

Parents' experience of living with a child displaying oppositional defiant disorder

Top-down and bottom-up approaches to gain a deeper understanding of the complexity

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To Emanuel, Benjamin, Hans, and Mariam

Abstract

Clinical levels of oppositional defiant disorder (ODD) during childhood are considered a significant marker of risk to develop mental illness later in life. If serious behavior problems begin as early as preschool and persist through childhood and adolescence, there is a risk that the behaviors will turn into more severe behavioral problems and develop into criminality and antisocial personality disorder in adulthood. The Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), is commonly used in clinical settings to identify children with disruptive behavior problems (DBPs), such as oppositional defiant disorder (ODD) and conduct disorder (CD). Interventions for families with children displaying ODD and CD are primarily outpatient group parent training (PT) programs. Even though structured PT programs have proved effective in reducing children's behavior problems and strengthening parents' self-efficacy, about one-quarter to one-third of families fail to show improvement from established parenting interventions. There is a need for a deeper understanding of risk and protective factors, or combinations of factors, that lead to different outcomes after a comprehensive PT program. While there is a large number of studies that have examined the efficacy of PT programs, fewer studies have described which aspects of the PT program make interventions useful and meaningful for the families; almost no studies have described how parents experience the situation of having a child with ODD.

The overall purpose of the three studies presented in this thesis was to gain a deeper insight into the complexity in families with children who exhibit ODD behaviors and get a deeper understanding of the risk factors and conditions that may complicate the impact of a comprehensive PT program for parents with children displaying symptoms of ODD.

Study I was a mixed methods study with a convergent parallel design. The purpose was to investigate whether there were problematic behaviors that were not captured by the diagnosis of ODD when comparing mothers' descriptions of their children's problematic behaviors with the descriptions emerging from a semi-structured diagnostic interview. Fifty-seven mothers of 3–8-year-olds with ODD, who applied to participate in a PT program were interviewed. The data was analyzed using qualitative and quantitative methods. Qualitative content analysis was used when searching for patterns in mothers' descriptions of their children's serious problems. The quantitative analysis was performed by investigating associations between the qualitative and quantitative datasets and comparing age and gender groups using Chi-squared test. The results showed that the ODD criteria helped to identify and distinguish commonly occurring oppositional behavior from DBPs. The qualitative approach showed

that the ODD criteria did not cover the entire range of problematic behaviors – especially those behaviors that constitute a risk for developing antisocial behavior. Study I showed a gap between the diagnosis of ODD and that of CD in younger children. Antisocial behaviors in preschool and the early school years are not always sufficiently alarming to meet the diagnosis of CD, nor are they captured in their entirety by the ODD diagnostic tool. One way to verify suspicion of early antisocial behavior in preschool children would be to specify in the ODD diagnosis whether there also is subclinical CD.

While Study I focused on the mothers' descriptions of their children, Study II focused on the parents' descriptions of their family and parenting situation. Parents of 19 children aged 3–8 years had sought help and signed up for a PT program provided by the Child and Adolescent Mental Health Services in Sweden (CAMHS). A semi-structured diagnostic interview and a modified background interview were conducted before parents entered the PT program. All children included in the study met the criteria for ODD. The interviews were audiotaped and transcribed verbatim. Thematic analysis was used to examine, identify, and report patterns of meaning in the data. The analysis resulted in three main themes: "Our vulnerability as parents," "The impact on us of the parent–child interaction," and "Challenges in our parenting practices." The parents in the study highlighted the need to address parents' own mental health problems, parental alliance, capacity for emotion regulation, perceived helplessness as parents, lack of parental strategies, parental stress, sense of isolation, and absence of supportive social networks.

The aim of Study III was to provide greater insight into the combinations of risk and protective factors that may have an impact on the outcome of the PT program. To reach this aim, the study used mixed methods to explore how qualitative comparative analysis (QCA) might be useful as a bridge between reliable change index (RCI) and a case analysis, in an explanatory sequential mixed methods design. Thirty children and their parents participated in the study. A semi-structured diagnostic interview was conducted before parents entered the PT program and again 1 year after completion of the PT. Parents (both mothers and fathers) also completed different forms, measuring the child's behavior problems, emotional problems, and their own mental health. The QCA generated a hypothesis about combinations of different risk and protective factors that may have an impact on the outcome of a PT program. The two case analyses deepened the understanding of how negative emotionality, aggressiveness, and ADHD in the children, as well as these difficulties combined, made transactions within the family more difficult, in combination with the fact that parents may have their own difficulties with emotional regulation, emotional rigidity, feelings of guilt, and difficulties with demarcation.

It was evident from the three studies in this thesis that many parents with children with ODD experience internal and external complexity in their situation as parents. A careful assessment before parents join the PT program, in order to identify the family's unique needs, would probably lead to a greater understanding and a greater empathy with the parents' different difficulties. In addition, it might lead to a better adaptation of the PT program to the parents' situation.

Keywords: Oppositional defiant disorder, parenting, negative emotionality, aggression, ADHD, parent training program, mixed methods research, qualitative comparative analysis

Sammanfattning (Swedish summary)

Kliniska nivåer av trotssyndrom under barndom utgör en risk att utveckla psykisk ohälsa senare i livet. Om allvarliga beteendeproblem börjar redan under förskoleålder och består genom uppväxttiden, så finns en risk att dessa beteenden kan utvecklas till kriminalitet och antisocial personlighetsstörning i vuxen ålder. Därför är tidiga interventioner viktiga för barn som uppvisar utagerande beteendeproblem. Utvecklingen av trotssyndrom och utagerande beteendeproblem är en komplex process som kanske bäst förstås utifrån en transaktionell modell som involverar både genetiska, psykologiska och sociala faktorer som interagerar med varandra över tid. I den aktuella forskningen kring riskfaktorer för trotssyndrom och utagerande beteendeproblem framstår några faktorer som mer betydelsefulla än andra. Det handlar om egenskaper hos barnet, egenskaper hos föräldrarna samt om samspelet mellan barn och föräldrar. Enligt den transaktionella modellen är utvecklingen hos barnet en produkt av den dynamiska interaktionen mellan barnet och omgivningen. Relationerna i en familj ses som ömsesidiga, vilket innebär att barnet, föräldrarna och syskon ständigt påverkar varandra. Barnet förändras genom föräldrarnas bemötande, men föräldrarna påverkas och förändras av barnets beteende i ett komplext samspel. Förstahandsval när det gäller behandling av ODD är strukturerade evidensbaserade föräldrastödsprogram. För många familjer har dessa program haft en god effekt genom att minska barnets beteendeproblem. Forskning har visat att ungefär en tredjedel av barnen inte längre uppvisar problem på kliniska nivåer, medan det i ungefär 25–30% av familjerna inte sker någon signifikant förbättring av problemen. Vi behöver veta mer om de olika tillstånd hos barnen, hos föräldrarna och i samspelet mellan föräldrar och barn som leder till att en grupp av barn inte förbättras medan andra barn signifikant förbättras när föräldrarna genomför programmen. Vi behöver också veta mer om hur föräldrar upplever sin situation när man har ett barn med utagerande beteendeproblem, för att bättre kunna anpassa föräldrastöd efter familjernas behov. Vi behöver också mer kunskap så att vi kan uppmärksamma tidiga varningssignaler hos barn med utagerande beteendeproblem för att erbjuda familjerna hjälp på ett tidigt stadium och förhindra utveckling till kriminella och antisociala beteenden när barnet växer upp. Det övergripande syftet med den här avhandlingen var att få en djupare insikt i den komplexitet som finns i familjer med barn som uppvisar trotssyndrom samt att få en djupare förståelse för olika riskfaktorer och tillstånd som kan komplicera effekten av ett omfattande föräldrastödsprogram som givits till föräldrar som har barn med trotssyndrom.

Deltagare i studie I var föräldrar till 62 barn med utagerande beteendeproblem som hade sökt att få delta i föräldrastödsprogrammet "Det otroliga åren". De intervjuades med en semistrukturerad diagnostisk intervju Kiddie-Schedule for Affective Disorders and Schizophrenia (K-SADS). Intervjuerna var en del av en större RCT- studie som avsåg att utvärdera effekterna av ett amerikanskt föräldrastödsprogram i en svensk barnpsykiatrisk kontext. För att delta i studien skulle barnen vara mellan 3–8 år gamla, uppfylla kriterierna för trotssyndrom och båda föräldrarna ge tillstånd till att medverka i studien. Studie I var en mixed method studie med en konvergent parallell design och innehöll både kvantitativa och kvalitativa delar. Det övergripande syftet med studie I var att undersöka mammornas beskrivningar av sina barn (vilket benämndes som bottom-up perspektiv) och jämföra dessa beskrivningar med de som framkom genom den standardiserade diagnostiska intervjun (top-down). Dessutom var en av frågeställningarna om det fanns några skillnader mellan pojkar och flickor i mammornas beskrivningar, samt om det fanns någon skillnad mellan olika åldrar (3–5 år och 6–8 år). Fem av familjerna fullföljde inte studien. Kvar vid mätningarna före och ett år efter föräldrastödsprogrammet avslutning var föräldrar till 57 barn (11 flickor och 46 pojkar). Resultatet visade att det fanns både likheter och skillnader i mammornas beskrivningar utifrån bottom-up och top-down perspektiv. Båda perspektiven visade på att barn med trotssyndrom är en sårbar grupp med olika svårigheter. Mammornas beskrev att barnen hade svårigheter med beteende reglering, emotionell reglering, kognitiv reglering, svårigheter med flexibilitet och socialt samspel. Den diagnostiska intervjun visade att barn med trotssyndrom har en stor samsjuklighet med andra psykiatriska tillstånd. Exempelvis uppfyllde 54% av barnen förutom ODD, kriterierna för ADHD och 14% av barnen uppfyllde kriterierna för en ångestdiagnos. Pojkar uppvisade en signifikant större samsjuklighet med andra tillstånd än flickorna.

Skillnader mellan bottom-up och top-down var att den kvalitativa innehållsanalysen visade att trots inte är ett enhetligt tillstånd. Genom mammornas beskrivningar blev det tydligt att det finns olika dimensioner av trots. Det vanligaste trotset var "olydnad" där barnet ignorerade föräldrarnas tillsägelser i vardagliga situationer såsom vid läggdags, framför datorn mm. Den andra dimensionen av trots var det oflexibla trotset där barnet hade fixa idéer, var envisa och skulle göra allt på sitt sätt. Den tredje dimensionen var det upproriska trotset med aggressiva affekter där barnet vägrade att lyda föräldern och det uppstod maktkamper mellan barnet och föräldern.

Det var också en skillnad i beskrivningarna av negativ emotionalitet och irritabilitet. Mammorna beskrev barnen som missunnsamma (avundsjuka, otrevliga, tjuriga) eller missnöjda (frustrerade, negativa, gnälliga), medan diagnoskriterierna för trotssyndrom beskriver barnen som stingsliga,

lättretade, arga och förbittrade, något som mammorna spontant inte nämnde i sina beskrivningar. Möjligen är beskrivningarna i DSM mer anpassade till äldre barn.

Cirka en fjärdedel av barnen rapporterades av mammorna ljuga, ta sönder och förstöra saker, men framför allt uppvisa provokativa och fysiskt aggressiva beteenden. Dessa beteenden fångades inte upp av diagnoskriterierna i trotssyndrom och var inte tillräckligt omfattande för att fångas upp av uppförandestörningsdiagnosen i DSM-5, där tre kriterier behövs för diagnos.

Det var signifikant vanligare i åldersgruppen 3–5 år att uppfylla kriteriet *tappar ofta besinningen* medan det var signifikant vanligare i åldersgruppen 6–8 år att uppfylla kriteriet *är ofta lättretad och stingslig*. Mammorna rapporterade också signifikant oftare att flickor hade trotsiga drag och trotsiga beteenden, medan det i den diagnostiska intervjun tvärtom var pojkar som rapporterades att signifikant oftare uppfylla kriteriet *trotsar ofta aktivt eller vägrar följa regler eller underordna sig krav från vuxna*.

I ett top-down perspektiv kunde kriterierna i trotssyndrom identifiera och skilja ut utagerande beteendeproblem från vanligt förekommande trotsigt beteende, men i bottom-up perspektivet fångade trotsdiagnosens kriterier inte upp hela spektrat av problematiska beteenden, speciellt inte de aggressiva och provokativa beteenden som utgör den största risken för utveckling av ett mer allvarligt beteendesyndrom. Studie I visar att det finns ett gap mellan diagnoserna trotssyndrom och uppförandestörning för de yngre barnen. Utagerande beteendeproblem i förskoleålder och tidig skolålder är inte tillräckligt alarmerande för att uppfylla kriterierna i uppförandestörningsdiagnosen, men inte heller fångas de upp av kriterierna i trotssyndrom.

Syfte med studie II var att utforska hur föräldrar till barn med trotssyndrom beskrev de svårigheter de mötte i sin familj och i sitt föräldraskap i samband med att de skulle påbörja ett föräldrastödsprogram. Deltagarna i studie II var föräldrar till 19 av de 57 barnen i studie I, varav tre var flickor och 16 pojkar. Det var två pappor, en styvpappa och nitton mammor som intervjuades med en semistrukturerad diagnostisk intervju, K-SADS. Intervjun tog cirka tre timmar att genomföra, den spelades in och transkriberades ordagrant. Tematisk analys användes för att undersöka, identifiera och rapportera mönster och teman i det transkriberade intervjumaterialet. Analysen var induktiv och genomfördes med ett kontextuellt förhållningssätt. Datorprogrammet Atlas.ti.8 användes som hjälpmedel. Den tematiska analysen resulterade i tre olika teman och tio subteman. De tre teman var *Vår sårbarhet som föräldrar*, *Påverkan på oss i föräldrar-barn interaktionen* och *Utmaningar i vårt föräldraskap*. I det första temat beskrev föräldrarna upplevelser från sin egen barndom och utsatthet i sin familj i form av psykisk sjukdom, missbruk och sexuellt våld. De beskrev också psykisk ohälsa och utmattning hos sig själva eller hos sin partner. De

upplevde också svårigheter att få stöd från sin egen familj, från skolpersonal, socialtjänst och sjukvård vilket ledde till en känsla av övergivenhet och ensamhet. I det andra temat berättade föräldrarna om hur de upplevde barnens utagerande beteenden och känslor. De beskrev barn med aggressiva, kontrollerande, självförsörjande och oförutsägbara beteenden. Föräldrarna berättade hur svårt det var för dem att emotionellt hantera de starka känslor som skapades i konfliktfyllda situationer. De kände sig också fångade i negativa spiraler och coerciva (tvingande) mönster i föräldra-barn interaktionen och kände sig ofta hjälplösa utan verktyg att hantera sitt föräldraskap. Det tredje temat var en beskrivning av föräldraskapets utmaningar i form av uppfostran, allians och föräldrastress. Det var huvudsakligen två olika slags föräldrastilar som lyftes fram. Den ena var en kontrollerande stil där man försökte få barnet att lyda genom hot, bestraffningar och tjat. Den andra föräldrastil som beskrevs var en passiv stil där föräldrarna beskrev att de inte klarade av de konflikter som uppstod ifall de satte gränser för barnet och därför avstod eller att man var så trött att man inte orkade vara konsekvent i sin uppfostran. Nästan hälften av föräldrarna var separerade och i många fall, även bland de sammanboende föräldrarna, var man inte alltid överens om huruvida barnet hade problem eller inte, man var inte heller överens om hur man skulle bemöta barnet, eller vad man skulle ha för rutiner för barnet. Det var också några av de separerade föräldrarna som inte kunde kommunicera med varandra överhuvudtaget. De flesta av föräldrarna beskrev också en upplevd föräldrastress och en stark skuld känsla över att man kände att man inte hann med de övriga barnen i familjen på grund av att barnet med trotssyndrom krävde kraft och uppmärksamhet i stor omfattning. Föräldrarna beskrev också hur de fick ägna mycket tid åt att ständigt styra barnet, förbereda och anpassa för barnet så att allt skulle flyta så smidigt som möjligt. Det upplevde också en stress över att inte våga ta med barnet i olika sociala sammanhang och fick ofta tacka nej till sociala sammankomster med familj och vänner, vilket ledde till att föräldrarna kände sig socialt isolerade. De kände också stress över att alltid vara på helspänn och skydda de andra syskonen från barnets aggressiva utbrott. Det var också svårt att få tid till återhämtning då barnen hade svårt att komma till ro på kvällarna.

Studie II visar på en både yttre och inre komplexitet i familjer som har barn med trotssyndrom. Studien belyser också vikten av att personal inom hälso- och sjukvård gör en ordentlig bedömning av familjesituationen innan man erbjuder ett föräldrastödsprogram. Detta skulle kunna leda till en större förståelse och empati för föräldrarnas breda problematik och leda till en större flexibilitet och anpassning av föräldrastödsprogrammet till familjernas verkliga behov.

Syfte med studie III var att generera nya insikter och hypoteser kring kombinationer av risk- och skyddsfaktorer som kan ha en inverkan på barn med utagerande beteendeproblem och på resultatet av ett föräldrastödsprogram. Dessutom att undersöka användbarheten av kvalitativ komparativ analys (QCA) i en explanatory sequential mixed methods design. Deltagarna i studien var föräldrar till 30 av de 57 barnen i studie I som deltog i "De Otroliga Åren". Data samlades in från båda föräldrar genom olika skattningsformulär och diagnostiska intervjuer angående föräldrars utbildningsnivå, psykiska hälsa, barnets beteendeproblem, temperament, aggressivitet och ADHD symptom. Dataanalysen skedde i tre olika faser. Den första fasen var kvantitativ och undersökte för varje barn i studien, om det uppvisade signifikanta skillnader i resultatet på skattningsformuläret ECBI-intensity scale mellan mätningar av barnets problemintensitet före och ett år efter avslutad föräldrastödsutbildning. Som metod användes reliable change index (RCI). I den andra fasen användes kvalitativ komparativ analys (QCA) för att undersöka kombinationer av risk- och skyddsfaktorer som kan ha betydelse för behandlingsresistens eller behandlingsframgång efter att föräldrarna avslutat "De otroliga åren". QCA är en fall-orienterad forskningsmetod som bygger på Boolean algebra och minimeringsalgoritmer för att systematiskt jämföra fall. I den tredje och sista fasen användes resultaten från QCA för att undersöka transaktioner i familjen i två av fallen från studien. En pojke med signifikant positiv förändring och en pojke med negativ signifikant förändring valdes ut till case-analysen. Transkriberade K-SADS intervjuer som genomfördes före och ett år efter avslutad föräldrastödsprogram låg till grund för den kvalitativa innehållsanalysen. Syftet med den tredje fasen var att på en djupare nivå få en förståelse för hur kombinationer av faktorer kan påverka interaktionen i familjen och leda till olika resultat efter ett föräldrastödsprogram.

RCI visade att 20% av barnen inte uppvisade några statistiska positiva förändringar ett år efter avslutad föräldrastödsprogram. Två av dessa barn försämrades statistiskt mellan den första och sista mätningen. Åttio procent av barnen uppvisade positiva statistiska förändringar varav 43% räknades som "återställda", dvs. de hade förändrats från en klinisk till en icke klinisk nivå. Fem olika variabler användes i QCA analysen. Dessa var föräldrarnas utbildningsnivå och psykiska hälsa, barnets grad av aggressivitet, negativ emotionalitet samt ADHD symptom. Av 32 möjliga kombinationer (configurationer) för vardera av de två utfallen var det tre som ledde till negativt resultat efter föräldrastödsprogrammet och fyra configurationer som ledde till positivt resultat. De tre kombinationer som ledde till ett sämre resultat var: hög nivå av aggressivitet i kombination med negativ emotionalitet och psykisk ohälsa hos förälder, hög nivå av aggressivitet i kombination med

ADHD och god psykisk hälsa hos förälder, eller hög nivå av negativ emotionalitet och låg utbildningsnivå. De två mest förekommande kombinationerna som ledde till ett positivt resultat (87%) var låg nivå av ADHD symptom i kombination med god psykisk hälsa och högre utbildningsnivå hos föräldrar eller barn utan aggressivitet i kombination med högre utbildning. Med kvalitativ innehållsanalys undersöktes transaktionerna i två av familjerna med olika utfall efter föräldrastödsutbildningen. Det ena barnets aggressivitet i kombination med ADHD hade en stor påverkan på transaktionerna i familjen med negativt utfall. Mammornas egna förmågor till emotionell reglering, empatisk intoning, gränssättning och emotionell flexibilitet bidrog till hur barnets temperament och kombination av svårigheter hanterades av de två mammorna i studien.

Att använda QCA som en brobyggare mellan den kvantitativa RCI:n och den kvalitativa fallanalysen i en explanatory mixed methods design visade sig vara fruktbart. Med hjälp av QCA framkom det att det inte var någon faktor i sig själv som ledde fram till det ena eller andra resultatet utan det var en kombination av olika faktorer som hade betydelse för utfallet (ekvifinalitet). QCA:n kunde också i analysen hantera både risk- och skyddsfaktorer samtidigt, då den ena änden av variabeln (exempelvis låg nivå av aggressivitet) utgjorde en skyddsfaktor, medan den andra änden av variabeln (hög nivå av aggressivitet) utgjorde en riskfaktor för utveckling och vidmakthållande av utagerande beteendeproblem. QCA visades sig också väl passa för analyser av medium-N storlek, där statistiska metoder i allmänhet kräver större urvalsgrupper.

Sammanfattningsvis har det framkommit att många föräldrar till barn med ODD upplever både en inre och yttre komplexitet i sitt föräldraskap. En noggrann bedömning av situationen i familjen innan föräldrarna påbörjar ett föräldrastödsprogram skulle troligtvis leda till en större förståelse för familjens unika behov och en större empati från ledarna för familjens svårigheter. I slutändan också till en bättre anpassning av föräldrastödet till föräldrarnas situation.

Det är inte risk- eller skyddsfaktorerna i sig själva som leder till olika utfall för barn vars föräldrar har deltagit i ett föräldrastödsprogram. Istället är det en kombination av risk- och skyddsfaktorer (ekvifinalitet). Studie III har lett fram till hypoteser om kombinationer av faktorer som leder fram till olika utfall. Barns aggressivitet i kombination med antingen ADHD eller negativ emotionalitet, när föräldrar samtidigt har psykiska hälsoproblem eller en låg utbildningsnivå verkar utgöra risk för ett negativt resultat efter föräldrastödsprogram. Dessa familjer kan behöva ytterligare insatser eller andra insatser än strukturerade föräldrastödsprogram.

I alla tre studierna har det visat sig att en subgrupp av barn med ODD i förskoleålder och tidig skolålder uppvisar allvarliga aggressiva och provokativa beteenden. Sådana beteenden manifesterade i tidig barndom fångas inte upp av kriterierna i trotssyndrom, inte heller är de tillräckligt allvarliga för att fångas upp av kriterierna i uppförandestörnings diagnosen, där tre kriterier behövs för diagnos. Studien visar att det finns ett glapp mellan diagnoserna trotssyndrom och uppförandestörning för de yngre barnen.

List of publications

This thesis consists of a summary and the following three papers, which are referred to by their Roman numerals:

- I. Ljungström, B., Kenne Sarenmalm, E., & Axberg, U. Bottom-up and top-down approaches to understanding oppositional defiant disorder symptoms during early childhood: a mixed method study. *Child Adolescent Psychiatry Mental Health* 14, 34 (2020). <https://doi.org/10.1186/s13034-020-00339-1>.
- II. Ljungström, B., Kenne Sarenmalm, E., & Axberg, U. “Since his birth, I’ve always been old” – the experience of being parents to children displaying disruptive behavior problems: a qualitative study. *BMC Psychol* 8, 100 (2020). <https://doi.org/10.1186/s40359-020-00465-7>.
- III. Ljungström, B., Denk, T., Kenne Sarenmalm, E., & Axberg, U. Use of qualitative comparative analysis in an explanatory sequential mixed methods design to explore combinations of family factors that could have an impact on the outcome of a parent training program. In manuscript.

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Introduction

Jim is 4 years old. He wants to control, and decide over, everyone in the family. He fights and throws things at family members. There is conflict several times every day. There is a word he hates and that's "no." That's the worst word. He does not care why they say "no", but the word "no" has become difficult for him. The biggest problem in the family is that everything is a battle. There is a constant power struggle over small issues: whether he should sit down and eat or stand up and eat, whether he's going to drink milk or drink lemonade. There is a risk that you'll have a fork or knife or a glass, or whatever he can get hold of, thrown in your face, or he'll roll his chair over your feet. Big sister got a saucepan right in her face, so she had a black and blue mark on her face the last day of school.

The quote is an excerpt from an interview with parents who participated in a study exploring the experiences of parents to children displaying oppositional defiant disorder (ODD). The quote is taken from Study II in this thesis¹.

Clinical levels of ODD during childhood are considered a significant marker of risk to develop mental illness later in life (Burke, Rowe, & Boylan, 2014; Rowe, Costello, Angold, Copeland, & Maughan, 2010; Wertz et al., 2018). If difficulties with behavior problems begin in early childhood and persist during adolescence, there is a great risk that the problematic behavior will stabilize during adolescence and develop into antisocial personality disorder and criminality in adulthood (Moffitt, 2015). Furthermore, violence and crime among young people entail great costs for society and, in addition, suffering in the families affected (Scott, 2010). Studies have shown that more than half of children with early disruptive behavior problems (DBPs) are at high risk of developing life-long difficulties, such as emotional problems and/or antisocial behaviors (Moffitt, 2015; Stringaris & Goodman, 2009a), but there is also a risk of impaired function in other areas of life such as social isolation, heavy drinking, overweight, and unemployment (Wertz et al., 2018). The earlier children with ODD are detected and families can be offered help, the greater the chance that development of more consistent DBPs and other mental illness will be prevented (Waller, Shaw, & Hyde, 2017).

¹Ljungström, B., Kenne Sarenmalm, E., & Axberg, U. "Since his birth, I've always been old" – the experience of being parents to children displaying disruptive behavior problems: a qualitative study. BMC Psychol 8, 100 (2020).

“Disruptive behavior problems” is an umbrella term commonly used in clinical settings to describe children with ODD and conduct disorder (CD), in line with the Diagnostic and Statistical Manual of Mental Disorders (DSM) classification (American Psychiatric Association, 2013). The diagnosis of ODD to a large extent describes emotional and behavioral difficulties in younger children (Rowe et al., 2010), while symptom criteria of CD are adapted to and describe problems in older children and adolescents (Wakschlag, Tolan, & Leventhal, 2010).

Living with ODD is a challenge for both the child and his or her family members and in many cases, parents need help from professionals to know how to best support the child’s development. The starting point of this thesis is that the development of ODD is a complex process that can be understood using a transactional model involving genetic, psychological, and social factors interacting over time (Sameroff, 2009). According to this model, development is a product of the dynamic interactions of the child and the experienced provided by the parents, family, and others from the child’s social contexts (Davies & Sturge-Apple, 2014; Sameroff, 2020). Relationships in family systems are considered mutual. Children, parents, and siblings in families influence each other (Davies & Sturge-Apple, 2014). The child may be changing as a result of the parent’s behavior, but the parents are being changed at the same time by the child’s behavior in a complex interplay (Sameroff, 2020). Oppositional defiant disorder in children seems to affect parents’ attitude towards the child, while dysfunctional parental behavior also increases the risk of a child developing ODD (Davies & Sturge-Apple, 2014). It is therefore important to focus on DBPs that debut during early childhood. The following section and the three studies aim to gain a deeper insight into these complexities in families with children who exhibit ODD behaviors, and to get a deeper understanding of the conditions that may complicate the impact of a comprehensive parent training (PT) program for parents with children with ODD.

More specifically, Study I focuses on the diagnosis of ODD and investigates whether there are problematic behaviors in children that are not captured by the diagnostic criteria, using two different methods for gathering information: the classification of ODD in the DSM, fifth edition (DSM-5), and the mothers’ own descriptions of their child. Study II focuses on 19 families with children with ODD and their parents’ descriptions of the difficulties they face in their family and parenting situation. Study III adds a developmental psychopathology perspective to DBPs, by investigating patterns and combinations of risk and protective factors that may have an impact on the outcome of a PT program.

In this thesis, the Introduction describes the constructs of DBPs, ODD, CD, and other, related diagnoses, followed by theories in developmental

psychopathology that have connections to research on DBPs, especially the transactional model. After this follows a description of risk and protective conditions in family systems. Finally, there follows a short presentation of mixed methods research (MMR) and qualitative comparative analysis (QCA). These methods and approaches were used in studies I and III. The subsequent sections present the general aim of the thesis, summaries of the three included studies, and a general discussion of the findings.

The construct of disruptive behavior problems

There are several concepts describing behavior problems in children and some of them seem to overlap. “Disruptive behavior problems” is used as an umbrella term for children with the DSM diagnoses of ODD and CD (Breitenstein, Hill, & Gross, 2009). Since the children in studies I, II and III had an ODD diagnosis, this is the concept we most often use although we also refer to DBP and CD where appropriate. In addition, the term “externalizing behavior” will be used on some occasions, which means that the disruptive behaviors are directed towards the external environment. “Antisocial problems” is often used synonymously but normally to refer to more serious behavior that violates the basic rights of others (Calkins & Keane, 2009).

Three diagnoses worth mentioning with connection to DBPs in children are attention deficit hyperactivity disorder (ADHD) and two other diagnoses in the DSM-5: disruptive mood dysregulation disorder (DMDD) and intermittent explosive disorder (IED). Oppositional defiant disorder will be presented in more detail because ODD is in focus in this thesis, while the other diagnoses will be more briefly presented (see Table 1).

Table 1 Diagnoses in the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), related to disruptive behavior problems (DBPs), and the different sections of the DSM-5 where they are located.

Disruptive, impulsive-control, and conduct disorders	Neurodevelopmental disorders	Depressive disorders
Oppositional defiant disorder (ODD) Conduct disorder (CD) Intermittent explosive disorder (IED)	Attention deficit and hyperactivity disorder (ADHD)	Disruptive mood dysregulation disorder (DMDD)

Oppositional defiant disorder. The DSM-5 (American Psychiatric Association, 2013) describes ODD as a pattern consisting of the dimensions Angry/Irritable mood; Argumentative/Defiant Behavior; or Vindictiveness

lasting at least 6 months as evidenced by at least four symptoms from any of the following categories and exhibited during interaction with at least one individual who is not a sibling.

Angry/Irritable Mood

1. Often loses temper
2. Is often touchy or easily annoyed
3. Is often angry and resentful

Argumentative/Defiant Behavior

4. Often argues with authority figures or, for children and adolescents, with adults
5. Often actively defies or refuses to comply with requests from authority figures or with rules
6. Often deliberately annoys others
7. Often blames others for his or her mistakes or misbehavior

Vindictiveness

8. Has been spiteful or vindictive at least twice within the past 6 months

There are some differences between ages, described in the DSM-5. For children younger than 5 years, the behavior should have occurred on most days for a period of at least 6 months. For individuals older than 5 years, the behavior should have occurred at least once per week during the last 6 months. There is one exception and that is criterion 8, where the behavior should have been present on at least two occasions during the last 6 months. While these frequency criteria provide guidance on a minimal level of frequency to define symptoms, other factors should also be considered, such as whether the frequency and intensity of the behaviors are outside the range that is normative for the individual's developmental level, gender, and culture (American Psychiatric, 2013). In addition, it is important to estimate whether the behavior impacts negatively on social or other important areas of functioning in the child. One change from the DSM-fourth edition (DSM-IV) to the DSM-5 is that there is now a possibility to assess the level of severity. "Mild" means that the symptoms are confined to only one setting; moderate, that some symptoms are present in at least two settings; and severe, that some symptoms are present in three or more settings (e.g., at home, at school, at work, in interaction with peers).

The prevalence of the ODD diagnosis varies from 2% to 15% depending on the sample and methods for assessment (Nock, Kazdin, Hiripi, & Kessler, 2007). There is some uncertainty about the difference in incidence between girls and boys. A Norwegian population study found that ODD was about three times more common in boys than girls between the ages of 7 and 9 (Munkvold, Lundervold, & Manger, 2011). A meta-analysis from 2017 showed a significantly higher prevalence in boys than in girls in Western cultures, but

no difference in studies from other cultures (Demmer, Hooley, Sheen, McGillivray, & Lum, 2017). In a British population study, no significant difference was found between girls and boys in parents' assessments of ODD, but there was a clear difference, with higher prevalence for boys, in teachers' reports (Maughan, Rowe, Messer, Goodman, & Meltzer, 2004). Therefore, there are suspicions that the criteria in ODD do not always capture girls' expression of defiance and are therefore not always visible in the different studies (Derks, Dolan, Hudziak, Neale, & Boomsma, 2007; Waschbusch & King, 2006). In summary, early ODD diagnosis is important, and should be taken seriously as the presence of ODD is an important marker for a broader pattern of dysfunctional regulation of behavior and emotions in children, which can adversely affect the child's development during childhood and adolescence (Munkvold, Lundervold, & Manger, 2011; Stringaris & Goodman, 2009a). Below, other diagnoses related to ODD are described.

Conduct Disorder. In the DSM-IV, ODD and CD were seen as developmental manifestations of a common underlying disorder, where CD represented a more severe and later form of psychopathology (Loeber, Keenan, Lahey, Green, & Thomas, 1993). This implied that the diagnosis of ODD disappeared if the criteria for CD were fulfilled (American Psychiatric Association, 2000). However, in the DSM-5, ODD is seen as an independent diagnosis and does not disappear if the criteria for CD are met (American Psychiatric Association, 2013).

The essential feature of CD is a repetitive and persistent pattern of behavior in which societal norms or rules, and/or the basic rights of others are violated. These behaviors are grouped into four main categories: aggression towards people or animals; destruction of property; deceitfulness or theft; and serious violations of rules. Fifteen criteria describe the expression of this conduct and, for a CD diagnosis, at least three of the criteria must have been met during the past 12 months. Three subtypes of the disorder are provided based on the age of onset of the CD. The first is the childhood-onset type, which applies if the child has shown at least one symptom prior to the age of 10; the second, the adolescent-onset type, applies if the child did not show any symptoms before age 10; and third, unspecified onset, does not state when the criteria for diagnosis were met, as there is no information available on the onset of symptoms. Children and adolescents with CD exhibit characteristics that qualify for the "with limited prosocial emotions" specifier, also known as "callous unemotional (CU) traits" if they have displayed at least two of the following characteristics over at least 12 months: lack of remorse or guilt, callous lack of empathy, unconcern about performance, and shallow or deficient affect. There is also a specifier for current severity from mild to moderate or severe in CD (American Psychiatric Association, 2013).

Disruptive Mood Dysregulation Disorder. When the data collection for the three studies in the current thesis was planned and carried out, the DSM-5 had not yet been published and the diagnostics interviews were therefore based on the DSM-IV. In the DSM-5, there are two new differential diagnoses which did not exist previously, but which to some extent share certain features with ODD: DMDD and IED. The core feature of DMDD is chronic, severe persistent irritability. There are two prominent clinical manifestations of severe irritability. (a) The first is frequent temper outbursts. They typically occur in response to frustration and can be verbal or behavioral. They occur frequently, on average three or more times per week over at least 1 year in at least two settings, for example, at home, with peers, or in school. The behavioral outbursts are manifested as aggression against property, others, or self. (b) The second clinical manifestation of severe irritability consists of a chronic persistently irritable or angry mood that is present between the temper outbursts. This angry or irritable mood must be present nearly every day, and most of the day, and must be noticeable to others in the environment. An important reason for the emergence of DMDD was to distinguish children with chronic persistent irritability from children who present with classic bipolar disorder. The diagnosis of DMDD is therefore placed in the category of “Depressive Disorders” in the DSM-5. When it comes to age, the diagnosis should not be made before the age of 6, or after the age of 18. If the criteria for ODD and DMDD are met at the same time, only the diagnosis of DMDD should remain. This is also the situation with bipolar disorder and IED. The DMDD diagnosis is prioritized (American Psychiatric Association, 2013).

Intermittent Explosive Disorder. The diagnosis of IED, like ODD, belongs to the category of “Disruptive, Impulse-Control, and Conduct Disorders.” The child has recurring behavioral outbursts reflecting an inability to control aggressive impulses. There are two clinical manifestations: (a) The child is either verbally aggressive or physically aggressive towards objects, people, or animals – which, according to the diagnostic criteria, should have occurred on average twice a week over a 3-month period. The physical aggression does not result in damage or destruction of property and does not result in physical injury to animals or to other individuals. (b) The behavior can also manifest in the form of severe outbursts of anger that have resulted in destruction of property, and/or physical harm to animals or people on three different occasions over a 12-month period. The outbursts are impulse-driven and there is no clear purpose for the child to achieve any tangible goal, such as money, power, or intimidation.

The diagnosis can be made as a supplement to ADHD, CD, ODD, or autism when recurrent impulsive outbursts exceed what usually is seen in these conditions. However, the child must be at least 6 years old for the diagnosis to be made (American Psychiatric Association, 2013).

Attention deficit hyperactive disorder. In the DSM-5, ADHD is placed under the category of neurodevelopmental disorders. The disorder is characterized by a pattern of inattention and/or hyperactivity and impulsivity that interferes with functioning. It is more frequent in males than in females, with a ratio of approximately 2:1 in children. Females are more likely than males to exhibit only inattentive characteristics. Inattention manifests behaviorally as lacking persistence, wandering off the task, having difficulty sustaining focus, and being disorganized. “Hyperactivity” refers to excessive motor activity, excessive tapping, fidgeting or talkativeness, and impulsivity. Impulsivity is characterized by hasty actions that occur in the moment without forethought, with risk or harm to the individual. Impulsivity may reflect a desire for immediate rewards or an inability to delay gratification.

There are three forms of ADHD: predominantly inattentive; predominantly hyperactive/impulsive; and a combined presentation. Six of nine criteria should be met for a diagnosis, and for the combined type, 6+6 criteria (i.e., six symptoms of each type) should be fulfilled. Several of the inattentive or hyperactive/impulsive symptoms must be present in two or more settings and must have been visible prior to age 12 years. Attention deficit hyperactivity disorder is associated with reduced school performance and social rejection. There is also a significantly higher risk among children with ADHD to develop CD, substance use, and antisocial personality disorder (American Psychiatric Association, 2013). Comorbidity between ODD and ADHD is substantial; one-third to one-half of children with one disorder also meet criteria for the other (Connor, Steeber, & McBurnett, 2010; Kutcher et al., 2004; Nock et al., 2007). High activity level, defiance, and impulsive behavior are normative during the preschool years, but an estimated 75–90% of preschool-aged children who exhibit clinically significant ADHD symptoms will still meet criteria for ADHD when they reach school age (Lahey et al., 2004; Riddle et al., 2013).

Categorical and dimensional approaches

An important discussion when it comes to diagnostics is the difference between categorical and dimensional descriptions of symptoms. The International Classification of Diseases (ICD) (World Health Organization, 1992) and DSM are both examples of categorical models. In the categorical approach, as in the DSM system above, the child will either meet the criteria for ODD or not, based on the requested number of criteria (in this case, four out of eight) that must be met for the specific diagnosis. The DSM serves as guide for organizing information that can aid in the accurate diagnosis and treatment of mental disorders (American Psychiatric Association, 2013). According to the American Psychiatric Association (APA), the DSM facilitates communication with other clinicians and researchers and has

contributed to a common language across cultures. The DSM uses a top-down approach to mental health. Once the diagnostic categories and criteria were chosen by the DSM committees, they provided the taxonomic targets for assessment procedures such as structured diagnostic interviews used in clinical work (Achenbach, 2000). The diagnostic interview called the “Kiddie-Schedule for Affective Disorders and Schizophrenia (K-SADS)” (Kaufman et al., 1997), used in the studies in this thesis, is an example of this, working top down. In such a categorical approach, a person either fulfills the criteria for the diagnosis or not, which is important for future treatment or non-treatment. However, the difference between those who meet the criteria and those who do not may be very small.

The ICD is likewise a categorical approach for classification of diseases. It is a globally used diagnostic tool for epidemiology, health management, and clinical purposes. One chapter in the ICD contains a taxonomy for mental illness. The ICD is maintained by the World Health Organization (WHO), which is the directing and coordinating authority for health within the United Nations System (World Health Organization, 1992). The groups revising the DSM (5) and ICD (11) shared an overarching goal of harmonizing the two different classification system as much as possible, as having two divergent systems can hinder many processes, such as the collection of national health statistics. But even where the intention is to identify and diagnose an identical patient population, the DSM and ICD diagnoses do not always agree. For instance, they differ in their classification of ODD, which the ICD treats as a subtype of CD, while in the DSM-5, ODD is an independent diagnosis (American Psychiatric Association, 2013; World Health, 1992).

In contrast to the categorical approach, the dimensional approach operates within a continuous domain where one can score anywhere between low and high in problem intensity on a scale for each specific problem area (Axberg, 2007). This means there are quantitative indices of the degree to which individuals manifest certain problems and symptoms, and how high they score on measures of particular constructs, as compared to normative samples of peers (Achenbach, 2000). The Achenbach System of Empirically Based Assessment (ASEBA) (Achenbach & Rescorla, 2000), the Eyberg Child Behavior Inventory (ECBI) (Eyberg & Pincus, 1999), and the Strength and Difficulties Questionnaire (SDQ) (Goodman, 1999) are all examples of dimensional ways of measuring problems in children. A common opinion is that the boundaries between many disorder categories are fluid over the life course and vary in severity. Therefore, to introduce dimensional approaches into mental disorders could lead to a more accurate description of patient presentations and increase the validity of the diagnoses (American Psychiatric Association, 2013; Helzer, Kraemer, & Krueger, 2006).

Another dimensional approach worth mentioning is that of the research domain criteria (RDoC). This is an approach designed to explore dimensions of human behavior. The aim of this approach is to move beyond the limit of psychiatric categories in the hope of being able to align the identification of psychological health and dysfunction with clinical neuroscience (Ostlund, Myruski, Buss, & Pérez-Edgar, 2021). The RDoC approach will advance the understanding of the mechanistic origins (i.e., irritability, effortful control (EC), aggression, CU traits, etc) that underlie psychopathology from early childhood and shape trajectories into adulthood (Ostlund et al., 2021; Wakschlag et al., 2018). This means, for example, that a child's temperament can serve as an indicator of potential psychological health or dysfunction that is evident already during the child's first year (Wakschlag et al., 2018). Understanding the early origins of psychopathology risks, revealed as early as in the first year of life, could give clinicians and researchers the tools necessary to support emotional and behavioral development to reduce a child's likelihood of psychological dysfunction, according to the RDoC (Ostlund et al., 2021).

Top-down and bottom-up approaches

Top-down and bottom-up approaches are two different strategies for processing information (Biederman, Glass, & Stacy, 1973). A top-down approach uses an already formulated system or method and breaks the whole into smaller analytical pieces using existing knowledge to understand the individual case. The DSM (American Psychiatric Association, 2013), for example, offers a top-down process based on various diagnoses and criteria agreed upon by groups of experts, the DSM committees (Achenbach, 2000). The DSM-5 was published in 2013. Thirteen work groups representing expertise in their respective areas collaborated with advisors and reviewers to draft the diagnostic criteria and accompanying text. Each proposal for diagnostic revision of diagnostic criteria required a consensus based on the evidence for change prepared by the workgroup and accompanied by supportive data (American Psychiatric Association, 2013).

A top-down approach is necessary to interpret and understand what we perceive and is often used in research and in clinical settings. However, one criticism of the DSM is that its categories and criteria are predetermined. The top-down orientation makes it difficult to discover the unexpected by not allowing the formation of new knowledge (M. Rutter, 2011). A bottom-up approach uses individual cases to create new general knowledge; it progresses from individual elements to build a view of the whole, piecing data together until a larger picture is formed (Achenbach, 2000). Therefore, a bottom-up approach is also important since it can help us to refine and improve our knowledge systems. This type of information is of course more subjective and

random, but it can be tested for validity and utility as markers for important characteristics, for robustness across samples, and for developmental course (Achenbach, 2000; Crittenden, 2017). In research conducted on children and adolescents with DBPs, top-down studies are common, based on already given diagnostic criteria. In clinical practice, top-down orientation is used when deciding on psychological and medical treatment. In the studies in this thesis, both top-down and bottom-up perspectives have been used to examine factors that contribute to developing and perpetuating DBP.

Top-down research

Prior to the DSM-5, extensive research was conducted on the ODD construct. In the DSM-IV, ODD was a one-factor model (American Psychiatric Association, 2013). Around 2009–2010, several studies were published, stating the hypothesis that the different criteria in the ODD diagnosis formed distinct dimensions, with different developmental pathways later in childhood (Kolko & Pardini, 2010; Rowe et al., 2010; Stringaris & Goodman, 2009b). In a longitudinal study, Stringaris and Goodman (2009a) created, based on previous research, three different dimensions of the ODD criteria: ODD irritable, ODD headstrong, and ODD hurtful. The first of these was related to depression, anxiety, social difficulties with peers, and CD 3 years later (Kolko & Pardini, 2010; Rowe et al., 2010; Stringaris & Goodman, 2009a). The second, ODD headstrong, was associated with ADHD and with non-aggressive behavior problems, such as stealing, truancy, breaking parental rules, using drugs, and vandalizing, included in the CD diagnosis (Rowe et al., 2010; Stringaris & Goodman, 2009a). Finally, the ODD–hurtful dimension was most strongly associated with CU traits and antisocial personality. It was also the strongest predictor of aggressive symptoms such as threatening others, fighting, using weapons, and forcing others to have sexual intercourse and thus a robust predictor of severe CD, suggesting that ODD–hurtful may include CU traits as an underlying mechanism (Kolko & Pardini, 2010; Stringaris & Goodman, 2009a).

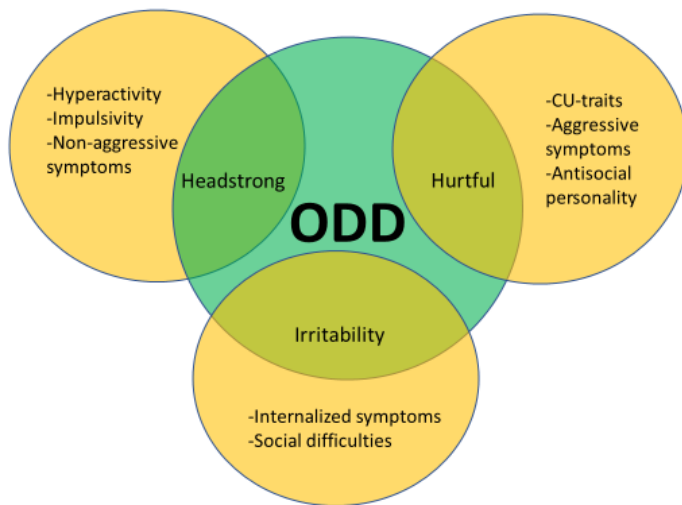


Figure 1 An illustration of oppositional defiant disorder (ODD), divided into an ODD–irritable, ODD–headstrong, and ODD–hurtful dimension, as well as various psychiatric conditions associated with the three dimensions, according to Stringaris & Goodman’s research model (2009). CU = callous unemotional.

By contrast, several other studies found evidence for a two-factor model of ODD, including a headstrong/hurtful and an irritability ODD dimension (Burke, Hipwell, & Loeber, 2010; Rowe et al., 2010). The different results may be due to the finding that ODD–hurtful is based on only one criterion in the DSM and, therefore, findings on hurtful behavior as a separate dimension have remained inconsistent in factor analysis (Aebi, Plattner, Metzke, Bessler, & Steinhausen, 2013). However, the authors of the DSM-5 (American Psychiatric Association, 2013) chose to present ODD as a three-factor model and called the three dimensions Angry/Irritable mood, Argumentative/Defiant behavior, and Vindictiveness, instead of irritability, headstrong, and hurtful (Stringaris & Goodman, 2009a).

For several researchers, it has been important to find factors early in the child’s life that can predict later antisocial behaviors. Stringaris & Goodman’s (2009a) study was a longitudinal study that extended over only 3 years. Aebi et al. (2013) found support for both the two-factor and the three-factor model of ODD, but after 16 years of follow-up they also found that the ODD–hurtful dimension was a significant predictor for criminal convictions, and confirmed that hurtful behaviors are a risk factor for adult criminal behavior (Aebi et al., 2013). Therefore, meeting the criterion of *spiteful or vindictive* seemed to be

the largest risk factor for ODD developing into a severe CD (Kolko & Pardini, 2010).

A developmental psychopathology perspective on disruptive behavior problems

Unlike developmental psychology, which focuses on developmental universals and traits' continuity over time (Rutter, 2014; Sameroff, 2020), developmental psychopathology perspective focuses on individual differences (Sameroff, 2020). The goal of developmental psychopathology is to understand the processes that lead to developmental dysfunction, but also to good adaptation. Important questions within the field include those involving age-related variations in susceptibility to stressful experiences, and in susceptibility to the extent to which development of disorders is dependent on prior circumstances at an earlier age (Rutter, 2014). Consequently, both continuities and discontinuities must be considered, and a central concern must involve mediating mechanisms in both stability and change across time (Rutter, 2014). Development psychopathology can be defined as the study of the prediction of development of maladaptive behaviors and the processes that underlie them (Lewis, 2014). Central concepts of developmental psychopathology are (a) the understanding on causal processes; (b) the concept of development; and (c) continuities and discontinuities between normality and pathology (Rutter & Sroufe, 2000). The questions in developmental psychology are complex. Why is it that some children who are doing well end up as adults with many problems? And why is it that some children with many problems end up as doing well as adults? The answers may be in the series of developmental steps where context amplifies or reduces the effects of prior steps (Sameroff, 2014).

An important part of developmental psychopathology is the question about nature–nurture integration. In clinical practice, the question becomes relevant when a child has a problem, and the question arises: “Who is responsible?” Many parents' first response may be to blame the child while many professionals' first response is to blame the parents (O'Reilly & Kiyimba, 2021). However, according to Sameroff (2014), both the child and the parent, but also neighborhoods and neurons, schools and synapses, peers and proteins and genes and governments are responsible. Both genetic and environmental influences have an effect on children's behavior that is relatively direct, but the consequences are due to a more complex interplay between nature and nurture (Rutter, 1997) In the past, it was assumed that environments cannot influence genetic effects, but researchers today know that they can, by virtue of epigenetic mechanisms. Genetics research has contributed to the understanding that genetic influences are probabilistic and not deterministic, and that environmental factors and genetic factors are of roughly equal

importance (M. Rutter, 2014). The latest research, with a growing emphasis on brain plasticity and gene–environment interactions has helped us understand more of how the growing brain is particularly susceptible to environmental influences (Callaghan & Tottenham, 2016). An example of this is research done on attachment and genetics, specifically in the presence of the DRD₄ 7-repeat allele. In a study by Bakermans-Kranenburg & Van Ijzendoorn (2006), a sixfold increase was found in externalizing behavior in children with the dopamine receptor D4 gene (DRD₄) 7-repeat allele, if they were exposed to insensitive care, in comparison with children with neither insensitive care nor the 7-repeat allele. In other words, a heightened sensitivity to the caregiving environment will be a risk factor in the context of insensitive care but a protective factor in the context of sensitive care (Steele & Steele, 2014). In spite of the fact that the genetic component is very significant in the case of DBPs, this is not the focus of the current thesis.

There is broad agreement among researchers that the development of DBP is best understood within complex models in which genetic, psychological, and social factors interact (Sameroff, 2009). A single causal factor will not be identified in the case of DBP. Instead it is a combination of factors that contribute to the outcome (Sameroff, 2020). There are factors connected to *family structure* that may contribute to the development of DBPs, especially when a child grows older. Separation between parents often affects children in a negative way (Stadelmann, Perren, Groeben, & Von Klitzing, 2010) and high levels of conflicts between parents increase the risk for externalizing behavior (Burt, McGue, Krueger, & Iacono, 2005). In addition, growing up with a single parent is related to the risk of DBPs in childhood, especially for boys (Vaden-Kiernan, Ialongo, Pearson, & Kellam, 1995). According to Anderson et al. (2022), low socioeconomic status (SES) and high adverse childhood experiences (ACEs) were related to externalizing behavior in their recently published study. There are also different *environmental factors* that may influence children and adolescents to develop DBPs, such as problematic peer relationships, a poor school environment, exposure to criminality, and violence in a deficient neighborhood (Ingoldsby & Shaw, 2002; Maughan, Pickles, Rowe, Costello, & Angold, 2000). It is important to view the development of DBPs in this larger perspective, according to models such as Bronfenbrenner’s ecological model (Bronfenbrenner, 2005). His model depicts ecological levels or systems that directly and indirectly influence human development through reciprocal transactions between persons and multiple environments: the microsystem, mesosystem, exosystem, and macrosystem. Despite this larger perspective, the focus of this thesis is mainly on what happens in the microsystem, i.e., in the reciprocal interactions

between the child and parents in a family during early childhood, described in the transactional model (Sameroff, 2009).

Transactional theory

The transactional model is one of the models in developmental psychopathology. According to this model, one of the most proximal developmental contexts for children is the parent–child subsystem. The members in this subsystem are conceptualized as both causes and products of one another (Davies & Sturge-Apple, 2014). Therefore, central to the transactional model is the emphasis placed on the bidirectional effects between child and environment (Sameroff, 2020; Sameroff & Mackenzie, 2003). This model therefore requires an active child and an active environment. For both children and parents, behavior is shaped by its adaptive ability, in relation to the environment. For example, a maladaptive behavior may be misnamed, because the behavior may actually be adaptive to a maladaptive environment (Lewis, 2014).

According to Sameroff (2020), each transaction in the microsystem can be divided into three parts: the child’s behavior that is affecting the parent; the parent’s interpretation of the child’s behavior; and the parent’s response. Therefore, transactions are seen as reciprocal interactions where both parent and child are changed by the experience. During transactions, the child may be changing as a result of the parent’s behavior, but the parent is changed at the same time by the child’s behavior. The development of the child is therefore a product of the continuous dynamic interactions of the child and the experience provided by the child’s family and social context (Sameroff, 2020). Over time, according to Sameroff (2014), the brain of the child will change, the body will change, and the mind will change – and the environment changes along courses that may be somewhat independent of each other and somewhat a consequence of experience with each other. All children are constantly adapting to, and requiring adaptations from, their caregiving environment in a complex interplay. Thus, it is important to be aware that every transaction is only a part of a “larger whole” consisting of multiple interacting dynamic systems, where each influences the outcome of interest (Sameroff, 2014).

John Bowlby (1907–1990) is the psychiatrist and psychoanalyst known as the originator of attachment theory. Already in the 1950s, the focus of Bowlby’s initial work was on how deficits in early caregiving may lead to DBPs later in life. Since then, Bowlby’s research has led to a wide range of studies, including assessment of the early child–mother relationship (Steele & Steele, 2014). In a meta-analysis, Fearon, Bakermans-Kranenburg, Van Ijzendoorn, Lapsley, and Roisman (2010) reviewed 69 studies (N=5,947) which showed that, above all, disorganized child–mother attachment

significantly increased the risk for externalizing behavior. Even insecure attachment was linked to externalizing behavior, but with a slightly weaker connection. Fearon and colleagues were very cautious to conclude robust effects, and pointed out that their meta-analytic results did not address causality, although there was an association between attachment and externalizing problems (Fearon et al., 2010). According to Lösel and Farrington (2012), even the most sophisticated longitudinal designs and data analyses are limited in detecting causal effects of DBPs; research and clinical practice must therefore be sensitive to issues of causality.

Parents' negative perceptions about their infants may also have consequences in the transactional processes. For example, mothers who are depressed seem to perceive their children as more depressed (Mawdsley, 2010; Müller & Furniss, 2013). If mothers think that they have "problem infants," there are indications showing that their infants frequently become "problem children." Parents who are caught up in the idea of there being a "problem" with their child may have difficulties taking perspectives that change their behavior towards the child (Sameroff, 2020). According to Sameroff and the transactional model, different interventions can be done to regulate the system in the family, such as change the parent's perceptions of the child, help the child to small alterations in his or her behavior, and support the parents to improve their ability to take care of the child (Sameroff, 2020).

One early study that clearly described the transactional process was conducted by Thomas, Chess, and Birch (1968). They illuminate a transactional developmental path for a subset of children with difficult temperament, showing how maladaptive parenting led to later behavioral problems. By contrast, for those children with difficult temperament who had experienced positive parenting, this transaction did not occur, and no such pathway for behavioral problems was found. The transactional processes between parent and child, displaying difficult temperament, are described in Study III.

Among the most frequently cited and widely incorporated model of transactional processes in development of behavior problems is Patterson's coercion model described by Patterson and Wells (1984). The ingredients that combined in the coercive pattern were aversive child behavior and negative parental actions. The child and parent were getting caught up in gradual transactions leading to a "reinforcement trap" and serious DBPs ensued. The difficulty of managing coercive patterns is described by the parents in Study II.

A study by Neece, Green, and Baker (2012) investigated the relationship between parenting stress and child behavior problems from age 3 to age 9 years among 237 children; 60% of the children were typically developing and 40%

were identified as developmentally delayed. Their results suggested that parental stress was both an antecedent and a consequence of child behavior problems. Simultaneously, child behavior problems were an antecedent and a consequence of parenting stress across time, in both groups of typically developing and developmentally delayed.

Different developmental pathways – equifinality and multifinality

It seems important to continue the sections of developmental psychopathology and the transaction model by also mentioning the concepts of equifinality and multifinality. It is well known that, regarding DBPs, a single causal agent will never be identified. Instead, the models of DBPs include multiple risk factors. These diverse risk factors, although correlated, suggest that there are many different ways to develop DBPs, which phenomenon is known as *equifinality* (Dodge, 2000). This means that even though children display the same kind of behavioral problems, the reasons for their behavior may be quite different. For a certain child, it may be the parents' negative and inconsistent parenting that are the greatest risk factors, while for another child, it may be the combination of low cognitive ability and ADHD that poses the greatest risk for DBPs. Furthermore, one and the same risk factor can also lead to different outcomes in different individuals, denoted as *multifinality* (Cicchetti & Rogosch, 1996). A risk factor (e.g., a large family), for a child, may be related to the development of DBPs, while for another child, the same factor may mean good opportunities to develop prosocial-positive behaviors and may thus constitute a protective factor for the development of DBPs. The same risk factor can therefore lead to different outcomes (Cicchetti & Rogosch, 1996).

Risk factors can be defined as personal or social characteristics of an individual (a child or an adolescent) that predict a high probability of, for example, a future DBP (Lösel & Farrington, 2012). As mentioned above, risk factors do not necessarily show causal relations; therefore, research and clinical practice must be sensitive to issues of causality (Lösel & Farrington, 2012).

In a complementary sense, protective factors predict low probability of development of future problems such as DBPs. Risk and protective factors seem to be dimensional, aiding a child's development at one end of the continuum and inhibiting development at the other end (Sameroff, 2020). The same variable may thus function simultaneously as both risk and protective factors. For example, whereas low intelligence is a risk factor for antisocial behavior, high intelligence seems to have a protective function (Kandel et al., 1988). Other examples of risk and protective factors in children, where the opposite poles of these variables seem to predict unwanted vs. desirable development, are temperament (impulsivity or negative emotionality (NE)), aggressiveness, ADHD, and social cognitions (interpreting and evaluating

situations). Examples of factors at a family level are the parent–child relationship (attachment), parenting behaviors, parents’ mental health, and SES, where low SES constitutes a risk effect at the lower pole and a direct protective factor at the upper pole (Lösel & Farrington, 2012).

Several risk factors can sometimes be added and combined with each other, according to the cumulative risk factor model. A cumulative risk factor model for DBPs states that the more risk factors there are, the greater the likelihood that a consistent pattern of behavioral problems will develop (Masten, Best, & Garnezy, 1990; Sameroff, 2020). However, cumulative risk factor models do not take into account the type of combinations of factors that can be observed in families with children with DBPs (Evans, Li, & Whipple, 2013; M. Rutter, Cox, Tupling, Berger, & Yule, 1975). We need to know more about the combination of factors that are associated with children’s development of DBP, and the combination of factors associated with wellbeing. Therefore, combinatory models including multiple risk and protective factors need to be examined more closely (Dodge, 2000). An integration of both perspectives seems to be theoretically and methodologically more complicated than risk research alone (Lösel & Farrington, 2012). Therefore, there is a need for research models that can handle complexity and that also include person-centered analyses to supplement the variable-oriented analyses in studies of DBPs, according to Cicchetti and Rogosch (1996).

Risk and protective conditions in the family system

As previously discussed, risk and protective factors in the child seem to be dimensional, aiding a child’s development at one end of the continuum and inhibiting development at the other end (Sameroff, 2020). The same variable may thus function simultaneously as both a risk and a protective factor. The purpose of the following section, titled “The child,” is to discuss certain conditions connected to the ODD diagnosis, which at one pole of the continuum may lead to a positive development, but at the opposite pole may lead to behavior problems in children. In the second part of this section, titled “Family context,” the importance of the family context for the child’s development will be emphasized, such as parenting style and emotional climate in the family. Attention will also be paid to risk factors in terms of parental depression, and hard and coercive parenting. The exploration of the family context ends with a discussion of the importance of positive parenting and the possibility of parental support through parent training (PT) programs. Finally, the third part of this section will focus on research on parents’ experience of having a child with ODD.

The child

The specific concepts in this section are chosen on the basis that they are considered important for development and maintenance of ODD. The following text also describes some warning signs that may be important to pay attention to within the child, and in the mutual interaction between parent and child at the early stage of childhood, especially during the preschool years when the development is in an intense phase. The specific concepts described are self-regulation as an overarching concept initially, then emotional regulation, temperament (negative emotionality and effortful control), aggression, defiance (compliance), and CU traits (moral self) (Table 2).

It is generally accepted that an underlying mechanism in both ODD and ADHD is impairment of the ability to self-regulate (M. Frick & Brocki, 2019). Deficits in self-regulation have been established as risk factors for development of DBPs (Waschbusch, 2002). Therefore, an important task for parents during the first 3 years of their children's life is to support and teach their children to regulate emotions, attention, and behavior, so that children inch by inch will be able to develop their own self-regulation (Williams & Berthelsen, 2017). Self-regulation generally refers to the capability of controlling or directing one's attention, thoughts, emotions, and actions. These skills show rapid growth in early childhood (McClelland & Cameron, 2012; Morawska, Dittman, & Rusby, 2019). However, the rather slow maturation of the prefrontal cortex and its connection to the amygdala makes development of self-regulation malleable also to environmental influences, such as parenting (Callaghan & Tottenham, 2016). Thus, the development of self-regulation can be seen as a combination of the child's biologically rooted differences in activity, emotion regulation capacities, effortful control (EC), and the effect of the parenting environment (Callaghan & Tottenham, 2016).

However, there has been a lack of conceptual clarity on the meaning of the broad construct of self-regulation and its underlying components, which has led to a fragmented approach to definitions (Morawska et al., 2019). This is due in part to the relevance of self-regulation for research from different perspectives, including cognitive and personality perspectives (McClelland & Cameron, 2012). The *cognitive perspective* highlights components of executive function such as working memory, attentional and cognitive flexibility, and inhibitory control, which all contribute to self-regulation, while the *personality perspective* focuses on temperament, EC, and the capacity for emotional regulation (McClelland & Cameron, 2012; Pandey et al., 2018). Several of the constructs that affect the child's ability to self-regulate will be discussed below, from the perspective of personality. See Table 2 for the different concepts that can be assumed to increase the risk for development of ODD in the presence of maladaptive parenting.

Table 2 The three dimensions of oppositional defiant disorder (ODD) and conditions related to the diagnosis.

Angry/Irritable mood	Argumentative/Defiant behavior	Vindictiveness
Emotional regulation difficulties Negative emotionality Effortful control	Negative emotionality Effortful control Non-compliance Moral self	Moral self CU traits Aggression

Low levels of emotional regulation capacities, effortful control (EC), and moral self, and high levels of negative emotionality (NE), defiance, aggression, and callous unemotional (CU) traits are conditions that can be assumed to increase the risk of developing ODD and disruptive behavior problems (DBPs).

Emotional regulation

Emotional regulation (ER) is a key aspect of the ability to self-regulate. Early self-regulation difficulties within the emotional domain are considered to constitute a distinct pathway to ODD and children with deficits in ER are at risk developing irritable symptoms (Graziano et al., 2019; Waller, Hyde, Grabell, Alves, & Olson, 2015).

The very beginning of ER starts in early childhood with support of sensitive and responsive parents (Eisenberg, Spinrad, & Morris, 2002; Gross, 2006). In the early interaction between parent and infant, it is the parent, the most experienced communicator, who brings meaning to the child with his or her gestures, facial expressions, and rhythmic changes in the voice (Grienenger, Kelly, & Slade, 2005; Morris, Silk, Steinberg, Myers, & Robinson, 2007). Adults, who themselves have a good ER, respond to their children as a mirror to the children’s emotional state, but also as those who help the children to regulate emotions in an effective way. If a parent is emotionally supportive, uses situations to teach the child strategies, and puts into words the child’s emotions, that child has the potential to acquire both emotional understanding and ER strategies (Cole, Dennis, Smith-Simon, & Cohen, 2009). A significant age for children to develop ER is at the age of 3–5, when the child simultaneously develops language, attention, and theory of mind (Sala, Pons, & Molina, 2014; Wellman, Cross, & Watson, 2001). In preschool, the child faces new demands such as rules, gatherings, and social play with other children and other adults, not his or her parents (Bulotsky-Shearer, Fernandez, Dominguez, & Rouse, 2011). Children who develop a high ability for ER also develop self-confidence to cope with all these new situations in preschool (Bandura, 1977a).

By contrast, children who constantly fail to regulate their emotions are at great risk of developing a negative self-image (Ellis, Alisic, Reiss, Dishion, & Fisher, 2014; Harter, 1999). Therefore, children who do not believe in their ability to regulate their emotions may also be less motivated to develop strategies for ER. The more easily they give up their attempts to regulate, the more often they experience failures and negativity from the environment, leading to absence of the important positive reinforcement of their attempts to emotionally regulate (Bandura, 1977a). It is clear that children with impaired ER ability have an elevated level of emotional instability, which is characterized by rapid changes in emotional state, an increased degree of irritability, aggression, and frequent mood swings, as well as a general increased sensitivity to stimuli in the environment (Kim-Spoon, Cicchetti, & Rogosch, 2013; Spritz, Sandberg, Maher, & Zajdel, 2010). This was also described by parents in studies II and III. Children with this type of ER impairment have problems to develop socially adapted strategies in interactions with peers and adults, they easily end up in emotional conflict-filled situations, which in the long run leads to an increased risk of developing DBPs (Supplee, Skuban, Trentacosta, Shaw, & Stoltz, 2011). When you meet a child who is perceived to be emotionally dysregulated, you can suspect that something has happened in the transaction between the child and the environment. Either the child, is not flexible enough in adapting to changes that are constantly happening in the environment (Bridges, Denham, & Ganiban, 2004), or the environment is not responsive or flexible enough to meet the child's need for help with ER (Eisenberg et al., 2001), or (sometimes) both.

Temperament

The temperament factors connected to ODD are primarily negative emotionality (NE) and effortful control (EC). High levels of NE play an important role regarding the criteria in the "Angry/Irritable Mood" dimension (Ostlund et al., 2021). Children's temperament is considered to be a combination of biology (hereditary disposition), reactivity (sensitivity to changes in the environment), and self-regulation (ability to control attention and emotions) (Rothbart & Bates, 2006). During the latter part of 1950s, Thomas, Chess & Birch (1968) began their well-known study of temperament. They collected data from a group of 136 children and their parents. They examined the children in different contexts, also in interaction with their parents. The study resulted in identification of nine different temperament traits in children (Thomas & Chess, 1977). Using an inductive approach, Thomas and Chess (1977) identified three distinct groups of children who ended up in the extreme ends of the nine different temperament traits. These three groups were children with easy (40%), difficult (10%), and easy-to-warm temperament (15%). Another third of the infants in the study were described

as having a mixture of the different temperament traits. The children who were classified as difficult in their temperament were more often “fussy,” irritable, difficult to comfort and calm; they also had a low frustration tolerance, lack of perseverance, difficulty focusing, and an unpredictable circadian rhythm (Thomas & Chess, 1977). According to the study’s authors, the most adaptive childhood outcomes would occur when the temperamental qualities of a child were congruent with environmental characteristics suited for that type of temperament, referred to as “goodness of fit.” The work by Thomas & Chess has been revised by other researchers, but the descriptions of easy, difficult, and slow-to-warm temperaments remain (Kalra, Sabherwal, Tyagi, Khatri, & Srivastava, 2021). Continued factor analyses performed by Rothbart and Bates (2006) based on the various temperament traits have later resulted in three overall dimensions of temperament that appear to be fairly consistent over time from childhood to adolescence. These are sociability (surgency), NE, and EC (Rothbart & Bates, 2006), where surgency and EC primarily are proposed to be a pathway to ADHD, while NE is especially considered to be of importance for the development of ODD (M. Frick & Brocki, 2019; Kerekes et al., 2017; Nigg, 2006).

Negative emotionality. In children with pronounced NE, research has shown that NE predicts internalized problems (anxiety and depression) as well as externalizing problems (DBPs) when the children grow up (Eisenberg et al., 2000). Most preschool children exhibit some irritable behavior, but frequent, highly dysregulated, and long-lasting irritable behavior is not endorsed for most children (Wakschlag et al., 2018). Negative emotionality includes emotions such as fear, anxiety, sadness, frustration/anger, irritability, and discomfort (Rothbart & Bates, 2006; Vidal-Ribas, Brotman, Valdivieso, Leibenluft, & Stringaris, 2016). The forms of negative emotional reactivity most strongly associated with ODD are anger, irritability, and frustration, while fear, anxiety, and sadness more often are linked to internalized problems (Andershed & Andershed, 2005). There seem to be two different neurobiological systems underlying NE, regulating the child in challenging contexts (Waters & Thompson, 2014). Fear, anxiety, discomfort, and sadness are manifestations of withdrawal, governed by a submissive way of dealing with stress in the environment, while anger and irritability are the opposite and seek rapprochement and confrontation. The driving force in that system is the need for dominance instead of avoidance (Waters & Thompson, 2014).

However, it is important to note that irritability is by no means the same as aggression. Irritable children may simply be grumpy, and huff and puff, or experience burdensome dysphoria, rather than exhibiting aggression (Vidal-Ribas et al., 2016). Angry and irritable children also have a relatively high reward orientation, which puts them at risk for frequent and intense frustration (Vidal-Ribas et al., 2016). According to Rothbart & Bates (2006), children in families with parental depression display more serious disruptive behavior if

they (i.e., the children) have elevated levels of NE than if they have a low degree of NE. Moreover, children with high NE also tend to end up in coercive relationships more easily when there are triggering factors in the environment, such as hostility and irritability from the parents (Rothbart & Bates, 2006). When parents respond negatively to a child's stress in challenging situations, the child's reactivity increases, which in turn can lead to more NE and increased difficulties with emotion regulation (Calkins, 2002; Scaramella, Sohr-Preston, Mirabile, Robison, & Callahan, 2008). This was also described in the parent-child interaction in one of the case studies in Study III. Furthermore, invasive, hostile or negative parenting predicted more serious disruptive behavior in boys with elevated levels of NE than in boys with a low degree of NE (Belsky, Hsieh, & Crnic, 1998). It seems that it is the actual interaction with the environment, which determines the degree of adaptation in children with a difficult reactive temperament and NE. On the other hand, Belsky and Pluess (2009) found that children with elevated levels of NE often have emotional susceptibility, a plasticity factor, which in a negative parental context can lead to either externalizing problems or internalizing problems, but which in a supportive and positive parenting context will provide significant benefits and lead to a positive development in the child (Belsky & Pluess, 2009). In summary, children with angry and irritated moods/NE seem to have an emotional susceptibility that makes them particularly sensitive to the characteristics of the environment, and that places great demands on the parents' interaction with these children in emotionally conflicted situations.

Effortful control. Like NE, EC is a dimension of temperament and an important part of a child's ability to self-regulate and develop compliance. Children with high EC, who can regulate their behaviors, show a greater amount of socially adapted emotions and behave in an appropriate way (Delgado, Carrasco, González-Peña, & Holgado-Tello, 2018; Dong, Wang, Lu, Liang, & Xing, 2018; Eisenberg et al., 2000; Kochanska, Murray, & Harlan, 2000). Children displaying low EC, in combination with high levels of NE, on the other hand, have an increased risk of developing DBP (Delgado et al., 2018). Effortful control reflects a child's ability to voluntarily control attention, behavior, and emotions to achieve a goal. Psychologist Mary Rothbart and her team have defined EC as the ability to inhibit, or to hold back a dominant or automatic response, instead of acting on a subdominantly, consciously chosen response (Rothbart & Bates, 2006). In other words, this means that when a child, instead of taking a candy from the candy jar on the table, asks his mother first, that child has developed EC. Therefore, it can be said that EC reflects an ability to choose behavior in a flexible way, so that the child can adapt his or her behavior to what is demanded in a specific situation (Rothbart & Bates, 2006).

Effortful control begins to develop during the second year of life (Kim, Oh, Yun, Sung, & Kim, 2013). Maternal responsiveness in infancy in face-to-face

interaction has been identified as a precursor of EC, especially in those children with NE (Blair, 2002). Children with high EC often follow a positive developmental path where they internalize rules, have good adaptability, cope with adversity (i.e., have resilience), and eventually succeed well in school (Diaz et al., 2017; Eisenberg et al., 2004). There seems to be a close relationship between EC and ER. Children with high EC tend to express less intense anger and do not react very quickly with anger to various triggers in the environment. In the same way, they do not show intense joy, happiness, or curiosity, but tend to dampen all kinds of emotional impulses and expressions (Kochanska et al., 2000). Well-developed ER and EC reduce DBPs in children, which leads to children with high EC often being popular and accepted by both peers and adults. By contrast, low EC has been linked to the development of ADHD (M. Frick & Brocki, 2019), but also to the development of externalized (DBP) symptoms (Allan & Lonigan, 2011; Eisenberg et al., 2004). In summary, there is a risk that children with low EC end up in negative developmental paths, develop DBPs, and create conflict-filled peer relations, with difficulties in adapting to social situations (Kerekes et al., 2017; Kochanska et al., 2000).

Aggression

Aggression occurs during the first year of life as a natural way to express anger and frustration and a child's aggression reaches its peak between the ages of 2 and 3. Aggression is natural and is seen as positive, for example in sports contexts, but when aggression harms someone else, it is defined as physical aggression (Tremblay, 2010). Physical aggression in children and adolescents receives more attention in the CD diagnosis than in the ODD diagnosis (American Psychiatric Association, 2013). Thus, the ODD-hurtful dimension is the strongest predictor for future aggressive symptoms, as mentioned previously (Stringaris & Goodman, 2009a). Common physically aggressive behaviors in children, under the age of 2, include grabbing toys from others and pushing them away to get what you want. Less common aggressive behaviors in younger children are biting, fighting, threatening others, and being mean and cruel to others (Tremblay et al., 1999). Only 3–5% of children bite and hit others regularly, and only 1% of small children (1–2.5 years old) hit others on purpose (Wakschlag et al., 2010). There is a decrease in physical aggressive behavior from about the age of 3 until the start of school. Most children have learned to use alternative behaviors before starting school. Boys generally show a continued reduction in aggressive behavior during school age, but about 5% continue to have high levels of aggression (Zelazo, Séguin, & Tremblay, 2013). Aggressive behavior can serve different functions and is often divided into reactive aggression and proactive aggression, where reactive aggression is considered a hostile and often impulsive response to a real or perceived provocation, while proactive aggression is intentional and aims to

influence others to get something you want (Röll, Koglin, & Petermann, 2012). Children who have a hostile attribution style, i.e., a tendency to (over)interpret situations as threatening, often express reactive aggression (Vitaro, Brendgen, & Tremblay, 2002). They misinterpret situations and find it difficult to understand why others see their behavior as inappropriate, because from their perspective they consider themselves justified in being aggressive (Dodge & Coie, 1987). Reactively aggressive children more often come from families characterized by an emotionally harsh and punitive climate (Knerr, Gardner, & Cluver, 2013). Proactive aggression has a clearer connection with the development of antisocial behavior, than reactive aggression (Vitaro, Gendreau, Tremblay, & Oligny, 1998). Children with proactive aggression have a lower level of fear and therefore more often end up in criminal behavior when they grow up (Vitaro et al., 2002). They tend to show a lower degree of emotional reactivity when being punished and provoked and seem to lack feelings of guilt and empathy (P. Frick, Ray, Thornton, & Kahn, 2014). They value aggression as a positive and effective means of achieving what they strive for (Dodge, Lochman, Harnish, Bates, & Pettit, 1997). Chronic physical aggression is defined as a pattern in children to use physical aggression more frequently than other children during most of their upbringing (Tremblay, 2010). Most adolescents who exhibit chronic physically aggressive behaviors also exhibited aggressive behaviors as children (Tremblay, 2010). It seems that there is a particularly sensitive period between the ages of 3 and 5, with the opportunity to learn how to inhibit aggression and prevent the development of chronic aggressive behavior. Therefore, it seems important, already during the preschool period, to find methods and strategies to help children with difficulties inhibiting aggressive behaviors, to regulate their aggression (Tremblay et al., 1999).

Defiance and compliance

Defiance and compliance are two opposite poles on the continuum of obeying. Defiance is described specifically in two of the ODD criteria: Often argues with authority figures, and often actively defies or refuses to comply with requests from authority figures or with rules. Children's ability to be compliant is considered one of the most important abilities, when it comes to their self-regulation (Dong et al., 2018; Kochanska & Aksan, 1995). The concept of compliance can, briefly, be defined as the child's compliance with the parent's standards and rules (Feldman & Klein, 2003). Compliance develops over time and is influenced by the child's temperament, the characteristics of the environment and the parents' attempts to exert control over the child (Kochanska & Aksan, 1995). When it comes to temperament factors, two inherent inhibitory systems play a major role. The first of these is EC, which means the ability to focus and change attention, respond to stimuli, and inhibit

or initiate responses to a stimulus. The second system is connected to the amygdala and regulates the child's level of fear (Dong et al., 2018). The most important external factor is the degree of parental control.

Children's compliance has been repeatedly linked in research to a parenting style that is empathetic, and sensitive to the child's signals, and that sets boundaries in a warm but consistent way, minimizes the use of power, and promotes strategies such as suggestions and negotiation with the child. Of these factors, parental sensitivity and boundary setting are considered to be the most important components best associated with promoting compliance (Feldman & Klein, 2003). The first type of compliance that develops in the child is *situational compliance*, which means obedience in the moment ("come now and eat breakfast", "don't run away"). The second type being developed, *committed compliance*, involves an internalized sensitivity, where the child has begun to embrace the parents' rules as his or her own. Committed compliance is considered to come from within the child and therefore does not require parental control to the same extent as situational compliance (Kochanska & Aksan, 1995). Committed compliance is usually accompanied by a positive feeling of joy and pride, which facilitates the incorporation into the child's growing sense of self. Situational compliance, controlled by the parents, is not experienced the same way. The child is less involved in the compliant behavior and mostly shows a neutral feeling, rather than pride and enthusiasm (Kochanska, 2002). Most theories of compliance presuppose that the ability to comply begins at home, in interaction with parents, and then generalizes to other adults outside the family (Feldman & Klein, 2003). There are circumstances in the child's life that reduce the possibility of developing compliance. Parental use of methods that include harsh discipline, punishment, control, and power leads to the risk of getting aggressive children with defiant behavior (Feldman & Klein, 2003; Lincoln, Russell, Donohue, & Racine, 2017). Children who have experienced violence during the first years tend to show less committed compliance and more compulsive, rigid, and frightened compliance, which in the long run can lead to a negative development of self. When the child sees him or herself as "bad," this reduces the possibility of internalized compliance and "good" behavior, and increases the risk of defiance (Kochanska, 2002). Children whose temperament also exhibits fearlessness and low EC tend to be more insensitive to their parents' signals and attempts at demarcation. Children with this type of temperament are more irritable, they have more difficulty following the parents' urgings in situations that conflict with their own wishes and needs, and therefore show a higher degree of defiance (Dong et al., 2018). In summary, children who have not accepted and internalized their parents' standards and rules are at risk of developing defiant behaviors, which in the long run can hinder their social development, and also their ability to adapt to new situations (Harden, Duncan, Morrison, Panlilio, & Clyman, 2015). Non-compliance in children and

parents' difficulties to manage defiant behavior is an important part in most PT programs and is also in focus in the three studies in this thesis.

Moral self and callous unemotional traits

Moral self acts as a protective condition in a child. The development of moral self is part of the process but so is also the motivation to be compliant, while an undeveloped moral self is linked to the development of CU traits (Trentacosta et al., 2019). The child's experience of being compliant contributes to the representation of him or herself as a "good" moral person and the image of "good" is incorporated into the child's moral self (Kochanska, 2002). It seems that within the child, there is a biological predisposition to develop moral perceptions and behaviors (Zelazo et al., 2013). Already in early childhood, when the child actively begins to explore the social world, social interactions with other individuals lead to the development of moral perceptions of how the social world functions (Zelazo et al., 2013). The early sense of moral self is described as growing out of a secure and supportive relationship with the parent. In children who from the very beginning have internalized their parents' values and rules, moral self will function as a kind of regulator of future moral behaviors (Kochanska, 2002). Children's understanding of morality and of social rules develops initially mainly in the family context, and later in preschool and school together with other children and adults outside the family (Killen & Smetana, 2006). Children with severe and early impairments in their moral self have more difficulty developing adequate feelings of guilt and will therefore lack empathy, which can later develop into a lack of empathy and unemotional traits (Trentacosta et al., 2019).

Callous unemotional traits are most strongly associated with the vindictiveness category in ODD and the criterion of *spiteful or vindictive*, and describes personality traits in a group of children and young people who show a sparse emotional life and a lack of being able to feel empathy with others (P. Frick et al., 2014). What defines children (and adolescents) with CU traits are several things: weakly developed empathy and conscience, lack of adequate feelings of guilt and remorse, a sparse emotional life, and less sensitivity to punishments and threatening situations. They also seem to exhibit weaker reactions to emotional stimuli and show more tension-seeking behaviors (P. Frick & Ellis, 1999). Some researches use the term "CU behaviors" instead of "CU traits" when describing the occurrence in smaller children, as it is believed that there is very little evidence that CU behaviors are developed into personality traits at such a young age (Hyde et al., 2013). When measuring CU behaviors in a younger child, the child is assessed in three different domains: empathy (the child does not seem to be touched when others are angry or sad, does not make efforts to make others happy, and/or likes to frighten or provoke other children), lack of adequate guilt (the child does not show guilt or shame

after behaving badly), and reduced emotional responsiveness to others (the child is not particularly strongly affected by tenderness and comfort from a parent when hurting him or herself and/or is not affected by punishment) (P. Frick et al., 2014; Wakschlag et al., 2014; Willoughby, Waschbusch, Moore, & Propper, 2011). These early CU behaviors appear to be associated with CU traits at later ages (Willoughby et al., 2011). The transition from being a toddler to becoming a preschooler at the age of 2 to 3 seems to be a key period as parents' strict and harsh discipline undermines the child's development of adequate guilt and empathy. Excessively strict and harsh parenting when children are at this age seems to prevent internalizing the conscience and rules and thereby contributes to the development of CU behaviors and severe CD (Trentacosta et al., 2019). However, for children who exhibit CU behaviors such as low care and fearlessness early, positive, intoning and warm parenting seems to reduce the risk of developing CU traits later in life (Waller et al., 2016).

Family context

An important task for parents during early childhood and the child's preschool years is to maneuver between the child's need to grow independent and the parents' need for the child to obey and develop compliance. It is a challenge to balance the need for boundaries and control towards the child and at the same time be a warm and emotionally responsive (Henderson, 2007). The family context plays a crucial role in the child's development, which places great demands on parents, especially if the child is challenged and has an irritated and difficult temperament (Henderson, 2007). As mentioned above, according to the transactional model, problems and mental illness in children are seen as reciprocal processes between the child and the parents (Sameroff, 2009). It is not only the parents who influence the child; the child and its characteristics also influence the parents and their actions towards the child (Davies & Sturge-Apple, 2014). In this section, the focus will shift from the child to the parents, parenting, and parental support.

Parenting style

Parenting style can be defined as the attitudes that are communicated to the child, which create the emotional climate in a family in which parenting behaviors are expressed. Parents use direct goal-related behaviors aimed at the child, but also spontaneous, non-verbal behaviors such as gestures, eye contact, and tone of voice that create the emotional climate in the family (Darling & Steinberg, 1993). For several decades, Diana Baumrind has been describing different parenting styles (Baumrind, 1971). According to her and those who followed in her footsteps, there are two independent aspects that most often appear in factor analyses of parenting behaviors, namely,

responsiveness and demandingness. “Responsiveness” refers to the extent to which the parent fosters the child to become autonomous and independent by being loving, supportive, and responsive and using reasoned communication. “Demandingness” refers to the degree to which parents are willing to take on the role of “educator,” by behavior regulation, monitoring, and controlling, and to expect and insist on a mature and responsible behavior from the child (Baumrind, 2005). Depending on how much or little of responsiveness and demandingness the parent shows, the parenting style can be classified in at least four different ways (Baumrind, 2005), as outlined below.

The authoritarian parent. Parents who place high demands on their children but show a low degree of responsiveness are described as “authoritarian.” These parents try to shape, control, and evaluate the child’s behavior and attitudes in accordance with a fixed standard. They place great value on the child obeying and adapting to the parents’ wishes without questioning. They do not encourage discussions between children and parents. They use upbringing methods that are powerful, punitive, or coercive when the child’s actions and beliefs are in conflict with the parents’ (Baumrind, 1966).

The authoritative parent. Parents who show a high degree of both responsiveness and demandingness have an authoritative parenting style. These parents show interest in listening to and negotiating with the child, but also present their perspective as an adult. They explain the thoughts behind their rules and communicate the expectations they have of their child. They encourage the child to be independent, but they are the ones who ultimately decide when the child and parents do not agree. Authoritative parents confirm their child’s characteristics and desires, but also set standards for the child’s future behavior (Baumrind, 1966).

The permissive parent. These parents show a high degree of responsiveness but have low demands on the child. Permissive parents are accepting of the child’s impulses and desires. They discuss with, and explain to, the child what rules should apply in the family, but make very few or no demands on the child to help in the household and have few demands of how the child should behave. These parents see themselves as a resource for the child, not as an active agent who is responsible for shaping or changing the child’s behavior now or in the future. The child must regulate his/her own activities as much as possible on his/her own. The parents avoid exercising control over the child and do not urge the child to obey (Baumrind, 1966).

The disengaged parent. These parents are neither demanding nor responsive. The neglectful approach is characterized by a parenting style where neither support nor boundaries are available. The child experiences the parents as rejecting (Baumrind, 1971).

It seems to be the degree of parental control that affects the child’s confidence in him/herself and his/her own abilities. Too much control inhibits

the child's confidence and contributes to the child's anxiety, while a lack of parental control and involvement makes it more difficult for the child to dare to try things and grow in autonomy and independence. There is a difference between behavior control and psychological control. Behavior control is associated with greater competence in the child, whereas psychological control (intrusiveness and manipulation) is generally associated with maladjustment (Baumrind, 2005). The authoritarian parenting style has in several studies been shown to be most clearly associated with positive development in the child, while the authoritative and disengaged/neglecting parenting styles more often lead to the child showing less self-confidence and independence and increase the risk of DBPs in adolescence (Baumrind, Larzelere, & Cowan, 2002; Henderson, 2007). According to Baumrind's model, the emotional climate in the family is also a crucial factor.

Emotional climate

The emotional climate, to which the child is exposed daily, is of great importance for the child's development. Emotions tend to be transferred in a complex, but very subtle, way from one person to another. The term "emotional contagion" implies "capturing the emotional state" of someone else and this process is usually so subtle and fast that the individual is not aware of what has happened (Hatfield, Carpenter, & Rapson, 2014). The emotional climate in the family is primarily reflected in the quality of (a) the relationships between the parents; (b) the parent-child relation; and (c) the parents' treatment (warm and emotional responsive or critical and hostile) towards the other family members (Morris et al., 2007). Negative emotionality is particularly contagious and can provoke negative emotions in the child (Morris et al., 2007). Children living in families with a lot of aggression between the parents are especially vulnerable to emotional contagion. When children are exposed to constant background anger in their parents' mutual relationship, there is a risk for them to develop social, internalizing (anxiety and depression), and externalizing problems (Davies & Cummings, 1998). If the parents are aware of the child's emotions and try to inhibit their own negative emotions to each other, this reduces the negative effect of their mutual conflict and increases the child's emotional security, if the parents can simultaneously also show commitment to the child. However, this requires emotional awareness about the child's emotions and need for safety. In these situations, parents may require support to pay attention to the child's needs beyond their own mutual conflicts (Gottman, Katz, & Hooven, 1996). The parents' ability to control their emotions affect the child's ability to emotionally regulate. When the family climate is negative, coercive, and/or unpredictable, there is a risk that the child will develop increased emotional reactivity (Cummings & Davies, 1996). This occurs when parents often show anger and aggression in challenging situations (Morris et al., 2007). Parents'

negative or dismissive response to the child's emotions increases the child's excitement and thus reduces the ability of the child to understand his or her emotions and express them in an appropriate way. This can lead to increased anger and aggression in the parent-child interaction and the child may find it difficult to develop his or her own strategies for managing anger (Morris et al., 2007).

Parental depression

Depression in parents contributes to the fact that parenting, which is already a difficult task, can become even more complex and difficult to manage (Lovejoy, Graczyk, O'Hare, & Neuman, 2000). The postpartum period is known as a particularly vulnerable time for women to develop affective symptoms. Postpartum depression is a common complication after pregnancy and occurs in about 13–15% of mothers (Gavin et al., 2005). The depressive symptoms may contribute to reduce the mother's ability to get involved in her child and meet the child's basic need for attention (McLearn, Minkovitz, Strobino, Marks, & Hou, 2006). Children of depressed parents have significantly higher risk of developing both internalizing and externalizing problems, than children of parents without depression (Cummings, Schermerhorn, Keller, & Davies, 2008; Dette-Hagenmeyer & Reichle, 2014; Goodman et al., 2011) and younger children are at greatest risk of being affected (S. H. Goodman et al., 2011). Possible causal links between parental depression and children's adjustment problems include different factors, such as: genetic transmission (children of depressed parents have an increased vulnerability to develop mental illness), model learning (the child observes and imitates the parent), and an impaired parenting ability due to depression (Downey & Coyne, 1990). It is important to understand that parents' mental illness does not necessarily mean that their parenting ability decreases; however, it does increase the risk of this happening (Dette-Hagenmeyer & Reichle, 2014).

Impaired parenting can be expressed in many ways and the research on this topic is extensive. For example, it has been found that depressed parents use coercive parenting (see below) to a greater extent to deal with the child's negative behavior (Downey & Coyne, 1990; Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007). In one study, a higher risk of mothers being more invasive, hostile, critical, and neglectful in their parenting style and less involved, warm, and loving towards their children was seen over time in mothers with depression than in mothers without depressive symptoms (Cummings, Keller, & Davies, 2005; Lovejoy et al., 2000; Rogosch, Cicchetti, & Toth, 2004).

Fathers' depression also seems to have a significant effect on parenting ability. In a meta-analysis of 28 studies, Wilson and Durbin (2010) found that depressed fathers showed a decreased level of positive parenting and an

increase in negative parenting behaviors. Another study found that depressed fathers had difficulty being consistent in their parenting, which increased the risk of defiant behavior in their children (Dette-Hagenmeyer & Reichle, 2014). In a recent study, Sifaki, Midouhas, Papachristou, and Flouri (2020) found that fathers' psychological distress (depressive and anxiety symptoms) when their child was 3 was related to more hyperactivity in the child at age 5; and when the child was 5, the father's psychological distress was associated with more conduct problems for the child at age 7. Elgar et al. found that important links between parental depression and the child's behavior problems were the parents' emotional rejection of the child and lack of parental care (Elgar et al., 2007).

It is important to make parents aware that parenting skills can be affected in connection with mental illness. Efforts to help parents in such situations are to support the family system to become a more caring system for the child. Parents can be encouraged to become more involved in their children's activities, and can be supported to not emotionally distance themselves from the child and to reduce any hostile and critical attitudes towards the child (Elgar et al., 2007). If the absence of positive parental behavior persists after the parent's depression has subsided, the parent should receive continued support in improving his or her parenting ability, in order to reduce the risk of developing internalized and externalized problems in the child (Elgar et al., 2007).

Coercive parenting

The traditional view of the association between DBPs and the parent-child relationship was that it was exclusively the parent's behavior directed toward the child that affected how the child developed. Today, we know that the direction is also opposite: The child's behavior also affects how the parent behaves. According to Patterson, children's defiant behavior is the result of a mutually coercive interaction between the child and the parents (Patterson, 1982). Coercive interaction can be characterized by three different factors: The first is the lack of positive interactions between children and parents. The second is that parents have ineffective and inconsistent methods of setting boundaries and often punish the child. The third involves an interaction where the child's defiant and aggressive behavior is reinforced when parents initially confront, scold, or punish the child. Attention, even if it is negative, acts as a positive reinforcement, which means that the child's negative behavior is likely to increase. When the child's behavior then escalates, the parent responds by withdrawing. This contributes to the child learning that escalating behaviors, such as outburst of anger, lead to parental withdrawal and that the child can get his or her will, and the parent's non-constructive upbringing behavior is also strengthened. In this way, children and their parents risk getting caught up in an interaction, which becomes a "reinforcement trap," and

increases the risk that the mutually coercive interaction is repeated and becomes a pattern (Patterson, 1982; Smith et al., 2014). The child, in turn, often uses “coercive confrontation” to capture the parents’ attention. These behaviors are manipulative, and the child has outbursts, and cries, whines, or nags the parents until he or she gets what he/she wants. Children who learn this way of interacting with others develop an aggressive style of relating, which eventually becomes problematic in later relationships with peers and with authority figures other than parents in the future (Smith et al., 2014).

Harsh parenting

When the child’s need for independence grows at the age of 2 to 3, there is an increased risk for parents to resort to harsh and punitive tactics to deal with the child’s growing resistance and need for autonomy (Kim, Pears, Fisher, Connelly, & Landsverk, 2010). Hard and conflict-filled interactions between a parent and their child during childhood can imply major consequences for the child’s adaption and can drive the child along a developmental path towards mental illness during later childhood and adolescence (Henderson, 2007). Potential risk factors, according to Kim et al. (2010), for developing harsh parenting are parents’ mental illness, abuse, low level of education, own experience of strict parenting, and aggression from partners, as well as mothers’ young age. In addition, Milner (1993) has described four cognitive characteristics of parents at risk of ending up in harsh parenting styles and those are when parents: (a) are less aware of and more biased in their perceptions of the child’s behavior; (b) have negative interpretations of the child’s behavior and negative expectations of the child; (c) do not take situational cues into account when evaluating the child’s behavior; and (d) have difficulty implementing new parenting skills and inflexibility in changing their strategies in different situations. It is impossible to change a parent’s own experiences of growing up as described above, but a first step towards avoiding harsh parenting is to help parents change the perceptions of the child. A next step is to support the parents to improve their ability to take care of the child (Sameroff, 2020), even when the parents have a low level of education, mental illness or severe experiences from their own childhood.

There seems to be a common consensus among researchers that harsh parenting has a greater negative effect on children’s development when it occurs during the first years of the child’s life than when it takes place in the later stages of development (Manly, Kim, Rogosch, & Cicchetti, 2001). Trentacosta et al. (2019) have found that harsh parenting towards children at the age of 2 predicted CU behaviors when the children were 4. A particularly vulnerable period for development of CU behaviors seems to be the transition from being toddlers to becoming preschool children (Trentacosta et al., 2019). To counteract the development of CU behaviors in children with externalizing

problems, parents need help to meet their children with greater warmth and empathy, i.e., with positive parenting (Waller et al., 2015).

Positive parenting

Harsh parenting with physical punishment and discipline is contrasted in the literature with positive parenting. Positive parenting means to create a safe and loving environment for the child to grow up in (Hornor et al., 2020). Previously, it was believed that children with DBPs should be treated with individual therapy, while current research shows that it is more effective to offer the parents structured PT (Stattin, Enebrink, Özdemir, & Giannotta, 2015). Positive parenting is one of the main concepts in the PT program. Seay et al. conducted a literature review to find a definition of positive parenting. They concluded that positive parenting was primarily based on five different dimensions (Seay, Freysteinson, & McFarlane, 2014): (a) caring, which included love, compassion, warmth, and affection for the child; (b) leading, which described parents' demarcation based on developmentally reasonable, adapted requirements, but also parents' model learning, shaping, and emotional regulation; (c) providing, which involved parents' physical care, such as giving the child healthy food, supporting the child's hygiene and need for medical and dental care, and meeting the child's need for a safe environment; (d) teaching, which meant that the parents initiated developmentally adapted activities to stimulate the child's cognitive development, practical learning in daily activities, and social development with peers; (e) communication, which described parental communication verbally and non-verbally, as well as active listening and respect (Seay et al., 2014).

Studies show that positive parenting is associated with better mental health and better self-confidence in children, it reduces behavior problems and stimulates the cognitive development in children and adolescents when they grow up (Tabak & Zawadzka, 2017; Thomas, Abell, Webb, Avdagic, & Zimmer-Gembeck, 2017).

Parent training programs

Whether it is the child's behavior that constitutes a greater influence on the parents' parenting style, or vice versa, most researchers today agree that in the interaction with the child, intervention should primarily involve the parent as the one to be changed (J. Burke, Pardini, & Loeber, 2008). As a consequence, interventions for children with DBPs have shifted from individual child therapy to structured outpatient group PT programs (Stattin et al., 2015). The parents in studies I, II, and III all participated in a PT program provided by the Child and Adolescent Mental Health Services in Sweden. They were also a part of an randomized controlled trial (RCT) study evaluating the Incredible

Years (IY) BASIC Parent Training Program) for children aged 3–8 years in Sweden (Axberg & Broberg, 2012). The IY is especially aimed at parents who have children with aggressive behavior, disruptive behavior, and ADHD. The IY program involves a collaborative learning format guided by behavioral and social learning theory. The overarching aim of the program is to reduce DBPs in children by promoting a positive interplay between the parents and their children. The program strives to achieve this through interventions that improve parental function, increase parental social support, and reduce inconsistent and harsh parenting. Trained facilitators use aids such as video clips to encourage group discussion, problem solving, and sharing of ideas. The program includes: parental skills for coaching the child emotionally, socially, and academically; ideas for how to play with the child, and how to establish predictable routines and rules; effective praise and use of incentives; effective limit setting and strategies for how to manage misbehavior (Webster-Stratton, 2005). The parents of six to eight children met weekly for 12-14 weeks. During the 2-hour sessions several video vignettes on specific themes were shown and discussed (Axberg & Broberg, 2012).

Most structured PT programs have been developed in the USA, Canada, or Australia. The programs are usually based on social learning and/or on relational perspective (Leijten et al., 2019). Social learning programs originate in the Parent Management Training–Oregon Model (PMTO) developed by Patterson and colleagues at the Oregon Social Learning Center in Eugene, OR, USA (Forgatch & Degarmo, 1999). These programs aim to increase the amount of positive parenting and reduce the number of harsh and inconsistent parenting methods, in order to reinforce the child’s desirable behaviors and reduce unwanted behaviors (Webster-Stratton, 2005). Parent training programs with a relational focus emphasize parental awareness, understanding, and acceptance of the child’s feeling (Alfredsson, 2018). According to these programs, dysfunctional communication patterns between parent and child are considered one of the reasons for a child’s DBPs (Pinsker & Geoffroy, 1981). The theoretical base for these programs is attachment theory and systemic family therapy. During the last decades several different PT programs have been introduced in Sweden. For example, in a 2-year follow-up efficacy study of four different PT programs in Sweden, it was found that all programs at group level reduced externalizing behavior in children aged 3–12, with large effect sizes. In addition, they reduced negative parenting practices, with moderate to large effect sizes (Högström, Olofsson, Özdemir, Enebrink, & Stattin, 2016). The programs examined were Comet (Kling, Forster, Sundell, & Melin, 2010), the IY program (Webster-Stratton, 2005), Cope (Cunningham, Bremner, & Boyle, 1995) and Connect (Moretti & Obsuth, 2009). Comet and the IY program are behavioral programs with positive reinforcement techniques, while Connect is based on attachment theory and Cope has a broader theoretical base in behavioral, family system

and group theory. Despite the differences in the programs' theoretical origin, the overall results indicated that the four programs were equally effective in clinical settings (Högström et al., 2016).

Some of the most effective components of PT programs appear to be: active involvement of parents, i.e., through practice of what has been learned for homework (Giannotta, Özdemir, & Stattin, 2019; Kaminski, Valle, Filene, & Boyle, 2008); the theory-driven PT program with increasing intensity over time; that the program should be developmentally and sociocultural relevant, and given by trained leaders; consideration of multiple factors in the family; and allowing participants to build relationships with each other (Small, Cooney, & O'connor, 2009). Although structured PT programs have shown to be effective in reducing the DBPs in children, 25–30% of families still do not show any improvement, despite extensive parental interventions (Leijten et al., 2018; S. Scott et al., 2001; Shelleby & Shaw, 2014). It seems important, in addition to studying the effects of PT programs, to also explore parents' experiences of being parents of children with DBPs, in order to better understand what can both stimulate and hinder positive development in families participating in PT programs.

Research on parents' experience of having a child with oppositional defiant disorder

Developing and designing a parenting program for children with DBPs without considering the familial context may significantly reduce the chances of successful intervention programs (Firmin & Phillips, 2009; Kane, Wood, & Barlow, 2007). Yet there are few studies describing the family situation of having a child with ODD, while there are a larger number of studies illuminating parents' experience of having children with ADHD. See, for example, (Firmin & Phillips, 2009; Leitch et al., 2019; Ringer, Wilder, Scheja, & Gustavsson, 2020; Theule, Wiener, Tannock, & Jenkins, 2013). Corcoran, Schildt, Hochbruecker and Abell (2016) analyzed the results of 73 qualitative studies on the subject and found that parents of children with ADHD experience emotional burden in the form of feelings of exhaustion, anxiety, irritation, frustration, anger, guilt, isolation, powerlessness, and helplessness. Thus, studies regarding parental stress in families with ADHD also contain descriptions of child disruptive behavior, which indicates that it is difficult to separate the two conditions (Leitch et al., 2019; Theule et al., 2013), showing the high level of comorbidity between ADHD and ODD/CD (Connor et al., 2010; Nock et al., 2007).

According to Deater-Deckard (1998), parental stress is a distinctive type of psychological stress which arises when parents' perception of parenting demands is much higher than their perceived resources for dealing with these demands. Parents of children with ADHD and co-occurring ODD have been

reported to experience significantly more parenting stress than parents of children with only ADHD (Theule et al., 2013). There are few studies describing parental stress in families with children displaying ODD as the main symptom. Most descriptions of the subject may be found in qualitative evaluations of PT programs (Butler, Gregg, Calam, & Wittkowski, 2020; Furlong & McGilloway, 2012; Kane et al., 2007). In a systematic review based on four qualitative studies, Kane and colleagues (2007) found that parents' lack of ability to discipline their children led to anger and frustration, and to feelings of being out of control. They concluded, furthermore, that parents' anger and loss of control in dealing with their children caused them to feel guilt and blame themselves (Kane et al., 2007). Parents' feelings of guilt was a recurring theme in several studies. The parents often evaluated their parenting skills as poor and saw them as a causal factor in their children's problems. Many wanted to attend a parenting program to "be a better parent" (Butler et al., 2020; Furlong & McGilloway, 2012; Hartwig, Robinson, Comeau, Claussen, & Perou, 2017). Unlike parents of children with ODD, parents with children displaying ADHD behaviors had a greater possibility to refer their children's problem to a "chemical imbalance in the brain" or to a "neurological condition" instead of blaming themselves (Firmin & Phillips, 2009). There are fewer studies dealing with how parents with ODD have strategies to manage their parenting emotionally and how they process their feelings of guilt. We need to know much more about this, because children with DBPs are also vulnerable children with difficulties in various ways, and parents are key to supporting their child's development.

Another common theme in the qualitative studies was the reported feelings of social isolation and stigma (Kane et al., 2007). Mothers in the studies raised the problem of lack of support received from spouses and partners. Often, this led to marital conflict and disagreement due to the couple's differences of opinion about their child's problem behavior (Leitch et al., 2019; Mofokeng & van der Wath, 2017). Participating in a group with other parents provided a sense of belonging and knowledge, often for the first time, that there were other families in the same situation (Butler et al., 2020).

There are also quantitative studies that have assessed parental stress. Booker, Capriola-Hall, Dunsmore, Greene, and Ollendick (2018) found that children who, after interventions with PT, viewed relationships with their parents as being higher in quality were more responsive to ODD interventions and had mothers who experienced less parental stress over time. They also found that maternal stress was higher in families with girls displaying ODD than boys. In a study by Bornheimer, Acri, Li Verdugo, and McKay (2021), there were associations between parenting stress and ODD, child inattention and caregiver depression, but, in contrast to Booker et al. (2018), no association with relationships and family communication. Most of the studies

based on ODD symptoms have measured the family situation during and after the PT program, influenced by new insight through the interventions, but few or no studies describe how parents experience the difficulties of parenting children who fulfill the criteria for ODD, before entering a PT.

Methods used

All three studies in this thesis are based on parents to 62 children, who participated in the IY PT program, as reported in a study conducted by Axberg & Broberg (2012). In their RCT study, they evaluated the transferability of an American PT program to a Swedish context. The participants mainly came from Skaraborg in Sweden, an area with smaller cities and countryside, but some of the families participated in a PT program in a city in another part of Sweden.

In Study I, 62 parents signed up for the PT program. Families were included in the study if their children were between 3 and 8 years old and met the DSM-criteria for ODD, if the parents had sufficient understanding of the Swedish language to complete the different forms, and if both parents gave their consent to participate in the study. Since five of the initial K-SADS interviews were not completed, only 57 were included in study I. The interviews before starting the PT program (time 1 (T1)) were either videotaped or audio recorded. They were also written down and coded using a special coding scheme. The interviews in the follow-up, 1 year after PT (T3), were all audio recorded and coded. In Study II, 19 of the 57 families were included in the study. These families were chosen based on the fact that we had 19 audio recordings from the interviews with the parents. In Study III, 30 of the 57 families were included. These families were chosen based on complete follow-up ratings from both parents 1 year after completion of the PT and also based on the fact that they had participated in Skaraborg and therefore had had the same group leaders and similar conditions, see Table 3. The parents of 39% of the 57 children were separated, so in some families only the mother participated in the PT program and data collection. (However, in the IY programs, extra effort is made to include both parents.) The participants were recruited through the group leaders' regular child and adolescent mental health services (CAMPS) or through the social services. Others applied for the program after seeing notices in the newspaper or at preschool. The parents received financial compensation for the initial dialogue in the study.

Table 3 Participants in the three studies.

Studies	Partici-pants (children)	Study group (children)	Implementation area		Sex	
			Skaraborg	Halland	Girls	Boys
Study I	62	57	45	12	11	46
Study II	19	19	17	2	3	16
Study III	32	30	30	0	6	24

Study I: Parents to sixty-two children signed up for PT-program. Parents to five children did not complete the K-SADS interviews. *Study II:* Nineteen audio recordings of 57 interviews were used. *Study III:* There were data from both parents of 30 children in T1, T2, and T3 in Skaraborg. For two children there were missing data. Twelve families from Halland were excluded because they participated in another context.

In the Introduction section I have discussed some of the complex processes involved in the development and persistence of DBPs in children and demonstrated that there are many different pathways to DBP (equifinality). Because of the different levels of difficulties in the families, there is a need for methods that can handle complexity and that can supplement the large number of variable-oriented analyses in studies of DBPs. Two of the studies in this thesis used a mixed methods approach. Combining quantitative and qualitative data can be useful in gaining a deeper understanding of DBPs and how combinations of risk and protective factors can contribute to persistence of, or recovery from DBPs, after a comprehensive intervention in the form of a PT program. In addition, one of the methods used in Study III is a very rare method in psychological research called “qualitative comparative analysis (QCA).” It is a “hybrid” method and was used as a bridge between qualitative and quantitative methods. The QCA approach will be presented below, together with an overview of mixed methods research.

Mixed methods research

In the studies in this thesis, two different mixed methods approaches were used, *convergent parallel design* in Study I and an *explanatory sequential design* in Study III. Below is a presentation of MMR and the three most common research designs in mixed methods.

Mixed methods research became known in the late 1980s when several publications in different journals described and defined mixed methods. Researchers from different disciplines had come to the conclusion that, with the complexity of many research problems, combinations of different methods were needed to reach a fuller understanding of the questions investigated (Creswell, 2017). Researchers when using a quantitative approach realized that qualitative data could play an important role in their research, while researchers employing a qualitative approach realized that including small

numbers of participants in their studies did not allow them to generalize the findings to many (Creswell, 2017).

All research has a philosophical foundation. Knowledge about the assumptions behind the research questions is important, because they shape the process of research and the conduct of inquiry (Creswell, 2017). Pragmatism is considered an overarching philosophy by a large number of mixed methods scholars and MMR implies a creative way to do research (Gorard, 2010). For example, a project can start with a qualitative orientation and can be used to inductively develop grounded theoretical concepts and hypotheses, which then is followed by a quantitative examination of the applicability of the concept. Mixed method research is considered intuitive for many researchers, because the evidence they collect makes sense of the world from different perspectives (Creswell & Plano Clark, 2011). According to Creswell (2017), there are essentially three major MMR designs: convergent, explanatory sequential, and exploratory sequential design.

Convergent design. The researcher collects the quantitative and qualitative data at the same time. The datasets are then analyzed separately and independently. After the analyses, the challenge is to merge the two datasets and interpret in what ways the two sets of results converge, diverge, contradict, or associate with, each other. The intent of convergent design is to obtain different but complementary data on the same topic in order to better understand the research problem (Creswell, 2017; Fetters, Curry, & Creswell, 2013). The convergent method is time-saving. Both types of data are collected in parallel, which can for example be accomplished using a semi-structured interview with both open-ended and close-ended questions. It may, however, be a challenge to merge sets of very different data, for example, text and a numeric database, often with different sample sizes (Creswell, 2017).

Explanatory sequential design. In this design, the qualitative strand is used to explain the quantitative results. The process starts with collection and analysis of quantitative data, which has the priority as it addresses the aim and the questions of the study. During the second step, the researcher identifies aspects that call for additional explanation and uses the quantitative results to guide the development of the qualitative strand to refine the research question. The intention is to explain specific results from the first phase, by exploring participants' views in more depth. It is quite common to follow up the quantitative results with focus groups to deepen some of the questions from the first phase (Creswell, 2017; Ivankova, Creswell, & Stick, 2006). The last step is the interpretation of the findings and the connection of results. In this phase, the researcher summarizes and interprets the quantitative and qualitative results and discusses to what extent, and how, the qualitative results explain the quantitative results. Explanatory sequential design is useful when the research problem is more quantitatively oriented and when the researcher has the time and ability to conduct research in several stages. The initial phase

starts with the perspective of post positivism, to select measurement variables and samples, and assess statistical results. In the second phase, the perspective becomes constructivist, which requires being open to even broader perspectives. The structure is easy and clear, and there is no need to merge the results as in convergent design. The researcher can report the quantitative section followed by the qualitative results and it is easy for the reader to understand (Creswell, 2017; Gesser-Edelsburg, Cohen, Shahbari, & Hijazi, 2020). A challenge with this design is that it often requires a longer period for implementing the two phases, and the participants must be available for an extended period.

Exploratory sequential design. In contrast to explanatory design, this approach starts with and prioritizes the collection and analysis of qualitative data. Based on the information from the initial qualitative phase, the researcher can create new measures and instruments (Creswell & Plano Clark, 2011; Fetters et al., 2013). The first step is to collect and analyze qualitative data to explore a phenomenon. The second step entails integration, during which phase, the researcher develops a quantitative measure, or a new instrument grounded in the qualitative results. The third phase involves planning and accomplishing the quantitative data collection. Finally, the quantitative results are interpreted, including a discussion of the extent to which the qualitative phase has enhanced the validity of the instrument and to which the qualitatively informed instrument is an effective measure. In this process, the researcher moves from a constructivist approach to a post positivistic philosophical stance (Creswell, 2017). Exploratory sequential design contains separate phases, which make it easy to describe, implement, and report the research results. One difficulty may be that different samples are required for the two different phases in the project (Creswell, 2017).

Qualitative comparative analysis

Qualitative comparative analysis is one of the analysis methods used in the MMR in Study III. Qualitative comparative analysis is an analytical approach which combines quantitative and qualitative methodologies (Ragin, 1987). It is considered a method that bridges the qualitative (case-oriented) and quantitative (variable-oriented) research gap. Qualitative comparative analysis is a comparative case-oriented research approach and consists of a collection of techniques based on Boolean algebra and minimization algorithms to systematically compare cases. The QCA approach is inherently multimethod (Rihoux & Ragin, 2009), since it entails a back and forth movement between ideas, theory, and evidence, and therefore integrates qualitative and quantitative components in different ways (Thomann & Maggetti, 2020). Qualitative comparative analysis can, for example, be complemented through its combination of with-in case studies as well as with statistical methods

(Thomann & Maggetti, 2020). It serves as a practical approach for understanding complex real-world situations (Ragin, 1987). The technique of QCA allows comparison between cases, and at the same time, offers a detailed understanding of the complexity, particularly in small or medium sample sizes (Rihoux & Ragin, 2009), while structural equation modeling (SEM) and logistic regression require a larger sample (Cragun et al., 2016).

The method of QCA analytically relies on two core ideas: (a) causal combination, in the sense that the effect of individual conditions may depend on the presence or absence of other conditions; and (b) equifinality, or the notion that there may be multiple causal paths to the same outcome (Ragin, 1987). These ideas are also highly applicable in psychological research, especially in the field of developmental psychopathology.

Qualitative comparative analysis was initially developed by Charles Ragin for use in small- or medium-N case study research (Ragin, 1987), which made it easier to formalize comparisons as a means to incorporate information from a larger sample while retaining the integrity of individual cases (Krook, 2010; Rihoux & Ragin, 2009). In the late 1980s and early 1990s, QCA was mostly developed for applications in political science (comparative politics) and historical sociology (welfare state studies). After the 2000s, an increasing number of scholars discovered the utility of QCA and the method is now increasingly used in other fields, such as organization sociology, business and economy, management studies, and education studies (Roig-Tierno, Gonzalez-Cruz, & Llopis-Martinez, 2017) using the method at a meso level (the level of organizations and social networks) and even, more recently, using the method at the micro level (small groups or individuals) (Rihoux & Ragin, 2009). The number of articles published in indexed journals and high impact journals using QCA have increased substantially since 2010, showing that the method has now been accepted across many research fields (Roig-Tierno et al., 2017). However, the QCA method has not spread as quickly to health research, although PubMed has had an increased number of medical articles published after 2011 (Cragun et al., 2016), but only single articles in the field of psychology.

There are essentially three different approaches in QCA. The original QCA approach is referred to as “crisp-set QCA (csQCA)” and was designed by Ragin and Drass (Ragin, 1987), and this is the approach used in Study III. Crisp-set QCA uses categorical conditions based on dichotomy, assigning the values 1 for full membership, or 0 for full non-membership for each condition. Multivalued QCA (mvQCA), another approach, is very similar to csQCA. It was designed to address the problem of dichotomization and allows conditions to have more than two values (Herrmann & Cronqvist, 2009). This is helpful where conditions cannot easily be dichotomized without losing important information (Herrmann & Cronqvist, 2009). Among the variants of QCA, the third, fuzzy-set QCA (fsQCA), has attracted the most attention during recent

years in terms of amount of research (Roig-Tierno et al., 2017). Fuzzy sets extend crisp sets by permitting membership scores in the interval between 0 and 1. The basic idea behind fuzzy sets is to permit the scaling of membership scores and thus allow partial membership, instead of categorial membership as in CsQCA and mvQCA (Roig-Tierno et al., 2017). The reason for choosing csQCA in Study III was that the independent variables were easy to dichotomize and that we already had two different outcomes in the analysis.

General aim

The general aim of the three studies presented in this thesis was to gain a deeper insight into the complexity in families with children who exhibit ODD, as well as to get a deeper understanding of the risk factors and conditions that may complicate the impact of a comprehensive PT program for parents with children displaying ODD behaviors.

More specifically, Study I focused on the diagnosis of ODD and investigated whether there were problematic behaviors in children that were not captured by the diagnostic criteria. Two methods were used for gathering information: the diagnostic code for ODD in the DSM-5, and the mothers' own descriptions of their child. Study II focused on 19 families with children displaying ODD behaviors and the parents' descriptions of the difficulties they faced in their family and parenting situation. Study III added a developmental psychopathology perspective to the study of DBPs, by investigating patterns and combinations of risk and protective factors that may have an impact on the outcome of a PT program.

Summary of the studies

Study I

Bottom-up and top-down approaches to understanding oppositional defiant disorder symptoms during early childhood: a mixed method study

Aim

The aim of Study I was to explore mothers' descriptions of their children (bottom-up) and compare them with descriptions that emerged through a standardized, semi-structured diagnostic interview (top-down). Specifically, we aimed to answer the following questions:

- (a) How do mothers describe their children when they are asked to identify the major problems they are experiencing with their children (bottom-up)? How do mothers describe their children when they answer questions in a standardized semi-structured diagnostic interview (top-down)?
- (b) Are there any differences between genders and ages (3–5 and 6–8 years) in the mothers' descriptions in the bottom-up and the top-down approach?
- (c) What kinds of convergences, divergences, contradictions, and associations in results are found between the bottom-up and top-down approaches based on the mixed method in this study? Is any extra dimension added by using mixed methods in research on ODD?

Methods

Participants. Parents of 62 children who participated in the IY PT program were interviewed using the K-SADS diagnostic interview (Kaufman et al., 1997b). The purpose of the interview was to determine whether the children met the criteria for ODD, but also to get an overview of the children's mental health. If the child was between 3 and 8 years old and met the criteria for ODD, and if both parents consented gave their permission for the child to participate, they were included in the study. Parents of five children withdrew from the study while parents of 57 children – eleven girls and 46 boys (a 1:4 ratio) – completed the PT program and participated in all three measurement occasions. The K-SADS interviews were conducted primarily with the mothers.

Measures. The K-SADS interview consisted of three different parts: a background interview with open-ended questions, a diagnostic screening interview with questions based on the various DSM criteria, and a

supplementary section with in-depth questions about the different diagnosis. Open-ended questions were also asked, where the mothers were invited to describe the major problems they experienced with their child, when these problems had emerged, and in what environments the problems occurred.

Data analysis. The study was a mixed methods study with a convergent parallel design (Creswell & Plano Clark, 2011), where both qualitative and quantitative data were collected during one (K-SADS) interview. The qualitative analysis was carried out with qualitative content analysis, according to Graneheim and Lundman (2004) and Elo and Kyngäs (2008). Chi-squared tests were used to compare any differences between gender and age groups. In the last step, results from the quantitative and qualitative parts of the study were combined. This was done in two ways: by looking at associations between the two datasets using Chi-squared tests and by comparing the results from the two methods (triangulation) to examine whether there were convergences, divergences, or contradictions between the results.

Main findings

Twenty-five percent of the 3–8-year-old children were reported by their mothers to have early “antisocial behavior.” These behaviors were not captured by the diagnostic criteria for ODD. The problems described were physically aggressive behavior directed at parents, siblings, and peers, provocative behavior, as well as non-aggressive behaviors such as lying, being dishonest, and breaking and destroying things.

Nearly a third of the major problems mothers described were *difficulties* within the children (bottom-up). The children had difficulties with behavior, emotional, and cognitive regulation as well as with flexibility and social interactions, with a good agreement with the mothers’ answers in the diagnostic questions in the K-SADS interview (top-down). There was considerable comorbidity with ADHD and anxiety and other conditions, showing that children with ODD are vulnerable children, who are immature in their cognitive and emotional development.

The qualitative content analysis revealed three different dimensions of defiant behavior. The most common was *disobedience*, where the child did not listen but ignored the parent’s instructions in various everyday situations. The second most common dimension was *inflexible* behaviors. The children were non-compliant and were described as stubborn; they made their own rules, had fixed ideas, and did things their own way. The third dimension was *rebellious* behavior. Children with such behaviors were perhaps the most difficult to deal with. The mothers described how their child tested boundaries, refusing to

obey, which led to constant power struggles with strong negative affect and aggression.

We also found a difference between the top-down and bottom-up descriptions regarding the irritable category of ODD. Negative emotionality was described in the bottom-up approach as grudging (unpleasant, jealous, negative, grumpy) or displeased (frustrated, never satisfied, whiny), while no mother spontaneously described their children as touchy, easily annoyed, or resentful as in the top-down descriptions of ODD in the DSM. This might indicate that the diagnostic criteria that describe irritability are more appropriate for describing older children, while “grudging” and “displeased” are more appropriate for describing younger children.

When we examined possible gender differences, we found no considerable differences between boys and girls either in the eight ODD criteria, or in the 14 categories from the qualitative content analysis, despite some minor differences regarding defiance. In the bottom-up analysis, the mothers significantly more often reported defiant behavior and traits as major problems in girls than in boys, while the opposite was found in the diagnostic question where boys were reported significantly more often to fulfill the criterion *defies or refuses to comply with adults' requests or rules*. Regarding age groups, the younger children (ages 3–5) fulfilled the criterion *often loses temper* significantly more often, while the older children (ages 6–8) met the criterion *often touchy or easily annoyed* significantly more often.

Conclusions

In a top-down perspective, the criteria of ODD helped to identify and distinguish commonly occurring oppositional behavior from real DBPs. By contrast, in the bottom-up approach, the accepted diagnostic criteria did not capture the entire range of problematic behaviors, especially those behaviors that constitute a risk for later antisocial behavior. The present study shows that there is a gap between the diagnosis of ODD and CD in younger children. Disruptive behavior problems manifesting in preschool and in the early school years are not always sufficiently alarming to meet the diagnosis of CD; nor are they covered in their entirety by the ODD diagnostic tool. One way to verify suspicion of early antisocial behavior in younger children would be to specify in the ODD diagnosis whether subclinical CD is also present.

Study II

“Since his birth, I’ve always been old” – the experience of being parents to children displaying disruptive behavior problems: a qualitative study

Aim

The aim was to explore how parents of children displaying DBP behaviors, and diagnosed with ODD, describe the difficulties they face in their family and parenting situations before entering a PT program.

Methods

Participants. The participants were parents of 19 children who participated in the IY PT program. Nineteen mothers, two fathers and one stepfather were interviewed using the K-SADS diagnostic interview, based on the fourth edition of the DSM. Three of the children were girls (16%), 16 were boys (84%); six of the children were 3–5 years and 13 were 6–8 years old. Sixty-eight percent (13/19) of the children fulfilled criteria for both ODD and ADHD. Sixty-five percent also met a doctor regularly because of somatic illness such as asthma, diabetes, or epilepsy.

Measures. Face-to-face interviews with the parents were conducted using the K-SADS interview. The interview consisted of three different parts: an initial background interview with open-ended questions, a diagnostic screening interview, and a section with in-depth questions related to different DSM diagnoses. For the purpose of our research project, the K-SADS background interview was extended with questions about parenting, mental health problems, and the child’s development and related topics. The interviews were performed on two occasions, before the PT program and 1 year after completion of the program. Each interview took approximately 3 hours to complete. This study is based on the interviews performed on the first occasion. The interviews were audiotaped, and the answers were also written down and coded.

Data analysis. Thematic analysis was used to examine, identify, and report patterns of meaning (themes) in the data (Braun & Clarke, 2013). The analysis was conducted inductively using a contextual approach, which is considered appropriate when the aim is to describe how participants perceive their experiences. The computer program Atlas ti.8 was used (<https://atlasti.com>) to make the huge amount of data manageable.

Main findings

The thematic analysis resulted in three main themes and ten subthemes. The themes and subthemes are presented in Table 4.

Table 4 Themes and subthemes

Themes	Subthemes
Our vulnerability as parents	Negative experiences during parents' own childhood Parents' mental health Lack of support
The impact on us of the parent–child interaction	Perceptions of the child's negative behavior and emotions Parents' emotional responses to the child Caught in a negative spiral Parents' perceived helplessness
Challenges in our parenting practices	Parenting behaviors The parenting alliance Family stress

The three themes were: (a) *Our vulnerability as parents*; (b) *The impact on us of the parent–child interaction*; and (c) *Challenges in our parenting practices*. In the first theme, *Our vulnerability as parents*, the parents described their childhood and told about own traumatic experiences such as sexual abuse, adults' addiction, and mental health problems in the family. They also described psychological vulnerability and mental health problems inside themselves and their partner and even talked about difficulties receiving support from their family, as well as the social services, school, and health care, which led to a feeling of abandonment.

The second theme, *The impact on us of the parent–child interaction*, described how parents were affected by the parent–child interaction. Some mentioned their child's aggression towards themselves as parents, others described their child's unpredictable behaviors, the child's emotional avoidances, and how they felt controlled by their child. Parents also described how difficult it was in challenging situations to deal with the strong emotions created in the relation with the child. The parents also felt trapped in a negative spiral and reported coercive patterns in the parent–child interaction, which led to expression of feelings of helplessness in their parenting; they also experienced a lack of tools for raising a challenging child.

Under the third theme, *Challenges in our parenting practices*, the parents described their parenting style as either controlling or passive. Some parents became authoritarian and used punishments, threats, and harassment. Others remained more passive and left the control to the children. The reason for this was that the parents felt they could not cope with all the conflicts that arose

while setting boundaries. Many felt they did not have the energy to be a consistent parent. Most mothers also described difficulties in sharing a common approach towards the child with the child's father or their partner. Forty-seven percent of the parents were separated and the conflicts between the separated parents were about agreeing common routines for the child; and the mother and father had different experiences and perceptions about the child's problems. In some cases, the conflict between the parents was so deep that they did not communicate at all. Many of the parents also experienced considerable stress. They had to spend a lot of time and energy on constantly monitoring the child, preparing the child, and adjusting so that everyday life would flow as smoothly as possible. The parents were also stressed over not having time to care for the other children in the family because they must spend so much time dealing with the defiant child. The parents were tired. The most stressful things about having a child with ODD, according to the parents, were the many outbursts, the defiant behaviors, the hyperactivity, and the fact that the child often had difficulty coming to rest in the evenings and the parents were therefore not given the opportunity to recover.

Conclusions

In Study II, parents of children with ODD described both external and internal complexity in their family situation and their parenting. The study highlights the various stressors in the families that could negatively affect the outcome of a PT program if they are not addressed. Studies have shown that in about 25–30% of cases, PT programs do not seem to be a sufficient intervention for the families and for the child to improve their behavioral problems (Leijten et al., 2018). The conclusion from the study is that there need to be careful assessments before a family enters into a PT program, in order for the group leaders to be able to identify each family's special needs. This could lead to a greater understanding of certain families' broad spectrum of problems, and hopefully it will lead to a greater flexibility and better adaptation of the program to the needs of individual families. In some cases with particularly destructive interactions between parent and child, interaction therapy may be offered in addition to the PT program as the early relationship between the child and parents is crucial to the child's continued development.

Study III

Use of qualitative comparative analysis in an explanatory sequential mixed methods design to explore combinations of family factors that could have an impact on the outcome of a parent training program

Aim

This study aimed to generate new insights and hypotheses about the combinations of risk and protective factors that may have an impact on children with DBPs and on the outcome of the PT program. In addition, the aim was to explore the usefulness of QCA in an explanatory sequential mixed methods design.

Methods

Participants and procedure. Parents to 30 children signed up for the IY PT. They were included in the study if their children were between 3 and 8 years. Six of the children were girls and 24 were boys. There were three different phases in the sequential design. Phase A and B included all 30 families. In phase C, only two of the families were included in a case study.

Measures. In phase A, the ECBI–intensity scale (ECBI–IS) was used (Eyberg & Pincus, 1999) to measure children’s problematic behaviors before the PT (T1), just after the PT (T2), and 1 year after completion of the PT (T3). In phase B, face-to-face interviews were conducted with mothers at T1 and T3, using the diagnostic K-SADS interview (Kaufman et al., 1997). The SCL-90 symptom checklist was filled in by both parents to measure psychological and emotional problems in adults, and a scale for emotionality (five items), the Swedish version of the Emotionality, Adaptability, Sociability Temperament Survey for Children (EAS(I)), was used to measure children’s NE, assessed by both parents separately (Buss & Plomin, 1984). Phase C used transcribed K-SADS interviews, conducted at T1 and T3 with mothers of two of the children.

Data analysis. This was a mixed methods study with an explanatory sequential design, where the qualitative methods (QCA and case analysis) were used to deepen the understanding of the first quantitative results (reliable change index (RCI)). Reliable change index (Jacobson & Truax, 1991) was used in the first phase to establish whether the change for any given child in the study showed significant differences in ECBI intensity scores between T1 and T3. Reliable change index scores were calculated by dividing the pre-PT and follow-up differences for each child, by the standard error of the difference in scores. Qualitative comparative analysis is a comparative, case-oriented research approach that includes a collection of techniques based on Boolean algebra and minimization algorithms to systematically compare cases (Ragin,

1987). Crisp-set QCA was used in the second phase to explore the combinations of different risk and protective factors for treatment resistance and treatment success associated with the IY PT program among 30 families. In the third phase, two K-SADS interviews conducted at T1 and T3 with two of the mothers were transcribed and analyzed using qualitative content analysis (Graneheim & Lundman, 2004). The purpose was to explore whether any underlying characteristics were visible in the transactional processes between the child and the environment, that could lead to a greater understanding of different outcomes of the same PT program in different children and families.

Main findings

Phase A. The RCI showed that six (20%) of the children did not display any statistically significant positive change on the ECBI between T1 and T3. Two of these six children worsened and showed a significant negative change. Eighty percent showed a significant positive change, out of which 13 children (43%) were considered improved and recovered, i.e., changed statistically significantly from a clinical to a non-clinical level. This is in line with what also has been found in evaluations of other programs (Högström et al., 2016).

Phase B. The five conditions used in the QCA were (child) ADHD, NE, and aggressiveness, and (parent) mental health problems and educational level. The same condition simultaneously worked as both risk and protective factor, according to Lösel and Farrington (2012). In other words, the opposite pole of these conditions, for example a high or low level of a child's aggressiveness worked as either risk factor or protective factor in the analysis. Among 32 possible configurations, for each outcome, in the QCA, there were three combinations (configurations) of conditions leading to a non-significant result after PT and four configurations leading to a significant positive result: (a) High levels of aggressiveness combined with NE in the child, and mental illness in the parent; (b) high levels of aggressiveness combined with ADHD and a high level of parents' education; or (c) NE combined with low parental education were configurations leading to a worse result after PT. The two most common (87%) configurations leading to a significant positive result after PT were: (a) low level of ADHD in combination with good mental health and a high education level in parents; and (b) high parental education in combination with a low level of child aggressiveness. When families apply to the PT program with these two configurations, the hypothesis is that clinicians can predict that the PT will likely lead to improvement.

Phase C. In the case analysis, the transactions between two boys and their mothers were analyzed. One of the boys (Jimmie) started on a lower level on the ECBI than the other boy, but then displayed a significant negative change

between T1 and T3. The other boy (Chris) showed a significant positive change and went from a clinical to a non-clinical level on the ECBI scale. See Figure 2 below.

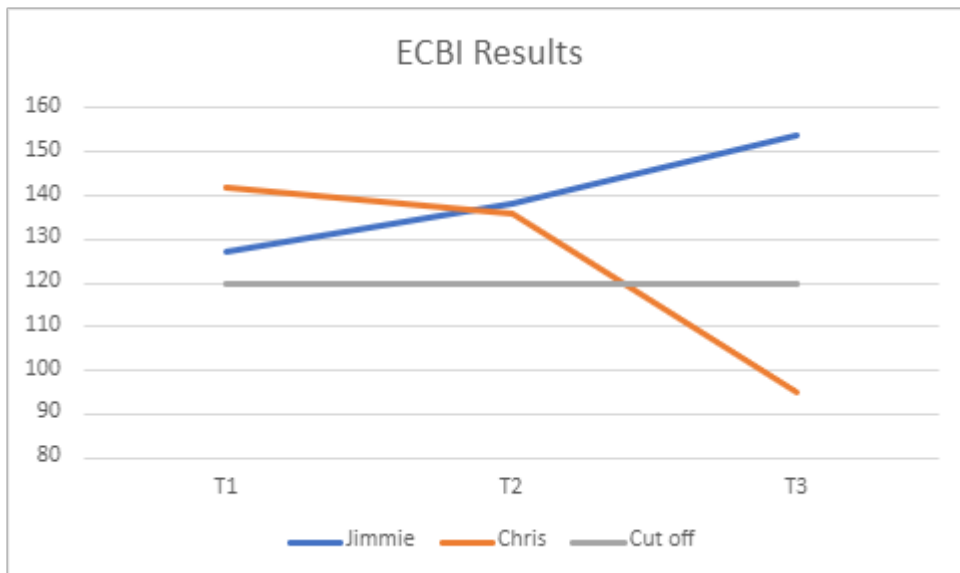


Figure 2 Jimmie's and Chris' results on the Eyberg Child Behavior Inventory–Intensity Scale (ECBI–IS). T1 = time 1, which shows the assessment before the parent training (PT); T2 = time 2, the assessment directly after the PT; T3 = time 3, 1 year after completion of PT.

The starting point for the case analysis was the configurations that were the result of the QCA. The transactions analyzed in the data were subdivided into three parts: the child's behavior that was affecting the parent, the parent's interpretation of the behavior, and the parent's response. There were differences in the boys' severity of symptoms in T3. Jimmie had clinical levels and Chris had subclinical levels of NE, aggressiveness, and ADHD. Jimmie's NE led to a negative identity and suicidal cognitions, which his mother found it hard to respond to in their everyday transactions. In addition, Jimmie's emotional rigidity seemed to be a part of his NE and he often "got stuck" in his emotions. Jimmie displayed both reactive and proactive aggression; he developed a negative attribution style leading to problems in relationships with peers, and his aggression was very unpredictable for those in his surroundings. In addition, his ADHD led him to a state of exhaustion and failure.

Chris, instead, showed emotional flexibility and a positive identity. Regarding his aggressiveness, he could have powerful aggressive outbursts, but his aggression was predictable for those around him, and he had developed

regulation strategies. For example, he learnt to walk away when he got too angry and calm down on his own. At T1, he met the criteria for ADHD, but by T3, the ADHD symptoms had subsided.

The two mothers' interpretations of their sons' behavior, as well as their responses, differed from each other. The transactions described in the interviews indicated that Jimmie's mother showed the same kind of emotional rigidity as her son, and her response to Jimmie's strong emotions was a state of "constant worries." She also displayed emotional regulation difficulties and showed an impaired ability to handle her own emotional reactions in conflict-filled situations. Her strategies for dealing with Jimmie's NE were to exercise some sort of psychological control.

Chris' mother learned emotion regulation strategies. Instead of exercising psychological control, she set boundaries against Chris' bad behaviors and aggressive outbursts. She also developed a more empathic approach towards her son, and, together with new skills in emotion regulation, this eventually led to Chris feeling more secure and his ADHD symptom (hyperactivity) decreasing. Another big difference between the two mothers was that, while Jimmie's mother had got stuck in feelings of guilt and failure, Chris' mother had left that state and become more self-reflective about her parental responsibilities.

Conclusions

This study has generated hypotheses about combinations of different risk and protective factors that may have an impact on the outcome of a PT program, which in the future can be tested in other studies. The study has also contributed to the field of mixed methods research (MMR) by applying QCA, a rarely used method in MMR and additionally a sparsely known approach in psychological research. It has shown the applicability of QCA as a bridge between quantitative and qualitative methods. Using QCA gave us the possibility to investigate whether there was any single factor (i.e., a sufficient or necessary condition) that led to the outcome, or whether there were combinations of factors (equifinality) that contributed to the outcome of PT, as well as to handle the complexity of both risk and protective factors simultaneously.

General discussion

The general aim of this thesis was to gain a deeper insight into complexity in families with children with ODD and get a deeper understanding of the risk factors and conditions that may complicate the impact of a comprehensive training program for parents with children displaying ODD behaviors.

The following discussion is based on the main findings in studies I, II and III, and will primarily focus on aggression, defiance, temperament (i.e., EC, NE, emotional regulation), and the family context – concepts that seem to be central to understand the ODD diagnosis as well as DBPs. These concepts, which have been described in the Introduction of this thesis, contribute to a deeper awareness of the kind of factors that can lead to the development of more serious DBPs, in accordance with the results from studies I, II and III. Since the ODD diagnosis is central to this thesis there will also be a discussion of the results of Study I, which compares top-down and bottom-up approaches to understanding ODD. After this section, there will be a Methodological discussion, and a section on Clinical implications, Ethical considerations, and Limitations, followed by a brief look at Future research, and the Conclusion.

Aggression

Aggression as a theme was included in all three studies. In Study I, mothers reported major problems they experienced with their children. Using qualitative content analysis, we identified six subcategories linked to the theme of *problematic behaviors*. Children's aggressive and provocative behavior was described in two of the categories. Mothers described children who had physically attacked their siblings, parents, and peers. In Study II, we collected more detailed descriptions of the children's aggression. These included stories about verbal and physical threats in the families; children shouting and screaming that they would destroy the house or kill their parents; children throwing cutlery and drinking glasses at their parents; and children who spat, kicked, and used objects as weapons. The findings demonstrate some of the divergences between top-down and bottom-up approaches in Study I. Aggressive and provocative behaviors (such as seeking and initiating conflicts, or fighting with siblings and peers) were presented as a major concern for a group of children in the bottom-up descriptions, but were not captured by the ODD diagnostic tool (top-down). This is also in line with what Wakschlag and colleagues found in their research of early DBPs (Wakschlag et al., 2012;

Wakschlag et al., 2010). They developed a model for early disruptive behavior in children and proposed four core dimensions of early DBPs: non-compliance, temper loss, low concern for others, and aggression, in contrast to the DSM's three dimensions of angry/irritable mood, argumentative/defiant behavior, and vindictiveness. Our categories from Study I: defiance, emotionally externalizing behavior, provocative behaviors, and aggressive behaviors corresponded well with Wakschlag et al.'s four core dimensions (2012; 2010). As mentioned, irritable children diagnosed with ODD may simply be grumpy, and huff and puff, or experience burdensome dysphoria, but this is by no means aggressiveness (Vidal-Ribas et al., 2016). Consequently, aggression is a dimension that appears to be missing in the ODD diagnosis although it seems to exist in, and be a major problem for, a subgroup of children.

In Study II, the aim was to explore how parents of children with ODD described the difficulties they faced in their family and parenting situation. Descriptions of children's aggressiveness against their parents were embedded in the theme *The impact on us of the parent-child interaction*. Many parents experienced a strong feeling of uncontrolled anger in the interaction with their aggressive child. They could hardly regulate their own emotions. Children with difficult temperament and aggressiveness place increased stress on their parents' emotion-regulation capacities (Crespo, Trentacosta, Aikins, & Wargo-Aikins, 2017). According to Crespo and colleagues (2017), processes between child and parent are reciprocal. Children's difficulties in managing aggression contribute to their behavioral problems, while parents' emotional regulation difficulties seem to contribute to their children's regulatory challenges and behavioral difficulties.

In Study III, we analyzed these reciprocal processes through examining the transactions between mother and child and how they affected the interactions within the family. One important difference regarding the two cases (Jimmie and Chris) in Study III concerned the consequences of aggression. The boy with high levels of aggression, Jimmie, had developed a hostile attribution style and tended to perceive situations as threatening and hostile. Consequently, Jimmie easily ended up in conflict situations with peers. Reactive aggression occurs as reaction to real or perceived provocation, whereas proactive aggression is deliberate and purposeful (Hubbard et al., 2002). Jimmie displayed proactive aggression in the way that his aggression seemed to be intentional, but he also showed reactive aggression. In addition, he met the criteria for ADHD and a further aggravating circumstance was therefore his impulsivity. All these consequences of his aggressive style, also combined with ADHD, created major problems in the interactions and transactions with his family members and peers. And he was one of the boys

in Study III who had a significant negative outcome 1 year after completion of the PT.

Study II and III highlight the impact of child aggression on parenting. Aggression of the child was one of five conditions in the csQCA analysis in Study III. It was the condition with the greatest impact on the configurations leading to a worse outcome after PT, showing the strong impact children's aggressiveness has on parenting. In line with this, several parents in Study II expressed that aggressive outbursts were especially burdensome and a big stress factor in having a child with ODD. Some of the mothers felt strongly that the child's aggression was directed especially at them. They felt extremely provoked by their children's aggressiveness. Others felt hurt and sad or even afraid. Some mothers said that they had stopped caring at all and several mothers admitted to emotionally rejecting their child.

A great concern was also the unpredictability in the children's aggression. Small things could trigger huge outbursts of rage, while in other situations when the parents expected a scene, there was no reaction. This created a permanent feeling of uncertainty. It made the parents feel powerless, helpless, and incapable in their parenting. There are very few studies describing the impact of a child's aggression on parenting. However, one study reporting on children and adolescents with autism spectrum disorder who displayed aggressiveness shared some similarities with the parents' descriptions in Study II (Hodgetts, Nicholas, & Zwaigenbaum, 2013). Hodgetts and colleagues report that these parents felt very lonely and isolated. They avoided social situations in general because of their children's aggression, and they feared for the other siblings' safety. As described in Study II, they were tired and exhausted because of the need to be constantly vigilant. Furthermore, families experienced limited support from professionals for dealing with the child's aggressiveness (Hodgetts et al., 2013).

A major limitation in studies I and II regarding children's aggression is that the descriptions mostly came from the mothers. Only a few fathers were included in Study II. There were no data from other people outside the families, such as school teachers, child minders, or clinicians. According to Sameroff (2020), parents' negative perceptions about their infants may also shape the way they describe their children. For example, mothers who are depressed seem to perceive their children as more depressed (Mawdsley, 2010; Müller & Furniss, 2013), and there are indications that if parents think they have "problem infants," their infants frequently become "problem children." Parents who are caught up in the idea of "problem child" may have difficulties adopting perspectives that change their behavior to, and thoughts about, the child (Sameroff, 2020). In addition, we know far too little about the limitations of parents' own emotional regulation capacity, their levels of aggression, harsh

and coercive parenting, which in turn can lead to aggression in the child (Crespo et al., 2017; Morris et al., 2007; Smith et al., 2014; Trentacosta et al., 2019). The parents' problem to handle aggression was not always reported in the study. Bandura argues that proximal relationships (in the family) are more influential than distal relationships, signaling the importance of parents as models in childhood. According to social learning theory, the child learns by observing and imitating modeled behavior in others (Bandura, 1977b) and we do not know how much of the children's aggression was actually "learned" from the parents. As noted previously, the development of a child is the product of the continuous dynamic interactions of the child and the experience provided by the child's family and social context (Sameroff, 2020). The child is therefore dependent on the ability of the environment to adapt, which was demonstrated in Study III where we found that some of the children with initial high levels of aggression showed a significant positive result on the ECBI scale after their parents participated in the PT program, signaling that there are possibilities for parents to learn handle their child's aggressiveness.

In summary, dealing with a child's aggression is a burdensome mission for parents. As mentioned by Trembley (2010; 1999), it is important already during the sensitive period between the ages of 3 and 5, to find methods and strategies to help children and their parents to address aggressive behaviors in the child to prevent the development of chronic aggressive behavior.

Defiance

An interesting result that appeared in the qualitative content analysis in Study I was that different dimensions of defiant behavior were identified. Based on the DSM, two of the criteria are especially linked to defiance: often argues with adults; and often actively defies, or refuses to comply with, requests from authority figures or with rules. It is easy to perceive this second criterion as a single issue. In fact, it became clear that in the qualitative data material in Study I, the problem of defiance was described as three different dimensions. The first dimension was the everyday defiance that arose in daily situations connected to activities such as getting dressed, eating, and using the computer, etc, which could be quite laborious for parents. The second dimension of defiance was inflexible defiance. This related to children being perceived as very stubborn and as doing things in their own way and having fixed ideas about how things should be done. The third dimension was aggressive defiance, where parents and children ended up in constant power struggles, and the children often refused to follow their parents' demands and constantly tested boundaries. This was probably the most severe of the three dimensions of defiance and has also been described by Wakschlag et al. (2010). In further

studies, it would be interesting to investigate whether these three different dimensions of defiance predict different problems in the future. Could it be that the stubborn, inflexible defiance is one of the first symptoms of autistic problems, and the aggressive rebellious defiance a warning signal for a future serious DBP?

This also suggests that the three dimensions of the defiant behavior may require different types of treatments, and may perhaps also predict separate developmental pathways to mental illness. It seems important to take different dimensions of defiance into account when designing and implementing PT programs.

Defiant behavior was the most common behavioral problem mothers described in Study I in the bottom-up approach (qualitative part). Almost half of the major problems mothers reported concerned defiance. Parents showed different strategies in Study II for how to deal with the oppositional behavior. There seemed to be two main strategies in parenting behavior. The parents described themselves either as controlling parents or as more passive in their approach. The controlling parents were either authoritarian, punitive, or threatening. They could also be nagging. Parents who described themselves as having a more passive approach did not take a governing role; instead, they let the children take control. The reason for the passive approach was that they were unable to cope with the conflicts that occurred when setting boundaries or they did not have the energy to deal with the behaviors. Previous research has shown that there are two types of parenting style that more often lead to increased risk for DBPs in the child when growing up: parenting by authoritarian parents who place high demands but show a low degree of responsiveness, which was a parenting style most similar to the controlling parents in Study II; or parenting by disengaged parents, who were neither demanding nor responsive, similar to the passive parents in Study II. According to Baumrind (2002), the latter is the parenting style where neither support nor boundaries are provided for the child.

Compliance, the opposite pool of defiance, develops over time and is influenced by the child's temperament, the characteristics of the environment, and parents' attempts to exert control over the child (Kochanska & Aksan, 1995). As noted in the Introduction, compliance is one of the most important abilities when it comes to development of children's self-regulation (Dong et al., 2018). Different inhibitory systems play a major role in compliance. The first is EC, which means the ability to focus and change attention, respond to stimuli, and inhibit or initiate responses to stimuli (Rothbart & Bates, 2006). Low EC is linked to ADHD, as well as to ODD symptoms (Allan & Lonigan, 2011; Kochanska, Barry, Jimenez, Hollatz, & Woodard, 2009). The second system is connected to the amygdala and regulates the child's level of fear

(Dong et al., 2018). In the Introduction, an important third factor was mentioned, namely, the degree of parental control (Kochanska & Aksan, 1995), an important component in PT programs (Webster-Stratton, 2005). Chris, in Study III, was described by his mother at T1 as a very defiant and oppositional boy. He scored high on the ECBI-IS, indicating a high level of ODD expressed in the home environment. Mother said that Chris had an extremely low level of fear and that he was very inventive and impulsive and could come up with things that got him in trouble. He also seemed to be low in EC. He had a hard time sitting still, was forgetful in daily activities, and did not listen. At T1, he fulfilled the criteria for ADHD, according to the K-SADS. During the PT program, his mother and stepfather learned to practice boundary setting through parental control based on “developmentally reasonable adapted requirements” (Webster-Stratton, 2005). At T3, Chris’ behavior problems, assessed using the ECBI, had decreased to a non-clinical level. The mother was very pleased with the PT program and during the sessions learned positive demarcation and emotional regulation, as well as developing an empathic approach to her child, which contributed to a sense of increased parental control. Interestingly, she reported at T3 that most of Chris’ ADHD symptoms had subsided and she thought that her increased ability to better regulate her own anger had helped her son to feel more secure in the family.

We also examined possible gender differences, in Study I, regarding the eight ODD criteria. There was no considerable difference between boys and girls in the eight ODD criteria or in the 14 categories from the qualitative content analysis, despite some minor differences regarding defiance. However, these results should be interpreted with caution because of the small number of girls in the study group, eleven girls, compared with 46 boys. In the top-down approach, boys were reported *to actively defy or refuse to comply with adults’ requests or rules* significantly more often than girls. In the bottom-up analysis, the exact opposite was found. Defiant traits and defiant behavior were significantly more often reported by the mothers of the girls as a major problem. Interestingly, Booker and colleagues (2018) found that maternal stress was higher in families with girls displaying ODD than in families with boys with ODD. If defiant behavior and traits in girls are still less socially accepted and considered more problematic, disobedience in girls is probably more noticeable and more likely to be reported as a major problem, even though these behaviors are more frequent among boys. In Study II, mothers to girls reported that they experienced power struggles in the mother–daughter dyad. They expressed that they found themselves controlled by their daughter and that they were developing complex emotions towards her. Committed compliance (internalizing the parents’ rules to become own rules) is more common among girls than among boys (Kim & Kochanska, 2019), and,

according to Butler and Shalit-Naggar (2008), mothers expect daughters in the mother–child dyad to show relational concern to a higher degree compared to sons, which might also contribute to an explanation why it becomes more stressful for mothers if their daughters do not show compliance.

Temperament

According to Rothbart and Bates (2006), and as mentioned in the Introduction, there are three overall dimensions of temperament that appear to be fairly stable over time from childhood to adulthood, and these are NE, EC, and surgency. In Study I, the category of emotionally externalizing behavior was the second largest category of major problems described by mothers. Descriptions included descriptions of children who were loud and often screamed and shouted, and had aggressive outbursts and tantrums. Children with NE and impaired emotion regulation are considered to have an elevated level of emotional instability, which is recognized by rapid changes in emotional state, an increased degree of irritability and aggression, and frequent mood swings. They also have a generally increased sensitivity to stimuli from the environment (Kim-Spoon et al., 2013; Spritz et al., 2010). This is very close to the parents' descriptions in Study II, where the children's reactions swung rapidly back and forth between positive and negative emotional expressions and the emotional state could change so quickly that the parents sometimes did not understand what had happened and could never predict or prepare for when it might "break loose." Pronounced levels of NE seem to predict internalizing as well as externalizing problems, according to Eisenberg et al. (2000). In Study I, two-thirds of the children fulfilled the DSM criterion *is often angry and resentful* and 74% met the criterion *is often touchy and easily annoyed*, showing that irritability is common among children with ODD. Moreover, in Study I, there were also 14% of children who met the criteria for any anxiety disorder.

The mechanism in NE seems to pose difficulties in regulation of both irritability and anger, as well as fear, anxiety, and sadness. This was the case with Jimmie in Study III. According to his mother's description of his emotional state, Jimmie was as angry as he was sad and worried. The other boy, Chris, likewise could easily get angry, but Chris was not diagnosed with NE in the EAS-I assessments. Jimmie's mother described that Jimmie often "got stuck" in his emotions. He often stayed in his emotions for a long time, and he was hard to distract. When he did not have anything to do, such a small thing became big for him, and he said that he was going to kill himself. When his little brother was born, he had a hard time emotionally to adjust to the new situation. He displayed an emotional rigidity which did not at all exist in Chris. Chris' mother described that he very easily got angry over small things, but

that his anger passed quickly. After 5 minutes, he had forgotten why he had got angry in the first place. He displayed an emotional flexibility, while Jimmie did not.

Regarding the other dimension of temperament, EC, there were some results of Study I worth mentioning. From the qualitative content analysis in Study I, three themes emerged from the data, one of which was *Difficulties with social interactions*. Mothers mentioned difficulties acting in groups, interacting with peers, and difficulties with social skills. Some researchers link EC to socio-emotional functioning and externalizing behavior, so-called “hot” EC (Kim, Nordling, Yoon, Boldt, & Kochanska, 2013). They link “cold” EC to more abstract cognitive processes such as focusing and shifting attention (Diaz et al., 2017; Jonas & Kochanska, 2018). Others, however, believe that EC is a coherent construction which for the most part predicts academic functioning rather than socio-emotional development (Allan & Lonigan, 2011). Kochanska et al. (2000) proposed that EC was related to emotional regulation and that children high in EC tended to dampen all kinds of emotional expressions and impulses, while children low in EC tended to react very quickly to various triggers in the environment, with social deficits as result. In Study III, this turned out to be a consequence for Jimmie. He reacted very strongly to triggers in the environment, and it took him a long time to recover from the negative affect. Jimmie’s difficulties with emotional regulation and effort control led to the effect that, between the ages of 7 and 9, it became increasingly difficult for him to maintain good peer relationships and probably because of the social conflicts he also developed a negative identity.

It is important also to discuss the combinations of temperament factors and aggression, as revealed in Study III. Crisp-set QCA was introduced as a method to find combinations of factors contributing to the outcome of a PT program. Qualitative comparative analysis is an iterative method that allowed us to test which conditions would eventually be included in the analysis. We started broad, with measurements of attachment (Green, Stanley, Smith, & Goldwyn, 2000), children’s verbal intelligent quotient (IQ) (Campbell, 1998), and other important risk and protective factors noted in Study III. These conditions were excluded later, due to many contradictory results in the csQCA truth table. The conditions which finally were part of the csQCA were ADHD, NE, aggressiveness, parents’ mental illness, and parents’ level of education. As noted in the Introduction, Thomas & Chess (1977) found three main groups of children with different temperaments. Approximately 10% of the children were classified as having a *difficult* temperament. Interestingly, those combinations of conditions in the csQCA which formed a pattern and seemed to have had the greatest impact on the outcome of PT were children’s temperament factors: NE and ADHD, in combination with aggressiveness. It

was not the condition in itself in the csQCA that led to one or the other outcome after PT, but the combinations (configurations) of conditions. Regarding NE, for example, half of the children with this condition belonged to the group with a positive outcome after PT. This is in line with what Belsky and Pluess (2009) found, namely, that children with elevated levels of NE often have an emotional susceptibility, a plasticity factor, which in a negative parental context can lead to internalizing or externalizing problems, but which in a supportive and positive parenting context will, instead, provide significant benefits and lead to a positive development in the child. Thus, it is the NE in combination with other factors that can cause difficulties in the family, leading to a negative outcome after PT. In our csQCA analysis, we found that NE combined with child aggression and parental mental illness was one on those configurations. The impact of NE and child aggressiveness seems particularly complex, especially if parents simultaneously suffer from mental illness. According to Lovejoy et al. (2000), parental mental illness contributes to the fact that parenting, which in itself is a difficult task, becomes even more complex and difficult to manage. If the child additionally has a combination of aggressiveness and NE, it seems even more complex for parents to manage the family situation. This exactly was vividly described by the parents in Study II.

The other configuration was NE combined with a low level of education. Interestingly as contrast, the csQCA showed that when parents had a low level of education, but the child did not display NE, this configuration instead led to a positive outcome, indicating that education in some cases can be a decisive factor for results.

The third configuration, which also to some extent was related to temperament factors, was child aggressiveness in combination with ADHD. This combination has been reported in previous studies showing that aggression in combination with ADHD is a distinct risk factor for development of antisocial behavior (Andershed, Gibson, & Andershed, 2016). In two families with this combination, both parents had a higher level of education; however, this was not sufficient as protective factor for dealing with the problems in the family. When we deepened our analysis in Study III by examining the transactions in one of the families with this particular configuration, we also discovered how complex the transactions became between mother and child.

Interestingly, when we investigated those configurations leading to a positive outcome, we found that there were 43% of families with higher levels of education and *lower levels of ADHD* in combination with low mental illness, and 43% of families with the combination of higher education and *lower levels of child aggression*. *Low level of NE* was present in the other two configurations leading to a positive outcome after PT. *Low* levels of factors of

“severe temperament” seem to more often lead to a positive outcome after PT, working as protective factors.

Study III has generated hypotheses about combinations of different risk and protective factors which may have an impact on the outcome of a PT program. It is therefore possible for other medium-N studies to use the truth table we used in Study III provided the same conditions are applied. It would then be possible to build cumulative empirical knowledge and develop an understanding of the outcome of PT, which would provide the possibilities to generalize the results.

The family context

Analyzing the data material and beginning to find patterns in the parents’ descriptions has given us an increased understanding of the complex family situation, which during the analysis process led to three different themes: *Our vulnerability as parents*; *The impact on us of the parent–child interaction*; and *Challenges in our parenting practices*. The complexity of these themes was described as both internal and external.

The parents were *emotionally* affected by the situation in the family. Strong emotions were created in the interaction with the child – emotions such as uncontrolled anger, frustration, sadness, and even fear. The parents expressed difficulties regulating their own emotions in conflict-filled situations. Linked to this were also strong feelings of guilt and shame, at not being able to cope with parenthood, and shame about how other people would react when the child did not behave in social situations. The parents also felt guilty towards the child’s siblings who did not get enough attention as the child with ODD was most often in focus. Parents’ feelings of guilt have also been reported in other qualitative studies regarding ODD, such as Kane et al.’s meta-analysis (2007), and regarding ADHD, such as the meta-analysis by Corcoran, Schildt, Hochbruecker, and Abell (2017). The strong feelings of guilt were also one of the distinguishing factors in the qualitative content analysis in Study III. While Jimmie’s mother never left the stage of indebtedness (she returned to the thought of guilt again and again in the interviews), Chris’ mother realized her responsibilities as a parent and in the last assessment (T3) she described herself as an agent in her parenting role instead of passively enduring her feelings of guilt.

Family stress has attracted attention in other qualitative studies, but also in quantitative studies (Booker et al., 2018; Bornheimer et al., 2021). In Study II, parenting stress was expressed by the parents in mainly four different ways: concern about neglecting the needs of the other siblings in the family; constant monitoring of the child with ODD and preparation for all planned activities;

difficulties bringing the child into a social context; and the great energy required to constantly deal with the child's behavior problem. The parents felt exhausted. Several of the mothers described mental illness and exhaustion, and mental problems in their partners, but it was unusual among the participants to seek professional help for their mental problems. Jimmie's mother in Study III expressed that she was constantly worried about her son's depressive thoughts and suicidal threats. It took a lot of energy and she had previously been on sick leave due to exhaustion. Parental depression in the family is also considered a risk factor for children developing externalizing behavior (Dette-Hagenmeyer & Reichle, 2014); on the other hand, children's DBPs can increase parents' burden and lead to depressive symptoms in the parents (Leitch et al., 2019), showing the reciprocal process between parent and child (Davies & Sturge-Apple, 2014).

The parents were also *socially* affected by the situation in the family. Many times when families were invited to visit other families, they chose to decline, because they did not know how their child would behave or because they thought it would be stressful for the child to be with new people, or with many other people. One of the subthemes in Study II concerned the parents' experience of lack of social support. Several of the families received very little help from their relatives, so what is normally a family's closest network did not provide that much support. All this contributed to an increase in the families' isolation and a loss of social networks. This feeling of social isolation and social stigma has also been reported by Kane et al. (2007) in their meta-analysis.

Therefore, instead of pursuing social contacts, the families sought out contact with, and help from, professionals. In Study II, two-thirds of the children met the criteria for ADHD, and two-thirds saw a doctor regularly because of somatic illness; in addition, there were meetings with the social services and CAMHS for some families. There were therefore many contacts, but the families felt that nobody really took responsibility or coordinated all different contacts. Something that was also highlighted by the parents was difficulties in communicating with the preschool and school teachers. The parents had a low level of trust towards the teachers in school. Many parents thought that teachers did not take their children's problems seriously. In Study III, this was a big problem for Jimmie's family. Although Jimmie was a very intelligent child with a high verbal IQ, his ADHD problem lowered his level of functioning. The parents felt that the teachers did not understand the difficulties related to Jimmie's ADHD diagnosis. Therefore, his school situation was not sufficiently adapted for him. It made him feel exhausted and more emotionally unstable at the end of the school day.

Several mothers also experienced *relational* difficulties with their partner or ex-husband. About half of the parents participating in Study II were cohabiting or married, and most of those who were separated shared custody of the child. The couples living together often agreed that the child had behavior problems, but did not always agree on how to deal with them. Parents who were separated reported problems such as different opinions on suitable routines for the child, and whether or not the child even had problematic behaviors. In a few families, inter-parental conflicts were so strong that the parents did not communicate at all. Marital conflicts and disagreement due to couples' differences of opinion about their children's problematic behavior have also been noticed by Leitch et al. (2019) and Mofokeng and Van der Wath (2017). Participating in PT together can strengthen the parental alliance (Axberg & Broberg, 2012), as also reported by Jimmie's mother in Study III.

Finally, the dissimilarities in *parental behavior* found in Study II also need to be illuminated. The parents described how difficult it was for them to have common strategies for dealing with the child with ODD. They experienced many situations when they felt helpless and incapable as parents and did not know how to handle conflict. They also explained that they did not have the tools (or the parents disagreed on which tools to use) to cope with the child's challenging behavior. One mother explained that they lived next door to the grandparents and her son often stayed there. The grandparents had one way to handle her son, the stepfather had a different way, the mother another way, and the biological father had yet another way to handle the son. Consequently, it was possible to have four or five different child-rearing methods applied in the same family context.

Based on the results from studies II and III, it seems extra important, when developing and designing a PT program for parents to children with DBPs, to consider the family context and the kind of problems in everyday life these families constantly struggle with (Firmin & Phillips, 2009; Kane et al., 2007).

The diagnosis of oppositional defiant disorder

Since the focus in this thesis is on families whose children display ODD behaviors, it may be appropriate to follow up with a diagnostic discussion of the results that emerged when we compared the top-down and bottom-up approaches in Study I. There was both convergence and divergence between the top-down (diagnostic descriptions) and bottom-up approaches (mothers' report of major problems). The DSM construction of ODD highlights behaviors (e.g., often loses temper, often argues, often blames others) and traits (e.g., is often touchy, spiteful, angry, and resentful) (American Psychiatric Association, 2013) which correlated very well with the mothers' descriptions

of two of the themes in the bottom-up approach (*problematic behaviors* and *problematic traits*). There was also convergence regarding the third theme, *difficulties*. The K-SADS interview provided information about the high comorbidity with other conditions in the children. In Study I, we reported that 54% of the children with ODD also met the criteria for ADHD, according to the K-SADS (Kaufman et al., 1997a). Furthermore, in Study II, 64% of the children also saw a doctor regularly because of somatic illness such as asthma, diabetes, or epilepsy.

Comorbidity between ODD and ADHD is substantial in different studies; one-third to one-half of children with one disorder also meet criteria for the other (Connor et al., 2010; Nock et al., 2007). The two diagnoses seem to have a common interface regarding the ability to self-regulate. Cognitive regulation deficits are specifically related to ADHD while negative affect regulation is specifically related to ODD (M. Frick & Brocki, 2019). In addition, dysfunctional cognitive regulation has been found to be related also to ODD, but this relation has been suggested to reflect the overlap with ADHD (Nigg, 2006). In our research, in the diagnostic interview with the mothers, 21% fulfilled the criteria for three or more diagnoses. The children met the criteria for tics, Tourette's syndrome, maladaptive stress, enuresis, and encopresis. One child met the criteria for CD and 14% had an anxiety disorder, according to the K-SADS. Some of the children also had autistic traits. In the qualitative content analysis in Study I, one-third of the major child problems mothers reported were children's *difficulties*. These were grouped into five different categories: behavioral regulation, emotional regulation, flexibility, and cognitive, and social interaction difficulties. More boys than girls were reported to have difficulties. This agreed with the K-SADS scores, where 64% of the girls had only one diagnosis (ODD), but only 28% of the boys had just one diagnosis ($p=0.038$). Boys in the age span 3–8 years seemed to be more vulnerable than girls and presented a wider range of problems. When children with regulation deficits and neurological immaturity are exposed to requirements that they are not yet mature enough to cope with, their defiant behavior often occurs at the intersection of the demands to self-regulate and their ability to do so (Chang, Olson, Sameroff, & Sexton, 2011). Therefore, it is important not to consider children with ODD as simply brutal and/or defiant; instead, we should be aware that many may have developmental neurological difficulties and are to a large extent dependent on adaptations and support from their environment.

A divergence between the top-down and bottom-up approaches in Study I was that aggressive and provocative behaviors (seeking and initiating conflicts and fighting with siblings and peers) were presented as a major concern for a group of children in the bottom-up descriptions, but were not captured by the

diagnostic tool in the case of ODD (top-down). However, even if aggression is represented as a criterion in CD diagnosis it might be inappropriate to use this diagnosis with the youngest children, since approximately a quarter of CD symptoms have been reported to be “developmentally impossible” in early childhood and approximately one-third have been reported to be “developmentally improbable” in preschoolers (Wakschlag et al., 2010). In the present study, only one (8 years old) of 57 children met the criteria for CD. The study shows that there is a gap between ODD and CD for the younger age. Several studies have attempted to identify symptoms in those children with DBPs who are at highest risk of developing antisocial personality disorder (Klingzell et al., 2016; Rolf Loeber & Burke, 2011; Longman, Hawes, & Kohlhoff, 2016). To find special characteristics in children who continue to develop more persistent DBPs would mean that we can identify children at risk already in early years (Tremblay, 2010). The symptoms that predict future antisocial behavior seem to be subclinical symptoms of CD at an early age (Rowe et al., 2010), especially if the child displays early physical aggression (Okado & Bierman, 2015; Tremblay, 2006). This was the case with Jimmie in Study III. His mother’s descriptions of his aggressiveness indicated that he had both reactive and proactive aggression. Jimmie was also one of two boys (among 30) whose behavior problems worsened significantly between the first (age 7) and the last assessment (age 9). In Study I, there were children who fulfilled one or two criteria for CD, but because they did not reach the limit (three criteria), their symptoms were not documented as a diagnosis. In the clinical work with children and adolescents, early detection of DBPs is most important, but there is a high risk that we will miss these early tendencies to aggressive behavior in children, as we do not usually document subclinical diagnoses. According to the DSM-5, in the case of the CD, it should be specified whether at least one symptom of CD has existed before the age of 10. This is an assessment made retroactively when an older child or adolescent meets the criteria for a CD diagnosis (American Psychiatric Association, 2013). If the externalizing behavior was already present in childhood, this signals that the adolescent has a serious condition (Longman, Hawes & Kohlhoff, 2016), but by then the problem will already have progressed to more serious DBPs. One way to verify suspicion of early antisocial behavior would be to specify in the ODD diagnosis whether there is also subclinical CD. This could serve as a warning signal that the specific child may be at risk of developing more persistent DBPs and the child’s problem behavior would probably be taken more seriously than if the child was only diagnosed with ODD.

In the bottom-up analyses, we also found divergence in the descriptions of NE versus the DSM-5’s dimension Angry/Irritable mood. Interestingly,

negative emotional traits were described by the mothers as “grudging” (also “unpleasant,” “jealous,” “grumpy”) or “displeased” (or “frustrated,” “negative,” “never satisfied,” “whiny”). No mother spontaneously described her child as “touchy,” “easily annoyed,” or “resentful,” which are the descriptions in the DSM. Using the top-down approach when comparing ages 3–5 and 6–8 showed that children in ages 3–5 were significantly more likely to *often lose (their) temper* while children in ages 6–8 were *touchy or easily annoyed* significantly more often. This might indicate that the diagnostic criteria that describe irritability are more appropriate for describing older children, except for *often loses temper*, while *grudging* and *displeased* are more appropriate for describing younger children.

In Study I, we looked for associations between the top-down and the bottom-up data. The groups of children were very small; therefore, the results must be interpreted with caution. The children with rule-breaking behavior seemed to be less angry and resentful, while children who showed aggressive behavior towards others seemed less often to *actively defy, or refuse to comply with, adults’ requests or rules*. Despite the finding that Jimmie and Chris in Study III both fulfilled the criteria for ODD, they were different in their expression of defiant behavior. Jimmie displayed more negative and aggressive behavior, while Chris was defiant and rule-breaking (e.g., he had a problem with stealing things).

Methodological discussion

The study of complexity in families with children who exhibit ODD poses various methodological problems. There is a need for both variable-oriented and person-oriented research to broaden the comprehension of different pathways to DBPs in children and adolescents. The variable-oriented approach is necessary for understanding the average and most expected outcomes, while the person-oriented approach helps us to understand when individuals deviate from the “normal” patterns of development and do not follow what is expected at the group level (Cicchetti & Rogosch, 1996). This in turn can help us to understand different subgroups’ development towards DBP. Families are a dynamic system. Family members affect each other but are also affected by their surroundings (Sameroff, 2009). These complex processes within and outside the family system were the reason why we chose transactional theory as the basis for this thesis. In addition, to gain a deeper understanding of DBPs, it was necessary to use both quantitative and qualitative methods in a pragmatic way. Pragmatism opens the door to multiple methods, different worldviews, and different assumptions, as well as different forms of data collection and types of analyses (Creswell, 2017). The purpose of using MMR in these studies

was to understand and confirm both the breadth and depth of the results according to Johnson et al. (2007).

Study I. A convergent parallel design is appropriate when using a semi-structured interview with both open-ended and close-ended questions. The data collection and analyses in Study I took place in parallel, in time and space, but the analyses were done separately and independently, in line with Fetters et al. (2013). We judged that the qualitative data material was so well structured through the content analysis that we could convert it into a dataset, which then was used to look for associations between what the mothers described as problems and the frequency table that was the result of the diagnostic part of the K-SADS. Because the variables from the qualitative content analysis were categorical, i.e., “Yes” or “No,” and data from the diagnostics were scored on a 3-point scale (which we later converted to a 2-point scale), we investigated any associations between the different categories from the qualitative content analysis and the different ODD criteria, using Chi-squared tests.

What is difficult and sometimes lacking in MMR studies, especially in the convergent design, is the analysis of the interface between qualitative and quantitative data (O’Cathain, Murphy, & Nicholl, 2007). Transforming data from the qualitative content analysis into a dataset as categorical data was one of our “creative” attempts to mix these two methods. However, there was an inequality between the two different datasets. In the top-down approach, we screened for the presence of different symptoms. By contrast, in the bottom-up approach, we asked about the major problems mothers experienced with their children. These became two separate ways of asking about problems, which then were compared with each other. This meant that there were different weights in the problems that were requested and later compared.

The next step in merging the bottom-up and top-down results was through triangulation, i.e., by comparing the results and analyzing convergences, divergences, associations, and contradictions between the results from the two methods (Creswell, 2017).

A problem with the quantitative analyses was the small study groups. When we wanted to compare the group of boys and girls regarding the different diagnostic criteria, there were 46 individuals in the boys’ group, but only eleven in the girls’ group. When we looked for associations, the cells in the Chi-squared test were sometimes very small and then Fisher’s test was used instead. However, because the groups sometimes became so small, caution should be applied when drawing some major conclusions from the results.

The small groups are considered to be one of the major methodological weaknesses in Study I. However, the qualitative analysis deepened the results of the study and allowed us to discover some unexpected things that would never have become visible through purely quantitative methods. A major

disadvantage of the MMR was that there are two different methods whose data collection method and results must be reported. In addition to the qualitative and quantitative results, the integration between the two methods is also important. It is sometimes difficult to describe data collection, analysis, results, and integration of two methods in one and the same article, with the limit of words most psychological journals have.

Study I also had additional limitations. We found a group of children with early tendencies to antisocial behavior. Since Study I was a cross-sectional study, we were unable to follow up the children and investigate whether it was precisely this group of children who later developed severe DBPs. To really know if the children in our study with aggressiveness and serious behavioral problems also developed a more persistent DBP in adolescence, we would need to follow these children and families a number of years in the future, which would have been very interesting but was outside the scope of this study. However, in Study III, we broadened the perspective slightly and used follow-up ratings 1 year after completion of the PT and in this way, we were able to follow the development of 30 children over a period of almost 2 years.

There was also a limitation regarding the measurement instrument. We chose to use the K-SADS as the diagnostic tool when assessing diagnostic criteria for the different DSM diagnoses. The K-SADS was designed for children aged 6–17 years, but 35% of the sample were younger (3–5 years). The adaptation of several of the questions therefore relied on the three psychologists' experience and knowledge in developmental psychology, especially for the younger ages. At the time of data collection, the K-SADS was the only available instrument in Swedish that was suitable for the purpose of the study.

At the beginning of the study, both parents of the children were invited to participate in the interviews, but very often, only the mother came to the interview. In those cases where both parents came, the interviews sometimes took between 3 and 5 hours, which was too long and tiring. Later, it was decided by the supervisors to interview only mothers in order to get a homogenous group, but we missed the perspective of the fathers.

Study II. The thematic analysis in Study II provided a picture of the extensive complexity in families with children displaying ODD behaviors. Working on transcribing the interviews has felt like peeking straight into the families' living rooms and kitchens. During certain moments, it has been painful because the descriptions of the conflicts between children and parents have been so serious and the parents' expressions of powerlessness so strongly prominent. It is very special to work with research data that has a strong emotional effect on you.

Study II was a qualitative study in which we used thematic analysis. This method is considered a basic method of qualitative research and the purpose is to identify, analyze, and report patterns in the data material (Braun & Clarke, 2013). The analysis was conducted using an inductive approach. The analysis was textual and descriptive. It became increasingly clear during the analysis that the interviews constituted a rich material that describes the different kinds of difficulties the parents experienced with children displaying ODD behaviors. Study II therefore resulted in a broad and comprehensive description of the parents' problems, rather than an in-depth analysis of a more specific area, which may have been more interesting. There was a lot of data material, and it would have been interesting to understand in a deeper way the parenting stress or the parent-child interactions. The breadth of the analysis was at the expense of depth. In Study III, we had the opportunity to deepen the analysis by examining transactions in two of the families. One finding that was not problematized in Study II was that there were families among the 19 included families, who had good experiences of support from close relatives, who had positive experiences of support from teachers in school, and where the parents cooperated very well although they were separated, which was not mentioned in the article. In the article, we chose to problematize and highlight the difficulties many families experience in their parenting situation.

The number of interviews included was due to the fact that there were 19 audio-recorded interviews available for transcription. We therefore had no opportunity to select interviews that could represent the diversity of the material. When the interviews were coded, however, we noticed that in interviews 16–19, almost no new codes were added, which indicated that there was saturation in the data. Regarding the issue of transferability to similar groups, relatively few qualitative studies have been made with specific diagnostic groups, based on research of parental support programs (Butler et al., 2020). Most studies that have been done are effect studies. The results from Study II are judged to be representative descriptions of difficulties that can be found in Swedish families with children displaying ODD behaviors and to be similar to such families in a Scandinavian context (Drugli, Fossum, Larsson, & Mørch, 2010).

Study III. The last study was conducted using an explanatory sequential mixed methods design. This study involved not two methods, but three. The qualitative strand was used to explain and deepen the understanding of the quantitative results (Creswell, 2017). Our quantitative strand consisted of the ECBI-IS scores before, compared with 1 year after completion of, the PT program (with about 2 years between measurements), calculated using RCI, according to Jacobson and Truax (1991). Our sample was a medium-N sample (30 children), too small for analysis with SEM or logistic regression analysis.

Instead, we chose QCA. The technique of QCA allowed comparison between cases, and at the same time offered an understanding of complexity. There are three main approaches in QCA (Roig-Tierno et al., 2017) and we chose the easiest of the three to start with, csQCA, which still is complex.

An additional reason for choosing csQCA was that the cumulative risk factor model assumes that the more risk factors, the greater the likelihood that a consistent pattern of behavioral problems will develop (Sameroff, 2020). However, the cumulative risk factor model does not take into account the type of combinations of factors that can be observed (Evans et al., 2013). We used csQCA to investigate whether it can handle the complexity in DBPs by examining if there was any single factor (sufficient or necessary) that caused the outcome or if there were combinations of factors (equifinality) that contributed to the outcome after the PT.

This methodological decision was exciting but also challenging, as csQCA is a rarely used method in psychological research. When searching for studies in the field we only found one other study that had applied the method (Thongseiratch, Leijten, & Melendez-Torres, 2020), and this was at a meso level, for evaluation of components in a PT program. Our study was with individuals (i.e., children) at a micro level, which is also unusual in the field of QCA research, where macro-level studies in for example political science or business studies are much more common (Rihoux & Marx, 2013). The results of the csQCA gave us three combinations of conditions (configurations) leading to a non-significant outcome of the PT program for the children and families in the study, pointing to equifinality regarding DBPs. The result of the csQCA also gave us four configurations leading to a significant positive outcome. One of the conditions was more problematic than the others. *Low level of education* meant that one of the parents had only attended elementary school; the opposite of this condition was not only having attended elementary school. This was not sufficiently discriminating. In this case, it would have been more useful to use mvQCA which allows conditions to have more than two values. In addition, only in five of the 30 families only attending elementary school was actual, which makes the significance of education difficult to assess in the analysis.

The disadvantage of QCA is that it is a fairly complicated method, and it contains terms based on logic and Boolean algebra, which sometimes makes it difficult to get acquainted with the method, for persons unfamiliar with the terminology of logic. We also found that csQCA seemed to work best combined with other methods. To further deepen the understanding of differences in outcome of the PT program, we therefore selected two families for a case analysis, where one child had significantly worsened 1 year after the end of the PT and the other child had significantly improved, changing from a

clinical level to a non-clinical level (i.e., recovering). The information from the csQCA analysis further led to a case analysis conducted with the two children and their families. The QCA method constitutes a bridge between the variable-oriented analysis and the person-oriented case analysis. A strength of Study III was that it became an interdisciplinary study that brought together scholars from political science, nursing, and psychology, with sometimes separate philosophical perspectives, which guided the research process as well as enriching it.

In summary, understanding the importance of risk and protective factors for DBPs is a complex challenge for researchers. Therefore, we needed to be pragmatic in the choice of methods and reflect over “what works?” We used different approaches that were available and seemed appropriate based on the research question and our sample, which resulted in an explanatory sequential mixed method study.

In the three studies in this thesis, we have used both bottom-up and top-down approaches, which has resulted in two mixed methods studies and one thematic analysis. Despite our efforts to penetrate even deeper, according to Sameroff (2020), yet another level is needed to reach a deeper understanding of the data in the complicated field of DBPs.

Clinical implications

As a psychologist in child health care and child psychiatry, I have experienced that clinicians are sometimes restrictive in diagnosing children with ODD. I think many may fear that the diagnosis would stigmatize the child; and many focus on ODD as being caused by problems in the child. We hope that this thesis will lead to understanding, among therapists who meet families with a child who has externalizing behavior problems, of the importance of denominating the child’s ODD and trying to find out why the child exhibits behavior problems. Negative behavior in children is often a sign that something in the children’s life is not good enough. A problem behavior can of course be due to a child’s temperament, NE, aggression, hyperactivity, or difficulties with compliance, as described in Study I. But it may also be a signal of difficulties in the parenting context, such as parenting style, domestic violence, loneliness in the parental role, or parents’ mental illness, as reported in Study II. The child’s symptoms of ODD can also be a symptom of difficulties and shortcomings in the relationship between the child and his or her parents, as was visible in the transactions between mother and child in Study III – or problems on all three levels simultaneously.

If a child is diagnosed with ODD and has a current clinical or subclinical CD in preschool age or early school age, the child’s problematic behaviors

should be taken very seriously. In addition, many children display symptoms of both ADHD and ODD. The comorbidity is high (Connor et al., 2010). If children display a comorbidity with ADHD, which was a common combination in both studies I and III, there is a need to not only consider medication for ADHD, but also offer the families support in the form of an evidence-based PT program. Moreover, many of these families have several professional contacts, as was described by parents in Study II. It seems important to gather and involve several actors who have contact with the family, so that these families do not have to go between different agencies and feel that no one is really taking responsibility for their child's wellbeing; coordinating the professional involvement would reduce the parental stress.

Finally, the challenge of managing a child with ODD or DBPs is a major burden for many parents. It is important to consider the possibility to make careful assessments before parents join a PT program. This would probably lead to a greater understanding of, and a greater empathy with, the parents' different difficulties. It would also provide the ability to tailor the PT program content to meet individual needs. The stress that parents experience can be due to a feeling of parenting failure. One of the results from Study II has been the description of the vulnerability and fragility that exist in many families who have children with ODD. As professionals in child psychiatry and child health care, we should therefore avoid placing additional blame on the parents, so as not further reinforce their sense of failure.

Ethical considerations

Perhaps the most important aspect from an ethical point of view is the absence of children's voice in this thesis. The stories of the children, in all three studies, were told from the parents' perspective. The children were not asked any of the questions from the K-SADS interview (Kaufman et al., 1997a). Therefore, it was not possible to give an overall assessment of the child's diagnosis and problems based on mothers' and fathers', as well as children's answers to the various questions, which the K-SADS usually provides the opportunity to do. In addition, in studies I and II, it was mostly the mothers who were interviewed although in Study III, fathers were also involved in the data collection. Tired and stressed parents or parents with mental illness may have cognitive biases, which makes them experience their children too negatively (Müller & Furniss, 2013). Therefore, the descriptions of the children in the current studies are probably not always objective assessments of the children's function and personality but in many cases may be influenced by the parent's own psychosocial problems. It would have been valuable to have the children's own descriptions of their situation in the family, even though they were only 3–8 years old.

This research has been approved by the Sahlgrenska Academy Ethics Committee but there were some ethical and practical problems that were raised during the course of the study. On a few occasions, it turned out that there was domestic violence. We were obliged to inform the parents that we needed to make a report to the social services. Since the three psychologists who conducted the interviews were employees of the CAMHS, they were used to dealing with such situations. The psychologists also discussed these situations with the supervisors in the research project.

The families who applied to participate in the PT program in the IY study were randomized to either the PT or to a waiting list. The waiting list group then had to wait but were offered the PT program one semester later. The supervisors in the IY project deemed that it was ethically reasonable to have to suffer that delay, given that the waiting time for CAMHS for parental support at the time of the study was between 1 and 2 years. Clinical assessments were made in cases where the intervention was judged to be urgent, and these families went directly to the PT intervention and did not risk be randomized to the waiting list group. This assessment was also shared by the ethics committee.

To protect the participants from being identified, all names in studies II and III have been changed, and where parents gave detailed stories, these have not been included as quotations in the articles, to prevent these individuals from being identified. Some facts about the children and parents have also been changed in order to make it impossible to identify the families, but the changes that have been made should not have affected the results.

When we selected two children and their mothers for a case analysis in Study III, we made a strategic selection based on the fact that we wanted to compare a child from the group with a significant positive outcome (recovered) with one of the two children who showed a significant negative outcome. Using case analysis, we wanted to deepen the understanding of how the combination of conditions affected the transactions between mother and child, as described by the mother. The ethical approval included the use of K-SADS interviews, and here, too, we have endeavored to remove or change things that might reveal the identity of individuals.

In the interviews with the parents, the psychologists conducting the 3-hour interviews experienced that they sometimes came emotionally close to the mothers, since they were talking about relationships in the families and about their worries regarding the upbringing of their children, etc. Therefore, it was positive that the same psychologist who conducted the first interview (T1) also met the mothers for an additional interview 1 year after completion of the PT in the follow-up (T3). Since the psychologists were a part of CAMHS, they were also able to guide those parents and children who needed further

investigation and treatment from CAMHS, after the PT program. Some of the children later received ADHD or autism spectrum diagnoses and got treatment for these additional problems.

Limitations

Several of the limitations of this thesis have already been addressed earlier in the general discussion, especially in the Methodological discussion, but there are further limitations that need to be illuminated.

A clear and important limitation in this thesis is that the connection between DBPs and neurophysiological processes has not been problematized at all and that the nature–nurture integration is only very briefly mentioned in the Introduction. These neurophysiological discussions, which are very absent from this text, are important because they suggest a strong hereditary predisposition for development of DBPs. However, questions about neurophysiology are beyond the scope of this thesis. The choice of focus has been a developmental psychopathological perspective with especially a transactional focus (Sameroff, 2009).

Another aspect that is missing is assessments of CU traits. The clearest association between ODD and CU traits is found in the criterion *is often spiteful and vindictive*, according to Aebi et al. (2013). Unfortunately, it is only measured with a single criterion in ODD and is therefore not a reliable measurement of CU behavior in children. In Study I, 29.8% of the children met the criterion *is often spiteful and vindictive*, which indicates that it is a subgroup of children with ODD who show tendencies towards CU behaviors. Because CU traits is also a risk factor for development of more severe DBPs (P. Frick et al., 2014), it would have been interesting to complete the study with an instrument that also measures CU behavior, but we did not have this in mind when we started the study. However, CU traits and the development of moral self are described in the Introduction, since this is a part of the concept of ODD, even if we did not measure it.

An important factor to discuss under Limitations, and which we have discussed during the research process, is the age of the data collected. This thesis used data collected in conjunction with the RCT study that evaluated the IY PT program, by Axberg & Broberg (2012). The results from Study I and Study III should probably approximately be the same, with both using current data. The developmental psychopathological traits in the children, such as aggression, NE, and impulsivity, have probably remained unchanged. Regarding Study II, the situation for parents is not the same today that it was 10–15 years ago. It is more challenging for parents today to handle, for example, children's screen time, and this even includes children as young as

those in the study (3–8 years old). If Study II highlights complexity from slightly older data, today's parenting is therefore not less but probably even more complicated.

Future research

In Study I, we found a group of children (25%) aged 3–8 displaying aggressive, provocative, and rule-breaking behavior. There are very few long-term follow-ups regarding clinical groups of children whose parents have received support in the form of PT programs. It would be interesting to follow these children when they are in their late teens and early adulthood to investigate whether those children with more antisocial problems also have these difficulties later or whether the problems have faded. If possible, it would also be of interest to compare them with families that did not receive family support.

There is also more to do regarding the ODD diagnosis. The gap between ODD and CD in the DSM-5 for younger ages contributes to failure to identify the children who are most at risk of progressing from ODD to CD to antisocial personality disorder. Further research could show whether there is a need for additional criteria regarding CU behavior in the ODD diagnosis or whether it is possible to specify in the diagnosis if there also is subclinical CD.

There is still uncertainty about boys' and girls' different expressions of defiant behavior. Research shows different results. In Study I, we found defiant expressions (*often deliberately annoys others*) to be the most obvious difference between boys and girls, where girls seemed to exhibit relational aggression towards their surroundings while boys were more physically provocative. Research is needed in order to adapt the ODD criteria also to girls' expression of oppositional behavior.

There were also differences between diagnostic criteria and parents' descriptions of irritability/NE in children aged 3–8 years in Study I. No mother spontaneously referred to her child as *touchy and easily annoyed* or *angry and resentful*, as described in the DSM; rather, the mothers described their children's NE in terms such as "unpleasant," "jealous," "negative," "grumpy," "frustrated," "whiny," and "never satisfied." It seems important to understand more of the developmental differences in relation to age in the expression of NE since this temperament trait is of great importance for the child's continued development and especially dependent on a positive and warm emotional context.

In Study II, we collected vivid descriptions of familial difficulties from 19 families. Their children had been diagnosed with ODD, and the parents wished to participate in a PT program. Only one of the parents was not native Swedish. The study was conducted in two areas in Sweden: one city with 100 000

residents and the other area with smaller cities and countryside. It would be of the great value to conduct the same study in a suburban area with several different nationalities and different cultural and religious backgrounds. Such a study is also possible to complete with a QCA to investigate what kind of conditions or combination of conditions (special risk and protective factors in a suburban area) lead to a positive or a negative outcome after a comprehensive PT program.

Study III generated hypotheses about combinations of different risk and protective factors which may have an impact on the outcome of a PT program, in this case the IY program. This study can be replicated in other settings with a medium N of cases (a sample size that is usual in clinical studies) using the truth table in Study III, provided the same conditions are applied. This would contribute to a cumulative development of empirical knowledge and understanding of the outcome of a PT, and in this way improve the possibilities to generalize the results.

Conclusion

The aim of the three studies in the thesis was to gain a deeper insight into the complexities in families with children with ODD and get a deeper understanding of the risk factors and conditions that may complicate the impact of a comprehensive PT program for parents with children displaying ODD behaviors.

It has been found that many parents whose children have ODD experience internal and external complexity in their situation as parents, a burden in their parenting. A careful assessment before parents join the PT program, in order to identify the family's unique needs, would probably lead to a greater understanding of and empathy with the parents' different difficulties. In addition, it would lead to a better adaptation of the PT program to the parents' situation.

It is neither risk factors alone, nor protective factors alone, that lead to different outcomes for children whose parents participated in a PT program; rather, a combination of risk and protective factors determine the outcome. Study III has led to hypotheses about combinations of factors leading to different outcomes. Aggressiveness in combination with either ADHD or NE in children, when parents simultaneously have mental health problems, or a lower education level, seems to constitute risks for families and lead to a negative outcome after intervention with a PT program.

In all three studies, it has been shown that a subgroup of children with ODD in preschool and early school age exhibit serious aggressive and provocative behaviors. Aggressive and provocative behaviors manifest in early childhood

are not covered by the ODD criteria, nor are they always sufficiently alarming to meet the diagnosis of CD, where three criteria are needed for diagnosis. The study shows that there is a gap between the ODD and CD diagnosis for younger children.

References

- Achenbach, T. M. (2000). Assessment of Psychopathology. In A. J. Sameroff, M. Lewis, & S. M. Miller (Eds.), *Developmental psychopathology*. New York: Springer science.
- Achenbach, T. M., & Rescorla, L. A. (2000). *Manual for preschool forms & profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth & Families.
- Aebi, M., Plattner, B., Metzke, C. W., Bessler, C., & Steinhausen, H.-C. (2013). Parent- and self-reported dimensions of oppositionality in youth: construct validity, concurrent validity, and the prediction of criminal outcomes in adulthood. *Journal of Child Psychology and Psychiatry*, 54(9), 941-949. doi:10.1111/jcpp.12039
- Alfredsson, E. (2018). Growing together: Participation in and outcomes of programs for parents of adolescents. In.
- Allan, N. P., & Lonigan, C. J. (2011). Examining the Dimensionality of Effortful Control in Preschool Children and Its Relation to Academic and Socioemotional Indicators. *Dev Psychol*, 47(4), 905-915. doi:10.1037/a0023748
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders DSM-5* (5th ed. ed.). Arlington, VA.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders: DSM-IV-TR* (Vol. 4.). Washington, DC: American Psychiatric Association.
- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders (DSM-5®)* (5 ed.). Retrieved from <http://GU.ebib.com/patron/FullRecord.aspx?p=1811753>
- Andershed, & Andershed. (2005). *Normbrytande beteende i barndomen : vad säger forskningen?* (1. uppl. ed.). Stockholm: Stockholm : Gothia.
- Andershed, A.-K., Gibson, C. L., & Andershed, H. (2016). The role of cumulative risk and protection for violent offending. *Journal of criminal justice*, 45, 78-84. doi:10.1016/j.jcrimjus.2016.02.006
- Anderson, A. S., Siciliano, R. E., Henry, L. M., Watson, K. H., Gruhn, M. A., Kuhn, T. M., . . . Compas, B. E. (2022). Adverse childhood experiences, parenting, and socioeconomic status: Associations with internalizing and externalizing symptoms in adolescence. *Child Abuse & Neglect*, 125, 105493-105493. doi:10.1016/j.chiabu.2022.105493
- Axberg, U. (2007). *Assessing and treating three to twelve-year-olds displaying disruptive behaviour problems*. Diss. (sammanfattning) Göteborg : Göteborgs universitet, 2007, Skövde.
- Axberg, U., & Broberg, A. G. (2012). Evaluation of "The Incredible Years" in Sweden: The transferability of an American parent-training program to Sweden. *Scandinavian Journal of Psychology*, 53(3), 224-232. doi:10.1111/j.1467-9450.2012.00955.x

- Bakermans-Kranenburg, M. J., & van Ijzendoorn, M. H. (2006). Gene-environment interaction of the dopamine D4 receptor (DRD4) and observed maternal insensitivity predicting externalizing behavior in preschoolers. *Developmental psychobiology*, 48(5), 406-409. doi:10.1002/dev.20152
- Bandura, A. (1977a). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215. doi:http://dx.doi.org/10.1037/0033-295X.84.2.191
- Bandura, A. (1977b). *Social learning theory*: Englewood Cliffs, N.J. Prentice Hall.
- Baumrind, D. (1966). Effects of Authoritative Parental Control on Child Behavior. *Child Development*, 37(4), 887-907. doi:10.2307/1126611
- Baumrind, D. (1971). Current patterns of parental authority. *Dev Psychol*, 4(1), 1-103. doi:10.1037/h0030372
- Baumrind, D. (2005). Patterns of parental authority and adolescent autonomy. *New Directions for Child and Adolescent Development*, 2005(108), 61-69. doi:10.1002/cd.128
- Baumrind, D., Larzelere, R. E., & Cowan, P. A. (2002). Ordinary physical punishment: is it harmful? Comment on Gershoff (2002). *Psychological Bulletin*, 128(4), 580. doi:10.1037/0033-2909.128.4.580
- Belsky, J., Hsieh, K.-H., & Crnic, K. (1998). Mothering, fathering, and infant negativity as antecedents of boys externalizing problems and inhibition at age 3 years: Differential susceptibility to rearing experience? *Development and Psychopathology*, 10(2), 301-319. doi:10.1017/S095457949800162X
- Belsky, J., & Pluess, M. (2009). Beyond Diathesis Stress: Differential Susceptibility to Environmental Influences. *Psychological Bulletin*, 135(6), 885-908. doi:10.1037/a0017376
- Biederman, I., Glass, A. L., & Stacy, E. W. (1973). Searching for objects in real-world scenes. *Journal of Experimental Psychology*, 97(1), 22-27. doi:http://dx.doi.org/10.1037/h0033776
- Blair, C. (2002). School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *American Psychologist*, 57(2), 111-127. doi:http://dx.doi.org/10.1037/0003-066X.57.2.111
- Booker, J. A., Capriola-Hall, N. N., Dunsmore, J. C., Greene, R. W., & Ollendick, T. H. (2018). Change in Maternal Stress for Families in Treatment for their Children with Oppositional Defiant Disorder. *Journal of Child and Family Studies*, 27(8), 2552-2561. doi:10.1007/s10826-018-1089-1
- Bornheimer, L. A., Acri, M., Li Verdugo, J., & McKay, M. M. (2021). Family Processes and Mental Health among Children and Caregivers in a Family Strengthening Program. *Journal of Child and Family Studies*, 30(11), 2903-2912. doi:10.1007/s10826-021-02035-w
- Braun, V., & Clarke. (2013). *Successful qualitative research : a practical guide for beginners* (1. ed. ed.): Thousand Oaks, CA : SAGE Publications.
- Breitenstein, S. M., Hill, C., & Gross, D. (2009). Understanding Disruptive Behavior Problems in Preschool Children. *Journal of pediatric nursing*, 24(1), 3-12. doi:10.1016/j.pedn.2007.10.007

- Bridges, L. J., Denham, S. A., & Ganiban, J. M. (2004). Definitional Issues in Emotion Regulation Research. *Child Development*, 75(2), 340-345. doi:10.1111/j.1467-8624.2004.00675.x
- Bronfenbrenner, U. (2005). *Making human beings human: bioecological perspectives on human development*.: Thousands Oaks: Sage Publicans.
- Bulotsky-Shearer, R. J., Fernandez, V., Dominguez, X., & Rouse, H. L. (2011). Behavior Problems in Learning Activities and Social Interactions in Head Start Classrooms and Early Reading, Mathematics, and Approaches to Learning. *School Psychology Review*, 40(1), 39-56.
- Burke, Hipwell, A. E., & Loeber, R. (2010). Dimensions of Oppositional Defiant Disorder as Predictors of Depression and Conduct Disorder in Preadolescent Girls. *Journal of the American Academy of Child & Adolescent Psychiatry*, 49(5), 484-492. doi:http://dx.doi.org/10.1016/j.jaac.2010.01.016
- Burke, J., Pardini, D., & Loeber, R. (2008). Reciprocal Relationships Between Parenting Behavior and Disruptive Psychopathology from Childhood Through Adolescence. *Journal of Abnormal Child Psychology*, 36(5), 679-692. doi:10.1007/s10802-008-9219-7
- Burke, J. D., Rowe, R., & Boylan, K. (2014). Functional outcomes of child and adolescent oppositional defiant disorder symptoms in young adult men. *Journal of Child Psychology and Psychiatry*, 55(3), 264-272. doi:10.1111/jcpp.12150
- Burt, S. A., McGue, M., Krueger, R. F., & Iacono, W. G. (2005). How are parent-child conflict and childhood externalizing symptoms related over time? Results from a genetically informative cross-lagged study. *Development and Psychopathology*, 17(1), 145-165. doi:10.1017/S095457940505008X
- Buss, A., & Plomin, R. (1984). *Temperament: Early developing personality traits*. Hillsdale NJ: Law.
- Butler, J., Gregg, L., Calam, R., & Wittkowski, A. (2020). Parents' Perceptions and Experiences of Parenting Programmes: A Systematic Review and Metasynthesis of the Qualitative Literature. *Clinical Child and Family Psychology Review*, 23(2), 176. doi:10.1007/s10567-019-00307-y
- Butler, R., & Shalit-Naggar, R. (2008). Gender and Patterns of Concerned Responsiveness in Representations of the Mother-Daughter and Mother-Son Relationship. *Child Development*, 79(4), 836-851. doi:10.1111/j.1467-8624.2008.01162.x
- Calkins, S. D. (2002). Does aversive behavior during toddlerhood matter? The effects of difficult temperament on maternal perceptions and behavior. *Infant Mental Health Journal*, 23(4), 381-402. doi:10.1002/imhj.10024
- Calkins, S. D., & Keane, S. P. (2009). Developmental origins of early antisocial behavior. *Development and Psychopathology*, 21(4), 1095-1109. doi:http://dx.doi.org/10.1017/S095457940999006X
- Callaghan, B. L., & Tottenham, N. (2016). The Neuro-Environmental Loop of Plasticity: A Cross-Species Analysis of Parental Effects on Emotion Circuitry Development Following Typical and Adverse Caregiving. *Neuropsychopharmacology (New York, N.Y.)*, 41(1), 163-176. doi:10.1038/npp.2015.204

- Campbell, J. (1998). Book Review: Peabody Picture Vocabulary Test, Third Edition. *Journal of Psychoeducational Assessment*, 16(4), 334-338. doi:10.1177/073428299801600405
- Chang, H., Olson, S., Sameroff, A., & Sexton, H. (2011). Child Effortful Control as a Mediator of Parenting Practices on Externalizing Behavior: Evidence for a Sex-Differentiated Pathway across the Transition from Preschool to School. *Journal of Abnormal Child Psychology*, 39(1), 71-81. doi:10.1007/s10802-010-9437-7
- Cicchetti, D., & Rogosch, F. A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology*, 8(4), 597-600. doi:10.1017/S0954579400007318
- Cole, P. M., Dennis, T. A., Smith-Simon, K. E., & Cohen, L. H. (2009). Preschoolers' Emotion Regulation Strategy Understanding: Relations with Emotion Socialization and Child Self-regulation. *Social Development*, 18(2), 324-352. doi:10.1111/j.1467-9507.2008.00503.x
- Connor, D. F., Steeber, J., & McBurnett, K. (2010). A review of attention-deficit/hyperactivity disorder complicated by symptoms of oppositional defiant disorder or conduct disorder. *J Dev Behav Pediatr*, 31(5), 427-440. doi:10.1097/DBP.0b013e3181e121bd
- Corcoran, J., Schildt, B., Hochbrueckner, R., & Abell, J. (2016). Parents of Children with Attention Deficit/Hyperactivity Disorder: A Meta-Synthesis, Part I. *Child & adolescent social work journal*, 34(4), 281-335. doi:10.1007/s10560-016-0465-1
- Corcoran, J., Schildt, B., Hochbrueckner, R., & Abell, J. (2017). Parents of Children with Attention Deficit/Hyperactivity Disorder: A Meta-Synthesis, Part II. *Child & adolescent social work journal*, 34(4), 337-348. doi:10.1007/s10560-017-0497-1
- Cragun, D., Pal, T., Vadaparampil, S. T., Baldwin, J., Hampel, H., & Debate, R. D. (2016). Qualitative Comparative Analysis: A Hybrid Method for Identifying Factors Associated With Program Effectiveness. *Journal of Mixed Methods Research*, 10(3), 251-272. doi:10.1177/1558689815572023
- Crespo, L., Trentacosta, C., Aikins, D., & Wargo-Aikins, J. (2017). Maternal Emotion Regulation and Children's Behavior Problems: The Mediating Role of Child Emotion Regulation. *Journal of Child and Family Studies*, 26(10), 2797-2809. doi:10.1007/s10826-017-0791-8
- Creswell, J. W. (2017). *Designing and conducting mixed methods research* (Third Edition. ed.): Los Angeles : SAGE.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (Vol. 2.). Los Angeles: SAGE Publications.
- Crittenden, P. M. (2017). Gifts from Mary Ainsworth and John Bowlby. *Clinical Child Psychology and Psychiatry*, 22(3), 436-442. doi:10.1177/1359104517716214
- Cummings, E. M., & Davies, P. (1996). Emotional security as a regulatory process in normal development and the development of psychopathology. *Development and Psychopathology*, 8(1), 123-139. doi:10.1017/S0954579400007008
- Cummings, E. M., Keller, P. S., & Davies, P. T. (2005). Towards a family process model of maternal and paternal depressive symptoms: exploring multiple relations with child and family functioning. *Journal of Child Psychology and Psychiatry*, 46(5), 479-489. doi:10.1111/j.1469-7610.2004.00368.x

- Cummings, E. M., Schermerhorn, A. C., Keller, P. S., & Davies, P. T. (2008). Parental Depressive Symptoms, Children's Representations of Family Relationships, and Child Adjustment. *Social Development, 17*(2), 278-305. doi:10.1111/j.1467-9507.2007.00425.x
- Cunningham, C. E., Bremner, R., & Boyle, M. (1995). Large Group Community-Based Parenting Programs for Families of Preschoolers at Risk for Disruptive Behaviour Disorders: Utilization, Cost Effectiveness, and Outcome. *Journal of Child Psychology and Psychiatry, 36*(7), 1141-1159. doi:10.1111/j.1469-7610.1995.tb01362.x
- Darling, N., & Steinberg, L. (1993). Parenting Style as Context: An Integrative Model. *Psychological Bulletin, 113*(3), 487-496. doi:10.1037/0033-2909.113.3.487
- Davies, P. T., & Cummings, E. M. (1998). Exploring Children's Emotional Security as a Mediator of the Link between Marital Relations and Child Adjustment. *Child Development, 69*(1), 124-139. doi:10.1111/j.1467-8624.1998.tb06138.x
- Davies, P. T., & Sturge-Apple, M. L. (2014). Family Context in the Development of Psychopathology. In M. Lewis & K. D. Rudolph (Eds.), *Handbook of Developmental Psychopathology* (pp. 143-161). Boston, MA: Springer US.
- Deater-Deckard, K. (1998). Parenting Stress and Child Adjustment: Some Old Hypotheses and New Questions. *Clinical psychology (New York, N.Y.), 5*(3), 314-332. doi:10.1111/j.1468-2850.1998.tb00152.x
- Delgado, B., Carrasco, M., González-Peña, P., & Holgado-Tello, F. (2018). Temperament and Behavioral Problems in Young Children: the Protective Role of Extraversion and Effortful Control. *Journal of Child and Family Studies, 27*(10), 3232-3240. doi:10.1007/s10826-018-1163-8
- Demmer, D. H., Hooley, M., Sheen, J., McGillivray, J. A., & Lum, J. A. G. (2017). Sex Differences in the Prevalence of Oppositional Defiant Disorder During Middle Childhood: a Meta-Analysis. *Journal of Abnormal Child Psychology, 45*(2), 313-325. doi:10.1007/s10802-016-0170-8
- Derks, E. M., Dolan, C. V., Hudziak, J. J., Neale, M. C., & Boomsma, D. I. (2007). Assessment and etiology of attention deficit hyperactivity disorder and oppositional defiant disorder in boys and girls. *Behavior genetics, 37*(4), 559-566. doi:10.1007/s10519-007-9153-4
- Dette-Hagenmeyer, D. E., & Reichle, B. (2014). Parents' depressive symptoms and children's adjustment over time are mediated by parenting, but differentially for fathers and mothers. *European Journal of Developmental Psychology, 11*(2), 196-210. doi:10.1080/17405629.2013.848789
- Diaz, A., Eisenberg, N., Valiente, C., Vanschyndel, S., Spinrad, T. L., Berger, R., . . . Southworth, J. (2017). Relations of positive and negative expressivity and effortful control to kindergarteners' student-teacher relationship, academic engagement, and externalizing problems at school. *Journal of Research in Personality, 67*, 3-14. doi:10.1016/j.jrp.2015.11.002
- Dodge, K. A. (2000). Conduct Disorder. In A. J. Sameroff, M. Lewis, & S. M. Miller (Eds.), *Handbook of developmental psychopathology* (2. ed. ed., pp. 447-463). New York, N.Y. London : Kluwer Academic/Plenum.

- Dodge, K. A., & Coie, J. D. (1987). Social-Information-Processing Factors in Reactive and Proactive Aggression in Children's Peer Groups. *Journal of Personality and Social Psychology*, 53(6), 1146-1158. doi:10.1037/0022-3514.53.6.1146
- Dodge, K. A., Lochman, J. E., Harnish, J. D., Bates, J. E., & Pettit, G. S. (1997). Reactive and Proactive Aggression in School Children and Psychiatrically Impaired Chronically Assaultive Youth. *Journal of Abnormal Psychology*, 106(1), 37-51. doi:10.1037/0021-843X.106.1.37
- Dong, S., Wang, Z., Lu, S., Liang, X., & Xing, X. (2018). Children's Temperament and Maternal Behavioral Control: Origins of Heterogeneity in Developmental Trajectories of Committed Compliance from Infancy to Age 3. *Journal of Child and Family Studies*, 27(8), 2668-2677. doi:10.1007/s10826-018-1101-9
- Downey, G., & Coyne, J. (1990). Children of depressed parents: an integrative review. *Psychological Bulletin*, 108(Jul 90), 50-76.
- Drugli, M., Fossum, S., Larsson, B., & Mørch, W.-T. (2010). Characteristics of young children with persistent conduct problems 1 year after treatment with the Incredible Years program. *European Child & Adolescent Psychiatry*, 19(7), 559-565. doi:10.1007/s00787-009-0083-y
- Eisenberg, N., Guthrie, I. K., Fabes, R. A., Shepard, S., Losoya, S., Murphy, B., . . . Reiser, M. (2000). Prediction of Elementary School Children's Externalizing Problem Behaviors from Attentional and Behavioral Regulation and Negative Emotionality. *Child Development*, 71(5), 1367-1382. doi:10.1111/1467-8624.00233
- Eisenberg, N., Losoya, S., Guthrie, I. K., Murphy, B., Shepard, S. A., Padgett, S. J., . . . Reiser, M. (2001). Parental Socialization of Children's Dysregulated Expression of Emotion and Externalizing Problems. *Journal of Family Psychology*, 15(2), 183-205. doi:10.1037/0893-3200.15.2.183
- Eisenberg, N., Spinrad, T. L., Fabes, R. A., Reiser, M., Cumberland, A., Shepard, S. A., . . . Thompson, M. (2004). The Relations of Effortful Control and Impulsivity to Children's Resiliency and Adjustment. *Child Development*, 75(1), 25-46. doi:10.1111/j.1467-8624.2004.00652.x
- Eisenberg, N., Spinrad, T. L., & Morris, A. S. (2002). Regulation, Resiliency, and Quality of Social Functioning. *Self and Identity*, 1(2), 121-128. doi:10.1080/152988602317319294
- Elgar, F., Mills, R., McGrath, P., Waschbusch, D., & Brownridge, D. (2007). Maternal and Paternal Depressive Symptoms and Child Maladjustment: The Mediating Role of Parental Behavior. *Journal of Abnormal Child Psychology*, 35(6), 943-955. doi:10.1007/s10802-007-9145-0
- Ellis, B., Alisic, E., Reiss, A., Dishion, T., & Fisher, P. (2014). Emotion Regulation Among Preschoolers on a Continuum of Risk: The Role of Maternal Emotion Coaching. *Journal of Child and Family Studies*, 23(6), 965-974. doi:10.1007/s10826-013-9752-z
- Elo, S., & Kynäas, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115. doi:10.1111/j.1365-2648.2007.04569.x
- Evans, G. W., Li, D., & Whipple, S. S. (2013). Cumulative Risk and Child Development. *Psychological Bulletin*, 139(6), 1342-1396. doi:10.1037/a0031808

- Eyberg, S. M., & Pincus, D. (1999). *ECBI Eyberg Child Behavior Inventort and SESBI-R Sutter - Eyberg Student Behavioer Inventory- Revised, Professional manual*. Odessa, Florida: Psychological Assessment Resources.
- Fearon, R. P., Bakermans-Kranenburg, M. J., van Ijzendoorn, M. H., Lapsley, A.-M., & Roisman, G. I. (2010). The Significance of Insecure Attachment and Disorganization in the Development of Childrens Externalizing Behavior: A Meta-Analytic Study. *Child Development*, 81(2), 435-456. doi:10.1111/j.1467-8624.2009.01405.x
- Feldman, R., & Klein, P. S. (2003). Toddlers' Self-Regulated Compliance to Mothers, Caregivers, and Fathers: Implications for Theories of Socialization. *Dev Psychol*, 39(4), 680-692. doi:10.1037/0012-1649.39.4.680
- Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving Integration in Mixed Methods Designs-Principles and Practices. *Health services research*, 48(6pt2), 2134-2156. doi:10.1111/1475-6773.12117
- Firmin, M. W., & Phillips, A. (2009). A Qualitative Study of Families and Children Possessing Diagnoses of ADHD. *Journal of family issues*, 30(9), 1155-1174. doi:10.1177/0192513X09333709
- Forgatch, M. S., & Degarmo, D. S. (1999). Parenting Through Change: An Effective Prevention Program for Single Mothers. *Journal of Consulting and Clinical Psychology*, 67(5), 711-724. doi:10.1037/0022-006X.67.5.711
- Frick, M., & Brocki, K. (2019). A multi-factorial perspective on ADHD and ODD in school-aged children: What is the role of cognitive regulation, temperament, and parental support? *Journal of Clinical and Experimental Neuropsychology*, 41(9), 933-945. doi:10.1080/13803395.2019.1641185
- Frick, P., & Ellis, M. (1999). Callous-Unemotional Traits and Subtypes of Conduct Disorder. *Clinical Child and Family Psychology Review*, 2(3), 149-168. doi:10.1023/A:1021803005547
- Frick, P., Ray, J., Thornton, L., & Kahn, R. (2014). Can Callous-Unemotional Traits Enhance the Understanding, Diagnosis, and Treatment of Serious Conduct Problems in Children and Adolescents? A Comprehensive Review. *Psychological Bulletin*, 140(1), 1-57. doi:10.1037/a0033076
- Furlong, M., & McGilloway, S. (2012). The Incredible Years Parenting program in Ireland: A qualitative analysis of the experience of disadvantaged parents. *Clinical Child Psychology and Psychiatry*, 17(4), 616-630. doi:10.1177/1359104511426406
- Gavin, I. N., Gaynes, N. B., Lohr, N. K., Meltzer-Brody, N. S., Gartlehner, N. G., & Swinson, N. T. (2005). Perinatal Depression: A Systematic Review of Prevalence and Incidence. *Obstetrics & Gynecology*, 106(5, Part 1), 1071-1083. doi:10.1097/01.AOG.0000183597.31630.db
- Gesser-Edelsburg, A., Cohen, R., Shahbari, N. A. E., & Hijazi, R. (2020). A mixed-methods sequential explanatory design comparison between COVID-19 infection control guidelines' applicability and their protective value as perceived by Israeli healthcare workers, and healthcare executives' response. *Antimicrobial resistance & infection control*, 9(1), 148-148. doi:10.1186/s13756-020-00812-8
- Giannotta, F., Özdemir, M., & Stattin, H. (2019). The Implementation Integrity of Parenting Programs: Which Aspects Are Most Important? *Child & Youth Care Forum*, 48(6), 917-933. doi:10.1007/s10566-019-09514-8

- Goodman, R. (1999). The Extended Version of the Strengths and Difficulties Questionnaire as a Guide to Child Psychiatric Caseness and Consequent Burden. *Journal of Child Psychology and Psychiatry*, 40(5), 791-799. doi:10.1017/S0021963099004096
- Goodman, S. H., Rouse, M. H., Connell, A. M., Broth, M. R., Hall, C. M., & Heyward, D. (2011). Maternal Depression and Child Psychopathology: A Meta-Analytic Review. *Clinical Child and Family Psychology Review*, 14(1), 1-27. doi:10.1007/s10567-010-0080-1
- Gorard, S. (2010). SAGE Handbook of Mixed Methods in Social & Behavioral Research. In A. Tashakkori & C. Teddlie (Eds.), (2 ed.). doi:10.4135/9781506335193
- Gottman, J. M., Katz, L. F., & Hooven, C. (1996). Parental Meta-Emotion Philosophy and the Emotional Life of Families: Theoretical Models and Preliminary Data. *Journal of Family Psychology*, 10(3), 243-268. doi:10.1037/0893-3200.10.3.243
- Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, 24(2), 105-112. doi:http://dx.doi.org/10.1016/j.nedt.2003.10.001
- Graziano, P. A., Landis, T., Maharaj, A., Ros-Demarize, R., Hart, K. C., & Garcia, A. (2019). Differentiating Preschool Children with Conduct Problems and Callous-Unemotional Behaviors through Emotion Regulation and Executive Functioning. *Journal of clinical child and adolescent psychology*, 1-13. doi:10.1080/15374416.2019.1666399
- Green, J., Stanley, C., Smith, V., & Goldwyn, R. (2000). A new method of evaluating attachment representations in young school-age children: The Manchester Child Attachment Story Task. *Attachment & Human Development*, 2(1), 48-70. doi:10.1080/146167300361318
- Grienenberger, J. F., Kelly, K., & Slade, A. (2005). Maternal reflective functioning, mother-infant affective communication, and infant attachment: Exploring the link between mental states and observed caregiving behavior in the intergenerational transmission of attachment. *Attachment & Human Development*, 7(3), 299-311. doi:10.1080/14616730500245963
- Gross, J. J. (2006). *Handbook of Emotion Regulation, First Edition*. New York: New York: Guilford Publications.
- Harden, B. J., Duncan, A. D., Morrison, C. I., Panlilio, C., & Clyman, R. B. (2015). Compliance and Internalization in Preschool Foster Children. *Children and Youth Services Review*, 55, 103-110. doi:10.1016/j.childyouth.2015.04.013
- Harter, S. (1999). *The construction of the self: a developmental perspective*. New York, N.Y. London : Guilford Press.
- Hartwig, S. A., Robinson, L. R., Comeau, D. L., Claussen, A. H., & Perou, R. (2017). MATERNAL PERCEPTIONS OF PARENTING FOLLOWING AN EVIDENCE-BASED PARENTING PROGRAM: A QUALITATIVE STUDY OF LEGACY FOR CHILDRENTM. *Infant Mental Health Journal*, 38(4), 499-513. doi:10.1002/imhj.21657
- Hatfield, E., Carpenter, M., & Rapson, R. L. (2014). *Emotional contagion as a precursor to collective emotions*: Oxford University Press.

- Helzer, J. E., Kraemer, H. C., & Krueger, R. F. (2006). The feasibility and need for dimensional psychiatric diagnoses. *Psychological medicine*, 36(12), 1671-1680. doi:10.1017/S003329170600821X
- Henderson, S. (2007). Pathways to externalizing behavior: The effects of mother's harsh parenting and toddler's emotional reactivity. In A. L. Stolberg (Ed.): ProQuest Dissertations Publishing.
- Herrmann, A. M., & Cronqvist, L. (2009). When dichotomisation becomes a problem for the analysis of middle-sized datasets. *International journal of social research methodology*, 12(1), 33-50. doi:10.1080/13645570701708543
- Hodgetts, S., Nicholas, D., & Zwaigenbaum, L. (2013). Home Sweet Home? Families' Experiences With Aggression in Children With Autism Spectrum Disorders. *Focus on autism and other developmental disabilities*, 28(3), 166-174. doi:10.1177/1088357612472932
- Högström, J., Olofsson, V., Özdemir, M., Enebrink, P., & Stattin, H. (2016). Two-Year Findings from a National Effectiveness Trial: Effectiveness of Behavioral and Non-Behavioral Parenting Programs. *Journal of Abnormal Child Psychology*, 45(3), 527-542. doi:10.1007/s10802-016-0178-0
- Hornor, G., Quinones, S. G., Boudreaux, D., Bretl, D., Chapman, E., Chiocca, E. M., . . . Vangraafeiland, B. (2020). Building a Safe and Healthy America: Eliminating Corporal Punishment via Positive Parenting. *Journal of Pediatric Health Care*, 34(2), 136-144. doi:10.1016/j.pedhc.2019.09.008
- Hubbard, J. A., Smithmyer, C. M., Ramsden, S. R., Parker, E. H., Flanagan, K. D., Dearing, K. F., . . . Simons, R. F. (2002). Observational, Physiological, and Self-Report Measures of Children's Anger: Relations to Reactive versus Proactive Aggression. *Child Development*, 73(4), 1101-1118. doi:10.1111/1467-8624.00460
- Hyde, L. W., Shaw, D. S., Gardner, F., Cheong, J., Dishion, T. J., & Wilson, M. (2013). Dimensions of callousness in early childhood: links to problem behavior and family intervention effectiveness. *Development and Psychopathology*, 25(2), 347. doi:10.1017/S0954579412001101
- Ingoldsby, E. M., & Shaw, D. S. (2002). Neighborhood Contextual Factors and Early-Starting Antisocial Pathways. *Clinical Child and Family Psychology Review*, 5(1), 21-55. doi:10.1023/A:1014521724498
- Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. *Field methods*, 18(1), 3-20. doi:10.1177/1525822X05282260
- Jacobson, N. S., & Truax, P. (1991). Clinical Significance: A Statistical Approach to Defining Meaningful Change in Psychotherapy Research. *Journal of Consulting and Clinical Psychology*, 59(1), 12-19. doi:10.1037/0022-006X.59.1.12
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research*, 1(2), 112-133. doi:10.1177/1558689806298224
- Jonas, K., & Kochanska, G. (2018). An Imbalance of Approach and Effortful Control Predicts Externalizing Problems: Support for Extending the Dual-Systems Model into Early Childhood. *Journal of Abnormal Child Psychology*, 46(8), 1573-1583. doi:10.1007/s10802-018-0400-3

- Kalra, N., Sabherwal, P., Tyagi, R., Khatri, A., & Srivastava, S. (2021). Relationship between subjective and objective measures of anticipatory anxiety prior to extraction procedures in 8- to 12-year-old children. *Journal of dental anesthesia and pain medicine: JDAPM*, 21(2), 119-128.
- Kaminski, J., Valle, L., Filene, J., & Boyle, C. (2008). A Meta-analytic Review of Components Associated with Parent Training Program Effectiveness. *Journal of Abnormal Child Psychology*, 36(4), 567-589. doi:10.1007/s10802-007-9201-9
- Kandel, E., Mednick, S. A., Kirkegaard-Sorensen, L., Hutchings, B., Knop, J., Rosenberg, R., & Schulsinger, F. (1988). IQ as a Protective Factor for Subjects at High Risk for Antisocial Behavior. *Journal of Consulting and Clinical Psychology*, 56(2), 224-226. doi:10.1037/0022-006X.56.2.224
- Kane, G. A., Wood, V. A., & Barlow, J. (2007). Parenting programmes: a systematic review and synthesis of qualitative research. *Child: Care, Health and Development*, 33(6), 784-793. doi:10.1111/j.1365-2214.2007.00750.x
- Kaufman, J., Birmaher, B., Brent, D., Rao, U., Flynn, C., Moreci, P., . . . Ryan, N. (1997a). Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL): Initial Reliability and Validity Data. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36(7), 980-988. doi:10.1097/00004583-199707000-00021
- Kerekes, N., Falk, Ö., Brandstrom, S., Anckarsäter, H., Råstam, M., & Hofvander, B. (2017). The protective effect of character maturity in child aggressive antisocial behavior. *Comprehensive Psychiatry*, 2017, Vol. 76, pp. 129-137, 76, 129-137.
- Killen, M., & Smetana, J. G. (2006). *Handbook of moral development*. Mahwah, N.J.: Mahwah, N.J. : Lawrence Erlbaum Associates, Publishers.
- Kim-Spoon, J., Cicchetti, D., & Rogosch, F. A. (2013). A Longitudinal Study of Emotion Regulation, Emotion Lability-Negativity, and Internalizing Symptomatology in Maltreated and Nonmaltreated Children. *Child Development*, 84(2), 512-527. doi:10.1111/j.1467-8624.2012.01857.x
- Kim, H.-K., Oh, S.-H., Yun, K. A., Sung, H., & Kim, M.-N. (2013). Comparison of Anyplex II RV16 with the xTAG respiratory viral panel and Seeplex RV15 for detection of respiratory viruses. *Journal of clinical microbiology*, 51(4), 1137-1141. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3666760/pdf/zjm1137.pdf>
- Kim, H. K., Pears, K. C., Fisher, P. A., Connelly, C. D., & Landsverk, J. A. (2010). Trajectories of maternal harsh parenting in the first 3 years of life. *Child Abuse & Neglect*, 34(12), 897-906. doi:10.1016/j.chiabu.2010.06.002
- Kim, S., & Kochanska, G. (2019). Evidence for Childhood Origins of Conscientiousness: Testing a Developmental Path From Toddler Age to Adolescence. *Dev Psychol*, 55(1), 196. Retrieved from <https://search.proquest.com/docview/2171107764?accountid=11162>
- Kim, S., Nordling, J., Yoon, J., Boldt, L., & Kochanska, G. (2013). Effortful Control in “Hot” and “Cool” Tasks Differentially Predicts Children’s Behavior Problems and Academic Performance. *Journal of Abnormal Child Psychology*, 41(1), 43-56. doi:10.1007/s10802-012-9661-4
- Kling, Å., Forster, M., Sundell, K., & Melin, L. (2010). A Randomized Controlled Effectiveness Trial of Parent Management Training With Varying Degrees of

- Therapist Support. *Behavior Therapy*, 41(4), 530-542.
doi:10.1016/j.beth.2010.02.004
- Klingzell, I., Fanti, K. A., Colins, O. F., Frogner, L., Andershed, A.-K., & Andershed, H. (2016). Early Childhood Trajectories of Conduct Problems and Callous-Unemotional Traits: The Role of Fearlessness and Psychopathic Personality Dimensions. *Child Psychiatry & Human Development*, 47(2), 236-247.
doi:10.1007/s10578-015-0560-0
- Knerr, W., Gardner, F., & Cluver, L. (2013). Improving Positive Parenting Skills and Reducing Harsh and Abusive Parenting in Low- and Middle-Income Countries: A Systematic Review. *Prevention Science*, 14(4), 352-363. doi:10.1007/s11121-012-0314-1
- Kochanska, G. (2002). Committed Compliance, Moral Self, and Internalization: A Mediational Model. *Dev Psychol*, 38(3), 339-351. doi:10.1037/0012-1649.38.3.339
- Kochanska, G., & Aksan, N. (1995). Mother-Child Mutually Positive Affect, the Quality of Child Compliance to Requests and Prohibitions, and Maternal Control as Correlates of Early Internalization. *Child Development*, 66(1), 236. doi:10.2307/1131203
- Kochanska, G., Barry, R. A., Jimenez, N. B., Hollatz, A. L., & Woodard, J. (2009). Guilt and Effortful Control: Two Mechanisms That Prevent Disruptive Developmental Trajectories. *Journal of Personality and Social Psychology*, 97(2), 322-333.
doi:10.1037/a0015471
- Kochanska, G., Murray, K. T., & Harlan, E. T. (2000). Effortful Control in Early Childhood: Continuity and Change, Antecedents, and Implications for Social Development. *Dev Psychol*, 36(2), 220-232. doi:10.1037/0012-1649.36.2.220
- Kolko, D. J., & Pardini, D. A. (2010). ODD dimensions, ADHD, and callous-unemotional traits as predictors of treatment response in children with disruptive behavior disorders. *Journal of Abnormal Psychology*, 119(4), 713-725.
doi:http://dx.doi.org/10.1037/a0020910
- Krook, M. L. (2010). Women's Representation in Parliament: A Qualitative Comparative Analysis. *Political studies*, 58(5), 886-908. doi:10.1111/j.1467-9248.2010.00833.x
- Kutcher, S., Aman, M., Brooks, S. J., Buitelaar, J., van Daalen, E., Fegert, J., . . . Tyano, S. (2004). International consensus statement on attention-deficit/hyperactivity disorder (ADHD) and disruptive behaviour disorders (DBDs): Clinical implications and treatment practice suggestions. *European neuropsychopharmacology*, 14(1), 11-28.
doi:10.1016/S0924-977X(03)00045-2
- Lahey, B. B., Pelham, W. E., Loney, J., Kipp, H., Ehrhardt, A., Lee, S. S., . . . Massetti, G. (2004). Three-Year Predictive Validity of DSM-IV Attention Deficit Hyperactivity Disorder in Children Diagnosed at 4-6 Years of Age. *The American journal of psychiatry*, 161(11), 2014-2020. doi:10.1176/appi.ajp.161.11.2014
- Leijten, P., Gardner, F., Melendez-Torres, G. J., Weeland, J., Hutchings, J., Landau, S., . . . Scott, S. (2019). Co-occurring change in children's conduct problems and maternal depression: Latent class individual participant data meta-analysis of the Incredible Years parenting program. *Development And Psychopathology*, 2019, Vol. 31, Iss. Special Issue 5, pp. 1851-1862, 31(Special Issue 5), 1851-1862.
doi:10.1017/S0954579419001068

- Leijten, P., Raaijmakers, M., Wijngaards, L., Matthys, W., Menting, A., Hemink-van Putten, M., & Orobio de Castro, B. (2018). Understanding Who Benefits from Parenting Interventions for Children's Conduct Problems: an Integrative Data Analysis. *Prevention Science*, 19(4), 579-588. doi:10.1007/s11221-018-0864-y
- Leitch, S., Sciberras, E., Post, B., Gerner, B., Rinehart, N., Nicholson, J. M., & Evans, S. (2019). Experience of stress in parents of children with ADHD: A qualitative study. *International journal of qualitative studies on health and well-being*, 14(1), 1690091-1690091. doi:10.1080/17482631.2019.1690091
- Lewis, M. (2014). Toward the Development of the Science of Developmental Psychopathology. In M. Lewis & K. D. Rudolph (Eds.), *Handbook of Developmental Psychopathology* (pp. 3-23). Boston, MA: Springer US.
- Lincoln, C. R., Russell, B. S., Donohue, E. B., & Racine, L. E. (2017). Mother-Child Interactions and Preschoolers' Emotion Regulation Outcomes: Nurturing Autonomous Emotion Regulation. *Journal of Child and Family Studies*, 26(2), 559-573. doi:10.1007/s10826-016-0561-z
- Loeber, R., & Burke, J. D. (2011). Developmental pathways in juvenile externalizing and internalizing problems. *Journal of Research on Adolescence*, 21(1), 34-46. doi:http://dx.doi.org/10.1111/j.1532-7795.2010.00713.x
- Loeber, R., Keenan, K., Lahey, B. B., Green, S. M., & Thomas, C. (1993). Evidence for developmentally based diagnoses of oppositional defiant disorder and conduct disorder. *Journal of Abnormal Child Psychology*, 21(4), 377-410. doi:10.1007/BF01261600
- Longman, T., Hawes, D., & Kohlhoff, J. (2016). Callous-Unemotional Traits as Markers for Conduct Problem Severity in Early Childhood: A Meta-analysis. In (Vol. 47, pp. 326-334). New York: Springer Science & Business Media.
- Longman, T., Hawes, D. J., & Kohlhoff, J. (2016). Callous-Unemotional Traits as Markers for Conduct Problem Severity in Early Childhood: A Meta-analysis. *Child Psychiatry & Human Development*, 47(2), 326-334. doi:10.1007/s10578-015-0564-9
- Lösel, F. P., & Farrington, D. P. P. (2012). Direct Protective and Buffering Protective Factors in the Development of Youth Violence. *American journal of preventive medicine*, 43(2), S8-S23. doi:10.1016/j.amepre.2012.04.029
- Lovejoy, M. C., Graczyk, P. A., O'Hare, E., & Neuman, G. (2000). Maternal depression and parenting behavior: A meta-analytic review. *Clinical Psychology Review*, 20(5), 561-592. doi:10.1016/S0272-7358(98)00100-7
- Manly, J. T., Kim, J. E., Rogosch, F. A., & Cicchetti, D. (2001). Dimensions of child maltreatment and children's adjustment: Contributions of developmental timing and subtype. *Development and Psychopathology*, 13(4), 759-782.
- Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology*, 2(4), 425-444. doi:10.1017/S0954579400005812
- Maughan, B., Pickles, A., Rowe, R., Costello, E. J., & Angold, A. (2000). Developmental Trajectories of Aggressive and Non-Aggressive Conduct Problems. *Journal of quantitative criminology*, 16(2), 199-221. doi:10.1023/A:1007516622688
- Maughan, B., Rowe, R., Messer, J., Goodman, R., & Meltzer, H. (2004). Conduct Disorder and Oppositional Defiant Disorder in a national sample: developmental

- epidemiology. *Journal of Child Psychology and Psychiatry*, 45(3), 609-621. doi:10.1111/j.1469-7610.2004.00250.x
- Mawdsley, H. P. (2010). *The transactional relation between child behavior problems and parenting stress and the impact of coping and social support within families who have children with developmental disabilities*. ProQuest Dissertations Publishing,
- McClelland, M. M., & Cameron, C. E. (2012). Self-Regulation in Early Childhood: Improving Conceptual Clarity and Developing Ecologically Valid Measures. *Child Development Perspectives*, 6(2), 136-142. doi:10.1111/j.1750-8606.2011.00191.x
- McLearn, K. T., Minkovitz, C. S., Strobino, D. M., Marks, E., & Hou, W. (2006). Maternal Depressive Symptoms at 2 to 4 Months Post Partum and Early Parenting Practices. *Archives of Pediatrics & Adolescent Medicine*, 160(3), 279-284. doi:10.1001/archpedi.160.3.279
- Milner, J. S. (1993). Social information processing and physical child abuse. *Clinical Psychology Review*, 13(3), 275-294. doi:10.1016/0272-7358(93)90024-G
- Moffitt, T. E. (2015). Life-Course-Persistent versus Adolescence-Limited Antisocial Behavior. In *Developmental Psychopathology* (pp. 570-598): John Wiley & Sons, Inc.
- Mofokeng, M., & van der Wath, A. E. (2017). Challenges experienced by parents living with a child with attention deficit hyperactivity disorder. *Journal of child and adolescent mental health*, 29(2), 137-145. doi:10.2989/17280583.2017.1364253
- Morawska, A., Dittman, C. K., & Rusby, J. C. (2019). Promoting Self-Regulation in Young Children: The Role of Parenting Interventions. *Clinical Child and Family Psychology Review*, 22(1), 43-51. doi:10.1007/s10567-019-00281-5
- Moretti, M. M., & Obsuth, I. (2009). Effectiveness of an attachment-focused manualized intervention for parents of teens at risk for aggressive behaviour: The Connect Program. *Journal of Adolescence*, 32(6), 1347-1357. doi:10.1016/j.adolescence.2009.07.013
- Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The Role of the Family Context in the Development of Emotion Regulation. *Social Development*, 16(2), 361-388. doi:10.1111/j.1467-9507.2007.00389.x
- Müller, J. M., & Furniss, T. (2013). Correction of distortions in distressed mothers' ratings of their preschool children's psychopathology. *Psychiatry Research*, 210(1), 294-301. doi:10.1016/j.psychres.2013.03.025
- Munkvold, L., Lundervold, A., & Manger, T. (2011). Oppositional Defiant Disorder—Gender Differences in Co-occurring Symptoms of Mental Health Problems in a General Population of Children. *Journal of Abnormal Child Psychology*, 39(4), 577-587. doi:10.1007/s10802-011-9486-6
- Neece, C. L., Green, S. A., & Baker, B. L. (2012). Parenting Stress and Child Behavior Problems: A Transactional Relationship Across Time. *American journal on intellectual and developmental disabilities*, 117(1), 48-66. doi:10.1352/1944-7558-117.1.48
- Nigg, J. T. (2006). Temperament and developmental psychopathology. *Journal of Child Psychology and Psychiatry*, 47(3-4), 395-422. doi:10.1111/j.1469-7610.2006.01612.x
- Nock, M. K., Kazdin, A. E., Hiripi, E., & Kessler, R. C. (2007). Lifetime prevalence, correlates, and persistence of oppositional defiant disorder: results from the National

- Comorbidity Survey Replication. *Journal of Child Psychology and Psychiatry*, 48(7), 703-713. doi:10.1111/j.1469-7610.2007.01733.x
- O'Cathain, A., Murphy, E., & Nicholl, J. (2007). Integration and Publications as Indicators of "Yield" From Mixed Methods Studies. *Journal of Mixed Methods Research*, 1(2), 147-163. doi:10.1177/1558689806299094
- O'Reilly, M., & Kiyimba, N. (2021). Responsibility inoculation: Constructing 'good parent' accounts when accessing child mental health services. *Human Systems*, 1(1), 52-69. doi:10.1177/2634404121999961
- Okado, Y., & Bierman, K. (2015). Differential Risk for Late Adolescent Conduct Problems and Mood Dysregulation Among Children with Early Externalizing Behavior Problems. *Journal of Abnormal Child Psychology*, 43(4), 735-747. doi:10.1007/s10802-014-9931-4
- Ostlund, B., Myruski, S., Buss, K., & Pérez-Edgar, K. E. (2021). The centrality of temperament to the research domain criteria (RDoC): The earliest building blocks of psychopathology. *Development and Psychopathology*, 1-15. doi:10.1017/S0954579421000511
- Pandey, A., Hale, D., Das, S., Goddings, A.-L., Blakemore, S.-J., & Viner, R. M. (2018). Effectiveness of Universal Self-regulation-Based Interventions in Children and Adolescents: A Systematic Review and Meta-analysis. *JAMA pediatrics*, 172(6), 566-575. doi:10.1001/jamapediatrics.2018.0232
- Patterson, G. R. (1982). *Coercive family process*. Eugene, OR: Castalia.
- Patterson, G. R., & Wells, K. C. (1984). A social learning approach, vol. 3: Coercive family process. *Behavior Therapy*, 15(1), 121-127. doi:10.1016/S0005-7894(84)80046-5
- Pinsker, M., & Geoffroy, K. (1981). A Comparison of Parent Effectiveness Training and Behavior Modification Parent Training. *Family Relations*, 30(1), 61-68. doi:10.2307/584237
- Ragin, C. C. (1987). *The comparative method : moving beyond qualitative and quantitative strategies*. Berkeley: Berkeley : University of California Press.
- Riddle, M. A. M. D., Yershova, K. P. D., Lazzaretto, D. M. S., Paykina, N. M. A., Yenokyan, G. P. D., Greenhill, L. M. D., . . . Posner, K. P. D. (2013). The Preschool Attention-Deficit/Hyperactivity Disorder Treatment Study (PATs) 6-Year Follow-Up. *Journal of the American Academy of Child and Adolescent Psychiatry*, 52(3), 264-278.e262. doi:10.1016/j.jaac.2012.12.007
- Rihoux, B., & Marx, A. (2013). QCA, 25 Years after "The Comparative Method": Mapping, Challenges, and Innovations—Mini-Symposium. *Political research quarterly*, 66(1), 167-235. doi:10.1177/1065912912468269
- Rihoux, B., & Ragin, C. (2009). *Configurational comparative methods: qualitative comparative analysis (QCA) and related techniques*.
- Ringer, N., Wilder, J., Scheja, M., & Gustavsson, A. (2020). Managing children with challenging behaviours. Parents' meaning-making processes in relation to their children's ADHD diagnosis. *International journal of disability, development, and education*, 67(4), 376-392. doi:10.1080/1034912X.2019.1596228
- Rogosch, F. A., Cicchetti, D., & Toth, S. L. (2004). Expressed emotion in multiple subsystems of the families of toddlers with depressed mothers. *Development and Psychopathology*, 16(3), 689-709. doi:10.1017/S0954579404004730

- Roig-Tierno, N., Gonzalez-Cruz, T. F., & Llopis-Martinez, J. (2017). An overview of qualitative comparative analysis: A bibliometric analysis. *Journal of Innovation & Knowledge*, 2(1), 15-23. doi:<https://doi.org/10.1016/j.jik.2016.12.002>
- Röll, J., Koglin, U., & Petermann, F. (2012). Emotion Regulation and Childhood Aggression: Longitudinal Associations. *Child Psychiatry & Human Development*, 43(6), 909-923. doi:10.1007/s10578-012-0303-4
- Rothbart, M., & Bates, J. E. (2006). *Handbook of Child Psychology, Social, Emotional, and Personality Development : Social, Emotional, and Personality Development*. Hoboken, UNITED STATES: John Wiley & Sons, Incorporated.
- Rowe, R., Costello, E. J., Angold, A., Copeland, W. E., & Maughan, B. (2010). Developmental pathways in oppositional defiant disorder and conduct disorder. *Journal of Abnormal Psychology*, 119(4), 726-738. doi:<http://dx.doi.org/10.1037/a0020798>
- Rutter, M. (2011). Research Review: Child psychiatric diagnosis and classification: concepts, findings, challenges and potential. *Journal of Child Psychology and Psychiatry*, 52(6), 647-660. doi:10.1111/j.1469-7610.2011.02367.x
- Rutter, M. (2014). Nature–Nurture Integration. In M. Lewis & K. D. Rudolph (Eds.), *Handbook of Developmental Psychopathology* (pp. 45-65). Boston, MA: Springer US.
- Rutter, M., Cox, A., Tupling, C., Berger, M., & Yule, W. (1975). Attainment and Adjustment in Two Geographical Areas: I--The Prevalence of Psychiatric Disorder. *British Journal of Psychiatry*, 126(6), 493-509. doi:10.1192/bjp.126.6.493
- Rutter, M., & Sroufe, L. A. (2000). Developmental psychopathology: Concepts and challenges. *Development and Psychopathology*, 12(3), 265-296. doi:10.1017/S0954579400003023
- Rutter, M. L. (1997). Nature-Nurture Integration: The Example of Antisocial Behavior. *The American Psychologist*, 52(4), 390-398. doi:10.1037/0003-066X.52.4.390
- Sala, M. N., Pons, F., & Molina, P. (2014). Emotion regulation strategies in preschool children. *British Journal of Developmental Psychology*, 32(4), 440-453. doi:10.1111/bjdp.12055
- Sameroff, A. J. (2009). The Transactional model of development: how children and contexts shape each other. *Choice Reviews Online*, 47(04), 47-2300-2347-2300. doi:10.5860/CHOICE.47-2300
- Sameroff, A. J. (2014). A Dialectic Integration of Development for the Study of Psychopathology. In (pp. 25-43). Boston, MA: Boston, MA: Springer US.
- Sameroff, A. J. (2020). It's More Complicated. *Annual review of developmental psychology*, 2, 1-26. doi:10.1146/annurev-devpsych-061520-120738
- Sameroff, A. J., & Mackenzie, M. J. (2003). Research strategies for capturing transactional models of development: The limits of the possible. *Development and Psychopathology*, 15(3), 613-640. doi:10.1017/S0954579403000312
- Scaramella, L. V., Sohr-Preston, S. L., Mirabile, S. P., Robison, S. D., & Callahan, K. L. (2008). Parenting and Children's Distress Reactivity during Toddlerhood: An Examination of Direction of Effects. *Social Development*, 17(3), 578-595. doi:10.1111/j.1467-9507.2007.00439.x

- Scott, S. (2010). National dissemination of effective parenting programmes to improve child outcomes. *The British journal of psychiatry : the journal of mental science*, 196(1), 1. doi:10.1192/bjp.bp.109.067728
- Scott, S., Spender, Q., Doolan, M., Jacobs, B., Aspland, H., & Webster-Stratton, C. (2001). Multicentre controlled trial of parenting groups for childhood antisocial behaviour in clinical practice Commentary: nipping conduct problems in the. *BMJ*, 323(7306), 194-194. doi:10.1136/bmj.323.7306.194
- Seay, A., Freysteinson, W. M., & McFarlane, J. (2014). Positive Parenting. *Nursing Forum*, 49(3), 200-208. doi:10.1111/nuf.12093
- Shelleby, E. C., & Shaw, D. S. (2014). Outcomes of Parenting Interventions for Child Conduct Problems: A Review of Differential Effectiveness. *Child Psychiatry Hum Dev*, 45(5), 628-645. doi:10.1007/s10578-013-0431-5
- Sifaki, M., Midouhas, E., Papachristou, E., & Flouri, E. (2020). Reciprocal relationships between paternal psychological distress and child internalising and externalising difficulties from 3 to 14 years: a cross-lagged analysis. *European Child & Adolescent Psychiatry*. doi:10.1007/s00787-020-01642-0
- Small, S. A., Cooney, S. M., & O'connor, C. (2009). Evidence-Informed Program Improvement: Using Principles of Effectiveness to Enhance the Quality and Impact of Family-Based Prevention Programs. *Family Relations*, 58(1), 1-13. doi:10.1111/j.1741-3729.2008.00530.x
- Smith, J. D., Dishion, T. J., Shaw, D. S., Wilson, M. N., Winter, C. C., & Patterson, G. R. (2014). Coercive family process and early-onset conduct problems from age 2 to school entry. *Development and Psychopathology*, 26(4pt1), 917-932. doi:10.1017/S0954579414000169
- Spritz, B. L., Sandberg, E. H., Maher, E., & Zajdel, R. T. (2010). Models of Emotion Skills and Social Competence in the Head Start Classroom. *Early Education and Development*, 21(4), 495-516. doi:10.1080/10409280902895097
- Stadelmann, S., Perren, S., Groeben, M., & Von Klitzing, K. A. I. (2010). Parental Separation and Children's Behavioral/Emotional Problems: The Impact of Parental Representations and Family Conflict. *Family Process*, 49(1), 92-108. doi:10.1111/j.1545-5300.2010.01310.x
- Stattin, H., Enebrink, P., Özdemir, M., & Giannotta, F. (2015). A National Evaluation of Parenting Programs in Sweden: The Short-Term Effects Using an RCT Effectiveness Design. *Journal of Consulting and Clinical Psychology*, 83(6), 1069-1084. doi:10.1037/a0039328
- Steele, H., & Steele, M. (2014). Attachment Disorders: Theory, Research, and Treatment Considerations. In M. Lewis & K. D. Rudolph (Eds.), *Handbook of Developmental Psychopathology* (pp. 357-370). Boston, MA: Springer US.
- Stringaris, A., & Goodman, R. (2009a). Longitudinal Outcome of Youth Oppositionality: Irritable, Headstrong, and Hurtful Behaviors Have Distinctive Predictions. *Journal of the American Academy of Child & Adolescent Psychiatry*, 48(4), 404-412. doi:10.1097/CHI.0b013e3181984f30
- Stringaris, A., & Goodman, R. (2009b). Three dimensions of oppositionality in youth. *Journal of Child Psychology and Psychiatry*, 50(3), 216-223. doi:http://dx.doi.org/10.1111/j.1469-7610.2008.01989.x

- Supplee, L. H., Skuban, E. M., Trentacosta, C. J., Shaw, D. S., & Stoltz, E. (2011). Preschool Boys' Development of Emotional Self-Regulation Strategies in a Sample At Risk for Behavior Problems. *The Journal of Genetic Psychology*, 172(2), 95-120. doi:10.1080/00221325.2010.510545
- Tabak, I., & Zawadzka, D. (2017). The importance of positive parenting in predicting adolescent mental health. *Journal of Family Studies*, 23(1), 1-18. doi:10.1080/13229400.2016.1240098
- Theule, J., Wiener, J., Tannock, R., & Jenkins, J. M. (2013). Parenting Stress in Families of Children With ADHD: A Meta-Analysis. *Journal of emotional and behavioral disorders*, 21(1), 3-17. doi:10.1177/1063426610387433
- Thomann, E., & Maggetti, M. (2020). Designing Research With Qualitative Comparative Analysis (QCA): Approaches, Challenges, and Tools. *Sociological methods & research*, 49(2), 356-386. doi:10.1177/0049124117729700
- Thomas, A., & Chess, S. (1977). *Temperament and development*. New York: Brunner/Mazel.
- Thomas, A., Chess, S., & Birch, H. G. (1968). *Temperament and behavior disorder in children*. New York: New York University Press.
- Thomas, R., Abell, B., Webb, H. J., Avdagic, E., & Zimmer-Gembeck, M. J. (2017). Parent-Child Interaction Therapy: A Meta-analysis. *Pediatrics*, 140(3). doi:10.1542/peds.2017-0352
- Thongseiratch, T., Leijten, P., & Melendez-Torres, G. J. (2020). Online parent programs for children's behavioral problems: a meta-analytic review. *European Child & Adolescent Psychiatry*, 29(11), 1555-1568. doi:10.1007/s00787-020-01472-0
- Tremblay, R. (2010). Developmental origins of disruptive behaviour problems: The original sin hypothesis, epigenetics and their consequences for prevention. *Journal of Child Psychology and Psychiatry*, 51(4), 341-367. doi:http://dx.doi.org/10.1111/j.1469-7610.2010.02211.x
- Tremblay, R., Japel, C., Perusse, D., McDuff, P., Boivin, M., Zoccolillo, M., & Montplaisir, J. (1999). The search for the age of 'onset' of physical aggression: Rousseau and Bandura revisited. *Criminal Behaviour and Mental Health*, 9(1), 8-23.
- Tremblay, R. E. (2006). Prevention of Youth Violence: Why not Start at the Beginning? *Journal of Abnormal Child Psychology*, 34(4), 481-487. doi:http://dx.doi.org/10.1007/s10802-006-9038-7
- Trentacosta, C. J., Waller, R., Neiderhiser, J. M., Shaw, D. S., Natsuaki, M. N., Ganiban, J. M., . . . Hyde, L. W. (2019). Callous-Unemotional Behaviors and Harsh Parenting: Reciprocal Associations across Early Childhood and Moderation by Inherited Risk. *Journal of Abnormal Child Psychology*, 47(5), 811-823. doi:10.1007/s10802-018-0482-y
- Vaden-Kiernan, N., Ialongo, N. S., Pearson, J., & Kellam, S. (1995). Household family structure and children's aggressive behavior : a longitudinal study of urban elementary school children. *Journal of Abnormal Child Psychology*, 23(5), 553-568. doi:10.1007/BF01447661
- Vidal-Ribas, P. M., Brotman, M. A. P., Valdivieso, I. M., Leibenluft, E. M. D., & Stringaris, A. M. D. P. M. (2016). The Status of Irritability in Psychiatry: A Conceptual and Quantitative Review. *Journal of the American Academy of Child and Adolescent Psychiatry*, 55(7), 556-570. doi:10.1016/j.jaac.2016.04.014

- Vitaro, F., Brendgen, M., & Tremblay, R. E. (2002). Reactively and proactively aggressive children: antecedent and subsequent characteristics. *Journal of Child Psychology and Psychiatry*, 43(4), 495-505. doi:10.1111/1469-7610.00040
- Vitaro, F., Gendreau, P. L., Tremblay, R. E., & Oligny, P. (1998). Reactive and Proactive Aggression Differentially Predict Later Conduct Problems. *Journal of Child Psychology and Psychiatry*, 39(3), 377-385. doi:10.1111/1469-7610.00333
- Wakschlag, L. S., Briggs-Gowan, M. J., Choi, S. W., Nichols, S. R., Kestler, J., Burns, J. L., . . . Henry, D. (2014). Advancing a Multidimensional, Developmental Spectrum Approach to Preschool Disruptive Behavior. *Journal of the American Academy of Child & Adolescent Psychiatry*, 53(1), 82-96.e83. doi:10.1016/j.jaac.2013.10.011
- Wakschlag, L. S., Henry, D. B., Tolan, P. H., Carter, A. S., Burns, J. L., & Briggs-Gowan, M. J. (2012). Putting theory to the test: Modeling a multidimensional, developmentally-based approach to preschool disruptive behavior. *Journal of the American Academy of Child & Adolescent Psychiatry*, 51(6), 593-604. doi:http://dx.doi.org/10.1016/j.jaac.2012.03.005
- Wakschlag, L. S., Perlman, S. B., Blair, R. J., Leibenluft, E., Briggs-Gowan, M. J., & Pine, D. S. (2018). The Neurodevelopmental Basis of Early Childhood Disruptive Behavior: Irritable and Callous Phenotypes as Exemplars. *The American journal of psychiatry*, 175(2), 114-130. doi:10.1176/appi.ajp.2017.17010045
- Wakschlag, L. S., Tolan, P. H., & Leventhal, B. L. (2010). Research review: 'Ain't misbehavin': Towards a developmentally-specified nosology for preschool disruptive behavior. *Journal of Child Psychology and Psychiatry*, 51(1), 3-22. doi:http://dx.doi.org/10.1111/j.1469-7610.2009.02184.x
- Waller, R., Hyde, L. W., Grabell, A. S., Alves, M. L., & Olson, S. L. (2015). Differential associations of early callous-unemotional, oppositional, and ADHD behaviors: multiple domains within early-starting conduct problems? *Journal of Child Psychology and Psychiatry*, 56(6), 657-666. doi:10.1111/jcpp.12326
- Waller, R., Shaw, D. S., & Hyde, L. W. (2017). Observed fearlessness and positive parenting interact to predict childhood callous-unemotional behaviors among low-income boys. *Journal of Child Psychology and Psychiatry*, 58(3), 282-291. doi:10.1111/jcpp.12666
- Waller, R., Trentacosta, C., Shaw, D., Ganiban, J., Reiss, D., Leve, L., & Hyde, L. (2016). Heritable temperament pathways to early callous-unemotional behaviour. *The British Journal of Psychiatry*, 209(6), 475-482. doi:10.1192/bjp.bp.116.181503
- Waschbusch, D. A. (2002). A Meta-Analytic Examination of Comorbid Hyperactive-Impulsive-Attention Problems and Conduct Problems. *Psychological Bulletin*, 128(1), 118-150. doi:10.1037/0033-2909.128.1.118
- Waschbusch, D. A., & King, S. (2006). Should Sex-Specific Norms Be Used to Assess Attention-Deficit/Hyperactivity Disorder or Oppositional Defiant Disorder? *Journal of Consulting and Clinical Psychology*, 74(1), 179-185. doi:10.1037/0022-006X.74.1.179
- Waters, S. F., & Thompson, R. A. (2014). Children's perceptions of the effectiveness of strategies for regulating anger and sadness. *International Journal of Behavioral Development*, 38(2), 174-181. doi:10.1177/0165025413515410

- Webster-Stratton, C. (2005). The Incredible Years: A Training Series for the Prevention and Treatment of Conduct Problems in Young Children. In E. D. Hibbs & P. S. Jensen (Eds.), *2nd ed.* (2nd ed. ed., pp. 507-555, Chapter xv, 839 Pages): American Psychological Association, Washington, DC.
- Wellman, H. M., Cross, D., & Watson, J. (2001). Meta-Analysis of Theory-of-Mind Development: The Truth about False Belief. *Child Development*, 72(3), 655.
- Wertz, J., Agnew-Blais, J., Caspi, A., Danese, A., Fisher, H. L., Goldman-Mellor, S., . . . Arseneault, L. (2018). From childhood conduct problems to poor functioning at age 18 years: Examining explanations in a longitudinal cohort study. *Journal of the American Academy of Child & Adolescent Psychiatry*, 57(1), 54-60.
doi:<http://dx.doi.org/10.1016/j.jaac.2017.09.437>
- Williams, K. E., & Berthelsen, D. (2017). The Development of Prosocial Behaviour in Early Childhood: Contributions of Early Parenting and Self-Regulation. *International journal of early childhood*, 49(1), 73-94. doi:10.1007/s13158-017-0185-5
- Willoughby, M., Waschbusch, D., Moore, G., & Propper, C. (2011). Using the ASEBA to Screen for Callous Unemotional Traits in Early Childhood: Factor Structure, Temporal Stability, and Utility. *Journal of Psychopathology and Behavioral Assessment*, 33(1), 19-30. doi:10.1007/s10862-010-9195-4
- Wilson, S., & Durbin, C. E. (2010). Effects of paternal depression on fathers' parenting behaviors: A meta-analytic review. *Clinical Psychology Review*, 30(2), 167-180.
doi:10.1016/j.cpr.2009.10.007
- World Health, O. (1992). *The ICD-10 classification of mental and behavioural disorders : clinical descriptions and diagnostic guidelines*: Geneva : WHO.
- Zelazo, P. D., Séguin, J. R., & Tremblay, R. E. (2013). *Aggression and Antisocial Behavior* (1 ed.): Oxford University Press.

Appendix

- IV. Ljungström, B., Kenne Sarenmalm, E., & Axberg, U. Bottom-up and top-down approaches to understanding oppositional defiant disorder symptoms during early childhood: a mixed method study. *Child Adolescent Psychiatry Mental Health* 14, 34 (2020). <https://doi.org/10.1186/s13034-020-00339-1>.
- V. Ljungström, B., Kenne Sarenmalm, E., & Axberg, U. “Since his birth, I’ve always been old” the experience of being parents to children displaying disruptive behavior problems: a qualitative study. *BMC Psychol* 8, 100 (2020). <https://doi.org/10.1186/s40359-020-00465-7>.
- VI. Ljungström, B., Denk, T., Kenne Sarenmalm, E., & Axberg, U. Use of qualitative comparative analysis in an explanatory sequential mixed methods design to explore combinations of family factors that could have impact on the outcome of a parent training program. In manuscript.



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