parent is unsupportive. Thus, it could be important to consider each individual perspective (i.e., observed, adolescent- and parent-perceived) *and* how these relate to each other.

So far, parent-adolescent discrepancy research very rarely included perspectives on parenting in specific parent-adolescent interactions, subsequently there is also a lack of research on the role of observed levels of parenting relative to adolescent- and parent-perspectives. Based on this research it is thus unknown whether these discrepancies stem from a different interpretation of the same moment of interaction and/or from focusing on different moments. In order to provide implications for research and (clinical) practice, it is important to study these processes in specific interactions, and how the (diverging) perceptions relate to observable behaviors. Chapter 5 will examine adolescent-parent and adolescent-observer discrepancies in reporting on parental emotional support and criticism, and compare families with an adolescent with depression to HC families. The aim is thereby to add to the scientific field by, in addition to disentangling unique perspectives, gaining insights into the relevance of discrepancies.

Methodology

Meta-Analyses

The set of meta-analyses (Chapter 3) includes studies that have been published up to October 2024 that included a measure of parent and/or child behavior during parent-child interactions and of childhood depression (either clinical or symptomatology). Three digital databases (PsychINFO, Web of Science, ProQuest Disserations and Theses) were systematically searched for eligible studies on the topic.

RE-PAIR

The empirical studies (Chapter 2, 4, 5) in this dissertation were part of the 'Relations and Emotions in Parent-Adolescent Interaction Research' (RE-PAIR) project. This Dutch multi-method multi-informant study examines the relation between parent-adolescent interactions and adolescent wellbeing and depression. It includes two subsamples: Adolescents with a current clinical depression (major depressive disorder/persistent depressive disorder) (n = 35, M_{age} = 15.60, 77.1% female) and their parents (n = 62, M_{age} = 50.13, 56.5% female), and adolescents without any psychopathology in the past two years and no lifetime

depressive disorder (i.e., healthy control; HC) (n = 80, M_{age} = 15.90, 63.7% female) and their parents (n = 148, M_{age} = 49.00, 53.4% female). Families participated in four study parts: online questionnaires, a research day at the laboratory, 14 consecutive days of ecological momentary assessment (EMA), and an fMRI scan session (Figure 1). Further, families were invited to participate in online questionnaires for follow-up half a year, a year, and two years after the research day.

Data of the research day and the EMA were used in the current dissertation. The flow and constructs relevant to the current dissertation are visualized in Figure 1. After a general introduction and informed consent, adolescents participated in three videotaped dyadic interaction task with their mother and father separately, in counterbalanced order. After each interaction task, the adolescent and parent were asked to independently report on their own affective state and the parents' behavior. The tasks were:

- Problem solving interaction task (ten minutes; Davis et al., 2000). The dyad was asked to discuss their topic(s) of issue (researcher chose the most frequent and intense topics) by elaborating on their point of view, and trying to find a solution to the issue.
- Event planning interaction task (six minutes; adapted version of task by Schwartz et al., 2012). The dyad was asked to plan a (weekend) trip they would both enjoy, with unlimited budget. They were suggested to discuss their transport, activities, lunch/dinner plans, et cetera.
- Reminiscence interaction task (six minutes; adapted version of task by Sheeber et al., 2012). The adolescent was instructed to share an emotional event(s) with their parent.

After the interaction tasks several other tasks were assessed that are not part of the current dissertation. The research day ended with semi-structured individual interviews with the adolescent, mother, and father. The current dissertation used part of the audio-recorded interview data of adolescents with depression and their parents: Adolescents and their parents were interviewed on their view on the causes of the clinical depression of the adolescent (causal beliefs), and parents were interviewed on their insights into their child's causal beliefs (reflected causal beliefs).

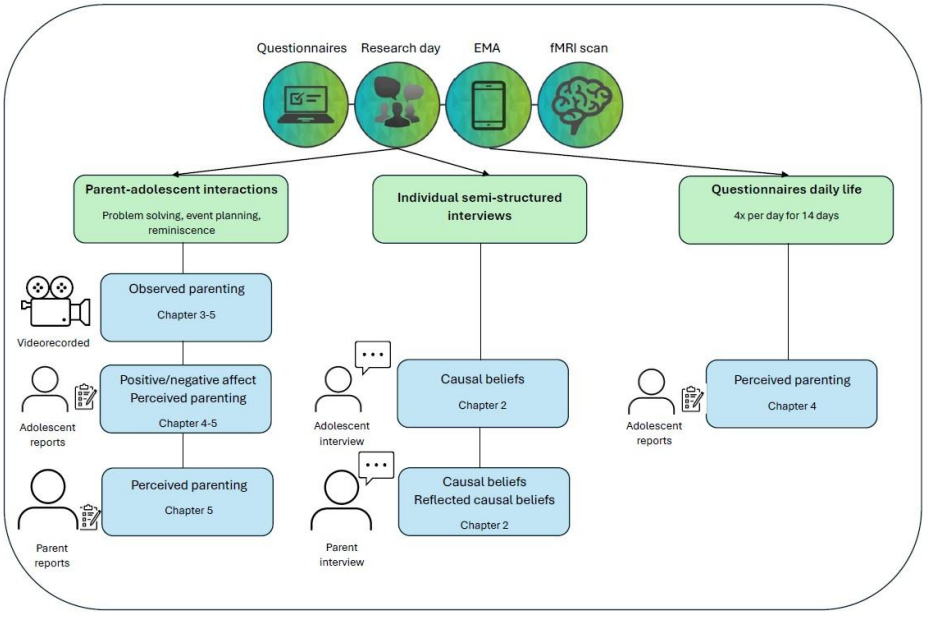
Outline of the Dissertation

The research described in the current dissertation uses a multi-method and multi-informant design to examine multiple perspectives in families of adolescents with a clinical depression. First, in **Chapter 2**, I will qualitatively study the beliefs of adolescents with a current clinical depression about the causes of their own depression, as well as the beliefs of parents about their child's depression, and examine within-family overlap. This chapter will further examine parents' insights

into their child's causal beliefs (reflected causal beliefs) and the accuracy of these reflections.

Figure 1

Overview of RE-PAIR Study Parts and Tasks Used in the Current Dissertation



Note. EMA = ecological momentary assessment; fMRI = functional magnetic resonance imaging.

Second, I aim to disentangle (discrepancies in) different perspectives on parenting behaviors in the context of adolescent depression. A large body of research previously examined the relation between parent-child interaction behaviors and childhood and adolescent depression (clinical, symptomatology). These studies will be summarized in meta-analyses presented in **Chapter 3**, thereby isolating the relation between observed interaction behaviors and childhood depression. **Chapter 4** describes a new coding system for observed parental autonomy support and psychological control, and include adolescent-perceived parenting behaviors. I thereby aim to disentangle observed and perceived behaviors, as related to adolescent depression and affective state. **Chapter 5** examines the relation between discrepant views on parenting behaviors and adolescent affective state, including adolescent-reports, parent-reports, and observations of parental emotional support and criticism. I will test whether, in addition to adolescents' own perceptions, a mismatch in views with the parent and/or an independent observer relates to the adolescent's affective state. This chapter further examines whether these relations are different for families with an

adolescent with depression than their HC peers. Lastly, **Chapter 6** summarizes the main results of the studies in this dissertation and puts them in a broader theoretical, methodological, and clinical perspective.