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The need for treatment tailoring
in youth and family services

Anne Bijlsma

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The Need for Treatment Tailoring in Youth
and Family Services

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ONE SIZE DOES NOT FIT ALL

The Need for Treatment Tailoring in Youth
and Family Services

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ter verkrijging van de graad van doctor
aan de Universiteit van Amsterdam
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Chapter 1

General Introduction

Treatment Tailoring in Family Services

Child maltreatment is a worldwide public health problem that, based on self-report studies, affects the lives of up to one third of children around the world (Stoltenborgh et al., 2015). Child victimization is associated with serious short- and long-term consequences for millions of children, such as depression, substance abuse, post-traumatic stress symptoms, and aggression (Cicchetti & Handley, 2019; English et al., 2005; Gilbert et al., 2009; Stoltenborgh et al., 2015). Therefore, effective interventions for reducing child maltreatment are highly needed. Throughout the years, many parent support programs aimed at reducing child maltreatment have been developed, but those programs show only small overall effects (Euser et al., 2015; Van der Put et al., 2018a; Vlahovicova et al., 2017). An explanation for these results may be that interventions provided by youth and family services are insufficiently personalized to the individual risks, needs, and characteristics of families at risk.

There are many barriers to successful intervention outcomes in child welfare, such as mental illness or substance abuse of caregivers (Dawson and Berry, 2002). Such factors may have a negative impact on the outcome of protocolled treatment programs when these programs are not specifically designed to target such factors (Van Yperen et al., 2017). To facilitate personalized intervention in family services, practitioners should deliver the most efficacious treatment that fits the individual characteristics of clients (Ng & Weisz, 2016). A promising way to provide personalized care in youth and family services is applying the Risk, Need, and Responsivity principles of the Risk Need Responsivity (RNR) model for the assessment and treatment of offenders (Andrews et al., 1990) in the clinical practice of child welfare (e.g., Van der Put et al. 2016b; 2018a). In short, the RNR model describes how individual risks, needs, and specific characteristics of criminal offenders should be assessed to deliver effective care that is tailored to diverse profiles of individual clients.

The Risk, Need, and Responsivity Principles

In forensic care aimed at preventing criminal behavior and recidivism, personalizing treatment has been largely guided by the Risk Need Responsivity (RNR) model (Andrews et al., 1990). Through reviewing offender rehabilitation literature, the authors of the RNR model identified certain patterns associated with effective treatment programs (Bonta & Andrews, 2017). Based on their findings, several core principles

for providing personalized and effective treatment were formulated, including three core principles: the Risk, Need, and Responsivity principles.

The risk principle is about matching an intervention's intensity to an offender's risk for recidivism. More precisely, this principle states that higher-risk offenders need more intensive and extensive services than offenders with a lower-risk profile (Bonta & Andrews, 2017). In RNR assessment instruments, the risk factors that are measured can either be static or dynamic. Static risk factors are strongly associated with an increased risk of criminal behavior and recidivism, but are "unchangeable" (e.g., criminal history and history of drug abuse) and can therefore not be targeted in treatment. On the other hand, dynamic risk factors (e.g., criminal associates and family or marital problems) are usually less strongly associated with criminal behavior, but can be changed and targeted in treatment. Successfully addressing dynamic risk factors contributes to an offender's reduction in risk (Bonta & Andrews, 2007). The need principle indicates that effective programming addresses the unique dynamic criminogenic risk factors (i.e., needs) of individual offenders to successfully reduce the risk of criminal recidivism (Bonta & Andrews, 2017; Gill & Wilson, 2017; Vieira et al., 2009; Wylie et al., 2019). The responsivity principle refers to delivering treatment programs in a style that is consistent with the abilities of the offender. According to the general responsivity principle, cognitive social learning methods (e.g., modelling, role-play, or rehearsing skills) should be used to influence behavior, because those strategies are often more effective in changing problematic behavior than other forms of intervention (Bonta & Andrews, 2017). The specific responsivity principle states that an intervention should be adapted to the specific learning ability, learning style, circumstances, and demographic characteristics of clients (e.g., gender, age, and ethnicity), so that treatment effectiveness can be enhanced. (Andrews et al., 2011; Bonta & Andrews, 2007; Bonta & Andrews, 2017; Taxman, 2014).

The Risk-Need-Responsivity Model in Youth and Family Services

Although the RNR model was specifically designed for preventing recidivism of criminal offenders, it seems very promising to apply the RNR principles to other development domains as well, such as child welfare that addresses (risks for) family problems and child maltreatment (Van der Put et al., 2015; Van der Put et al., 2018a). This idea is promising because the etiology of both delinquency and child maltreatment

can be explained by the interplay of risk factors (e.g., psychopathology) and protective factors (e.g., social support) across various social systems, such as the family, school, and neighborhood (see Belsky, 1993; Bronfenbrenner, 1979). Further, the occurrence of delinquency and child maltreatment are both determined by the balance between risk and protective factors (Belsky, 1980, 1984; Cicchetti and Carlson, 1989; Cicchetti and Rizley, 1981; Folger and Wright, 2013; Smith et al., 2009; Stouthamer-Loeber et al., 2002).

Although the RNR principles are likely to be applicable to interventions aimed at preventing child maltreatment, the application of the RNR-model in child protection services is slightly different from treatment in the criminal justice system that is aimed at preventing delinquent behavior (Van der Put et al., 2018). First – before applying the RNR principles – the child’s immediate safety should be determined by means of a safety assessment. Next, a risk assessment should be used for determining the required intensity of a treatment trajectory. As safety and risk assessments often include similar problematic behavior of caregivers, they are often mixed up and sometimes used interchangeably (Hughes and Rycusa 2006). However, distinguishing safety assessment from risk assessment in child protection is important, given that they serve different purposes that require different actions (Van der Put et al., 2018; Vial et al., 2021). If a safety assessment reveals that a child is in immediate danger, safety measures (e.g., placement in protective custody) should be undertaken to prevent the child from being further harmed. On the other hand, risk assessment instruments help professionals to identify children and families with a substantial risk for child maltreatment that subsequently are offered treatment with a proper intensity to lower the risk at child maltreatment. Next, specific treatment targets (i.e., family needs) should be assessed for choosing an appropriate treatment program. Last, treatment programs should be aligned with family responsivity factors (e.g., learning abilities and treatment motivation).

In recent years, the implementation of the first structured safety and risk assessment instruments has proven to be beneficial for improving the quality of assessment procedures in child welfare agencies (i.e., ARIJ Safety and ARIJ Risk, Van der Put et al. 2018; Van der Put et al. 2016; Vial et al., 2021). Recently, ARIJ-Needs has been developed to assess family needs that comprise dynamic risk factors for child maltreatment (Van der Put et al., 2018). However, research on the implementation of the need and responsivity principles in youth and family services is not yet available.

Implementing a comprehensive RNR approach in child protection services seems important, because the RNR model may promote better allocation of services (Van der Put, 2018), but this will only be effective when the RNR principles are applied appropriately. Therefore, a better understanding of how the RNR principles can be applied in the clinical practice of child welfare is needed to support practitioners in providing tailored - and thereby hopefully more effective - care aimed at reducing (recurring) child maltreatment.

The Present Dissertation

The overarching aim of this dissertation was to increase the knowledge on how treatment programs can be better tailored to specific risk factors, needs, and characteristics of individual families that are involved in youth and family services, based on the three core principles of the RNR model. Although research to date has not yet determined the effectiveness of applying the RNR model in child protection services, available meta-analytic research mostly supports the effectiveness of the RNR principles in forensic care (e.g., Andrews et al., 1990; Andrews & Dowden, 2006; Hanson et al., 2009). However, these findings may be questionable because the coding of the RNR principles was performed inconsistently across meta-analytic reviews that were conducted more than one or even two decades ago. Therefore, the aim of the first study (Chapter 2) was to re-examine the effectiveness of applying the RNR principles in specifically family interventions aimed at preventing juvenile recidivism (Dowden and Andrews, 2003). We chose to critically re-evaluate the effectiveness of adhering to the RNR-principles in family interventions specifically, as the risk factors that are targeted in these type of interventions (e.g., harsh parental discipline and poor parent-child-communication) have been associated with both youth delinquency and child maltreatment (e.g., Baldwin et al., 2012; Stith et al., 2009; Assink et al., 2019). A comprehensive coding scheme on the operationalization of the RNR principles was developed, recent studies on the effectiveness of family interventions were included, and an innovative three-level approach to meta-analysis was used. Notably, this study underlined the importance of a correct operationalization of the RNR principles in treatment delivery by using structured assessment instruments in the decision making process of appropriate interventions.

To facilitate the implementation of the RNR principles in child protection, valid and reliable assessment instruments are highly needed. In recent years, structured

assessment tools became available that facilitate the implementation of the risk principle (i.e., the ARIJ Risk) and the need principle (i.e., ARIJ Needs) in child protection (Van der Put et al., 2018a, 2018b; Vial et al., 2021). To date, ARIJ Needs has not yet been introduced in clinical practice, as only a pilot version of the instrument has been developed. Therefore, the aim of the second study (Chapter 3) was to examine the clinical usability of ARIJ Needs in child protection services by interviewing practitioners. In addition, a vignette describing a child protection services case was used to examine differences between family needs assessments based on unstructured clinical judgment without ARIJ-Needs, and structured clinical judgment with ARIJ-Needs. The results of this study provided detailed insights into current practitioner decision-making processes in child protection services, and information on how ARIJ Needs can be improved to support practitioners in the decision-making process of appropriate interventions aimed at preventing (recurring) child maltreatment.

Contrary to the implementation of the risk and need principles in child protection, studies on the clinical value of the responsivity principle in child protection services were not yet available. This gap in the literature was rather striking, given that responsivity is one of the three core components of the RNR framework that prescribes how interventions should be tailored to the individual needs and characteristics of clients and thus delivered in a personalized way (Bonta and Andrews, 2017). Therefore, the aim of the third study (Chapter 4) was to provide an overview of responsivity factors for clinical practice by reviewing literature on the responsivity principle, and by examining the value of the identified responsivity factors in child protection services through interviews with clinical professionals. Based on the results, an overview of seven core responsivity factors was created that are related to caregiver characteristics in child protection services. In addition, this overview included treatment recommendations to target those factors in order to enhance caregivers' abilities to succeed in treatment aimed at reducing the risk of (recurring) child maltreatment.

Given that the RNR model was specifically designed for preventing recidivism of individual criminal offenders, it is important to gain insights into criminogenic risks of domestically violent caregivers. Just as child abuse and neglect, the exposure to domestic violence between family members has been associated with externalizing and internalizing problems in children, such as increased aggressive behavior, trauma, and depression (e.g., Huth-Bocks et al., 2001; Evans et al., 2008; Jouriles et al., 2008). Furthermore, children raised in domestically violent families are at extensively higher

risk of abuse and neglect than children raised in homes without domestic violence (Jouriles, et al., 2008; McGuigan & Pratt, 2001). Even though many domestic violence perpetrators are female, not much is known about how female criminogenic risks differ from those of males (de Vogel et al., 2014). Therefore, the fourth study (Chapter 5) examined gender differences in criminogenic risk factors between male and female domestic violence perpetrators. Using network analysis, the interrelatedness between criminogenic risk factors for both domestic violent men and women was examined. Further, the association between criminogenic risk factors and treatment dropout was examined. The results of this study provide important insights into gender specific differences in criminogenic risk factors for domestic violence, which can support clinical professionals in tailoring treatment to the specific needs of male and female domestic violence perpetrators.

The fifth and final study (Chapter 6) was not focused on risk factors for child maltreatment but on the effects of child maltreatment victimization. To the best of our knowledge, this study is the first to examine the distinctiveness of two maltreatment dimensions, i.e., abuse versus neglect, and emotional versus physical maltreatment, in identifying developmental problems within a sample of child maltreatment victims. Family demographics and developmental problems were examined in a clinical sample of 146 children from families involved in a Multisystemic Therapy – Child Abuse and Neglect treatment trajectory. This study provided valuable insights into the developmental outcomes of victims of different child maltreatment types. In turn, these insights can be used by child welfare practitioners to provide personalized treatment so that adverse health outcomes of victims at a later age can be prevented.

This dissertation closes with a summary of the main findings of the studies along with the most notable strengths and limitations of the studies (Chapter 7). This final chapter concludes with a discussion of the implications for clinical practice and directions for future research.

Chapter 2

A Critical Evaluation of the Risk, Need, and Responsivity Principles in Family Interventions for Delinquent Youth: A Meta-Analysis

This chapter is adapted from:

Bijlsma, A. M. E., Assink, M., & van der Put, C. E. (2022). A critical evaluation of the risk, need, and responsivity principles in family interventions for delinquent youth: A meta-analysis.

Submitted for publication.

Abstract

This meta-analysis aimed to re-examine the available evidence on the effectiveness of the risk, need, and responsivity principles of the RNR model in family interventions for juvenile delinquency. As previous reviews did not examine these principles fully in line with their original definitions, this review aimed to improve the coding of the RNR principles and to re-evaluate their association with intervention effectiveness. A three-level meta-analysis of $k = 31$ studies reporting on 71 effect sizes revealed an overall small and significant intervention effect ($d = 0.382, p < .001$). Although larger effects were found for interventions adhering to any of the RNR principles, none of the RNR principles significantly moderated overall intervention effectiveness. Interventions specifically targeting antisocial recreational activities, and interventions taking into account the youth's age and cultural background did significantly increase overall effectiveness. The results reveal that strong and convincing empirical support for the RNR principles is not yet available, which can mainly be explained by limitations in the design of primary studies on the RNR principles and intervention effectiveness. Suggestions are offered to improve the quality of both primary and secondary research that is needed for establishing a better empirical evidence for the widely acknowledged RNR model.

Keywords: family intervention, juvenile delinquency, meta-analysis, RNR model, RNR principles

Introduction

Recidivism of delinquent youth is a major issue as approximately six in ten prior court referred juveniles in the United States return to court before the age of 18 (Snyder & Sickmund, 2006). Although these numbers reflect a lack of effective programs aimed at reducing youth delinquency (Evans-Chase & Zhou, 2014), promising results have been found in meta-analytic studies that compared family interventions to non-familial responses (Hartnett et al., 2017; Latimer, 2001; Dowden & Andrews, 2003; Van der Stouwe et al., 2014). Following these meta-analyses, family interventions can be defined as in-home and community based interventions aimed at reducing behavior problems of juveniles by improving family functioning. The family risk factors that are targeted in these type of interventions, such as harsh parental discipline and poor parent-child-communication, have been associated with adolescent behavior problems and delinquency (Baldwin et al., 2012). It is theorized that improving family functioning by targeting such family risk factors mediate improvements in other social systems, such as peer relationships, school functioning, and participation in the community (Van der Stouwe et al., 2014). Adolescent delinquency is associated with an accumulation of criminogenic risk factors across such social systems (cf. the ecological systems theory of Bronfenbrenner, 1979). Therefore, many family interventions target criminogenic risks in multiple social systems to create a proper fit between those risks and treatment goals, which is in line with the Risk-Need-Responsivity (RNR) model of Andrews and Bonta (1990) (Dowden & Andrews, 2003; Van der Stouwe et al., 2014).

The RNR model is a theoretical framework that outlines the most important causes of criminal recidivism as well as several principles for effectively reducing criminal engagement. Empirical support for this model has been provided in multiple meta-analyses (e.g., Andrews & Dowden, 2000; 2006; Hanson et al., 2009). However, many of these studies were conducted one or even two decades ago. Therefore, this study aimed to gain knowledge on the effectiveness of applying the RNR principles in family interventions for delinquent youth by replicating and updating the review of Dowden and Andrews (2003). Relative to the work of Dowden and Andrews, the current meta-analysis also synthesized studies on family intervention effectiveness that were published in the past twenty years, and used a more comprehensive coding procedure to examine the moderating effect of the RNR principles on intervention effectiveness. Moreover, an advanced three-level approach to meta-analysis was applied, so that coefficients could be estimated more reliably and more statistical power was achieved than in previous meta-analyses on the RNR principles.

The RNR model as developed by Andrews and Bonta (1990) has become the premier worldwide model for offender assessment and treatment. The most important feature of the RNR model is the focus on applying human services to the justice context instead of relying on deterrence or restoration (Bonta & Andrews, 2017). The model consists of three general principles that guides effective treatment to reduce criminal recidivism: the risk, need, and responsivity principles. The risk principle states that an intervention's intensity should be matched to an offender's risk for recidivism. The need principle indicates that programs should be matched to the unique criminogenic needs of offenders, rather than utilizing a one-size-fits-all approach (Bonta & Andrews, 2017; Gill & Wilson, 2017; Vieira et al., 2009; Wylie et al., 2019). Criminogenic needs are changeable risk factors that are strongly associated with criminal conduct and therefore serve as intervention targets. The needs that are most strongly associated with offending behavior have been labeled as the "Central Eight" by Bonta and Andrews (2017). On the other hand, noncriminogenic needs (e.g., poor self-esteem or depression) are also dynamic attributes of offenders and their circumstances, which, when changed, are not associated with reduced recidivism (Bonta & Andrews, 2017). However, the definition and relevance of non-criminogenic needs in treatment deserve reconsideration, as non-criminogenic needs correspond to responsivity factors that are explicitly important to take into account (Bonta & Andrews, 2003). The *general* responsivity principle prescribes that cognitive social learning methods (e.g., modelling, role-play, or graduated practice) are used to influence behavior. The *specific* responsivity principle states that intervention strategies are aligned with the learning ability, learning style, circumstances, and demographic characteristics – such as gender, age, and ethnicity – of individual offenders (Andrews et al., 2011; Bonta & Andrews, 2007; Bonta & Andrews, 2017).

Adhering to the RNR principles in treatment has been found to produce positive and strong treatment effects across program types, persons, settings, and methodological conditions (e.g., Andrews & Dowden, 2006; Dowden & Andrews, 1999; Hanson et al., 2009). Adhering to the RNR principles may even be the most important explanation for positive program effects, even after accounting for other variables that are assumed to have an effect on treatment effect sizes (Dowden & Andrews, 2003), such as random or nonrandom assignment of participants to experimental and control conditions, and sample size.

The effectiveness of the RNR principles is primarily grounded in findings of multiple meta-analyses conducted by the developers of the RNR model (Bonta & Andrews, 2017). The first meta-analysis synthesized 154 treatment comparisons, and revealed a significantly lower recidivism rate of 35 percent in the treatment conditions that received treatment according to the RNR principles compared to the control conditions that received treatment as usual (Andrews et al., 1990). Later, positive effects of the RNR principles, and particularly the risk principle, were found in meta-analyses on violent reoffending in specifically female and young offender populations (Andrews & Dowden, 2006; Dowden & Andrews, 1999; Dowden & Andrews, 2000). Results of meta-analytic studies by other researchers support the effectiveness of adhering to the RNR principles. For example, sexual offender treatment programs adhering to the RNR principles showed the largest reductions in sexual and general recidivism compared to other treatment programs (Hanson et al., 2009).

Even though meta-analytic research mostly supports the effectiveness of the RNR principles, the findings may be questionable because the coding of the RNR principles was performed inconsistently across reviews (Smith et al., 2009). First, the risk principle is often coded using an aggregate-sample approach instead of a within-study sample approach (Lowenkamp et al., 2006). The former, inspired by Lipsey (1989), means that risk principle adherence is coded whenever a study examines high-risk offenders, defined as offenders with a prior criminal record (Dowden & Andrews, 1999). However, this coding rule does not fully capture the original risk principle, because it only considers the general risk level of the treatment group in terms of prior offenses. It remains ambiguous how this way of coding is related to matching individual offenders to the appropriate level of treatment intensity. Nevertheless, many review authors copied the aggregate-sample approach as available primary studies hardly report on differences in treatment intensity across sampled offenders with different risk levels (Hanson et al., 2009; Koehler et al., 2013; Prendergast et al., 2013).

The within-sample approach to coding the risk principle implies that intervention effects for low- and high-risk groups are reported separately within studies (Andrews and Dowden, 2006). However, this way of coding is also not based on matching risk assessments to treatment goals in individual offenders, but on separating treatment effects for offenders clinically judged as low risk from treatment effects for offenders clinically judged as high risk. The within-sample approach can be more closely related to the risk principle as it is sometimes defined as: “providing intensive interventions

to higher risk offenders and little or no service to low risk offenders” (Hanson et al., 2009, p. 871). However, in practice, almost no primary studies report on differences in treatment intensity (Andrews & Dowden, 2006; Hanson et al., 2009).

Similar to the risk principle, no quantitative reviews seem to exist in which the coding of the need principle aligns with the question how treatment goals matches systematically assessed individual criminogenic needs. Generally, need principle adherence is coded whenever interventions target more criminogenic needs than non-criminogenic needs (Andrews & Dowden, 2006; Dowden & Andrews, 1999; Dowden & Andrews, 2000). In the review of Dowden and Andrews (2003), adherence to the need principle was coded whenever family interventions just targeted family affection/communication or monitoring/supervision even though many other criminogenic needs exist. Studies were coded as not adherent to the need principle when studies were “non-specific” about their targets, which leaves much room for interpretation. In a meta-analysis on the effects of young offender treatment programs in Europe, adherence to the need principle was coded with a three-category item: “low”, “moderate”, and “high”, without further clarification of these levels of adherence (Koehler et al., 2013).

Using such coding rules for examining the effectiveness of the need principle is remarkable, because identifying and addressing the individual criminogenic needs underlying juvenile delinquency is central to the needs principle and seems crucial for the prevention of reoffending (Vieira et al., 2009). The importance of targeting criminogenic needs can be explained by the fact that juvenile delinquency is associated with an accumulation of risk factors across social contexts (i.e., individual, family, peers, school, and neighborhood context) that reflect criminogenic need factors (Henggeler et al., 2009; Van der Stouwe et al., 2014). To examine whether the need principle contributes to program effectiveness, it is important to know whether targeting criminogenic needs, such as the Central Eight factors, is associated with program effectiveness. However, no meta-analyses have yet been performed in which the effectiveness of targeting the most important criminogenic needs - labeled as the “Central Eight” by Bonta and Andrews (2017) - has been examined.

Guidelines for coding the responsivity principle have been more developed for the general responsivity principle than for the specific responsivity principle. In an early study of Andrews et al. (1990), the general responsivity principle was coded as adherent for “all behavioral programs”. Thereafter, adhering to the general responsivity principle

was more specifically coded when programs used social learning or cognitive behavioral techniques (Andrews & Dowden, 2006; Dowden & Andrews, 1999; Dowden & Andrews, 2000; Dowden & Andrews, 2003; Prendergast et al., 2013). Koehler et al. (2013) coded the responsivity principle in a way that refers to the specific responsivity principle: whenever treatment delivery was adapted to offenders' unique learning styles and capabilities, it was coded as adherent to the responsivity principle. Additionally, Hanson et al. (2009) considered the extent to which programs made special efforts to engage offenders in treatment. However, in many studies specific responsivity has not been coded at all (Andrews & Dowden, 2000; Dowden & Andrews, 2003; Andrews & Dowden, 2006).

Overall, it appears that the available meta-analyses have not always properly examined the effectiveness of the risk need and responsivity principles. Also, many of these reviews were conducted more than one or even two decades ago (Andrews & Dowden, 2000; Dowden & Andrews, 2003; Andrews & Dowden, 2006; Hanson et al., 2009). Moreover, more advanced statistical techniques have been developed that allow for a better synthesis of effect sizes in meta-analyses (Assink & Wibbelink, 2016). In recent years, the RNR principles have been implemented in treatment delivered outside the setting of criminal justice, such as child welfare (Brogan et al., 2015; Van der Put et al., 2018). Therefore, renewed insights into the effectiveness of adhering to these principles are important, because the RNR model may promote better allocation of services (Ter Beek, 2018), but will only be effective when applied appropriately (Brogan et al., 2015; Goense et al., 2016; Ter Beek et al., 2018).

In sum, this meta-analysis aimed to re-examine the association between the risk, need, and responsivity principles of the RNR model and the effectiveness of family programs for juvenile recidivism by replicating and updating the review of Dowden and Andrews (2003). To our knowledge, this meta-analysis was the first to examine differences in effect between the aggregate-sample and within-sample approaches to the risk principle, and whether or not intervention effectiveness is dependent on the interaction between a sample's risk level and treatment intensity. Also, the effect of targeting specific criminogenic need and responsivity factors, as well as adherence to the general and specific responsivity principles were examined. Finally, we examined the potential moderating effect of study and sample characteristics, such as study design, treatment duration, gender, and ethnicity.

Method

Study Inclusion

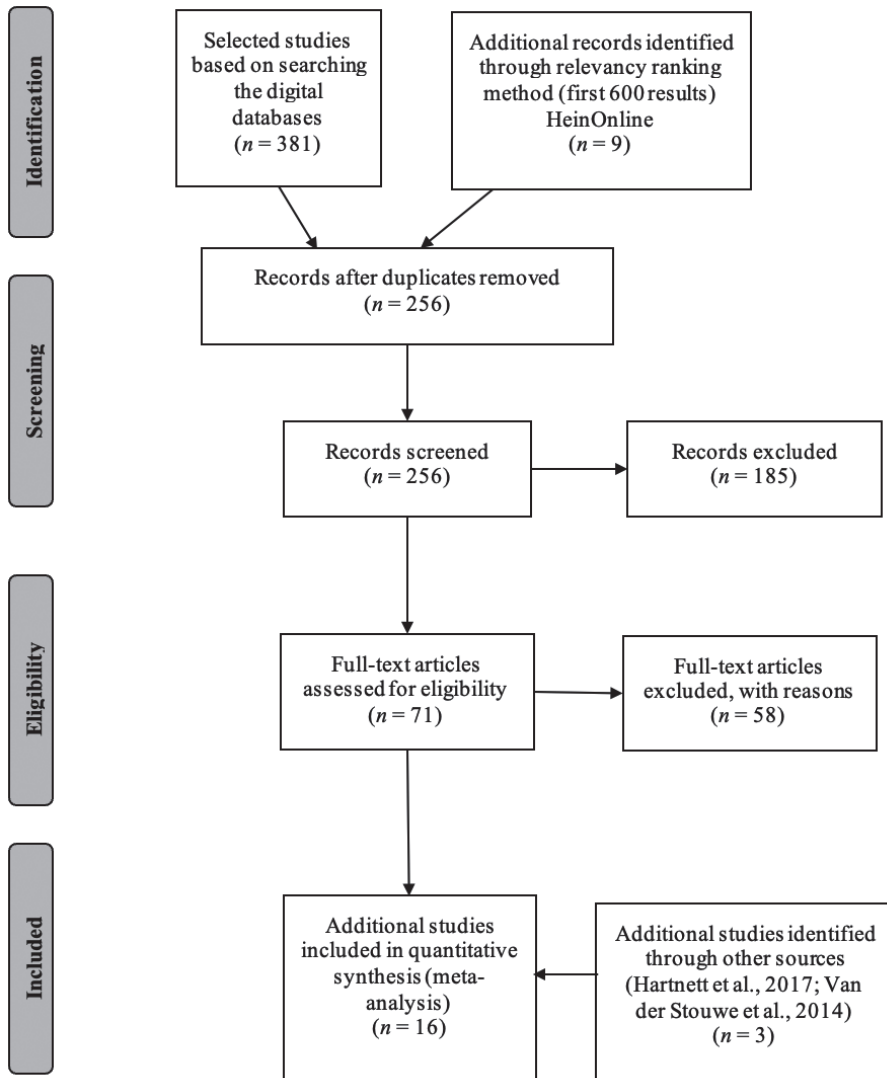
First, we included studies that were synthesized by Dowden and Andrews (2003). The authors did not list the included studies in their meta-analysis, but references to these studies could be derived from a larger meta-analysis of Dowden (1998). However, the study inclusion of Dowden (1998) focused more broadly than on young offenders and family interventions alone. Therefore, we included studies that were synthesized by Latimer (2001) who focused his meta-analysis on the impact of involving families in treatment for young offenders, and in which he included most (89%) of the studies that were also synthesized by Dowden (1998). Of the 35 studies synthesized by Latimer, only 15 could be included in the current meta-analysis given our inclusion criteria that we used in the additional search (see below). Reasons for study exclusion were: absence of a distinct control group (eight studies), no evaluation of a family intervention (three studies), insufficient information for proper study coding (two studies), no results for an intent-to-treat group (one study), and recidivism not being a study outcome (one study). Despite our efforts, such as external library requests and contacting several authors, five studies could not be retrieved.

Second, in an additional search, the following criteria were used to select relevant studies examining the effect of a family intervention on recidivism of juvenile delinquents: (1) The study sample consisted of offenders younger than 18 years old. (2) Each treatment group was offered a family treatment intervention, and each control group received treatment as usual (TAU), another intervention program, or a postponed intervention program. (3) As a form of quality control, only Randomized Controlled Trials (RCT) and quasi-experimental studies (in which a treatment condition is compared to a control condition) were included. (4) Studies had to examine and report post-test and/or follow-up comparisons of recidivism rates, and sufficient statistical information to manually calculate an effect size. (5) Only studies written in Dutch and English of which the full text could be retrieved were included. Also, only studies performed in Western countries (i.e., European countries, Australia, New Zealand, Canada, and the US) were included. (6) Also as form of quality control, studies had to be published in peer-reviewed scientific journals or be (part of) a dissertation that was accessible to the authors of this review. In addition, effect sizes were based on intent-to-treat analyses and not analyses of only intervention completers.

Search Strategy

In searching relevant studies for inclusion, we performed several complementary search strategies. First, we used the backward citation tracking technique for inclusion of studies from Latimer (2001). Second, we searched for studies in the electronic databases PsycINFO, Medline, Web of Science, Scopus, and HeinOnline. In this search, the following keywords were used in varying combinations to retrieve relevant articles, book chapters, dissertations, and reports: family therapy, family, families, intervention, family empowerment, multisystem*, multi-system*, juvenile delinquency, adolescent, young adult*, teen*, youngster*, young people, youth*, minors*, under age*, underage*, juvenile*, girl*, boy*, preadolesc*, adolesc*, recidivism, rearrest*, recidiv*, reconvict, re-convict*, reincarcerat*, re-incarcerat*, reoffen*, re-offen*. In total, the search procedure yielded 981 studies. After thoroughly screening these studies, thirteen studies met the inclusion criteria and were included in the study. Additionally, two recent meta-analyses on Family Functional Therapy and Multisystemic Therapy were screened for eligible studies (i.e., Hartnett et al., 2017; Van der Stouwe et al., 2014), resulting in three additional studies (see Figure 1 for a flow chart of the search results). To determine whether studies were eligible for inclusion, the first author read titles, abstracts, and if necessary, full article texts. Whenever there was doubt about inclusion of a study, the other authors were consulted. The final list of studies eligible for inclusion was discussed and agreed upon by all authors of this study.

Figure 1
Flow Chart of Additional Search Results



Coding of Studies

A coding scheme was developed (Appendix A), partially based on De Vries et al., (2015), and following guidelines of Lipsey and Wilson (2001). First, “general study information” (publication year, study design) was coded. Second, “sample descriptors” (age, gender, percentage of cultural minority) were retrieved. Third, “study and program characteristics” were coded (e.g., sample size, dropout rate, supportive evidence, control group type, treatment duration). Finally, we focused on coding the risk need and responsivity principles. When treatment descriptions in primary studies were insufficient, intervention program manuals or factsheets (when available) were screened. In coding recidivism, four dimensions of delinquency were taken into account: (1) participation (yes/no), (2) frequency, (3) seriousness, and (4) versatility (number of crime types). The measurement type of delinquency was also coded (i.e., official records, self-report, parent report, or other).

For extracting information on study quality, we followed the approach of an integrative study quality coding scheme (Van der Stouwe et al., 2021) that was based on previously validated quality indices, including the Quality Assessment Tools for Quantitative Studies (QATQS, Thomas et al., 2004), the Quality Index (QI, Downs & Black, 1998), and the Cochrane Collaboration’s tool for assessing risk of Bias (Higgins et al., 2011). The coding scheme rates each study on seven features: study design (randomized controlled trial vs. quasi-experimental design), adjustment for pre-test differences (yes vs. no), sample size, (4) attrition (percentage of referred participants that completed the study), (5) reporting of sample characteristics (age, gender, and ethnicity), (6) type of risk assessment used for matching the intervention to the client’s risk level (clinical judgment vs. standardized risk assessment), and (7) type of needs assessment used for matching the intervention to the client’s criminogenic needs (clinical judgment vs. standardized need assessment). Each feature is rated on a two-, three-, or four-point scale (0 indicating lowest quality to 2, 3, or 4 indicating highest quality). The seven item scores were summed resulting in a (total) quality score. The lowest and highest possible scores were 0 and 15, respectively. Across all included studies, the quality index ranged from four to eleven ($M = 8.54$, $SD = 1.93$).

The risk principle was coded following the within-sample approach and the aggregate-sample approach (e.g., Dowden & Andrews, 2000; 2003; Koehler et al., 2013), yet considering the initial definition of the risk principle (Bonta & Andrews, 2017). The within-sample approach was coded as adherent when the intervention intensity was

matched to the individual risk level of offenders, that was assessed by (structured) clinical or actuarial judgment, for example: “The average contact frequency will be determined based on recidivism risk of unacceptable behavior, and therefore may vary.” (Multisystemic Therapy, 2020, p. 5). The aggregate-sample approach was coded as adherent when the general risk level of the sample was matched to the intensity of the intervention. The general risk level of the sample was coded to be “low” when first time offenders were sampled, whereas it was coded “high” when the majority of the sampled participants had formally penetrated the judicial system at the start of the study and had a prior criminal record or showed severe antisocial/violent behavior according to our judgment (e.g., “Inclusion criteria for the study were identical to those used by the MST offering agencies: severe and violent antisocial behavior at home, school or community, sufficiently serious to require treatment”, Asscher et al., 2014, p. 230). The decision whether or not a sample’s general risk level was matched to the intensity of the intervention (coded as yes or no) was based on a description of the treatment intensity in the primary study itself, or a program manual or factsheet. For example, the MST manual reports the following: “MST is an intensive at-home treatment program during three to five months with a 24/7 availability of therapists.” (Multisystemic Therapy, 2020, p. 1). In addition, the interaction between the risk level of the sample (high vs. low) and treatment intensity (total contact hours) was tested to examine how the risk principle affects treatment effectiveness.

The need principle was coded in several ways. First, the two forms of “appropriate forms of family intervention” (i.e., improving the parent-child relationship and parental monitoring/supervision) were coded, in which we followed the original meta-analysis of Dowden and Andrews (2003). Second, the need principle was coded as adherent when primary studies explicitly described that at least one specific need factor was targeted, or when studies described treatment methods that aim to target at least one criminogenic need, which for example is done in the study of Dakof et al. (2015, p. 6): “The goals of stage II are to help teens communicate effectively with their parents and other adults (family intervention: parent-child relationship), develop emotion regulation and coping skills (antisocial personality pattern), and enhance social competence and alternatives to delinquency (criminal involvement; procriminal attitudes) and substance use (substance abuse)”. In cases where none of the Central Eight needs were targeted in an intervention, adherence to the needs principle was coded as non-adherent. In this way, we followed the coding approach in other meta-analyses on the effectiveness of the RNR principles (Andrews & Dowden, 2006;

Dowden & Andrews, 1999; Dowden & Andrews, 2000).

Moreover, in addition to previous meta-analyses, we coded whether or not a criminogenic needs assessment was performed as required by the need principle for treatment tailoring. At first, we also aimed for coding the type of needs assessment (i.e., clinical judgment vs. assessment instrument), but this was not intelligible as a structured instrument for needs assessment was used in only one of the included studies (i.e., Celinska et al., 2018). Thus, we only coded whether or not a needs assessment was performed (0 = no; 1 = yes, with either an instrument or clinical judgment). Furthermore, as Bonta and Andrews (2017) argued that the Central Eight are the most empirically well-supported dynamic risk factors for recidivism, we coded for each of these factors whether or not it was targeted by the intervention examined in a primary study. In this way, targeting each of the Central Eight (criminogenic need) factors could be examined as a moderator of the effectiveness of family interventions. However, the Central Eight factor “family” was not coded, as only studies examining the effectiveness of family interventions were included. Finally, the total number of Central Eight factors targeted by an intervention was coded.

Adherence to the general responsivity principle was coded as adherent when programs used social learning or cognitive behavioral techniques, such as modelling, or role-play (Andrews & Dowden, 2006; Dowden & Andrews, 1999; Dowden & Andrews, 2000; Dowden & Andrews, 2003; Prendergast et al., 2013). For example: “FFT therapists rarely focus on “communication” but instead attempt to change a specific principle that is not evident in the family relational pattern (e.g., brevity, specificity, congruence). This is often accompanied by role-playing within a session.” (Sexton & Alexander, 2004, p. 74). Adherence to the specific responsivity principle was coded as adherent when programs were tailored to at least one of the following factors: client intelligence/cognitive skills level, social support, gender, age/developmental stage, culture/race/ethnicity, psychopathological problems, and motivation (Bonta & Andrews, 2017). For example: “FFT is designed to be provided by therapists of all races and ethnicity, all spiritual systems, and gender/sexual preferences. [...] Matching to the client allows FFT to respect, value, and work within the important cultural, racial, religious, and gender-based values of the client. [...] The therapists at these sites are as diverse as the clients in regard to gender, age, and ethnic origin.” (Sexton & Alexander, 2004, p. 3, p. 52, & p. 96). Finally, the total number of responsivity factors targeted by the intervention were coded.

Determining the inter-rater agreement is an essential aspect of a coding procedure in meta-analytic research, as unreliability in coding procedures may add random variation to the analyses and reduce the reliability of results (e.g., Dieckmann et al., 2009). Therefore, the first, second, and anchor author of this manuscript decided to independently code all studies that could be included. Next, any discrepancy in coding was discussed and resolved until full consensus was established. In this way, a percentual agreement of 100% was reached for all variables that were coded.

Data Analysis

All relevant outcomes reported in the included primary studies were transformed into the standardized difference between two means, also referred to as Cohen's d . In most instances, proportions, means and standard deviations, and odd ratios were transformed into Cohen's d using the methods of Wilson (2019). For calculating each effect size, it was important that the direction of the effect (positive or negative) corresponded with the statistical data reported in the primary study. A positive effect indicated that the intervention group showed less recidivism than the control group, whereas a negative effect indicated that the intervention group showed more recidivism than the control group. If a study provided pretest measurements on recidivism, effect sizes of post-test and follow-up measurements were corrected for these baseline differences by subtracting pre-test effects from post- and follow-up effects. Effect sizes were transformed into z scores and checked for outliers to control for any disproportionate influence of outliers on the results. All standardized effect sizes fell within the range of $-3.29 < z < 3.29$ (Tabachnik & Fidell, 2013), implying that no outliers were identified. A three-level random-effects meta-analytic model was used to synthesize all effect sizes and to model effect size dependency that arose from the fact that more than one relevant effect size could be extracted from individual primary studies (Assink & Wibbelink, 2016). In this model, three levels of variance were accounted for to model the effect size dependency: sampling variance of the observed effect sizes (Level 1), variance of effect sizes within studies (Level 2), and variance of effect sizes between studies (Level 3). The overall effectiveness of family interventions was estimated in an intercept-only model. Potential moderating effects of the coded variables were examined by adding one of the coded variables as a covariate to the intercept-only model.

Publication Bias

A common problem in conducting a meta-analysis is that studies with nonsignificant or negative results are less likely to be published than studies with positive and significant results. This phenomenon is called publication bias and is often referred to as the “file drawer problem” (Rosenthal, 1995). To examine the problem of missing data due to publication bias, we conducted the funnel-plot-based trim and fill method as described by Duval and Tweedie (2000a; 2000b). In case of an asymmetrical distribution of effect sizes, the trim and fill method restores symmetry of the distribution by imputing effect size estimates from “missing” studies. Effect sizes can be imputed either to the left or right side of the estimated mean effect in the funnel plot, depending on whether below average or above average effect sizes are underrepresented in the data. In case of publication bias, below average effect sizes are underrepresented.

Results

Descriptives

In total, $k = 31$ studies published between 1977 and 2020 were included from which $u = 71$ effect sizes were extracted (articles indicated with an asterisk in the references were included in the meta-analysis). The sample size of the included studies ranged from $N = 16$ to $N = 1553$ ($M = 210.58$, $SD = 302$), and the mean age of the young offenders at start of the studies ranged from 11.5 to 16.6 years ($M = 14.86$, $SD = 0.99$). The average percentage of boys in study samples was 78.31%, and the average percentage of youth with a cultural minority background was 41.48%. The average follow-up duration was $M = 34.74$ months ($SD = 54.35$). The studies reported on recidivism data extracted from official records (77.4%), and self-report (22.6%).

Overall Effect Size

The estimated summary effect of family intervention programs on juvenile reoffending of all studies ($k = 31$) and effect sizes ($u = 71$) was $d = 0.382$, $p < .001$, 95% CI [0.228, 0.536] (Table 1). According to Cohen’s criteria (1988), this effect is small in magnitude. This summary effect should be interpreted with caution, as we found significant within-study variance (level 2; 19% of the total variance) and between-study variance (level 3; 65% of the total variance), implying heterogeneity in effect sizes (Table 1). Given this significant variability in effect sizes, testing variables as potential moderators of the summary effect was justified.

Table 1
Overall Effect of Family Interventions for Juvenile Delinquency

	# Studies	# ES	Mean <i>d</i> (SE)	95% CI	Sig. (<i>p</i>)	% Var. level 1	Level 2 variance	% Var. level 2	Level 3 variance	% Var. level 3
Overall effect	31	71	0.382 (0.08) ^{***}	0.228, 0.536	<.001 ^{***}	15.96	.038 ^{***}	18.63	.134 ^{***}	65.41

Note. # Studies = number of studies; # ES = number of effect sizes; Mean *d* = mean effect size (Cohen's *d*); SE = standard error; CI = confidence interval; Sig. = significance; % Var. = percentage of distributed variance; level 1 variance = sampling variance; level 2 variance = variance within studies; level 3 variance = variance between studies.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Analysis of Bias

The results of the trim-and-fill analysis showed that publication bias may have been present in the data, as the effect size distribution was asymmetrical. Appendix C shows that the trim-and-fill algorithm imputed four effect sizes from three studies to the left of the estimated mean effect to restore the symmetry of the effect size distribution. These results reflect an underrepresentation of below average effect sizes, indicating that the estimated mean effect may be an overestimation of the true effect and that publication bias may be present. After the imputed effect sizes were added to the dataset, a re-estimation of the overall effect yielded a smaller but still significant effect ($d = 0.296, p < .01, 95\% \text{ CI } [0.120; 0.473]$). This “corrected” effect was slightly smaller than the initially estimated overall effect ($d = 0.382; \Delta d = 0.086$), implying that publication bias was present to a limited extent.

Moderator Analyses

Table 2 presents the results of all moderator analyses. No significant moderating effects were found for study characteristics including study quality nor sample characteristics. We neither found significant moderating effects for the risk, need, and responsivity principles. However, we did find larger mean effect size estimates for interventions that adhered to each of the RNR principles compared to interventions not adhering to these principles (see Table 2). As for the total number of applied RNR principles, we found once again no significant moderating effect implying there are no significant differences in mean effect between interventions adhering to zero or one principles, two principles, or three principles. We did find larger effect size estimates for interventions adhering to two principles and interventions adhering to three principles (see Table 2). Finally, the moderating effect of the risk principle was also examined by testing the interaction between the risk level of the sample (high vs. low) and treatment intensity (total contact hours). The results (see Table 3) showed no significant moderating effect of the interaction term while controlling for the main effects, meaning that the effect of family interventions does not depend on how treatment intensity is matched to the risk level of juvenile offenders.

As for the other RNR characteristics, three moderating effects were found. First, interventions targeting “Antisocial recreational activities” produced a larger effect size ($d = 0.488$) than interventions not targeting this factor ($d = 0.142$). Second, significant positive moderating effects were found for interventions taking “Age” and “Culture/Ethnicity” into account. Interventions tailored to any of these factors revealed larger effect sizes ($d = 0.521$) than interventions that were not tailored to any of these factors ($d = 0.206$).

Table 2
Results of the Moderator Analyses (Bivariate Models)

Moderator variables	# Studies	# ES	Intercept/Mean d (95% CI)	β_1 (95% CI)	$F(df_1, df_2)^a$	p^b	Level 2 variance	Level 3 variance
Study characteristics								
Design	31	71			0.421 (1, 69)	.519	.038***	.137***
Quasi-experimental (RC)	9	13	0.465 (0.168, 0.762)**					
RCT	22	58	0.351 (0.169, 0.534)***	-0.113 (-0.462, 0.235)	0.623 (1, 69)	.433	.038***	.136***
Type of care control group	31	71						
TAU (RC)	21	44	0.340 (0.151, 0.528)***	0.131 (-0.199, 0.460)	2.567 (1, 69)	.114	.039***	.125***
Other program	10	27	0.470 (0.200, 0.740)***	-0.010 (-0.023, 0.003)	0.212 (1, 64)	.647	.027**	.141***
Publication year	31	71	0.371 (0.220, 0.522)***	-0.037 (-0.200, 0.125)	2.679 (1, 58)	.107	.031**	.131***
Sample age	28	66	0.341 (0.178, 0.504)	-0.006 (-0.012, 0.001)	1.238 (1, 64)	.270	.027**	.137***
Cultural minority (%)	28	60	0.342 (0.177, 0.508)***	-0.006 (-0.017, 0.005)	0.416 (1, 48)	.522	.026*	.110***
Boys (%)	29	66	0.331 (0.166, 0.495)***	-0.003 (-0.014, 0.007)	0.357 (1, 46)	.553	.031*	.153***
Treatment duration (weeks)	20	50	0.384 (0.208, 0.559)***	0.025 (-0.015, 0.066)	1.543 (1, 58)	.219	.034**	.126***
Treatment total contact hours	17	48	0.484 (0.264, 0.703)***					
Number of previous convicted offenses	26	60	0.378 (0.214, 0.542)***					
Study quality	31	71	0.383 (0.228, 0.538)***	-0.010 (-0.085, 0.066)	0.065 (1, 69)	.800	.040***	.134***
Sample risk level	31	71			0.239 (1, 69)	.627	.039***	.137***
Low (RC)	5	15	0.293 (-0.103, 0.689)					
High	26	56	0.399 (0.230, 0.568)***	0.105 (-0.325, 0.536)	2.262 (2, 68)	.112	.040***	.116***
Intervention program	31	71						
MST (RC)	12	29	0.522 (0.291, 0.753)***					
FFT	6	7	0.521 (0.132, 0.910)**	-0.001 (-0.453, 0.451)				
Other	12	35	0.207 (-0.011, 0.426)	-0.315 (-0.632, -0.003)				
Adjusted ES	33	71			0.582 (1, 69)	.448	.037***	.136***
Unadjusted (RC)	26	61	0.361 (0.197, 0.526)***					

Moderator variables	# Studies	# ES	Intercept/Mean <i>d</i> (95% CI)	β_1 (95% CI)	F (df1, df2) ^a	p^b	Level 2 variance	Level 3 variance
Adjusted	7	10	0.466 (0.198, 0.735)***	0.105 (-0.170, 0.380)				
RNR characteristics								
Risk principle (aggregate)	31	71			0.415 (1, 69)	.521	.038***	.137***
No adherence (RC)	6	8	0.273 (-0.100, 0.646)					
Adherence	25	63	0.406 (0.234, 0.577)***	0.133 (-0.278, 0.543)				
Risk principle (within)	31	71			0.278 (1, 69)	.600	.038***	.138***
No adherence (RC)	17	29	0.343 (0.126, 0.560)***					
Adherence	14	42	0.425 (0.201, 0.649)***	0.082 (-0.229, 0.394)				
Needs assessment	31	71			1.123 (1, 69)	.293	.039***	.130***
No assessment (RC)	14	26	0.288 (0.056, 0.521)*					
Assessment	17	45	0.452 (0.250, .655)***	0.164 (-0.145, 0.472)				
Needs principle Central Eight (without family/marital)	31	71			0.558 (1, 69)	.458	.038***	.135
No adherence (RC)	2	2	0.136 (-0.539, 0.811)					
Adherence	29	69	0.396 (0.237, 0.554)***	0.260 (-0.434, .653)				
Central eight: Criminal involvement	31	71			0.534 (1, 69)	.467	.038***	.136***
Not targeted (RC)	10	19	0.297 (0.018, 0.577)*					
Targeted	21	52	0.420 (0.234, 0.607)***	0.123 (-0.213, 0.459)				
Central eight: Antisocial personality	31	71			0.018 (1, 69)	.893	.038***	.139***
Not targeted (RC)	5	12	0.358 (-0.039, 0.755)					
Targeted	26	59	0.387 (0.217, 0.557)***	0.029 (-0.403, 0.461)				
Central eight: Procriminal attitudes	31	71			0.011 (1, 69)	.916	.038***	.139***
Not targeted (RC)	9	18	0.369 (0.070, 0.668)*					

Moderator variables	# Studies	# ES	Intercept/Mean <i>d</i> (95% CI)	β_1 (95% CI)	F (df1, df2) ^a	p^b	Level 2 variance	Level 3 variance
Targeted	22	53	0.388 (0.204, 0.571) ^{***}	0.019 (-0.332, 0.370)				
Central eight: Procriminal associates	31	71			0.778 (1, 69)	.381	.038 ^{***}	.135 ^{***}
Not targeted (RC)	10	15	0.279 (-0.001, 0.559)					
Targeted	21	56	0.428 (0.242, 0.613) ^{***}	0.149 (-0.187, 0.484)				
Central eight: School/work	31	71			3.118 (1, 69)	.082	.037 ^{***}	.123 ^{***}
Not targeted (RC)	8	13	0.147 (-0.156, 0.450)					
Targeted	23	58	0.455 (0.284, 0.626) ^{***}	0.308 (-0.040, 0.656)				
Central eight: Antisocial recreational activities	31	71			4.872 (1, 69)	.031*	.037 ^{***}	.114 ^{***}
Not targeted (RC)	10	22	0.142 (-0.117, 0.401)					
Targeted	21	49	0.488 (0.313, 0.663) ^{***}	0.346 (0.033, 0.658)*				
Central eight: Substance abuse	31	71			0.042 (1, 69)	.838	.038 ^{***}	.139 ^{***}
Not targeted (RC)	8	11	0.354 (0.035, 0.673)*					
Targeted	23	60	0.392 (0.212, 0.571) ^{***}	0.038 (-0.328, 0.404)				
Number of targeted Central Eight Needs	31	71	0.378 (0.225, 0.532) ^{***}	0.033 (-0.029, 0.095)	1.147 (1, 69)	.288	.038 ^{***}	.132 ^{***}
Family intervention: Parent-child relationship	31	71			2.912 (1, 69)	.092	.038 ^{***}	.123 ^{***}
Not targeted (RC)	6	14	0.119 (-0.221, 0.460)					
Targeted	25	57	0.443 (0.227, 0.610) ^{***}	0.324 (-0.055, 0.703)				
Family intervention: Monitoring/supervision	31	71			1.462 (1, 69)	.231	.038 ^{***}	.131 ^{***}
Not targeted (RC)	9	14	0.230 (-0.062, 0.523)					
Targeted	22	57	0.438 (0.259, 0.618) ^{***}	0.208 (-0.135, 0.551)				

Moderator variables	# Studies	# ES	Intercept/Mean <i>d</i> (95% CI)	β_1 (95% CI)	<i>F</i> (df1, df2) ^a	<i>p</i> ^b	Level 2 variance	Level 3 variance
Appropriate forms of family intervention (PC-relationship and/or monitoring)	31	71			1.550 (1, 69)	.217	.038***	.131***
Not targeted (RC)	5	6	0.157 (-0.234, 0.548)					
Targeted	26	65	0.422 (0.256, 0.589)***	0.265 (-0.160, 0.690)				
General responsivity principle	31	71			0.398 (1, 69)	.530	.038***	.138***
No adherence (RC)	7	9	0.287 (-0.053, 0.627)					
Adherence	24	62	0.408 (0.233, 0.584)***	0.121 (-0.261, 0.503)				
Specific responsivity principle	31	71			3.453 (1, 69)	.067	.037***	.121***
No adherence (RC)	8	18	0.136 (-0.165, 0.437)					
Adherence	23	53	0.458 (0.288, 0.629)***	0.322 (-0.024, 0.668)				
Specific responsivity: Intelligence	31	71			2.443, (1, 69)	.123	.039***	.122***
Not tailored (RC)	19	42	0.284 (0.091, 0.477)**					
Tailored	12	29	0.522 (0.288, 0.756)***	0.238 (-0.066, 0.542)				
Specific responsivity: Social support	31	71			2.743, (1, 69)	.102	.038***	.123***
Not tailored (RC)	10	22	0.197 (-0.071, 0.464)					
Tailored	21	49	0.464 (0.284, 0.645)***	0.268 (-0.055, 0.590)				
Specific responsivity: Gender	31	71			0.004, (1, 69)	.949	.038***	.139***
Not tailored (RC)	14	54	0.385 (0.212, 0.559)***					
Tailored	17	17	0.372 (0.010, 0.734)*	-0.013 (-0.415, 0.388)				
Specific responsivity: Age	31	71			4.693 (1, 69)	.034*	.040***	.111***
Not tailored (RC)	14	35	0.206 (-0.009, 0.421)					
Tailored	17	36	0.521 (0.326, 0.716)***	0.315 (0.025, 0.605)*				

Moderator variables	# Studies	# ES	Intercept/Mean d (95% CI)	β_1 (95% CI)	F (df1, df2) ^a	p^b	Level 2 variance	Level 3 variance
Specific responsivity: Culture/ethnicity	31	71			4.693 (1, 69)	.034*	.040***	.111***
Not tailored (RC)	14	35	0.206 (-0.009, 0.421)					
Tailored	17	36	0.521 (0.326, 0.716)***	0.315 (0.025, 0.605)*	1.691 (1, 69)	.198	.038***	.129***
Specific responsivity: Psychopathology	31	71						
Not tailored (RC)	17	31	0.287 (0.077, 0.497)**					
Tailored	14	40	0.485 (0.265, 0.705)***	0.198 (-0.106, 0.503)	0.967 (1, 69)	.329	.039***	.134***
Specific responsivity: Motivation	21	71						
Not tailored (RC)	11	21	0.276 (0.010, 0.541)*					
Tailored	20	50	0.436 (0.247, 0.626)***	0.161 (-0.165, 0.487)	3.350 (1, 69)	.072	.039***	.120***
Number of targeted responsivity factors	31	71	0.386 (0.237, 0.534)***	0.052 (-0.005, 0.109)				
Adherence to number of RNR Principles (<i>Risk only within</i>)	31	71			0.833 (2, 68)	.439	.037**	.138***
0/1 principles (RC)	6	8	0.168 (-0.199, 0.535)					
2 principles	11	21	0.437 (0.168, 0.706)**	0.269 (-0.186, .724)				
3 principles	14	42	0.425 (0.201, 0.649)***	0.257 (-0.173, .687)				

Note. # Studies = number of studies; # ES = number of effect sizes; mean d = mean effect size Cohen's d referring to the estimated mean effect for a specific category of a variable tested as a moderator (one or more asterisks imply that a mean effect significantly differs from a null effect); CI = confidence interval; β_1 = estimated regression coefficient; df = degrees of freedom; Level 2 variance = variance of effect sizes within studies; Level 3 variance = variance between studies.

^a Omnibus test of all regression coefficients in the model.
^b p value of the omnibus test (a significant value indicates that a coded variable is a moderator of the overall effect of family interventions for juvenile delinquency).

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 3
Multiple Moderator Results for the Interaction Between Risk Level (High vs. Low) and Treatment Intensity (in Total Contact Hours)

Moderator variables	β (SE)	95% CI	<i>t</i>
Intercept	0.389	-0.182, 0.960	1.374
Control variables			
Sample risk level (high vs. low)	0.498	-0.198, 1.195	1.443
Treatment intensity (total contact hours)	-0.008	-0.020, 0.003	-1.530
Risk level * treatment intensity	0.033	-0.011, 0.076	0.076
<i>F</i> (df1, df2) ^a	1.032 (3, 44)		
Level 2 variance	0.032		
Level 3 variance	0.140***		

Note. β = estimated regression coefficient; SE = standard error; CI = confidence interval; df = degrees of freedom; Level 2 variance = residual variance in effect sizes extracted from the same study; Level 3 variance = residual variance between studies.

^a Omnibus test of all regression coefficients in the model. *** $p < 0.001$.

Discussion

In line with findings of previous meta-analyses (Dowden & Andrews, 2003; Latimer, 2001; Van der Stouwe et al., 2014), an overall small and significant effect was found for family interventions on juvenile reoffending. Although larger effect sizes were found for interventions adhering to any of the RNR principles, none of the RNR principles significantly moderated the overall intervention effect. In other words, we did not find significant differences in effects between interventions adhering to the RNR principles and interventions not adhering to the RNR principles.

The Risk Principle

In line with Dowden and Andrews (2003), we found no evidence for the effectiveness of adhering to the risk principle in family interventions for delinquent youth. According to Dowden and Andrews, their result was due to a limitation in the coding procedures rather than to any weakness in construct validity of the risk principle. Therefore, we coded the risk principle in two ways, given the original risk principle definition of Bonta and Andrews (2017). However, we still did not find a moderating effect for the within-sample approach (i.e., matching the intervention intensity to the risk level of an individual offender), nor the aggregate-sample approach (i.e., matching the intervention intensity only to the general risk level of the sample instead of individual offenders). We neither found a moderating effect of the interaction between

the risk level of the sample (high vs. low) and treatment intensity (total contact hours), implying that the effect of family interventions does not depend on how treatment intensity is matched to the risk level of juvenile offenders.

These non-significant results may be explained by how the within-sample approach to the risk principle was applied in the included studies. The programs adhering to the within-sample approach matched intervention intensity to the recidivism risk of individual offenders by assessing the recidivism risk on the basis of clinical judgment instead of the outcome of a structured assessment instrument. Multiple studies have shown that statistical methods outperform other methods for risk assessment, and that these methods are crucial for properly identifying juveniles who are at risk for becoming a - life-course persistent - offender (Hanson & Morton-Bourgon, 2009; Schwalbe et al., 2004). Not using the best available methods for risk assessment may be an important reason for not finding a significant effect for adherence to the risk principle in the current meta-analysis.

The Need Principle

Dowden and Andrews (2003) argued that their findings provided strong empirical support for the need principle. However, our results do not confirm this. Although we coded the need principle in multiple ways, the results showed that interventions adhering to the need principle were not significantly more effective than interventions not adhering to the need principle. Further, a remarkable finding was that a standardized instrument for assessing criminological needs of individual offenders was used in only one study (i.e., Strengths and Needs Assessment, Celinska et al., 2018). This indicates that a one-size-fits-all approach to treatment delivery is still often used in studies examining treatment effectiveness rather than matching programs to unique criminogenic needs of individual offenders, which is prescribed by the need principle of the RNR model (Bonta & Andrews, 2017).

However, one of the Central Eight factors (i.e., antisocial recreational activities) was found to positively moderate the effect of family interventions. Risky leisure or recreational routines often involve factors that are predictive of juvenile delinquency, such as the presence of antisocial peers and poorer social control (Hoeben et al., 2016). An example of an intervention that stimulates prosocial activities is Multisystemic Therapy that explicitly considers caregivers as key agents of change in peer relations

and social activities of their children by enhancing parental monitoring and discipline, and facilitating their child's participation in prosocial activities (Henggeler et al., 2009). Further, the intervention Multidimensional Family Therapy (MDFT) aims for a proper social reintegration of adolescents after incarceration, and promotes prosocial peer relations and activities. Another goal of MDFT is to improve all family members' relationships within and between social systems such as school, workplace, and neighborhood (Liddle et al., 2001). Based on the design of the included primary studies and thus also the current meta-analysis, we cannot infer with certainty whether the benefit of prosocial activities is especially gained from programs with an explicit component that targets antisocial recreational activities, or that the same benefit is also gained from programs targeting family and/or peer support that in turn decrease antisocial recreational activities and increase prosocial activities. Future studies in which the potential mediating effect of family and/or peer support is examined are therefore recommended. However, it can be expected that both types of programs contribute to lower recidivism rates, as antisocial recreational activities and low family/peer support have been shown to be well-established and empirically derived dynamic risk factors (Andrews & Bonta, 2006).

In the meta-analysis of Dowden and Andrews (2003), the need principle was defined by only two key elements: "enhancing monitoring/supervision" and "building a positive parent-child relationship". Although the current results revealed larger mean effect sizes for interventions targeting one or both of these elements, targeting these elements did not significantly increase the intervention effects. Based on their results, Dowden and Andrews (2003) highlighted the need for program deliverers to (1) specifically target these two elements, and (2) avoid delivering a nonspecific and unstructured intervention program. As delivering interventions with high treatment integrity (i.e., delivery of the intervention as intended) to young delinquents is indeed vital (Goense et al., 2016), Dowden and Andrews seem right about the importance of avoiding unstructured intervention programs. However, programs involving parents, youth, and their environment (school, peers, and community) appear to be more beneficial than programs only involving parents (De Vries et al., 2015). Therefore, there are more intervention elements (e.g., targeting "Antisocial recreational activities" and "Procriminal associates") than the two mentioned by Dowden and Andrews (2003) that should be part of an effective family intervention for juvenile delinquency.

The Responsivity Principle

Contrary to the findings of Dowden and Andrews (2003), adhering to the general responsivity principle did not significantly increase the effect of family interventions for delinquent youth although we did find larger mean effect sizes for interventions that adhered to the general or the specific responsivity principle compared to interventions that not adhered to these principles. As for specific responsivity factors, we did find that taking “culture/ethnicity” and “age” into account in treatment delivery positively moderates intervention effectiveness. This supports the idea that culturally adapted family-based intervention programs may lead to better intervention outcomes than interventions that are not culturally sensitive (Kumpfer et al., 2002). The positive moderating effect of age may be explained by the existence of different developmental pathways that can lead to delinquency, and the variability in the age of onset for delinquent behavior (Dahlberg & Potter, 2001). The results support the idea that interventions should fit a juvenile’s specific stage of development to reach the best possible outcome. For example, age specific risk factors for delinquent behavior, such as substance use, poor monitoring/supervision, academic failure, and gang membership, are usually more important to consider during adolescence than at a younger age (Van der Put et al., 2012).

Study Limitations and Strengths

This study had several strengths. Our coding of the RNR principles was more in line with the original definitions of the RNR principles of Bonta and Andrews (2017) compared to previous reviews, as ambiguous coding rules were used in for instance the meta-analysis of Dowden and Andrews (2003). We examined the effectiveness of the aggregate-sample and within-sample approaches to the risk principle, as well as the effectiveness of targeting specific criminogenic need factors. We also examined how adhering to the general and specific responsivity principles are associated with intervention effectiveness. Further, studies published after 2001 were also included in the current meta-analysis. Last, we applied a three-level approach to meta-analysis meaning that - contrary to traditional meta-analytic techniques used by Dowden and Andrews (2003) - all information reported in primary studies could be retained, and maximum statistical power could be achieved in the analyses.

However, some limitations must be acknowledged. First, not all primary studies synthesized by Dowden and Andrews (2003) could be included in the current review

for different reasons (see Method section). Second, the results of the trim-and-fill analysis showed that publication bias may have been present in the data, as the distribution of effect sizes was asymmetrical. Third, descriptions of program delivery were limited in most studies, and therefore, intervention manuals or factsheets (when available) had to be retrieved to obtain more information on how program delivery. However, information on treatment fidelity (i.e., accuracy and consistency of intervention delivery) was not reported in most of the included studies meaning that it was uncertain whether the risk, need, and responsivity principles were properly applied in intervention delivery. Adequate assessment of the degree to which a treatment is implemented as intended is still quite uncommon in intervention studies (e.g., Goense et al., 2016). In addition, many studies fail to report essential information on characteristics of the delivered intervention, such as specific intervention practices and delivery techniques (Van der Put et al., 2018). If our study inclusion was restricted to studies that thoroughly assessed program fidelity, the number of studies eligible for inclusion would be too small for testing the moderating effect of the RNR principles. From this perspective, it must be stressed that a thorough assessment of program fidelity in future primary research is vital. Doing so not only improves the knowledge on how specific interventions are delivered and how delivery is associated with intervention effectiveness, but also paves the way for better meta-analytic research in which implemented program elements instead of intended or described program elements can be examined.

Last, none of the included studies used a validated instrument for risk assessment, and only one of the included studies used a structured instrument in assessing the criminogenic needs of individual offenders. This means that despite our intentions, we were unable to thoroughly examine the effectiveness of the risk and need principles according to the original definitions of the risk and need principles as described by Bonta and Andrews (2017); i.e., matching intervention intensity and content to the risk level and need factors of individual offenders. This limitation is probably an important explanation for not finding significant moderating effects of the RNR principles. This finding highlights an important shortcoming in the delivery of treatment in clinical practice and intervention research. We urge future researchers to use validated instruments for risk, need, and responsivity assessment so that the effects of adhering to the RNR principles on program effectiveness can better be assessed. A prerequisite for such studies is the availability of reliable and valid assessment

instruments. Currently, instruments for need assessment and responsivity assessment in particular have not been widely developed and validated. Future research on the development and validation of such instruments is thus also needed.

Conclusion

We did find larger effect size estimates for interventions adhering to any of the RNR principles, but convincing and strong empirical support for the effectiveness of the RNR principles was not obtained. The current results only suggest that adhering to the RNR principles (Andrews & Bonta, 1990) in family interventions is effective, and reveal that strong and convincing empirical support for the principles is not yet available. Suggestions for future primary research are offered to obtain this support. The absence of this support is likely to be driven by limitations in primary research on intervention effectiveness and adherence to the RNR principles. Therefore, we urge future primary researchers to explicitly and thoroughly describe whether and how RNR principles were implemented in studies on treatment effectiveness. Further, it is important that valid and reliable instruments for risk, needs, and responsivity assessment are used so that treatment can be tailored to needs and circumstances of individual offenders. Finally, much more effort should be devoted to adequately assess and report program fidelity, so that study results become driven by actually implemented program elements instead of intended or described program elements. These suggestions for primary research will in turn improve the quality of secondary research that is needed to establish strong empirical evidence for the widely acknowledged value of the RNR model.

Chapter 3

Personalizing Child Protection: The Clinical Value and Usability of a Needs Assessment Instrument

This chapter is adapted from:

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Abstract

Studies on child maltreatment prevention programs show that the effects of these programs are only small. Drawing on the need principle of the Risk-Need-Responsivity model, those effects may be enhanced by properly assessing all the needs of individual families involved in child protection so that treatment programs can be tailored to those needs. Recently, a needs assessment tool (ARIJ-Needs) has been developed in the Netherlands to support child protection practitioners in assessing treatment needs of individual families, and in selecting the treatment programs that best target those needs. This study assessed the clinical value and usability of the ARIJ-Needs by interviewing Dutch child protection practitioners ($N = 15$). A vignette describing a child protection case was used to examine differences between needs assessments based on unstructured clinical judgment (i.e., without using the assessment tool), and structured clinical judgment in which the tool was used. The results showed that practitioners assessed significantly more treatment needs with the tool than without the tool. In particular, family-, parent-, and parenting-related needs were more often assessed by practitioners using the tool, which is an important finding given that these factors are the strongest predictors of child maltreatment. These findings indicate that ARIJ-Needs seems to support practitioners in identifying relevant treatment targets in families at risk for child maltreatment. The implications of these results and recommendations for strengthening the instrument are discussed.

Keywords: child maltreatment, needs assessment, child protection services

Introduction

Child maltreatment is a worldwide public health problem with serious consequences for the development of millions of children (e.g., English et al., 2005; Gilbert et al., 2009; Stoltenborgh et al., 2015). Therefore, effective interventions for reducing the risk for child maltreatment are highly needed. However, meta-analytic studies on the effectiveness of currently available treatment programs aimed at reducing child maltreatment show only small effects of these programs (e.g., Euser et al., 2015; Van der Put et al., 2017). An explanation for these results may be that interventions are insufficiently personalized to the individual needs of families at risk (Ng & Weisz, 2016; Weisz, 2014). A promising approach to improve personalized treatment in child protection services (CPS) is by applying the risk, need, and responsivity principles derived from the Risk-Need-Responsivity (RNR) model that was originally designed for the criminal justice system (Andrews et al., 1990; Andrews et al., 2011; Bonta and Andrews, 2007; Bonta and Andrews, 2016; Van der Put et al., 2016; Van der Put et al., 2018a). To facilitate the implementation of these principles in child protection, validated assessment instruments are highly needed (Van der Put et al., 2017). Therefore, a child risk assessment instrument has recently been developed and validated in the Netherlands, (ARIJ; Van der Put et al., 2016; Vial et al., 2021). In addition, a needs assessment instrument was developed (ARIJ-Needs) to facilitate practitioners in adhering to the need principle in CPS (Van der Put et al., 2018b). This instrument was designed to support child protection practitioners in identifying personal needs of clients, and in selecting appropriate interventions that target those needs. To date, the clinical utility of this instrument has not been examined yet. Therefore, the main aim of this study was to examine whether ARIJ-Needs effectively supports child protection practitioners in their decisions on appropriate treatment programs based on their identification of care needs of at-risk families. In addition, insights into the current decision-making processes (without using the needs instrument) were gained to better determine the clinical value of the instrument.

The RNR model is a widely used model in the criminal justice system for assessing and treating criminal offenders with the aim to reduce recidivism (Andrews et al., 1990). The model has three core principles: (1) the Risk principle assumes that the program intensity should be matched to the offender's risk of criminal recidivism; (2) the Need principle assumes that the offender's criminogenic needs (i.e., changeable risk factors associated with criminal recidivism) should be targeted; and (3) the

Responsivity principle assumes that interventions should be matched to the offender's learning style and abilities. Although the RNR-model was specifically designed for preventing recidivism of criminal offenders, it may be very promising to apply the RNR principles in child welfare services (Van der Put et al., 2016; Van der Put et al., 2018a). After all, criminal behavior and child maltreatment can both be explained by an interaction between risk factors (e.g., mental health problems) and protective factors (e.g., having strong social corrections) in various ecological systems, such as the family, school, and neighborhood (c.f. Bronfenbrenner, 1979, Van der Put et al., 2018b). Furthermore, occurrence of delinquency and child abuse are determined by the balance between risk and protective factors (Belsky, 1980; 1984; Cicchetti and Carlson, 1989; Cicchetti and Rizley, 1981; Folger et al. 2013; Stith et al. 2009; Stouthamer-Loeber et al. 2002; Van der Put et al., 2018b).

In recent years, the first structured instruments became available that facilitate the implementation of the risk and need principles in child protection (Van der Put et al., 2018a, 2018b; De Ruiter et al., 2012). The ARIJ Safety assessment and ARIJ Risk assessment instruments have already been widely implemented in the Netherlands (Vial et al., 2021). These instruments facilitate child welfare workers in the assessment of immediate safety of children, and the risk for (the recurrence of) child maltreatment (Van der Put et al., 2016; Vial et al., 2021). If there is a substantial risk of child maltreatment, a further assessment of dynamic (changeable) risk factors and personal needs of families is needed to provide insights into potential treatment targets. Recently, ARIJ-Needs has been developed to assess such risk factors that are directly associated with child maltreatment (Van der Put et al., 2018b).

ARIJ-Needs consists of two components: (1) a needs-assessment component to assess dynamic risk factors (i.e., needs), and (2) a decision-making component to match the assessed needs to interventions that target those needs. The list of needs that are assessed in the needs-assessment component was based on a selection of significant predictors for child maltreatment derived from (meta-analytic) studies (such as, Assink et al., 2016; Cash, 2001; Hindley et al., 2006; Stith et al., 2009). The selected dynamic risk factors were categorized into "parenting factors" (e.g., problematic parent-child interaction or inadequate supervision/monitoring), "family factors" (e.g., lack of social support or financial problems), "parent factors" (e.g., parental stress or criminal behavior), and "child factors" (e.g., internalizing problems or social problems). The decision-making component of the tool comprises a database of 116 interventions

for (prevention of) child maltreatment that are available in the Netherlands, and is used in matching the needs to the interventions. These interventions target at least one of the need factors that are assessed in the needs-assessment component of the instrument (Van der Put, 2018b).

It was expected that ARIJ-Needs enhances a more effective, efficient, and less subjective decision-making process of child protection practitioners by providing a structured needs assessment instrument that also provides an overview of the interventions that target the assessed needs. The aims of this study were to (1) gain insights into current practitioner decision-making processes of child protection practitioners to determine the added value of using ARIJ-Needs in assessing needs and selecting appropriate interventions, and (2) examine the usability of ARIJ-Needs in supporting practitioners.

Method

Participants

Semi-structured interviews were conducted with fifteen child welfare practitioners ($n = 12$ women and $n = 3$ men), including: five mobile crisis response team workers (family services), five (child) psychologists/educationalists, three social workers, one family coach, and one child protection worker. As all practitioners had a certain degree of expertise in the domain of inquiry, a sufficient degree of data saturation could be assumed (Guest et al., 2006). The interviewed practitioners were not involved in any way in the development of ARIJ-Needs, and had no conflicts of interest.

Procedure

A purposive sampling method, specifically expert sampling was used (Etikan et al., 2016). Practitioners were recruited by contacting the organizations that participate in the consortium research project that resulted in the current study. The practitioners were provided with information on research participation, after which they could consent to participate. Semi-structured interviews with a mean duration of 36.87 minutes ($SD = 10.60$) were conducted on site at the office of the practitioner, or online through a video call. Practitioners were asked for permission to record the interview and informed participants that all personal data was anonymized for this study.

Instruments

Interviews

First, the semi-structured interview started with questions about the current practitioner decision-making process: (1) How are treatment needs assessed in daily practice?; (2) How does the decision-making process on appropriate treatment programs takes place?; (3) Are there any difficulties in providing appropriate care or interventions for families?. Next, a vignette that described a (fictitious) child protection case with a variety of family problems was presented to each participant (see Appendix A). The vignette was developed and used in a previous study by Vial et al. (2021). Practitioners were asked to identify any care need in the vignette, and to indicate which treatment program would be appropriate to address the needs that they identified. Third, the developed needs assessment instrument (ARIJ-Needs) was introduced and explained to each participant, after which practitioners were asked to perform a second needs assessment using ARIJ-Needs. Last, questions were asked about the user experiences of the instrument, after which the practitioners evaluated the results of their needs assessment with the instrument.

ARIJ-Needs

ARIJ-Needs is a Dutch computer application designed to support child protection practitioners in the Netherlands in (1) assessing treatment needs, and (2) the decision-making process of appropriate care or interventions that target the assessed needs (Van der Put et al., 2018b). As described in the Introduction, all dynamic (i.e., changeable) factors that are associated with child maltreatment and can be targeted in interventions are included in the instrument, and categorized into four categories: parenting factors, family factors, parent factors, and child factors. These categories guide practitioners in conducting a structured assessment, and any factor that a practitioner deems present in a specific case can be selected in the instrument during the assessment. For every need factor, a practitioner can request a definition and additional information in the tool to ensure a uniform interpretation of the need factors across care providers.

After all identified needs have been selected, interventions that aim to target those needs can be retrieved from the instrument's database using the "search" button. For every intervention, additional information can be requested in which the aims, the target group, and the level of effectiveness (i.e., based on the effectiveness classifications by Van Yperen et al., 2017) of the program are described. In addition, information on the

availability of the interventions across regions in the Netherlands can be retrieved. All this information was retrieved from original protocols or manuals of the interventions that were included in the database (Van der Put et al., 2018b). The results of the search in terms of the identified needs and the programs targeting those needs can be saved by the practitioner.

Data Analysis

The recordings of the interviews were transcribed, and then analyzed using the software program ATLAS.ti according to the guidelines of Boeije (2014). During the open coding stage of the first interviews, themes were gathered in code groups for which a coding scheme was formed (i.e., axial coding stage). Next, new codes were formed, or existing codes were merged with corresponding codes in the selective coding stage. The coding process resulted in a total of 159 codes divided into 16 code groups.

Results

Assessing Needs: Current Daily Practice in Child Protection Services

Most practitioners ($n = 12$) usually assess treatment needs at intake with their clients based on their own clinical judgment, after which they often determine a treatment plan based on their own expertise ($n = 5$) (“*Structured protocols for determining treatment targets are available, but in reality, all of my colleagues use their own ways.*” ... “*I usually select an intervention that I am familiar with*”). Six practitioners mentioned that they usually consult their colleagues for prioritizing needs, and nine practitioners consult their colleagues for determining a treatment plan (“*I usually present my case during a weekly meeting after which treatment suggestions are discussed*”). Four practitioners mentioned that they consult external authorities to determine an appropriate treatment plan for their assigned case. Three practitioners mentioned that they take specific characteristics of clients (e.g., cognitive abilities or cultural identities) into account in choosing appropriate treatment programs.

Difficulties in Providing Appropriate Care

Most practitioners ($n = 12$) pointed out the long waiting lists for treatment programs in family services as the main barrier to appropriate care for their clients (“*The average waiting time for appropriate treatment programs for my clients takes up to several*

months.”). Therefore, out of necessity, clients are offered alternative and less fitting treatment programs. Six practitioners experienced difficulties in working with other care providers and external institutions (“*The speed of following-up on a case really depends on the capabilities and willingness of the person that the case is assigned to.*”). Seven practitioners experienced funding difficulties in providing appropriate care for their clients (“*Unnecessary bureaucracy leads to longer waiting periods, which can be frustrating given that you want to be responsive towards your clients.*”). Three practitioners mentioned that extensive and complicated inclusion criteria of treatment programs can be a barrier to provide the care they think would be most beneficial for their clients. Three practitioners admitted that they are not entirely aware of the wide range of available treatment programs (“*I usually select an intervention based on my previous experiences with other clients, but sometimes I wonder, maybe there are other programs that would be more appropriate based on my client’s needs.*”).

Needs Assessment with and without using ARIJ-Needs

After reading the study vignette that described a (fictitious) child protection case with a variety of family problems, practitioners assessed significantly more need factors on average ($M = 21.67$, $SD = 5.98$) using ARIJ-Needs compared to the first round of assessment that was based on unstructured clinical judgment ($M = 9.07$, $SD = 3.88$) ($t(28) = -6.84$, $p < .001$). More specifically, practitioners assessed significantly more “family” (e.g., domestic violence, a problematic relationship between care providers, and financial difficulties), “parenting” (e.g., inconsistent parenting, disturbed parent-child interaction patterns, and difficulties in setting up rules and boundaries), and “parent” (e.g., parental stress and aggression regulation issues) need factors (see Table 1).

Table 1

Differences in Identified Dynamic Risk Factors Between Needs Assessment With and Without the Needs Assessment Instrument (ARIJ-Needs)

Needs domain	Without ARIJ-Needs		With ARIJ-Needs		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Family	3.53	1.06	5.87	0.83	-6.70***
Child	2.53	2.48	3.60	1.50	-1.43
Parenting	1.73	0.88	6.40	3.38	-5.18***
Parent	1.27	1.28	5.80	2.11	-7.11***
Total	9.07	3.88	21.67	5.98	-6.84***

Note. An independent samples *t*-test was performed for each category of dynamic risk factors (needs) to test the difference in mean number of identified needs between the needs assessments without and with using ARIJ-Needs. Using the instrument was scored dichotomously (0 = without ARIJ-Needs, 1 = with ARIJ-Needs), meaning that a negative *t* value indicates a higher mean number of identified needs with the ARIJ-Needs. ****p* < .001.

Evaluation of the Clinical Value of ARIJ-Needs

All practitioners evaluated ARIJ-Needs as helpful in determining family (care) needs. Specifically, practitioners mentioned that the classification of need categories in ARIJ-Needs helpfully structured the needs assessment, which may also provide practical guidance in writing case reports. Practitioners also mentioned that ARIJ-Needs can easily be used within teams of practitioners for discussing individual cases, and that the tool is useable for assessing needs in multi-problem families. However, an overlap in need factors was noted (*“For example in the category “family factors”, I think that some factors in this category can be assigned to the broadly interpretable factor “parenting instability.”*). Two other practitioners mentioned that the dichotomous answer scale (i.e., yes/no in reporting the presence of a need factor) could be changed into a broader scale to indicate the severity of the client’s needs. Three other practitioners suggested that positive and protective factors (e.g., social support) may also be included in the tool. In addition, other factors that were suggested to include were: information on previous treatment trajectories, complicated divorce of parents, traumatic experiences of children, the appropriate age range of interventions, and the degree to which parents have mentalization skills.

Five practitioners mentioned that the decision-making component (i.e., matching the assessed needs to interventions that target those needs) provided important insights into the many available interventions in child welfare (*“It provides a practical overview of the many possibilities in child welfare treatment programs, some of which I had not*

thought about, or had never heard of.”). Three practitioners emphasized the value of providing information on the local availability of interventions which is shown in the results of the instrument.

All practitioners would like to use ARIJ-Needs in their daily practice (*“Without ARIJ-Needs, I am more likely to select an intervention that I have applied before, instead of programs that are lesser known, but potentially more appropriate.”*). Overall, twelve practitioners evaluated ARIJ-Needs as a user-friendly and comprehensive needs assessment instrument (*“The instrument is very practical, especially the classification of need factors in different categories is helpful in the process of assessing treatment needs.”*). Suggestions for improvement of the instrument were: developing a less ‘basic’ and more attractive interface design, developing a web version of the instrument, using less jargon in the need descriptions, and continuous visibility of the need descriptions instead of using the description button. One practitioner mentioned that the instrument may also be helpful for parents to assess which care would be helpful according to their own assessment.

Discussion

ARIJ-Needs is an assessment instrument that supports child protection practitioners in assessing specific treatment needs, and in selecting appropriate treatment programs that target those needs. This study is the first to assess the clinical value and utility of a needs assessment instrument that was developed in the Netherlands (ARIJ-Needs) by interviewing child protection practitioners. The results reveal that the decision-making process on selecting treatment programs for families in (Dutch) child protection services is still based on unstructured, clinical judgment, despite the well-known advantages of structured decision-making (Douglas et al., 2002; van der Put et al., 2016). The practitioners that were interviewed in this study usually selected interventions for their clients based on prior experiences with and referrals to known interventions, or on advice from colleagues. Overreliance on such intuitive thinking is prone to various biases, such as the tendency to pick out the familiar, the vivid, the ‘obvious’, and to overlook the unfamiliar, the complex, and the less predictable case information and interventions (Helm, 2011; Saltiel, 2016).

The results support the idea that structured decision-making facilitates a more holistic approach to treatment settings in which the child’s family and environment are taken into account, which improves the analysis of complex situations by practitioners

(Bartelink et al., 2015). Practitioners identified significantly more treatment needs in the vignette of a CPS case with the needs assessment instrument (ARIJ-Needs) compared to their unstructured needs assessment without the instrument. Moreover, practitioners assessed more parent (e.g., criminal behavior) and parenting needs (e.g., a problematic parent-child relationship) with the instrument compared to their unstructured needs assessment. As such factors are stronger associated with child maltreatment than child related factors (see, for instance, Assink et al., 2019; Mulder et al., 2018; Stith et al., 2009), ARIJ-Needs seems to support practitioners in identifying the most relevant treatment targets in families at risk for child maltreatment.

Regarding the usability of ARIJ-Needs, practitioners mentioned that the overview of treatment needs in different categories helpfully structured the needs assessment. In addition, it was mentioned that such an overview can be helpful in efficiently writing CPS reports, which often is an elaborate administrative task that many Dutch child welfare practitioners experience as a burden (Sekreve et al., 2020). According to the practitioners, the decision-making component of ARIJ-Needs (i.e., matching the assessed needs to interventions targeting those needs) provided important insights into the growing range of available interventions in child welfare that many Dutch child welfare practitioners may not be familiar with.

Suggestions for Improving ARIJ-Needs

The interviewed practitioners offered several suggestions for increasing the usability of ARIJ-Needs in clinical practice. First, not all interventions included in the database of ARIJ-Needs are available in all regions of the Netherlands due to differences in care provision policies across Dutch cities and local governments. On the one hand, this might be a barrier to the general usability of ARIJ-Needs. On the other hand, this means that by using the instrument, critical gaps in regional access to treatment programs can be identified by child welfare practitioners. In turn, practitioners can provide consult to child welfare departments of local governments on which interventions are needed and should become available to meet the needs of their clients.

Second, practitioners noted that the needs-assessment component in ARIJ-Needs only comprises changeable risk factors, but they would also like to assess protective factors next to risk factors. However, according to the needs principle of the RNR model (Bonta & Andrews, 2017), treatment is most effective when explicitly the

unique dynamic risk factors in families (i.e., needs) are addressed, given the theoretical assumption that successfully addressing these factors contributes to a family's reduction in risk of child maltreatment. Furthermore, research shows that strengthening protective factors may be less effective in preventing recurring child maltreatment in specifically high-risk families (Luthar & Goldstein, 2004). That is, "resilience" as a global construct appears to be rare at the highest levels of risk, and may benefit from a narrower conceptualization focusing on specific outcomes at specific timepoints in development (Vanderbilt-Adriance & Shaw, 2008).

Third, only a limited number of interventions target multidimensional family problems with many and diverse needs, as was the case with the vignette that was presented to participants in this study. The lower the number of risk factors that are selected in the decision-making component of ARIJ-Needs, the more appropriate interventions targeting the selected needs are presented on screen by the decision-making component of the tool. Practitioners mentioned that the dichotomous answer scale could be changed into a broader scale to indicate the severity of the client's needs. This seems an essential suggestion for improvement, as implementing such a scale enables practitioners to prioritize the needs that should be targeted with urge.

Last, future research should be undertaken to examine the psychometric quality of ARIJ-Needs. Previous studies have already showed that through applying valid and reliable safety and risk assessment instruments, the decision-making processes in CPS can be strengthened (e.g., Vial et al., 2019; Vial et al., 2021). However, the question whether or not the implementation of ARIJ-Needs truly enhances the effectiveness of the decision-making process in child protection, and in turn, strengthens child maltreatment prevention efforts needs to be further examined.

Clinical Implications

The barriers to appropriate treatment trajectories that the interviewed practitioners posed (e.g., long waiting lists and insufficient cooperation between institutions) correspond to those found in previous studies on CPS practices in the Netherlands (Gubbels et al., 2021; Health and Youth Care Inspectorate, 2020). A structured, consistent, and transparent approach to assessing needs using a needs assessment instrument like ARIJ-Needs is likely to contribute to the overall consistency of decision-making in families. This is of particular importance when involvement with

child protection is over a long period of time in which a child and family has contact with numerous practitioners and care providers (De Bortoli et al., 2016). It should be emphasized that ARIJ-Needs is not designed to replace clinical judgment, as case and time specific factors (e.g., severity and urgency) always remain important to consider in choosing the right approach for families involved in CPS (Van der Put et al., 2018b). Besides these implications that directly result from this study, it is important to stress that parents and children should be actively involved in decision-making processes in CPS to successfully build a trustful relationship and a positive working alliance (Van Bijleveld et al., 2019; Helm, 2011; van der Put et al., 2018).

Further, the first step in the diagnostic process comprises assessing the child's immediate safety to determine whether safety measures should be taken to safeguard a child. The next steps are assessing the risk for future child maltreatment that informs practitioners about which families should be treated and what level of intensity is required, and assessing the dynamic risk factors (i.e., needs) as described in the current study (Van der Put, 2018b). In addition, after a needs assessment, an assessment of responsivity factors (e.g., problem denial, treatment motivation, and cognitive abilities) is of equal importance to tailor treatment programs to the unique characteristics of clients to enhance treatment effectiveness (Bijlsma et al., 2021).

Conclusion

This study showed that a recently developed needs assessment in the Netherlands (ARIJ-Needs) supports practitioners in the decision-making process on appropriate interventions for families involved in child protection services. Practitioners that used ARIJ-Needs in their assessment identified more treatment needs in a CPS case compared to their clinical, unstructured needs assessment. In particular more parent- and parenting-related needs were identified with ARIJ-Needs, which is an important finding as specifically these factors are most strongly related to child maltreatment. The decision-making component of ARIJ-Needs - in which the identified needs are matched to interventions targeting those needs - supported practitioners in selecting appropriate care out of the continuously growing number of available interventions in child welfare.

Chapter 4

Personalizing Child Protection: The Value of Responsivity Factors

This chapter is adapted from:

Bijlsma, A. M. E., van der Put, C. E., Overbeek, G. J., Stams, G. J. J. M., & Assink, M. (2021). Personalizing child protection: The value of responsivity factors.

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Abstract

Personalization is an important strategy for enhancing the effectiveness of treatment that is aimed at reducing the risk of child maltreatment. In recent years, a growing body of research has appeared on how child protection can benefit from the principles of the Risk-Need-Responsivity model, but no attention has yet been paid to the implementation of the responsivity principle in child protection. Put simply, this principle states that treatment must be tailored to individual characteristics of clients to optimize its effectiveness. This study was the first to address how the responsivity principle can be of value in child protection. First, a systematic review of responsivity factors in forensic care was performed. Second, the relevance of applying each factor in child protection was examined through interviews with clinical professionals working in the field, who also provided suggestions on how treatment can be tailored to each of these factors. This resulted in an overview of seven responsivity factors all related to caregiver characteristics: problem denial, motivation to cooperate with treatment, psychological problems, cognitive abilities, cultural background, practical barriers such as financial problems and social support, and barriers to specific treatment types such as group therapy. Implications and recommendations for strengthening clinical practice are discussed.

Keywords: child protection; RNR-model; responsivity; caregiver characteristics

Introduction

Child maltreatment is a worldwide public health problem with serious long-term consequences for the development of millions of children (e.g., English et al. 2005; Gilbert et al. 2009; Stoltenborgh et al. 2015). Therefore, effective intervention programs for reducing the risk are highly needed. Throughout the years, a wide range of parent support programs aimed at reducing (the risk of) child maltreatment have been developed, but the actual effects of these programs are still only small to modest (Euser et al. 2015; Van der Put et al. 2018a; Vlahovicova et al. 2017).

The effectiveness of parenting programs that target maltreatment can probably be enhanced by tailoring these programs to the individual needs and characteristics of caregivers (Ng & Weisz 2016; Weisz 2014). A way to facilitate such personalized intervention in child protection is through applying the Responsivity principle from the Risk Need Responsivity model of effective judicial interventions (Andrews et al. 1990), which enables reduction of barriers to treatment participation, and optimization of treatment circumstances. Recently, researchers argued that the RNR principles can also be applied to child protection services in order to enhance the effectiveness of treatment aimed at reducing the risk of (recurring) child maltreatment (e.g., Van der Put et al. 2016b, 2018a). However, studies examining how the Responsivity principle of the RNR model can be implemented in the field of child protection are not yet available. Therefore, this study aimed to (1) identify an overview of responsivity factors in criminal practice with criminal offenders and (2) examine the value of targeting these factors in the clinical field of child protection, and how those factors can be targeted to enhance caregivers' abilities to succeed in treatment.

Tailoring treatment and interventions to the individual (specific) needs and characteristics of clients has been addressed in different forms of public health care. In forensic care aimed at preventing criminal recidivism, personalizing treatment has been largely guided by the Risk Need Responsivity model (Andrews et al. 1990). This model prescribes how treatment should be tailored to individuals, based on three core principles: (1) the Risk principle assumes that the program intensity level should be matched to the offender's risk of criminal recidivism; (2) the Need principle assumes that the offender's criminogenic needs (i.e., changeable risk factors associated with criminal recidivism) should be targeted; and (3) the Responsivity principle assumes that interventions should be matched to the offender's learning style and abilities.

According to the general responsivity principle, cognitive social learning methods (e.g., prosocial modeling and problem solving) should be used to influence behavior. The specific responsivity principle states that strategies should be modified in accordance with the learning ability, learning style, circumstances, and demographic characteristics of individual cases, such as gender, age, and ethnicity (Andrews et al. 2011; Bonta and Andrews 2007, 2016). Interventions adhering to all three principles of the RNR model reduce offender recidivism more effectively than interventions not adhering to the RNR principles (e.g., Andrews et al. 1990; Hanson et al. 2009).

Although the RNR model has been developed specifically for effective prevention of criminal behavior, it seems highly promising to apply the RNR principles in child protection to personalize systematic (family) interventions and to effectively prevent child maltreatment (Mulder et al. 2018; Van der Put et al. 2016b; 2018a). Both delinquency and child maltreatment can be explained by the interplay of risk factors (e.g., psychopathology) and protective factors (e.g., social support) in various social systems, such as the family, school, and neighborhood (see Bronfenbrenner 1979). Furthermore, occurrence of delinquency and child abuse are determined by the balance between risk and protective factors (Belsky 1980, 1984; Cicchetti and Carlson 1989; Cicchetti and Rizley 1981; Folger and Wright 2013; Smith et al. 2009; Stouthamer-Loeber et al. 2002). To effectively stop criminal behavior and child maltreatment, risk factors need to be addressed as described in the RNR framework.

Until now, the RNR principles have been applied to the clinical practice of child protection only to a limited extent. In recent years, the first structured instruments for child protection services became available that facilitate the implementation of the risk and need principles in child protection (Van der Put et al. 2016a, 2018b; De Ruiter et al. 2012). However, studies examining to what extent the responsivity principle is implemented in the field of child protection are not yet available. This is striking, given that responsivity is one of the three core components of the RNR framework that prescribes how interventions should be tailored to the individual needs and characteristics of clients and thus delivered in a personalized way (Bonta and Andrews 2016). Applying the responsivity principle in child protection may be just as important as in forensic care, because in general, without adhering to the responsivity principle, even well-designed programs can be ineffective by failing to remove or reduce significant barriers to treatment participation (Covell and Wheeler 2011).

The original conceptualization of the Responsivity principle assumes that interventions should contain cognitive social learning methods, and that intervention should be tailored to the learning style, motivation, abilities, and strengths of the offender (Bonta and Andrews 2016). Another conceptualization has been made by Ogloff and Davis (2004), who focus more on multiple responsivity impediments, such as a lack of motivation, which moderate treatment effects, and therefore should be addressed prior to targeting the client's needs (Ogloff and Davis 2004; Ward et al. 2007). Looman et al. (2005) described general responsivity more specifically as external factors, and specific responsivity as internal factors. External factors refer to contextual factors that affect treatment outcomes (e.g., therapist/social worker characteristics and characteristics of the treatment setting), whereas internal factors refer to personal factors of a client (e.g., psychopathy and motivation) (Looman et al. 2005). It has also been suggested that responsivity is a function of both internal and external factors, which may interact (Howells and Day 2007).

Responsivity also relates to the degree to which an intervention is appropriate given the unique characteristics of a client. As interventions are less aligned with these characteristics, the effectiveness of treatment declines (Taxman 2014). For example, an anxious client may not respond well to group interventions (Smith et al. 2009). Further, poorly motivated offenders may become more engaged in treatment when they better understand how an intervention serves their interests (Polaschek 2012). Just as in forensic care, engagement of children's caretakers in child protection services is important for enhancing intervention outcomes, of which child safety is a crucial one (Cunningham and Henggeler 1999; Platt 2012). Besides treatment engagement, there are many other barriers to successful intervention outcomes in child welfare, such as mental illness or substance abuse (Dawson and Berry 2002). Such factors may have a negative impact on the outcome of protocolled treatment programs if these programs are not specifically designed to target such factors (Van Yperen et al. 2017). However, it would be possible to allow flexibility in delivering an intervention program based on identified treatment barriers using the right approaches.

In their latest research on specific responsivity, Bonta and Andrews (2016) have emphasized the identification of personal client factors, such as interpersonal sensitivity, anxiety, verbal intelligence, and cognitive maturity, to further improve individual treatment matching. They also underline the importance of motivation as a responsivity factor, which should be increased to prevent treatment drop out (Bonta

and Andrews 2016). Hubbard (2007) also argues that such personal characteristics of offenders may interfere with their ability to succeed in treatment. To enhance program effectiveness, such characteristics must be addressed through assessment prior to treatment (Hubbard 2007). However, due to the widely diverging views on how responsivity should be defined, there is no consensus in scientific literature on how responsivity factors should be operationalized and assessed (Hubbard 2007). For example, motivation and participation—which are aspects of treatment readiness—have been introduced to reflect treatment responsivity in treatment settings (Howells and Day 2003; Mossière and Serin 2013). Additionally, client characteristics such as self-efficacy, problem-recognition, and perceived coercion, are other relevant aspects in responsivity assessments (Day et al. 2009; Loza et al. 2000).

For interventions to be effective, it is crucial for practitioners to tailor interventions to the client in the best possible way, which requires a comprehensive overview of responsivity factors. Therefore, the aim of this study is to provide such an overview by reviewing literature on responsivity factors in criminal practice with criminal offenders, and by examining the value of those factors in child protection through interviews with clinical professionals.

Method

Literature Review of Responsivity Factors in Criminal Practice

Inclusion Criteria

For identifying relevant responsivity factors, (forensic) responsivity and treatment readiness assessment instruments were searched for and retrieved from multiple databases. The keywords that were used in this search for articles, reports, book chapters, and manuals on responsivity assessment are presented in Figure 1. Only studies written in Dutch and English of which the full text could be retrieved were included. As a form of quality control, studies had to be published in peer-reviewed scientific journals or be (part of) a dissertation that was accessible to the authors of this review. Publication year was not an inclusion criterion.

Search Strategy

Results were retrieved from the following databases: PsycInfo (655 results), Web of Science (282 results), Medline (217 results), and Social Services Abstracts (148 results). Additionally, we performed an orientation search with records from Google Scholar (229 results). Database search results were checked for eligibility with RefWorks, in which duplicates were checked and removed (Figure 2). In the screening phase, a first selection of relevant results was made based on titles and abstracts in the program Rayyan QCRI. In the eligibility phase, 434 articles were evaluated by reading the full text, after which 51 different instruments were identified. Some instruments were excluded, because they were identical to other instruments with a different name, or because they were specifically designed to be used in a single study.

Figure 1
Search Query

PsycINFO

Ovid

#1 responsivity instruments

(correctional treatment* scale* OR change assessment* OR client management classification OR ((client motivation OR motivation readiness OR motivation to change OR offender readiness OR offender motivation OR readiness to change OR responsivity OR treatment eagerness OR treatment engagement OR treatment motivation OR treatment readiness OR want to change OR willing* to change) ADJ3 (assess* OR instrument* OR measure* OR questionnaire* OR rating OR scale* OR test* OR tool*)) OR helping alliance rating method* OR treatment readiness interview* OR ohio scales OR URICA OR VTRQ OR SOCRATES).ti,ab,id,tm. OR (responsivity).tm.

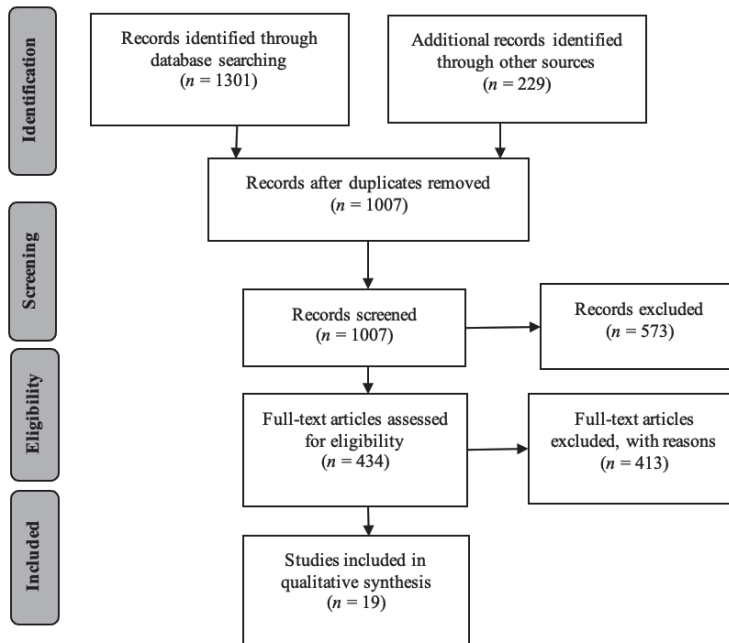
#2 child welfare

child care workers/ OR child welfare/ OR counselors/ OR protective services/ OR social workers/ OR social casework/ OR "Welfare Services (Government)"/ OR Social Services/ OR Community Welfare Services/ OR counseling/ OR group counseling/ OR rehabilitation counseling/ OR (casework* OR child care OR child welfare OR counsel* OR frontline OR protective service* OR social work* OR youth care OR youthcare).ti,ab,id.

#3 criminology

addiction/ OR child abuse/ OR child neglect/ OR correctional institutions/ OR crime/ OR criminal behavior/ OR criminals/ OR criminology/ OR domestic violence/ OR drug addiction/ OR forensic psychiatry/ OR forensic psychology/ OR incarceration/ OR incest/ OR intimate partner violence/ OR juvenile delinquency/ OR juvenile justice/ OR kidnapping/ OR mentally ill offenders/ OR partner abuse/ OR pedophilia/ OR perpetrators/ OR prisons/ OR prisoners/ OR recidivism/ OR rape/ OR sex offenses/ OR (addict* OR child abuse OR child molest* OR child neglect OR child pornography OR crime* OR criminal* OR convicts OR correctional* OR delinquent* OR domestic violence OR forensic OR incarcerat* OR incest* OR juvenile justice OR kidnap* OR offender* OR paedo* OR partner abus* OR partner violence OR pedo* OR perpetrator* OR prison* OR rape OR rapist OR rearrest* OR recidiv* OR reconvict* OR re-convict* OR reincarcerat* OR re-incarcerat* OR reoffen* OR re-offen* OR sex* offen*).ti,ab,id.

Figure 2
Flow Diagram of Included Studies



Interviews on the Practical Relevance of Responsivity Factors in Child Protection

Participants

Semi-structured interviews were conducted with 14 professionals working in the field of child protection, specifically in health care institutions offering care to families. The professionals had a variety of occupations, including: two behavioral scientists, four (ambulatory) social workers, one advisor of the Board of Child Protection, one school psychologist, two clinical psychologists, one pediatrician, one post-master's healthcare psychologist, one remedial educationist, and one interactive child therapist. Since all professionals had a certain degree of expertise in the domain of inquiry, a sufficient degree of data saturation could be assumed (Guest et al. 2006).

Procedure

Professionals were recruited by contacting the organizations that participate in the consortium research project that resulted in the current study, and through flyers that

were distributed among the authors' professional network. The professionals who agreed to participate received detailed information on research participation, after which the interview was scheduled. Semi-structured interviews with a duration of approximately one hour were conducted by two interviewers at a time, usually the first author along with a master's degree student. Prior to conducting the interviews, the students were thoroughly instructed about the interview procedure. The interviews took place at the workplace of the participant and were digitally recorded. Professionals were asked for permission to record the interview and informed that all personal data was anonymized for this study. Participants signed an informed consent prior to the interview, and received a voucher of 25 euros for their cooperation afterwards.

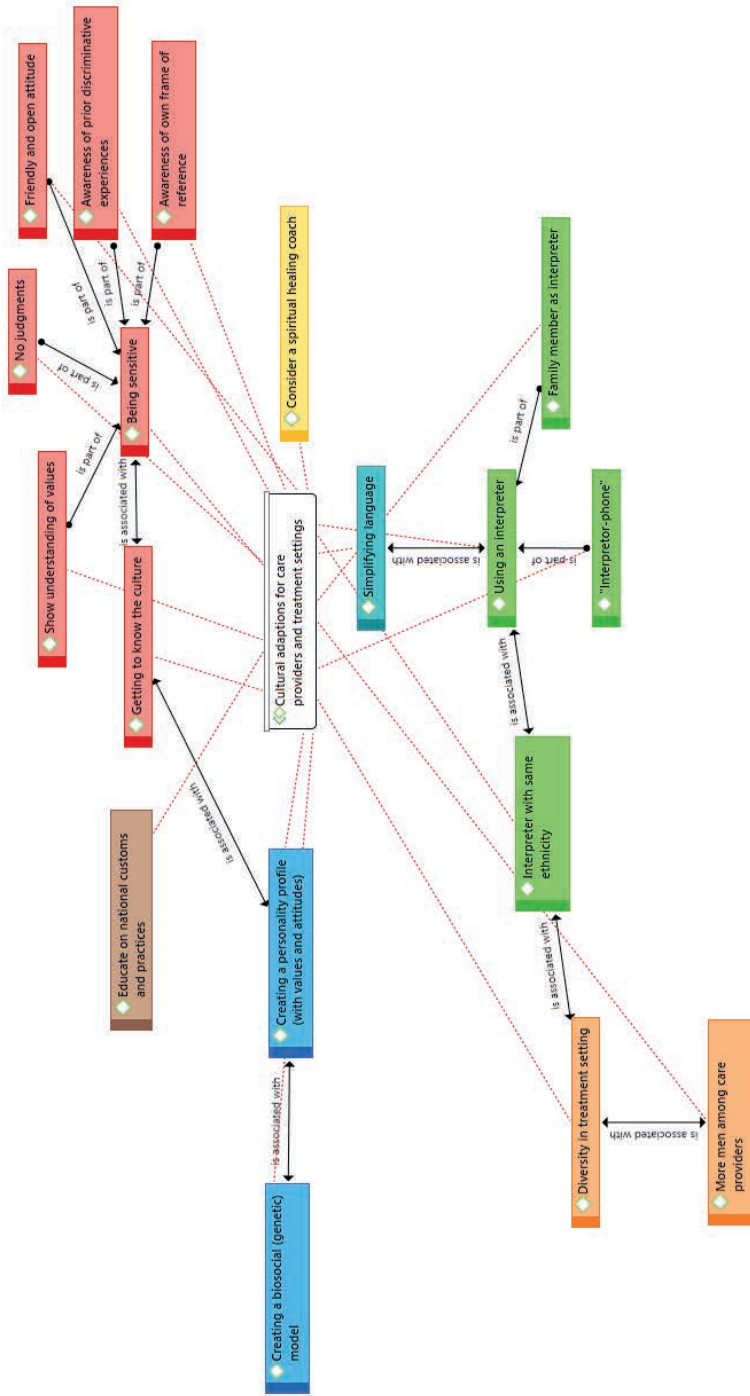
Interview

The interview started with general questions about the participant's understanding of the responsivity principle of the RNR model (Andrews et al. 1990): (1) What is responsivity, and what factors are related to responsive treatment delivery? Next, the overview of responsivity factors was presented, and each factor was evaluated separately with the following questions: (2) Do you consider this factor relevant within the field of child protection? and (3) How can the factor and its explanation be improved? Then, we asked about treatment suggestions for tailoring treatment to identified responsivity factors: (4) Which specific treatment techniques would you use when this factor applies for your client? Prior to the interviews, a pilot interview was held after which the questionnaire was adjusted and finalized.

Data Analysis

The recordings of the interviews were transcribed, and then analyzed with the software program ATLAS.ti according to the guidelines of Boeije (2014). During the open coding stage of the first interviews, themes were gathered in code groups for which a coding scheme was formed. Examples of these code groups are: 'understanding of responsivity (factors)', 'concluding judgments', 'missing factors', and 'relevance of each factor'. New codes were formed, or existing codes were merged with corresponding codes in the selective coding stage. All interviews were double coded and compared, which resulted in a total of 449 codes divided into 25 code groups. For all code groups, networks were created to provide an overview of relations between codes. These networks provided insight into the contradictions and similarities between different

Figure 3
Network Example: Treatment Suggestions for Cultural Adaptions



codes. Figure 3 shows an example of a network of interrelated suggestions for cultural/ethnic treatment adaptations. The codes are categorized by color, and the arrows illustrate the associations between the codes (i.e., ‘associated with’ or ‘being a part of’). For example, the code ‘being sensitive’ is centrally associated with ‘having a friendly and open attitude’, ‘showing understanding of cultural values’, and ‘not being judgmental’.

Results

Literature Review of Responsivity Factors in Criminal Practice

Table 1 provides an overview of the 19 instruments that were retrieved, with the responsivity factors that are assessed with these instruments. Based on these factors, seven responsivity categories were identified, which are reflected by the column headings of Table 1. Motivation was the most frequently measured responsivity aspect, operationalized in terms of treatment readiness, readiness to change, treatment engagement, internal- and external motivation, and stages of change. Other frequently measured responsivity aspects were: criminal thinking and responsibility (e.g., problem denial), program perceptions (e.g., confidence in treatment), and psychological functioning.

Interviews on the Practical Relevance of Responsivity Factors in Child Protection and Clinical Treatment Suggestions

Understanding of the Responsivity Principle

Only two participants, who both work in forensic institutions, were familiar with the RNR-model, and the ‘what works’ principles in daily practice. Four participants were not at all familiar with the concept of responsivity. Three participants thought that responsivity refers to responsiveness and sensitivity of parents to their children. Other participants defined responsivity as ‘thinking about a right approach’, or ‘connecting to someone’s potentials’. After the explanation of the responsivity principle, participants named several factors related to responsive treatment delivery: cognitive abilities (six), culture/ethnicity (six), socioeconomic factors (four), psychopathology (three), motivation (two), willingness to cooperate (two), trust (two), personality (one), parental stress (one), resistance (one), and relationship problems (one).

An overview of factor explanations and treatment suggestions from participants for tailoring treatment to the responsivity factors can be found in Table 2.

Table 1
Operationalization of Responsivity Factors

Instruments	Criminal thinking	Program perceptions	Motivation	Social support	Self-disclosure	Personality	Biosocial
<ul style="list-style-type: none"> • TCU Short Forms for Assessing Client Needs and Functioning (Simpson et al. 2012) • Revised Safe At Home Instrument (Begun et al. 2008) • Treatment Engagement Rating Scale (Drieschner and Boomsma, 2008) • (C)VTRO & Violence Treatment Readiness Interview (Casey et al. 2007) • Criminal Justice Client Evaluation of Self and Treatment (Garner et al. 2007) • The Personal Concerns Inventory (Offender Adaptation) (Sellen et al. 2006) • Level of Service/Case Management Inventory (Andrews et al. 2004) • Treatment Readiness Tool (Freyer et al. 2004) • Self-Appraisal Questionnaire (Loza and Loza-Fanous, 2000) 	<ul style="list-style-type: none"> • Criminal thinking and cognitive orientation • Offending beliefs/Responsibility • Criminal thinking • Problem denial • Attribution for criminal conduct 	<ul style="list-style-type: none"> • Openness • Program attitudes • Treatment participation and satisfaction 	<ul style="list-style-type: none"> • Motivation and readiness for treatment change • Readiness to change • Efforts to change behavior • Motivation (Desire to change) • Treatment motivation and engagement • Concerns and goals • Stages of change • Client motivation/change readiness 	<ul style="list-style-type: none"> • Social relations and functioning • Social and peer support • Antisocial attitude 	<ul style="list-style-type: none"> • Self-confidence/Group progress • Self-esteem • Self-confidence/Social anxiety 	<ul style="list-style-type: none"> • Psychological functioning • Emotional responses • Psychological functioning (anxiety, depression, hostility) • Social anxiety/Mental health/ Psychopathy • Personality problems 	<ul style="list-style-type: none"> • Gender/Culture/Ethnicity/Intelligence

Instruments	Criminal thinking	Program perceptions	Motivation	Social support	Self-disclosure	Personality	Biosocial
• Readiness Ruler (Miller, 1999)			Readiness to change				
• Stages of Change Readiness and Treatment Eagerness Scale (Miller and Tonigan, 1996)			Motivation for change				
• Treatment Motivation Questionnaire (Ryan et al. 1995)		Confidence in treatment	Internal & External motivation	Inter-personal help seeking			
• Circumstances, Motivation, Readiness Scales (de Leon et al. 1994)		Perceptions of treatment suitability	Motivation for change				
• Readiness to Change Questionnaire (Heather et al. 1993)			Stages of change				
• Attitudes Toward Correctional Treatment Scale (Baxter et al. 1992)		Optimism/pessimism regarding treatment outcome	Motivation and perceived need for treatment/ Perceptions of staff & institution		Comfort Discomfort with self-disclosure in groups		
• Client Motivation for Therapy Scale (Pelletier et al. 1997)			Intrinsic and extrinsic motivation				
• Jesness Inventory Classification (Jesness, 1988)						Personality (cluster analyses)	
• Client Management Classification (Lerner et al. 1986)	Criminal attitudes					Social mal-adjustment	
• University of Rhode Island Change Assessment (McConaughy et al. 1983)			Stages of change				

Table 2
Responsivity Factors in Child Protection

Factors	Clinical treatment suggestions
Problem denial	<p><i>Problem denial is the denial of problems that are indicated by care providers (or other professionals). Clients can minimize or reject signaled child unsafety, or justify their behavior. Clients can also be unaware of identified problems, or experience them as less severe due to a different frame of reference.</i></p>
Treatment motivation/ Willingness to cooperate	<p><i>Treatment motivation is the will of a client to start and continue treatment, until a treatment trajectory is completed. Treatment motivation can be insufficient when caregivers don't experience any problems, when there is external pressure (imposed care), when they think a certain treatment is inappropriate, when there are long waiting lists, or when they have low expectations of treatment outcomes. Clients can also be unfamiliar with, or anxious about youth protective services.</i></p>
Psychological functioning	<p><i>Think about psychopathology as a negative influence on treatment outcomes or the therapeutic relationship, such as (symptoms of) the following disorders: bipolar-mood, anxiety, trauma and stress, depression, autism spectrum disorder, or ADHD.</i></p>

Clinical treatment suggestions	
Factors	
Cognitive abilities	<i>Think about limitations in mental functioning, or low social adaptability, which consists of conceptual skills (understanding of language, numbers, time, and money), social skills (communicative skills and solving social problems), and practical skills (e.g., personal care).</i>
Culture/ Ethnicity	<i>Think about: language, religion, traditional practices, attitudes about gender roles or misogyny, treatment stigma or taboo, and different expectations of appropriate child- and parent behavior and parenting styles. There can also be experienced stressors, such as discrimination, pre-migration or war trauma, immigration, and acculturation.</i>
Practical barriers/ Social support	<i>Think about: transportation issues, day care, work of client, (planned) relocation, or pregnancy.</i>
Barriers to treatment/ intervention type	<i>Individual therapy can be more appropriate when parents cannot function in groups, because of personal problems, or the inability to interact socially.</i>

Use a practical approach (e.g., visual support, video home training) Adapt communication techniques (e.g., simplified translations, repetition, and summarization) Consider referral to institutions that are specialized in treating mentally challenged clients Consider difficulties with moral reasoning, and incomprehension as an underlying mechanism on client frustrations

Work with an interpreter (e.g., family member, interpreter-phone, or colleague) Create a (gender and ethnic) diverse treatment setting Enter the dialog about cultural backgrounds, understand each other to improve therapeutic relationship with a sensitive, understanding, friendly, and open approach without judgement Draw a biosocial model including genetic factors, or a personality profile with cultural norms and values together with the client Encourage alternative parenting techniques for corporal punishments

Provide financial support (e.g., emergency funds) Be flexible (e.g., home visitation and off the clock availability) Use an outreaching approach, provide guidance in referral to social welfare institutions Apply a multisystem/contextual approach for involving social networks List priorities Provide resocialization possibilities and job coaching

Consider a client's cognitive functioning and disruptive behavior in discussing appropriateness of group therapy

Problem Denial

Two participants suggested that the explanation of problem denial should also include problem justification/excuse. Further, two professionals noted that client denial could also be client unawareness (“We as care providers can label something as child maltreatment, but a client can have different standards, due to a different background.”).

Treatment Suggestions

Most clinical treatment suggestions were about improving the therapeutic relationship, by which trust should be earned before problems are discussed. Further, it may be important to use general conversational starting points during the first contact moments that can be extended to other (problem) areas. Frequent contact with the client may also be necessary to allow time for the acceptance process of concerns. Problems can be addressed with a more direct approach, but without any judgement. Other suggestions were focusing on possibilities, and creating a ‘positive life plan’ with concrete steps.

Treatment Motivation/Willingness to Cooperate

Several participants mentioned that motivation can be misinterpreted when there is unfamiliarity with child protection services or anxiety about imposed measures (“Some clients associate youth protection services with the idea: They will take my child away, I am going to lose my child.”), or inability of clients (“If someone refuses treatment, you might think the client does not want to be treated, but sometimes the client cannot be treated, because he is still heavily addicted” or, “If you are very depressed, you might want to, but you cannot make it work.”). Clients can also be ‘tired of treatment’, or demotivated by long waiting lists.

Treatment Suggestions

Some participants mentioned that they refer clients to other institutions when there is no treatment motivation, including imposed sanctions. Others said that imposed care may lead to even less motivation. One participant also mentioned that institutions should cooperate/communicate better. Furthermore, it can be important to keep in contact when clients are ‘in between’ treatment settings/institutions, and that they

are prepared carefully for other treatment settings. Other suggestions for enhancing treatment motivation were psychoeducation, motivational communication techniques, clarity and transparency to reach agreement, explanation of treatment effects, and focusing on change instead of (one's own) static assumptions.

Psychological Functioning

Some participants suggested that personality disorders are important to take into account, because these disorders can affect the therapeutic relationship in a negative way (“When it comes to adults, personality problems are the most common, especially, borderline is a huge barrier to building up a therapeutic relationship.”).

Treatment Suggestions

Providing guidance in referral to mental health care was mentioned the most. Other suggestions were: interdisciplinary meetings, diagnostic research, family system therapy, and psychoeducation for children about parental psychological problems. Regarding borderline patients, the care provider should be aware of an instable therapeutic relationship.

Social Support/Practical Barriers

‘Financial problems’ were recognizable for participants, and mentioned as an important cause for other problems (“Being in debt is such a heavy burden for parents, that it gets in the way of good parenting, because parents become emotional unavailable due to the stress it causes.”), or (“What I have heard a lot is: ‘I want to come, but I do not have the money’, or ‘I wish I could talk to you in person, but I cannot afford public transport’. It is not considered enough that someone might actually want help, but simply does not have the resources for it.”). Other important barriers were also mentioned: parental divorce in combination with housing problems (“When parents get divorced, they sometimes still have to live together in the same house for more than a year, which causes a lot of stress and tension.”), homelessness, absence of social contacts, and absence of a permanent residence permit. Finally, participants suggested that practical barriers such as financial problems and barriers to treatment type (group/individual) should be separated.

Treatment Suggestions

First, providing financial support, for example from emergency funds, was suggested. Second, participants emphasized the importance of flexible working hours, including home visitations and digital availability (e.g., WhatsApp). Third, participants mentioned that the form of treatment, for example group therapy, should be appropriate to a client's cognitive functioning and disruptive behavior.

Cognitive Abilities

Some participants considered a standardized IQ-level description as too theoretical, and suggested a more practical approach, for example 'mentally challenged'. Another comment was that a higher intelligence of the child compared to the parents should also be signaled ("What makes it complicated is when a child is much smarter than its parents, especially for children aged ten and over, because this can lead to an undesirable role reversal."). The inclusion of social adjustment capacity in the description was considered relevant by the participants.

Treatment Suggestions

Participants indicated that this specific client factor could be better addressed within their treatment approaches. For example, one participant admitted that it is quite difficult to use appropriate communication techniques, and another professional mentioned that clients are easily verbally overrated. Referral to a more specialized institution was therefore a recurring suggestion, but some participants already applied appropriate treatment modules at their own care facility. A frequently mentioned treatment suggestion was providing a more practical approach, using visual support (e.g., video home training). Verbal adaptations were also mentioned, for example using simplified translations and specific communication techniques (e.g., repetition, summarization).

Culture/Ethnicity

Important proposed adjustments to the description were inclusion of war trauma, religion, attitudes about gender roles, misogyny, and taboos (shame about accepting external help). Another comment was that there are many differences between and within cultures, which might be difficult to categorize under the same heading. ("A

care provider and a client may have the same ethnical background, but still differ in standards and values. For example, suppose that I am Turkish, but a Turkish family still does not want my help, because they are ashamed of getting help.”).

Treatment Suggestions

Using an interpreter (e.g., a family member, or a colleague with the same ethnicity as the client) during treatment sessions was suggested. Furthermore, suggestions were made on addressing diversity in the treatment environment (i.e., ethnic diversity and gender diversity). A conversation about each other’s values may be important for improving the therapeutic relationship. Such a conversation should be approached with a sensitive, friendly and open attitude without judgement. Another suggestion was to create a biosocial model including genetic factors, or a personality profile including norms and values together with the client. Last, hitting a child as a punishment technique can be more common within specific cultures, in which case alternative parenting techniques should be discussed and encouraged.

Discussion

The aim of this study was to provide an overview of relevant responsivity factors in child protection. The overview was based on a literature review on responsivity factors in forensic care, and adjusted to child protection based on interviews with clinical professionals. This study identified seven responsivity factors (i.e., problem denial, treatment motivation, psychological functioning, cognitive abilities, culture/ethnicity, practical barriers/social support, and barriers to intervention type) in an intervention paradigm that builds on the broader criminogenic Risks Needs Responsivity (RNR)-framework (Bonta and Andrews 2016). In addition, clinical professionals provided treatment recommendations to target responsivity factors in order to enhance caregivers’ abilities to succeed in treatment.

Due to the widely diverging views on how responsivity should be defined, there is no consensus in the scientific literature on how responsivity factors should be operationalized and assessed in criminal practice (Hubbard 2007). In the first part of this study, we therefore addressed this gap by providing an overview of the operationalization of the responsivity principle in forensic treatment based on a literature review. Second, we assessed the clinical relevance of these identified

responsivity factors for child protection practices by interviewing clinical professionals. At first, most child protection professionals were not yet familiar with the concept of responsivity from the RNR-framework in forensic care (Bonta and Andrews 2016). However, after the introduction of the Responsivity principle, the professionals suggested many factors (e.g., cognitive abilities, ethnicity/culture) corresponding to the identified factors from the literature search. Furthermore, after presenting the overview of identified responsivity factors related to caregiver characteristics, all professionals affirmed the importance of targeting those factors in child protection services to optimize treatment circumstances.

The results in this study indicate that personalizing treatment circumstances to specific characteristics of caregivers involved in child protection services may be promising for enhancing treatment engagement, just as in criminal practice (Wormith and Olver 2002). For instance, one professional stressed the risk of an instable therapeutic relationship because of a borderline personality disorder, which is known to be related to a high client attrition rate in interventions (Wnuk et al. 2013; Yeomans et al. 1994). Additionally, ‘cognitive ability’, the most frequently mentioned responsivity factor by the interviewed practitioners, can also increase the risk for intervention attrition in child welfare systems due to a mismatch between client and intervention style (Van Yperen et al. 2003). Remarkably, (parental) cognitive impairment was the only factor about which several professionals acknowledged that it should be more carefully addressed within their treatment settings. This result is in line with the urgent need of agencies which specialize in supporting parents with cognitive impairments, especially because children of parents with cognitive impairments are over-represented in child maltreatment investigations and out-of-home care (McConnell et al. 2011). Further, in their latest research, Bonta and Andrews (2016) argue that motivation should be increased to prevent treatment dropout. Just as in criminal practice, working with unwilling or involuntary clients in child protection services is challenging, and needs to be addressed with an appropriate approach (Turney 2012).

For example, caregivers may not be unwilling to cooperate, but rather are unaware of their problems, or afraid of a practitioner’s power to remove their children (Bartelink et al. 2018). Some practitioners may overlook such relevant information, because of a tendency to be biased to information that confirms their previous judgements (Bartelink et al. 2015). Furthermore, practical barriers to participation, such as lack of transportation and money, reflect pressing needs of parents that unfortunately tend to

be inadequately addressed by child welfare services (Kemp et al. 2008). The provided overview in this study supports the awareness of such caregiver characteristics, and facilitates personalized treatment using a fitting approach.

Limitations and Future Research

Several limitations of the present study need to be discussed. First, although our structured literature search was extensive, we may have missed studies on the assessment of responsivity factors. For example, relevant studies may have not been indexed with keywords derived from the “responsivity factor” concept, making it more difficult to identify these studies. Nevertheless, as 21 instruments assessing a total of 50 responsivity factors were included, it may be assumed that the sample of included studies was sufficiently representative of all primary studies available on responsivity assessment. Second, the overview of responsivity factors in this study is related to caregiver characteristics, and therefore does not include all responsivity factors from the literature search on responsivity assessment and the interviews. For example, qualities of care providers that influence the therapeutic relationship between client and therapist are also important to consider in both criminal practice and child protection services (Andrews et al. 2011; Kemp et al. 2008).

Lastly, as Skeem et al. (2015) rightly indicated, generalizability of the responsivity principle from criminal practice to a new population with unique characteristics, such as families in child protection, should be done cautiously. Although the results of this study revealed substantial overlap in responsivity factors between criminal practice and child protection services, the fruitfulness of the RNR framework in child protection still needs empirical support. Therefore, future research should focus on the effects of applying the RNR principles to child welfare. Further research should also focus on determining the best approach to treatment optimization after responsivity factors have been assessed. This study provided expert-based knowledge on such treatment tailoring techniques to address responsivity factors, but this can be substantiated with research-based insights into effective treatment techniques. For example, the responsivity factor ‘motivation’ can be addressed with motivational interviewing, which may lead to improved retention in treatment (Andrews et al. 2011; McMurrin 2009). This knowledge can also be derived from current treatment techniques in protocolled intervention programs. For example, in multisystemic therapy much attention is already given to a personalized ‘fit’ of treatment goals and techniques based on clinical

identified risk factors if family problems, such as a lack of treatment motivation (MST-The Netherlands, 2020).

Clinical Implications

Several important responsivity factors can be screened in the decision-making process of clinical professionals who need to address these factors before or in parallel to intervention programs. Practitioners in child protection may rely on intuitive decision-making, which makes them vulnerable to overlook relevant information (Bartelink et al. 2018). Using checklists and guidelines are essential strategies in avoiding possible bias due to intuitive practitioner reasoning (Munro 1999). An overview of responsivity factors supports structured decision-making, and may therefore prevent such bias.

Primarily, introducing the responsivity principle to child protection is necessary to enable personalized treatment according to all three RNR principles (Andrews et al. 1990). As we know from criminal practice, interventions that adhere to all three principles of the RNR framework reduce offender recidivism most effectively (e.g., Andrews et al. 1990; Hanson et al. 2009). Therefore, the results of this study can strengthen the benefits of previously developed tools for risk and need assessment in child welfare (e.g., Van der Put et al. 2016a; 2018b; De Ruiter et al. 2012).

Conclusion

Recent studies pointed towards the value of implementing the Risk and Need principles of the Risk Need Responsivity model (Andrews et al. 1990) in child protection services to enhance the effectiveness of treatment for reducing the risk of (recurrence of) child maltreatment (e.g., Van der Put et al. 2016b, 2018a). However, studies on the implementation of the Responsivity principle in the field of child protection were not yet available. Therefore, the present study was aimed at introducing the Responsivity principle of the RNR-model into the field of child protection. To apply this principle from criminal practice to child protection, this study identified responsivity factors in criminal practice based on a literature review, and examined the clinical relevance of these factors by conducting a qualitative case study among child protection professionals. This resulted in an overview of seven responsivity factors that are all related to caregiver characteristics: problem denial, motivation to cooperate with treatment, psychological problems, cognitive abilities, cultural background,

practical barriers such as financial problems and social support, and barriers to specific treatment types such as group therapy. In addition, clinical professionals provided treatment recommendations for targeting these responsivity factors with the aim of enhancing caregivers' abilities to succeed in treatment.

The results support practitioners working in the field of child protection adhering to the responsivity principle of the Risk Need Responsivity framework (Andrews et al. 1990) by identifying responsivity factors that may interfere with clients' abilities to succeed in treatment (Cunningham and Henggeler 1999; Hubbard 2007). This is important, as it is empirically supported that interventions which are better tailored to clients' responsivity characteristics yield better outcomes (Andrews et al. 1990; Hanson et al. 2009). Therefore, it may be expected that introducing the Responsivity principle in child protection boosts optimization of treatment circumstances, and hopefully, intervention effectiveness.

Chapter 5

Gender Differences between Domestic Violent Men and Women: Criminogenic Risk factors and their Association with Treatment Dropout

This chapter is adapted from:

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Abstract

Although many studies have concluded that men and women engage in domestic violence at equal levels, existing studies have hardly focused on gender specific risk factors for domestic violence perpetration. Therefore, this study aimed to examine gender differences in criminogenic risk factors between Dutch male and female forensic outpatients who were referred to forensic treatment for domestic violence. Clinical structured assessments of criminogenic risk factors were retrieved for 366 male and 87 female outpatients. Gender differences were not only found in the prevalence and interrelatedness of criminogenic risk factors, but also in associations between criminogenic risk factors and treatment dropout. In men, risk factors related to the criminal history, substance abuse, and criminal attitudes were more prevalent than in women, whereas risk factors related to education/work, finances, and the living environment were more prevalent in women. Further, having criminal friends, having a criminal history, and drug abuse were associated with treatment dropout in men, whereas a problematic relationship with family members, housing instability, a lack of personal support, and unemployment were associated with treatment dropout in women. Finally, network analyses revealed gender differences in risk factor interrelatedness. The results provide important insights into gender specific differences in criminogenic risk factors for domestic violence, which support clinical professionals in tailoring treatment to the specific needs of male and female perpetrators of domestic violence.

Keywords: domestic violence, criminogenic risk factors, treatment dropout, gender differences, network analysis

Introduction

Domestic violence (defined as physical, sexual, emotional, economic, or psychological abuse against an intimate partner, child, or other relative) affects many men, women, and children (Carlson, 2000; Moylan et al., 2010; Tjaden & Thoennes, 2000; United Nations, 2020; Wolfe et al., 2003; World Health Organization, 2013). The devastating consequences of domestic violence ask for treatment programs with minimal dropout of perpetrators to reduce (recurring) family violence. Although women are more often portrayed as victims than perpetrators of domestic violence, recent studies report equal domestic violence victimization prevalence in men and women (de Vogel et al., 2016; Lysova et al., 2019). It is striking that even though a large part of the domestic violence perpetrators is female, not much is known about how female criminogenic risks differ from those of males, or which different criminogenic risk factors are associated with treatment dropout in females compared to males (de Vogel et al., 2014). Therefore, the aim of this study was to provide further insights into gender differences in forensic outpatients who were referred to forensic treatment for domestic violence, by studying gender differences in the prevalence of criminogenic risk factors, their interrelatedness using an innovative statistical technique for network modeling, and their association with treatment dropout.

Studies show that women experiencing intimate partner violence are at increased risk of experiencing physical and mental health problems, such as depression, trauma, and stress (e.g., Campbell & Lewandowski, 1997; Gorde et al., 2004). As there is a general view in the literature that men are more often perpetrator than victim of domestic violence, there is also much less research on the consequences of domestic violence victimization for men (Archer, 2000; de Vogel & Uzieblo, 2020). However, there are studies available showing that a poor health, depressive symptoms, substance abuse, and injury, may follow domestic violence victimization of men (Coker et al., 2000; Randle & Graham, 2011). Besides the effects of domestic violence on the well-being of men and women alike, exposure to domestic violence is associated with externalizing and internalizing problems in children, such as increased aggressive behavior, trauma, and depression (e.g., Huth-Bocks et al., 2001; Evans et al., 2008; Jouriles et al., 2008). To reduce these consequences of family violence, effective treatment programs with minimal dropout of perpetrators are urgently needed.

Unfortunately, there is a lack of evaluation studies on the effects of intervention programs in female perpetrators (Carney et al., 2007). What we do know is that for

male perpetrators, treatment effects for reducing domestic violence are small (e.g., $d = 0.34$, Babcock et al., 2002). A main cause of this disappointing finding can be found in high treatment dropout rates, as more than 40% of male perpetrators of domestic violence fail to complete treatment (Babcock et al., 2002; Buttel & Pike, 2002; Sartin et al., 2006). These high dropout rates are a major problem because treatment completion is necessary to sufficiently reduce the risk factors contributing to the likelihood of recidivism of perpetrators of domestic violence (Babcock & Steiner, 1999; Bennett et al., 2007; Rosenbaum et al., 2001; Jones et al., 2004). An important question is why these treatment attrition rates in interventions aimed at reducing domestic violence are so high.

Several studies addressed this question by identifying differences between dropouts and completers of domestic violence treatments. Results show that variables predictive of domestic violence treatment dropout correspond to variables that are predictive of criminal recidivism (Jewell & Wormith, 2010; Wormith & Olver, 2002). As Jewell and Wormith (2010) argue, many of the identified risk factors for treatment dropout reflect criminogenic needs from the Risk, Need, and Responsivity Model by Andrews and colleagues (1990). Criminogenic needs are dynamic risk factors that are directly linked to criminal behavior, such as mental health problems or coping skills. These risk factors can potentially be changed and therefore provide opportunities for treatment aimed at reducing criminogenic needs and strengthening protective factors (Babcock & Steiner, 1999; Bonta & Andrews, 2017; Olver et al., 2011; Tollefson et al., 2008). Daly and Pelowski (2000) also stressed that strategies for treatment retention include a thorough assessment of risk factors for treatment dropout, and close monitoring of perpetrators at higher risk for treatment attrition throughout their program participation.

Examples of dynamic criminogenic needs that reflect risk factors for treatment dropout in male perpetrators of domestic violence are psychological problems, unemployment, and substance abuse (Bowen & Gilchrist, 2006; Daly & Pelowski, 2000; Grusznski & Carrillo, 1988; Jewell & Wormith, 2010; Lila et al., 2017; Stalans & Seng, 2007; Tollefson et al., 2008). Besides criminogenic needs, static risk factors (i.e., immutable risk factors), such as a criminal history, or a history of victimization as a child, are also associated with treatment dropout in perpetrators of domestic violence, although conflicting results have been found (Daly & Pelowski, 2000; Grusznski & Carrillo, 1988; Jewell & Wormith, 2010; Rooney & Hanson, 2001; Scott, 2004). In the few

studies on female perpetrators of domestic violence, quite similar risk factors for treatment dropout were found. For example, criminogenic needs (e.g., drug and alcohol use, unemployment, low educational level) and static risks (e.g., criminal history) are associated with treatment attrition in both men and women (Carney & Buttell, 2004; Buttell et al., 2012).

Still, studies on criminogenic needs of perpetrators of domestic violence are primarily focused on men, and there is a limited number of studies on similarities and differences between male and female domestic violence perpetrators. One of those studies by Henning and colleagues (2003) showed that women arrested for domestic violence are more likely than men to have previously attempted suicide, and that they are more often previously treated with psychotropic medication (e.g., antipsychotics). On the contrary, male perpetrators are more often treated for substance abuse (Henning et al., 2003). Both male and female perpetrators show minimization, denial, and external attributions related to their domestic violent offense, but female perpetrators tend to attribute their violent offenses more often to characteristics of their partner, such as lack of commitment and unfaithfulness (Henning et al., 2005). Results from a study examining clinical and personality disorders diagnosed in male and female perpetrators of domestic violence showed that women demonstrated more histrionic, narcissistic, and compulsive personality traits compared to men (Simmons et al., 2005). This study also showed that men demonstrated higher dependent personality traits than women. Carney and colleagues (2007) argue that female perpetrators of domestic violence share similar motives and psycho-social characteristics (e.g., prior aggression or personality disturbance) as male perpetrators. Carney et al., (2007), also suggested that professionals would do well to consider common risk factors for general violence when evaluating possible intervention needs of male and female abusers. To date, no studies used comprehensive measures of criminogenic risk factors for criminal behavior and recidivism, such as risk factors forming the Central Eight (Bonta & Andrews, 2017; Eisenberg et al., 2019), in examining gender differences and similarities in male and female perpetrators of domestic violence.

Furthermore, while the risk for treatment dropout may increase by criminogenic risk factor interactions (Olver et al., 2011), no attention has been paid to risk factor interrelatedness in perpetrators of domestic violence. Advances in methodology and statistics have made it possible to study the complexity of the relations between risk factors, for example network analysis (Borsboom & Cramer, 2013). Using network

analysis, partial correlations between risk factors can be examined, and the most central risk factor (i.e., the risk factor that is most likely to cause the development of other risks) can be determined (Borsboom & Cramer, 2013). This analysis provides important information for treatment directions, as it can be expected that targeting central risk factors in interventions helps reducing other risks.

Therefore, the aim of this study was to increase knowledge on gender specific criminogenic risk factors in forensic outpatients who were referred to forensic treatment for domestic violence by studying differences and interactions in risk factors between female and male forensic outpatients. More specifically, we examined gender differences in the prevalence of criminogenic risk factors, and examined the interrelatedness between the criminogenic risk factors in male and female outpatients using an innovative statistical technique for network modeling. Finally, we examined the association between the criminogenic risk factors and treatment dropout in both male and female outpatients. Because of a lack of substantial empirical attention to risk factors in female perpetrators of domestic violence, and inconsistencies in study results of risk factors for treatment dropout in male perpetrators of domestic violence, we were unable to develop specific hypotheses about differences in risk factors between these perpetrator groups. Yet, in light of the studies that are available, we did expect to find risk factors for treatment dropout that correspond to risk factors that are predictive of criminal recidivism (i.e., Central Eight criminogenic needs, Andrews et al., 1990) in both perpetrator groups (Jewell & Wormith, 2010; Wormith & Olver, 2002).

Method

Sample

The initial sample comprised 1,272 adult forensic outpatients who were referred to forensic treatment for domestic violence between 2014 and 2015 at a forensic care facility in the Netherlands (de Waag). In this sample, 213 outpatients did not receive treatment because of various contraindications, such as acute psychosis and addiction. Data from another 204 outpatients were excluded, because of registration errors in the electronic files of these outpatients (e.g., information on the diagnostic phase was missing). Another 103 outpatients did not give permission for using their data for research purposes. Last, a complete risk assessment was not available for 752 outpatients implying that the final sample consisted of 453 outpatients (366 men and 87 women).

Demographics and Treatment Characteristics

Compared to the sampled women ($M = 34.80$, $SD = 9.92$), men were older ($M = 38.58$, $SD = 11.18$) ($t(451) = 2.89$, $p < .01$), more often court mandated (36% and 9% respectively) ($\chi^2(1, N = 453) = 22.99$, $p < .001$), and more often had a non-Dutch nationality (32% and 22% respectively) ($\chi^2(1, n = 363) = 4.33$, $p < .05$). There was no significant difference in treatment duration in months between men ($M = 8.94$, $SD = 4.35$) and women ($M = 9.68$, $SD = 4.42$) ($t(351) = -1.21$, $p = .226$).

Research Protocol

The data used in this study were collected as part of routine outcome monitoring at the forensic care facility (de Waag). This facility is the largest forensic outpatient treatment center in the Netherlands with approximately 5,000 outpatients entering treatment each year. The facility offers mainly cognitive-behavioral based interventions to juvenile and adult outpatients who, due to their offensive behavior, come into contact with police force or judicial authorities. Patients enter treatment on a voluntary or mandatory basis. Voluntary treatment indicates that the patient enters treatment on his own initiative, either on referral of a general practitioner or another mental health care institute. Mandatory treatment means that treatment is imposed by a judge, and that a probation officer acts as supervisor.

The routine outcome monitoring (ROM) data in this study were collected by the therapists at the forensic care facility as part of their daily job activities, and were provided anonymously to the researchers. The ROM data collection is part of ongoing research at the forensic care facility that is aimed at improving regular treatment. In the ROM procedure, all outpatients referred to the facility are routinely assessed with a number of internet-based instruments (e.g., the RAF-MH) at baseline during intake, and if treatment is initiated, repeatedly every four months during treatment. At intake, patients were informed by the therapist about what data will be collected and how their data will be used for scientific purposes. Patients were asked to sign a general informed consent letter if they agreed on the use of their data for scientific research, and they could withdraw their consent at any time during and after treatment. This procedure was in line with the Dutch Data Protection Act (Dutch DPA) and Dutch healthcare law that prescribe how the privacy of personal information in the context of mental health services must be dealt with.

Dropout

A premature ending of treatment by either the outpatient or the practitioner was referred to as dropout, which concerned 82 (22.4%) of the 366 male outpatients, and 21 (24.1%) of the 87 female outpatients in the sample ($\chi^2(1, N = 453) = .120, p = .729$). In the initial sample of outpatients for whom data of treatment completion were available, there was also no significant difference between the dropout rates of male (23.3%) and female outpatients (22.7%) ($\chi^2(1, N = 544) = .015, p = .901$). There were several reasons for dropping out of treatment, of which a persistent lack of motivation, frequent illicit absence from treatment sessions, or a lack of progress as assessed by the therapist, were the most common.

Instruments

The Risk Assessment for outpatient Forensic Mental Health-Adult version (RAF-MH) is a structured professional judgment risk assessment instrument for adults for whom forensic psychiatric health care is indicated (van Horn et al., 2012). The RAF-MH consists of twelve so-called risk domains, each measuring at least of two or more criminogenic risk factors. The structure of the instrument is comparable to the Level of Service Inventory-Revised (LSI-R), which is a risk and needs assessment tool developed by Andrews and Bonta (2000). Similar to the LSI-R, the RAF-MH measures overall risk domain scores for criminal recidivism by assessing both static (e.g., age of onset for delinquent behavior) and dynamic (e.g., drug abuse) risk factors. Contrary to singular item scoring, this scoring structure offers the possibility of tracing the decision procedure that has resulted in overall risk domain scores. More specifically, this scoring structure enables a more explicit and clear risk assessment procedure than singular item scoring, particularly in retrieving the information that has led to the overall clinical judgment at the end of each risk domain. The risk assessment following the RAF-MH consists of two steps: (1) All risk domain items are scored by the therapist following the guidelines as described in the manual of the RAF-MH; (2) Each risk domain is given a structured clinical judgment on the overall functioning of the outpatient based on the underlying risk items. This judgment is expressed on a 6-point scale, with scores 0, 1, and 2 indicating a satisfactory level of functioning and with scores 3, 4, and 5 indicating a problematic level of functioning.

The twelve risk domains that can be assessed with the RAF-MH are: (1) 'Previous and current offenses': e.g., previous criminal behavior and age at first antisocial behavior;

(2) 'School/(part-time) job': e.g., behavioral problems at school, or employment; (3) 'Finances': having debts and having an unemployment benefit; (4) 'Living environment': instability of living situation and living in a bad neighborhood; (5) 'Family/partner': e.g., relationship instability and relationship with parents; (6) 'Social network': e.g., social isolation and affiliation with deviant peers; (7) 'Leisure activities': individual- and group activities; (8) 'Substances': e.g., substance abuse/dependency and its negative effect on several life domains; (9) 'Emotional/personal': e.g., coping skills, impulsivity, and personality disorders; (10) 'Attitudes': e.g., lack of empathy and crime supportive beliefs; (11) 'Motivation for treatment': e.g., treatment attendance and insight in risky situations; Domain 12 'Sexual problems' only applies to sex offenders, and the scores in this domain were therefore excluded from the analyses.

The psychometric qualities of the adult version of the RAF-MH have not yet been examined, but the inter-rater reliability (Intraclass Correlation Coefficients 'ICC' = 0.78) and predictive validity (Area Under the Curve 'AUC' = 0.77) of the almost identical youth version of the RAF-MH are sufficient (Van Horn et al., 2009). A total of 21 items of the RAF-MH were scored dichotomously (no/yes), whereas 34 items were scored on a 3-point scale (ranging from 1-2-3) with higher scores indicating higher levels of a risk factor. For these non-dichotomous items, dummy variables were created, with 1 (score 1 or 2) indicating the presence and 0 the absence of a risk factor. One item from the risk domain 'criminal history and severity', and seven items from the risk domain 'education/work' were excluded from analyses, because the scores on these items were missing for more than 50% of the participants. Data were missing, for instance, because items were not applicable to a participant's circumstances (e.g., job performance in case of unemployment).

Analyses

A phi coefficient was computed by performing a Chi-Square test of independence to determine gender differences in the prevalence of criminogenic risk factors that were measured with the RAF-MH. An independent samples *t*-test was performed to determine gender differences in RAF-MH risk domain scores.

To examine the interrelatedness of the risk factors for male and female outpatients, statistical networks were created to model the interactions between risk domains. Network analysis is a relatively new method for modeling interactions between variables that is increasingly applied to different disciplines, for example to explore the

interrelatedness of risk factors for child maltreatment (Vial et al., 2020). A network characterizes structures in terms of nodes (the RAF-MH risk domains/factors) and edges (relationships or the partial correlations) that connect these nodes. We used the EBICglasso technique, which estimates partial correlations between all variables, and shrinks absolute weights to zero, addressing the multiplicity issue (Barbalat et al., 2019; Van den Bergh, 2018). Before interpreting the obtained networks, correlation stability (CS) coefficients were calculated to make inferences about the accuracy and stability of the node strength centrality and edge weight coefficients. The centrality measures and the edge weights are considered stable when the corresponding CS-coefficient exceeds a value of .25 (Epskamp et al., 2018). The network analyses were performed using R-package “bootnet” (version 1.2; Epskamp et al., 2018) in R-3.6.1). Correlation coefficients were interpreted using the guidelines by Gignac and Szodorai (2016) (i.e., 0.10 = small, 0.20 = moderate, and 0.30 = large).

For men and women separately, a phi coefficient was computed by performing a Chi-Square test of independence to determine the associations between the dichotomously scored variables: risk factors (present/not present) and treatment dropout (treatment dropout/treatment completion). The results were interpreted using the guidelines of Cohen (1988) (i.e., small = 0.1, moderate = 0.3, and large = 0.5). For every risk factor item, a two-proportion *z*-test was performed to determine gender differences in risk prevalence in dropouts. For every domain, bivariate correlation analyses were conducted to determine the association between risk factor scores and dropout. The effect sizes were interpreted using the guidelines of Rice and Harris (2005) for point-biserial correlations (i.e., men: small = 0.081, moderate = 0.204, large = 0.316, women: small = 0.085, moderate = 0.209, large = 0.324). A comparison of correlations from independent samples (*z*-test) was performed to determine significant gender differences in association strength between domain risk scores and treatment dropout (Lenhard & Lenhard, 2014).

Results

Risk Factor Prevalence and Risk Domain Scores

Table 1 provides an overview of the prevalence of criminogenic risk factors (in percentages) for male and female outpatients as measured by the RAF-MH. Fifteen risk factors were significantly more prevalent in male than in female outpatients, of which six were static (i.e., prior convictions, official offense records, unreported offenses, previous

imprisonment, past alcohol abuse/dependence, and past drug abuse/dependence), and nine were dynamic (i.e., criminal friends, present alcohol abuse/dependence, present drug abuse/dependence, substance use disorder, interpersonal problems because of substance use, poor anger management, offense justification, offense denial, and lack of empathy). In female outpatients, one static risk factor (i.e., victim of child maltreatment) and four dynamic risk factors (i.e., currently unemployed, low job performance, unemployment benefit, and housing instability) were significantly more prevalent than in male outpatients. Table 2 provides the mean scores on the RAF-MH risk domains for male and female outpatients. Men scored significantly higher than women on criminal history, substance abuse, and criminal attitudes. Both male and female outpatients scored high on the personal/emotional risk domain.

Table 1
Prevalence of Criminogenic Risk factors in Domestic Violent Men and Women

Risk factor	Risk Prevalence		r_{ϕ}^1
	<i>N</i> men/women	(%) men/women	
<i>1. Criminal history</i>			
Convictions	366/87	52/23	-.231***
Official offense records	360/87	48/24	-.193***
Unreported offenses	315/83	73/59	-.121*
Weapon use/threat of death	344/84	26/23	-.032
Offense frequency/severity	348/84	54/44	-.081
Age of onset of delinquent behavior	330/60	32/27	-.042
Previous imprisonment	349/87	20/6	-.154***
<i>2. Education/Work</i>			
Problematic employment history	343/80	49/40	-.068
Currently unemployed	363/85	39/57	.142**
Job performance	208/33	5/15	.147*
<i>3. Finances</i>			
Unemployment benefit	361/85	35/55	.162***
Debt	346/80	51/51	.003
<i>4. Living environment</i>			
Housing stability	363/86	28/42	.123**
Disadvantaged neighborhood	316/80	24/28	.032
<i>5. Family/Spouse</i>			
Relationship instability	360/87	94/95	.017
Relationship with caregivers	339/83	53/60	.055
Relationship with family members (and in-laws)	328/73	65/66	.007
Relationship with children	277/66	41/35	-.051

Risk factor	Risk Prevalence		r_{ϕ}^1
	<i>N</i> men/women	(%) men/women	
Family members with police contacts	283/60	18/18	.000
<i>6. Social Environment</i>			
Social isolation	351/83	22/19	-.023
Criminal friends	312/70	24/13	-.107*
Availability of personal support	348/86	56/61	.036
<i>7. Leisure activities</i>			
Individual leisure activities	326/76	61/68	.062
Contextual leisure activities	320/79	73/72	-.012
<i>8. Substance abuse</i>			
Alcohol abuse/dependence (past)	349/82	41/13	-.226***
Drug abuse/dependence (past)	353/82	37/23	-.113*
Alcohol abuse/dependence (present)	342/85	21/8	-.127**
Drug abuse/dependence (present)	348/84	24/7	-.163***
Substance use disorder	351/85	41/15	-.208***
Interpersonal problems because of substance use	337/80	36/18	-.155**
School/work problems because of substance use	322/79	7/3	-.076
<i>9. Personal/Emotional</i>			
Victim of child maltreatment	330/77	42/57	.123*
Bullied in school	276/63	25/32	.056
Suicidal thoughts	335/78	30/29	-.003
Lack of self-insight	356/85	82/74	-.076
Impulsivity	356/84	84/79	-.060
Stress factors	363/85	96/100	.084
Coping skills	360/84	63/54	-.079
Anger management	355/82	98/87	-.203***
Axis I diagnose	332/81	80/80	.004
Axis II diagnose	342/82	41/45	.031
Cognitive impairments	352/82	15/20	.044
<i>10. Criminal attitudes</i>			
Offense justification	356/84	43/29	-.118*
Offense denial	357/86	49/29	-.161***
Lack of empathy	354/81	58/33	-.190***
<i>11. Treatment engagement</i>			
Health care history	215/62	50/53	.029
Treatment motivation	360/86	35/28	-.061

* $p < .05$; ** $p < .01$; *** $p < .001$.¹Strength of the association (r_{ϕ}) between gender (man/women) and risk item prevalence. Gender was scored dichotomously (0 = men, 1 = women), meaning that a negative phi coefficient indicates a higher risk factor prevalence in men.

Table 2
Gender Differences in Risk Domain Scores

Risk domain	Risk domain scores <i>M</i> (<i>SD</i>)		
	Men (<i>N</i> = 358)	Women (<i>N</i> = 85)	<i>t</i> ¹
1. Criminal history	3.03 (1.11)	2.10 (1.53)	5.31***
2. Education/Work	1.98 (1.46)	2.06 (1.26)	-0.50
3. Finances	1.83 (1.51)	2.00 (1.47)	-0.97
4. Living environment	1.18 (1.33)	1.34 (1.20)	-1.05
5. Family/Spouse	3.40 (0.96)	3.42 (1.07)	-0.17
6. Social Environment	1.94 (1.37)	1.92 (1.34)	0.12
7. Leisure activities	1.67 (1.39)	2.00 (1.35)	-1.95
8. Substance abuse	1.74 (1.66)	0.81 (1.38)	5.37***
9. Personal/Emotional	3.44 (0.92)	3.54 (1.02)	-0.81
10. Criminal attitudes	1.87 (1.35)	1.31 (1.32)	3.47***
11. Treatment engagement	1.52 (1.36)	1.42 (1.32)	0.57

* $p < .05$; ** $p < .01$; *** $p < .001$.

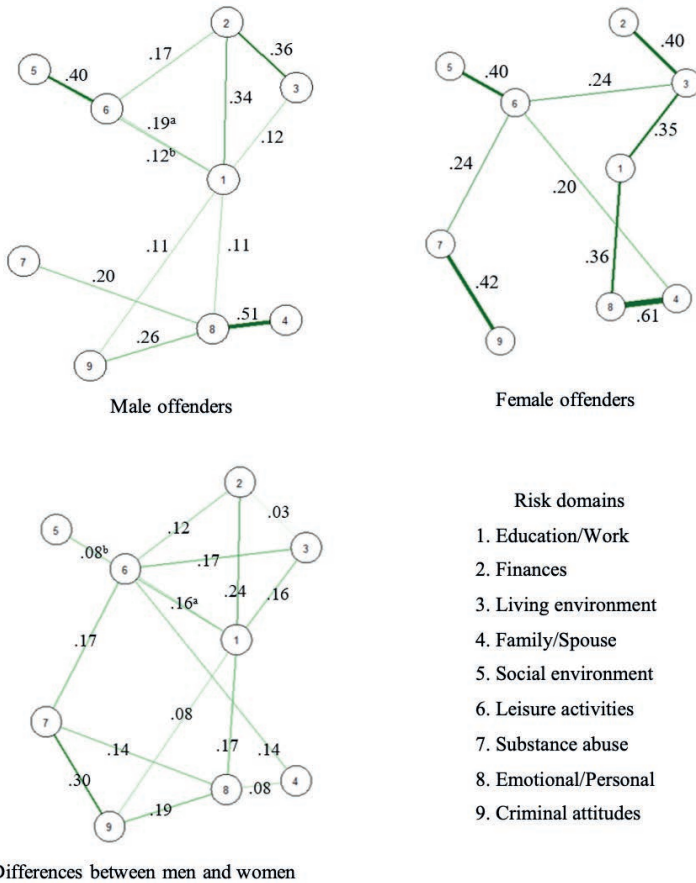
¹An independent samples *t*-test was performed for each risk domain to test the difference in mean domain risk score between male and female domestic violence offenders. Gender was scored dichotomously (0 = men, 1 = women), meaning that a negative *t* value indicates a higher risk domain score in men.

Risk Domain Interrelatedness

Figures 1 and 2 show the results of the network analyses that were performed to examine the interrelatedness of the risk domains in male and female outpatients. The network for male outpatients was sufficiently stable, as the CS-coefficients of the strength centrality and edge weight were .28 and .60. For female outpatients, the edge weights (i.e., partial correlation coefficients) were sufficiently stable (.29) according to the criteria of Epskamp et al., (2018), but the overall strength centrality coefficient was below the preferred value of .25, meaning that the risk domain centrality could not be interpreted. For male outpatients, the risk domains 'emotional/personal' and 'education/work' play the most central role in the risk domain network (Figure 2). In both networks, all risk domains were positively correlated. The strength of all correlations can be found in Figure 1. For both male and female outpatients, the strongest relation in the network was found between the risk domains 'family/spouse' and 'emotional/personal' (Figure 1). Further, moderate relations were found between the risk domains 'social environment' and 'leisure activities', and between 'finances' and 'living environment'. There were also differences between male and female outpatients

in risk domain interrelatedness. In female outpatients, the ‘education/work’ domain was moderately associated with both ‘living environment’ and ‘emotional/personal’, and the ‘substance abuse’ domain was moderately associated with ‘criminal attitudes’. In male outpatients, a moderate relation was only found between ‘education/work’ and ‘finances’.

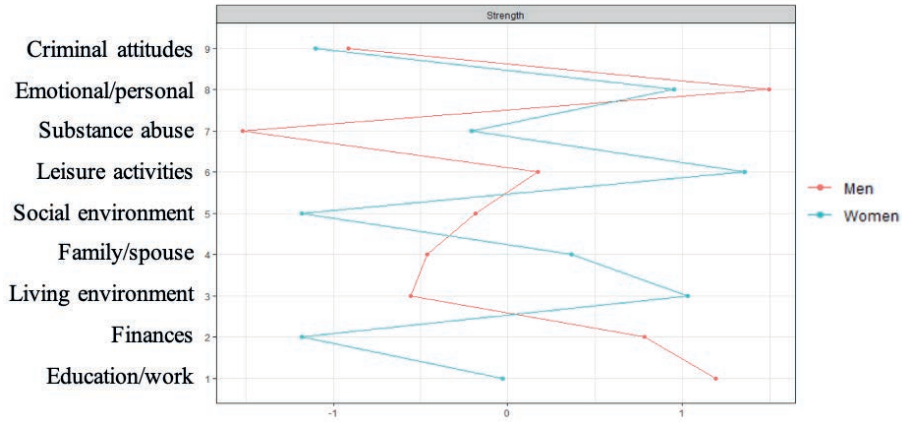
Figure 1
Networks of Risk Domains for Men and Women



Note. The networks depict the interrelatedness of the risk domains in male and female domestic violent perpetrators.

^aCorrelation between risk domains 1 and 5, ^bCorrelation between risk domains 1 and 6

Figure 2
Network Centrality of Risk Domains for Men and Women



Note. Standardized strength centrality coefficients (z-Scores, x -axis). A higher z-score indicates that a node (risk domain) is more influential in the network, based on the strength of the connections with other risk domains. For men, the risk domains 'emotional/personal' and 'education/work' were the most central in the risk domain network. In both networks, all risk domains were positively correlated. The strength centrality in the risk domain network of women was not sufficiently stable, and could therefore not be interpreted.

Risk Factors and Treatment Dropout

Table 3 reveals how the criminogenic risk factors assessed with the RAF-MH are related to treatment dropout in male and female outpatients. For male outpatients, small positive significant effect sizes were found for sixteen items, which could be designated as risk factors for treatment dropout (e.g., previous imprisonment, problematic employment history, debt, family members with police contacts, having criminal friends, drug/alcohol abuse/dependence, offense justification, lack of empathy, and insufficient treatment motivation). For female outpatients, a problematic relationship with family members (and in-laws) was identified as risk factor for treatment dropout with a significant moderate positive effect size. Furthermore, significant small positive effect sizes were found for three identified risk factors for treatment dropout in female outpatients: unemployment, housing instability and lack of personal support. The factors criminal friends and substance use disorder were significantly stronger related to treatment dropout in male outpatients, whereas the factor problematic relationship with family members (and in-laws) was significantly stronger related to dropout in female outpatients.

The associations between risk domain scores and treatment dropout are shown in Table 4. For male dropouts, small positive effect sizes were found for nine risk domains, of which six were significant and therefore designated as risk domains for treatment dropout: education/work, finances, living environment, social environment, substance abuse, and treatment engagement. The risk domain substance abuse was significantly stronger related to treatment dropout in male than in female outpatients.

Table 3

Associations between Criminogenic Risk Factors and Treatment Dropout in Domestic Violent Men and Women

Risk factor	Dropout		z^2
	men r^2_{ϕ}	women r^2_{ϕ}	
<i>1. Criminal history</i>			
Convictions	.055	.139	-0.70
Official offense records	.018	-.067	0.70
Unreported offenses	.119*	-.013	1.06
Weapon use/threat of death	.047	.082	-0.28
Offense frequency/severity	.010	-.069	0.64
Age of onset of delinquent behavior	.193***	.140	0.38
Previous imprisonment	.173***	-.024	1.63
<i>2. Education/Work</i>			
Problematic employment history	.133*	.049	0.67
Currently unemployed	.100	.228*	-1.08
Job performance	.055	-	-
<i>3. Finances</i>			
Unemployment benefit	.104*	.164	-0.50
Debt	.128*	.159	-0.25
<i>4. Living environment</i>			
Housing stability	.095	.286**	-1.63
Disadvantaged neighborhood	.034	-.064	0.77
<i>5. Family/Spouse</i>			
Relationship instability	.044	-.004	0.44
Relationship with caregivers	.060	.055	0.04
Relationship with family members (and in-laws)	-.022	.379**	-3.19***
Relationship with children	.043	.106	-0.45
Family members with police contacts	.161**	-.002	1.13
<i>6. Social Environment</i>			
Social isolation	-.018	.082	-0.81

Risk factor	Dropout		z^2
	men r_{ϕ}^1	women r_{ϕ}^1	
Criminal friends	.292***	-.074	2.78**
Availability of personal support	.046	.238*	-1.61
<i>7. Leisure activities</i>			
Individual leisure activities	.057	.131	-0.58
Contextual leisure activities	.062	.085	-0.18
<i>8. Substance abuse</i>			
Alcohol abuse/dependence (past)	.098	.123	-0.20
Drug abuse/dependence (past)	.168**	.178	-0.08
Alcohol abuse/dependence (present)	.130*	-.065	1.59
Drug abuse/dependence (present)	.205***	.062	0.12
Substance use disorder	.161**	-.082	1.99*
Interpersonal problems because of substance use	.111*	-.159	2.15*
School/work problems because of substance use	.058	-.088	1.15
<i>9. Personal/Emotional</i>			
Victim of child maltreatment	.089	.044	0.35
Bullied in school	-.041	.179	-1.56
Suicidal thoughts	.010	-.039	0.38
Lack of self-insight	.063	.027	0.29
Impulsivity	.082	.101	-0.16
Stress factors	.033	-	-
Coping skills	.018	-.014	0.26
Anger management	.042	.057	-0.12
Axis I diagnose	.082	-.075	1.25
Axis II diagnose	.050	.029	-0.23
Cognitive impairments	.077	.079	-0.02
<i>10. Criminal attitudes</i>			
Offense justification	.108*	.080	0.23
Offense denial	.014	.133	-0.98
Lack of empathy	.108*	.020	0.71
<i>11. Treatment engagement</i>			
Health care history	.105	.077	0.19
Treatment motivation	.120*	.008	0.92

¹Strength of the association (r_{ϕ}) between treatment dropout and risk item prevalence

²Gender differences (z) in risk prevalence in dropouts

Table 4*Gender Differences in the Association between Risk Domain Scores and Treatment Dropout*

Risk domain	Relation to dropout (r_{pb}) ¹		z ²
	Men ($N = 358$)	Women ($N = 85$)	
1. Criminal history	.094	-.038	1.07
2. Education/Work	.157**	.060	-0.16
3. Finances	.146**	.073	-0.17
4. Living environment	.181***	.133	-0.66
5. Family/Spouse	.046	-.100	0.90
6. Social Environment	.134*	.035	-0.41
7. Leisure activities	.071	.061	0.25
8. Substance abuse	.150**	-.022	3.64***
9. Personal/Emotional	.099	-.038	0.97
10. Criminal attitudes	.084	.111	0.42
11. Treatment engagement	.113*	-.039	0.57

* $p < .05$; ** $p < .01$; *** $p < .001$.¹Strength of the association (r_{pb}) between risk domain scores and treatment dropout²Gender difference (z) in correlation between domain risk score and treatment dropout

Discussion

The aim of this study was to increase knowledge on differences in criminogenic risk factors between female and male forensic outpatients who were referred to forensic treatment for domestic violence. The results revealed important gender similarities and differences with regard to the prevalence of criminogenic risk factors, the interrelatedness of criminogenic risks, and the extent to which those factors were associated with treatment dropout. The most important results are discussed below.

The risk factors with the highest prevalence in both male and female forensic outpatients were emotional and personal risk factors (e.g., lack of self-insight, stress factors, impulsivity, and anger management). These results are in line with previous findings of the presence of (negative) emotional factors, such as anger and hostility, in domestic violence of both male and female perpetrators (Birkley & Eckhardt, 2015). An important gender difference emerged as well: socioeconomic risk factors (e.g., unemployment and housing instability) were more prevalent among female outpatients than male outpatients. These results support previous findings of female perpetrators being disproportionately affected by poverty and related social policies (Holtfreter & Wattanaporn, 2014). Alcohol and drug abuse were more prevalent in

men than in women, which is consistent with the finding that male perpetrators of domestic violence are more often treated for substance abuse than female perpetrators (Henning et al., 2003). Also, in accordance with previous findings, our study showed that male outpatients more often had a criminal history (e.g., official offense records and previous imprisonment) and showed more criminal attitudes (e.g., offense justification, offense denial and lack of empathy) than female outpatients (Rebecca Block et al., 2010; de Vogel & de Spa, 2019; Henning et al., 2003).

In a next set of network analyses, we showed that contrary to the network of male outpatients, substance abuse was strongly related to criminal attitudes in the network of female outpatients. Given that risk factor interaction can cause an increased risk for treatment attrition, targeting criminogenic risk factors that are closely related to other risks may be an important strategy in increasing treatment retention (Olver et al., 2011). Network analysis in this study revealed a central position of the emotional/personal risk domain in the interrelatedness to other risk domains in both male and female outpatients. This means that targeting this domain in treatment could reduce other factors that are related to emotional/personal criminogenic risk factors (Barbalat et al., 2019). For example, risk factors belonging to the family/spouse risk domain, to which the emotional/personal risk domain was related in the networks of male and female outpatients. The overall strength centrality coefficient in the network for female outpatients was not sufficiently stable, and could therefore not be interpreted. Future, larger scale studies on risk factor interaction are recommended to provide further insights into prioritizing treatment goals in female perpetrators of domestic violence.

Third, we determined the associations between criminogenic risk factors and treatment dropout in both male and female forensic outpatients. Consistent with previous findings, alcohol and drug abuse and having a criminal history and criminal friends were positively associated with treatment dropout in male perpetrators of domestic violence (e.g., Bowen & Gilchrist, 2006; Henning et al., 2003; Jewell & Wormith, 2010). In female outpatients, unemployment, housing instability, having an unstable relationship with family members (and in-laws), and a lack of personal support were identified as treatment dropout risk factors. These results are in line with findings by Buttell and colleagues (2012), indicating that treatment attrition or completion in female perpetrators of domestic violence basically depends on socioeconomic risks and supports during program participation.

Strengths and Limitations

To our knowledge, no studies used comprehensive measures of criminogenic risk factors for criminal behavior and recidivism in examining gender differences and similarities in domestic violence perpetrators. This study was the first to address this gap by identifying risk factors for treatment dropout and risk factor interrelatedness specifically in samples of male and female forensic outpatients who were referred to forensic treatment for domestic violence. Further, this study used an innovative statistical technique for network modeling. However, it is important to acknowledge some limitations.

First, the psychometric qualities of the adult version of the RAF-MH have not yet been examined, and therefore, predictive performance of the instrument on treatment dropout should be addressed in further research. However, the instrument includes the Central Eight criminogenic needs (Bonta & Andrews, 2017), that reflect well-established risk factors for criminal recidivism corresponding to risk factors for treatment dropout (Jewell & Wormith, 2010). Second, the relatively small number of females in our sample have negatively affected the statistical power in the analyses. However, even for the relatively small sample of female forensic outpatients ($n = 87$), the statistical power to detect a significant medium sized effect is 83%, which can be considered sufficient. Although many risk factors were significantly associated with treatment dropout, most effect sizes were small, meaning that the external validity of the findings should still be interpreted with caution. Third, reasons for treatment attrition, such as a lack of motivation, or a lack of progress, were not specifically registered for each outpatient. This information could be useful in analyzing more specific associations between risk factors and reasons for treatment dropout in further research. Fourth, there were significant differences in demographics between the sampled male and female outpatients (i.e., age, ethnicity, and the likelihood of being court mandated to treatment). These variables may have affected the results in this study, for example because the severity and impact of dynamic risk factors may vary across age groups (Spruit et al., 2017). Further research should be undertaken to examine possible interactions between such demographic variables. Fifth, the data used in this study concerned retrospective file data that were collected as part of a ROM procedure at the forensic care facility, meaning that the instrument (i.e., RAF-MH) used has not been preselected by the researchers. However, this generic structured professional judgment instrument has been based on well-known risk

factors for recidivism, and fits the circumstances of clients referred to Dutch forensic outpatient treatment specifically (Wilpert et al., 2018). It was therefore considered as an appropriate measure to meet the aims of this study. Last, factors that predict general recidivism may not be the same for men and women, and there is an ongoing debate on whether risk assessment tools are sufficiently gender responsive (de Vogel et al., 2019; Henning et al., 2009). Broadening risk assessment by measuring unique needs of female perpetrators, such as abuse and trauma, self-esteem and assertiveness, and parenting and childcare, in risk assessment instruments for perpetrators of domestic violence may contribute to further insights into gender differences in risk factors for criminal recidivism (Hollin & Palmer, 2006).

Clinical Implications

An important strategy in reducing high treatment attrition rates among male and female perpetrators of domestic violence is identifying those clients who are at risk of dropping out through risk factor assessment (Daly & Pelowski, 2000). The results in this study indicated that a detailed, structured risk assessment designed for predicting criminal recidivism can support care providers in identifying risk factors for treatment dropout in an early treatment stage. At the same time, the results showed that highly prevalent criminogenic risk factors in perpetrators are not necessarily associated with treatment dropout. Thus, just because a criminogenic factor is highly *prevalent* in a risk population, this does not necessarily make it the most *relevant* target for boosting participation and intervention uptake. It should be noted that an attrition profile for perpetrators should be avoided, as this could undermine their chances for success in treatment (Olver et al., 2011). Rather, awareness of the presence of factors that contribute to the risk of treatment dropout should lead to increasing efforts to retain those clients who are most likely to drop out of treatment.

Despite much evidence that undermines the gendered perspective of domestic violence (i.e., the belief that men are more often perpetrators than women), this approach is often reflected in the aims of many organizations to date (Dixon & Graham-Kevan, 2011; Dutton, 2007). In addition, women convicted of domestic violence offenses are still often mandated into batterer intervention programs designed to intervene with male perpetrators (Carney et al., 2007). Gender inclusive policy is necessary to encourage professionals to be open to the idea that men and women can be both perpetrators and/or victims of domestic violence (Dixon & Graham-Kevan, 2011).

Many of the identified risk factors for treatment dropout in this study reflect dynamic criminogenic needs and responsivity factors (e.g., criminal attitudes, criminal friends, alcohol abuse, housing instability, and lack of personal support) (Bonta & Andrews, 2017). By providing gender sensitive interventions that are tailored to those criminogenic needs, the risk of dropping out may be reduced.

Specifically, this study emphasizes the importance of providing socioeconomic support and resources to female perpetrators of domestic violence, which may increase treatment completion and thereby treatment effectiveness in reducing domestic violence perpetrated by women (Buttell et al., 2012). For example, providing state-sponsored resources to address short-term needs (e.g., housing stability), may substantially reduce the odds of recidivism in women perpetrators (Holtfreter & Wattanaporn, 2014). Further, in preventing reoffending, providing vocational and educational training to female perpetrators is essential for obtaining jobs that provide a living wage when they re-enter society (Shearer, 2003).

Further, this study emphasizes the importance of providing substance-abuse treatment as a component of an overall intervention for specifically male perpetrators of domestic violence (Fals-Stewart & Kennedy, 2005; Hirschel et al., 2010). Although treating alcohol use is proven to be an effective approach for reducing domestic violence, this is not a common strategy yet (Klostermann, 2006). In addition, substance abuse treatment programs should address domestic violence in terms of strengthening referral to other care providers, or developing expertise among their own program staff (Klostermann, 2006). This dual treatment may be an expensive investment, but the social and psychological costs of continued domestic violence are likely to be far higher (Hirschel et al., 2010).

Chapter 6

Differences in Developmental Problems Between Victims of Different Types of Child Maltreatment

This chapter is adapted from:

Bijlsma, A. M. E., Assink, M., Overbeek, G., van Geffen, M., & van der Put, C. E. (2022). Differences in Developmental Problems Between Victims of Different Types of Child Maltreatment.

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<http://doi.org/10.1080/15548732.2022.2044429>

Abstract

This study examined differences in developmental problems between children who were victims of two child maltreatment dimensions: abuse versus neglect, and physical versus emotional maltreatment. Family demographics and developmental problems were examined in a clinical sample of 146 Dutch children from families involved in a Multisystemic Therapy – Child Abuse and Neglect treatment trajectory. No differences were found in child behavior problems within the dimension abuse versus neglect. However, more externalizing behavior problems (e.g., aggressive problems) were found in children who experienced physical maltreatment compared to children who experienced emotional maltreatment. Further, more behavior problems (e.g., social problems, attention problems, and trauma symptoms) were found in victims of multitype maltreatment compared to victims of any single-type maltreatment. The results of this study increase the understanding of the impact of child maltreatment poly-victimization, and highlight the value of classifying child maltreatment into physical and emotional maltreatment.

Keywords: child maltreatment dimensions, multitype maltreatment, developmental problems, neglect, abuse, emotional maltreatment, physical maltreatment

Introduction

Child maltreatment is a public health problem that, based on self-report studies, affects the lives of up to one third of children around the world (Stoltenborgh et al., 2015). Being a victim of child maltreatment is not only associated with serious physical consequences, but also with short- and long- term developmental problems such as depression and aggressive behavior (Dubowitz & Bennett, 2007; Mullen et al., 1996; Norman et al., 2012; Stoltenborgh et al., 2015). Worldwide, emotional abuse appears to be the most prevalent child maltreatment type, followed by physical abuse, emotional neglect, and physical neglect (Stoltenborgh et al., 2015). Although factors for determining maltreatment differ across countries and race (Fakunmoju et al., 2013), common descriptions of different maltreatment types can be found in the Report of the Consultation on Child Abuse Prevention (World Health Organization, 1999). “Emotional abuse” involves acts towards the child that cause harm to the child’s development, such as restriction of movement, belittling, denigrating, threatening, or other non-physical forms of hostile or rejecting treatment. “Physical abuse” is commonly defined as the intentional use of physical force against a child resulting in potential or actual physical harm for the child’s well-being. “Emotional neglect” refers to the failure to meet children’s emotional needs (e.g., nurturance and affection), whereas “physical neglect” refers to the failure to meet children’s physical needs (e.g., nutrition, clothing, and medical attention).

Although it is likely that victims have experienced multiple forms of child maltreatment, very few studies provide reports of the co-occurrence of maltreatment subtypes within their sample (Herrenkohl & Herrenkohl, 2009; Stoltenborgh et al., 2015). Consequently, there is a lack of knowledge on the effects of specific co-occurring maltreatment subtypes (Arata et al., 2007; Edwards et al., 2003; Stoltenborgh et al., 2015; Turner et al., 2010; Witt et al., 2016). Examining combinations of maltreatment subtypes, besides the dichotomous classification of children as maltreated versus nonmaltreated, can enhance the understanding of the effects of child maltreatment in victims. In turn, this understanding may strengthen prevention efforts offered by child protection professionals, given that potential differences in associations between specific dimensions of maltreatment and different developmental outcomes might inform professionals on how interventions addressing those negative outcomes can be further tailored to the needs of individual victims (Manly et al., 1994; 2001; Pears et al., 2008; Witt, 2016). To the best of our knowledge, this study is the first to examine

the distinctiveness of two maltreatment dimensions, i.e., abuse versus neglect, and emotional versus physical maltreatment, in identifying developmental problems within a sample of child maltreatment victims.

Different types of child maltreatment can cause similar behavior problems in victims (i.e., equifinality), such as depression, substance abuse, and post-traumatic stress symptoms, but those problems may also vary between victims of different subtypes of child maltreatment (i.e., multifinality) (Cicchetti & Handley, 2019; Cicchetti & Rogosch, 1996; Rogosch & Cicchetti, 2004). For example, several studies reporting on the effects of the maltreatment subtypes physical and emotional maltreatment that were conducted in European and Anglo-Saxon countries show that victims of emotional maltreatment tend to be more socially withdrawn and isolated, whereas physically maltreated children tend to show more aggressive and disruptive behavior (Briere & Runtz, 1990; Mullen et al., 1996; Trickett and McBride-Chang, 1995). Also, more severe disorder symptoms (e.g., low self-esteem), and disorders (e.g., depression and PTSD) were found in victims of emotional maltreatment than in victims of physical maltreatment (Gibb et al., 2001; Hoeboer et al., 2021; Spinazzola et al., 2014).

Other studies that were conducted in the United States addressed multifinality in child maltreatment by examining the effects of child abuse versus child neglect (e.g., Coates & Messman-Moore, 2014; Ferguson & Dacey, 1997; Shaffer et al., 2009; Taillieu et al., 2016). For example, Garland et al. (1996) found that victims of child sexual and physical abuse received mental health services more often than victims of child neglect and caretaker absence. Furthermore, the effects of emotional abuse on the development of mental disorders in victims appear to be greater than emotional neglect (Taillieu et al., 2016). However, there are inconsistencies in study results of associations between child maltreatment types and health outcomes (Manly et al., 2001; McSherry, 2007; Stoltenborgh et al., 2013).

While different types of child maltreatment are associated with a range of psychological and behavioral problems (Norman, 2012), less information is available to determine whether certain combinations of maltreatment are associated with different developmental outcomes (Arata et al., 2007; Edwards et al., 2003). This is unfortunate, because limiting the focus to one type of maltreatment, or the dichotomy of maltreated or not maltreated, the ability to test associations between

maltreatment and different potential behavior problems is limited as well (Manly et al., 2001; Turner et al., 2010; Witt, 2016). To our knowledge, the dimensions abuse versus neglect, and emotional versus physical maltreatment have not been examined yet within a single study. This gap in literature can be explained by the unavailability of data on the experience of multiple maltreatment types and their co-occurrence in studies examining consequences of child maltreatment victimization (Herrenkohl & Herrenkohl, 2009). Further, although prevalences of child neglect are relatively high compared to other maltreatment types (Sedlak et al., 2010; Stoltenborgh et al., 2015), child neglect has paradoxically received the least scientific and public attention compared to other maltreatment types (Gilbert et al., 2009). Some researchers refer to this paradox as the “neglect of neglect” (McSherry, 2007; Stoltenborgh et al., 2013). This paradox is unfortunate given explicit recommendations in the literature to assess abuse and neglect as separate concepts, as they involve exposure to different types of behaviors (Tonmyr et al., 2011).

Examining the effects of exposure to multitype maltreatment is essential, as types of child maltreatment are unlikely to occur in isolation (Arata et al., 2007; Higgins, 2004; Higgins & McCabe, 2003; Teicher et al., 2006). To illustrate, Finkelhor et al. (2005) found a poly-victimization rate of 69% in child maltreatment victims. Overall, research with various samples in the United States and Canada (e.g., females of Mexican American descent, urban youth and university students) indicate poorer health outcomes for victims of multitype maltreatment compared to victims of any single type of maltreatment (Arata et al., 2007; Clemmons et al., 2003; Edwards et al., 2003; Gross & Keller, 1992; Huguenel et al., 2021; Ney et al., 1994; Spinazzola et al., 2014). For example, Hodgdon and colleagues (2018) found that the co-occurrence of emotional and physical maltreatment is associated with more severe trauma symptoms than the occurrence of only emotional or physical maltreatment.

Examining maltreatment dimensions may contribute to more knowledge of the effects of different maltreatment experiences (Lau et al., 2005). Better prediction of those effects could in turn lead to treatments that are tailored to the individual needs of child maltreatment victims (Pears et al., 2008). Therefore, the aim of this study was to strengthen the knowledge on child behavior problems in victims of specific child maltreatment subtypes, by exploring (1) the prevalence of child maltreatment types in a clinical sample, (2) demographics and behavior problems in children that were victims of different maltreatment dimensions, and (3) child behavior problems in victims of

single type versus multitype maltreatment. Because of a lack of substantial empirical attention to neglected and emotionally maltreated children and inconsistencies in study results, we were unable to develop specific hypotheses about consequences of the maltreatment subtypes (Manly et al., 2001; McSherry, 2007; Stoltenborgh et al., 2013). Yet, in light of the studies that are available, we did expect to find more severe behavioral problems in children who experienced multitype maltreatment compared to child victimization of any single type of maltreatment (e.g., Arata et al., 2007; Clemmons et al., 2003; Hodgdon et al., 2018).

Method

Sample

The initial sample comprised 246 children who were registered between 2011 and 2019 at a family oriented mental health care facility (i.e., de Viersprong) in the Netherlands to start with a Multisystemic Therapy Child Abuse and Neglect (MST-CAN) treatment trajectory. From the initial sample, a subsample of 146 children was included in the current study. The subsample selection was based on two inclusion criteria: the availability of information on the maltreatment type, and the availability of a Child Behavior Checklist assessment. Background variables are provided in Table 1. There was no significant difference in age between the children in the excluded sample ($M = 12.32$, $SD = 3.06$) and the children in the included sample ($M = 12.03$, $SD = 3.18$) ($t(244) = 0.719$, $p = .473$), nor in the maltreatment duration in months (respectively: $M = 52.40$, $SD = 63.94$, and $M = 46.18$, $SD = 91.27$) ($t(184) = -0.450$, $p = .653$). There was also no significant difference in gender ($\chi^2(1, N = 246) = 0.700$, $p = .403$), and in the living situation (single-parent/two-parent family) ($\chi^2(1, N = 213) = 0.077$, $p = .782$) between the children in the included and excluded samples, nor in the ethnic origin (non-Dutch/Dutch) ($\chi^2(1, N = 246) = 3.244$, $p = .072$), educational level (low/high) ($\chi^2(1, N = 243) = 0.150$, $p = .699$), and employment status (unemployed/employed) between the primary caregivers in the excluded and included samples ($\chi^2(1, N = 240) = 1.148$, $p = .284$).

Table 1
Demographics

Variable	<i>n</i> (%)
Gender	
Male	68 (46.6)
Female	78 (53.4)
Living situation	
Single-parent family	63 (43.2)
Two-parent family	64 (43.8)
Ethnic origin ¹	
Dutch	100 (68.5)
Non-Dutch	45 (30.8)
Educational level ¹	
Low	72 (49.3)
High	70 (47.9)
Employment ¹	
Employed	61 (41.8)
Unemployed	81 (55.5)
	<i>M</i> (<i>SD</i>)
Age	12.03 (3.18)
Maltreatment duration (months)	39.01 (38.06)

¹Variable related to primary caregiver

The Program

Multisystemic Therapy Child Abuse and Neglect (MST-CAN) is a program adaptation of the intensive home-based intervention Multisystemic Therapy (MST; Henggeler et al., 2009). MST-CAN is based on the understanding that physical abuse and neglect follow the presence of multiple risk factors across multiple social systems (e.g., child, parent, and social network) (Swenson & Schaeffer, 2018). The four major treatment goals of MST-CAN are: 1: Keep families together safely, 2: Prevent re-abuse and neglect, 3: Reduce mental health difficulties experienced by adults and children, and 4: Increase natural social support (Swenson & Schaeffer, 2018). The program is specifically designed to meet the complex needs of families with children and adolescents in the age range six to 17 that are involved in child protection services (CPS) due to the presence of child maltreatment (Swenson et al., 2010). Additional

criteria for accepting referrals to MST-CAN are: (1) the CPS case has been opened and/or has had a new report within the past 180 days, (2) the child(ren) in out-of-home placement will be reunited with the family, and (3) the child(ren) are at imminent risk of removal. Exclusion criteria for the program are: (1) youth living independently, or youth for whom a primary caregiver cannot be identified, (2) active sexual abuse cases, (3) the presence of intimate partner violence in some cases (e.g., IPV is the primary reason for the referral, or a plausible risk of homicide), (4) severe psychiatric problems of youth, including suicidality or psychosis, (5) youth or adults who have committed sexual offenses against family members or other persons, (6) youth with moderate to severe difficulties with social interaction or repetitive behaviors which may be captured by a diagnosis of an autism spectrum disorder.

Research Protocol

The data in this study was collected as part of routine outcome monitoring at the health care facility. Prior to treatment, clients were informed that all data would be used for quality control and research purposes. As the data collection was part of standard clinical practice and was provided anonymously to the researchers (it concerned retrospective file data), no further informed consent was required. Another part of the data was gathered as part of a research study, in which clients received an information folder and were informed by the therapist that their data would be used for scientific purposes. The CBCL was filled out by the families upon request of the therapist as a part of the routine outcome monitoring if a family did not participate in the study or upon request of the researcher if a family participated in the study. In both situations, the SDI (Sociodemographic Information; MST-NL, 2012) was filled out by the therapist. This study was approved by the Ethics Committee of the University of Amsterdam, Faculty of Social and Behavioural Sciences (2019-CDE-10700).

Instruments

SDI Questionnaire

Demographics (i.e., family living situation and maltreatment duration, gender and age of the child, and ethnic origin, educational level, and employment situation of the primary caregiver) were measured at the start of the MST-CAN treatment with the SDI questionnaire, which was completed by the therapist. The therapist also determined the maltreatment subtype(s) (i.e., physical abuse, physical neglect, emotional abuse, and

emotional neglect) children were exposed to. To examine demographics and behavior problems in victims of different child maltreatment dimensions, two variables were created in which these subtypes were combined. The first variable “Neglect/Abuse” was coded into: “Neglect” (i.e., emotional neglect or physical neglect), “Abuse” (i.e., emotional abuse or physical abuse), and “Neglect and Abuse” (i.e., emotional or physical neglect and abuse). The second variable “Physical/Emotional maltreatment” was coded into “Physical maltreatment” (i.e., physical neglect and/or physical abuse), “Emotional maltreatment” (i.e., emotional neglect and/or emotional abuse), and “Physical and emotional maltreatment” (i.e., physical abuse or neglect and emotional abuse or neglect). As MST-CAN is not a treatment for sexual abuse (Swenson et al., 2018), this child maltreatment type was not examined in this study.

CBCL

Children’s problem behavior was measured with the Child Behavior Checklist (CBCL 6-18; Achenbach & Rescorla, 2001) that was completed by the primary caregiver (i.e., mother: 87%, father: 10.3%, grandmother: 1.4%, or foster mother: 0.7%). The CBCL 6-18 consists of 120 questions on behavior, emotional, and social problems as shown by the child within the last six months. The items are categorized into behavior scales (e.g., anxious/depressed, aggressive behavior, or posttraumatic stress symptoms) and DSM-oriented scales (e.g., affective problems, anxiety problems, or attention deficit/hyperactivity problems). Answers were given on a three-point Likert scale ranging from zero (i.e., never) to two (i.e., often). Standardized T scores were computed and used for analyses. Higher T scores on the CBCL problem scales indicate that parents report more child problems. T scores may vary from zero to 100 and a T score of 50 represents the mean score of a norm group that is created based on gender and age. T scores of 65 to 70 are considered to be in the borderline range, and T scores of 70 or higher are considered to be in the clinical range (Achenbach & Rescorla, 2001). The internal consistency of the CBCL subscales based on T scores as measured by Cronbach’s alpha was excellent ($\alpha = .93$).

Analyses

First, the prevalence of child maltreatment types (i.e., physical abuse, physical neglect, emotional abuse, and emotional neglect) and the prevalence of co-occurrence of maltreatment types were examined. Second, Cramer’s V was computed by performing a Chi-Square test of independence to examine the strength of differences between

victims of different maltreatment types in demographic variables (i.e., gender, living situation, and ethnic origin, educational level, and employment status of the primary caregiver). One-way between groups analyses of variance (ANOVA) were conducted to examine differences in age and the duration of maltreatment in months between the maltreatment types. Data from one child were excluded from the analyses, because of measurement errors.

Third, for both maltreatment variables (i.e., neglect/abuse and physical/emotional), ANOVAs were conducted to determine differences in CBCL scale scores between the maltreatment type subgroups. To interpret the strength of these differences, partial eta squared values were calculated and interpreted using the guidelines of Cohen (1988) (i.e., small = 0.01; medium = 0.06; large = 0.14). Fisher's Least Significant Difference (LSD) post hoc tests were performed for the scales to determine significant differences between groups. Last, an independent samples *t*-test was performed to determine differences in CBCL scale scores between victims of single type maltreatment and multitype maltreatment. To interpret the strength of these differences, Cohen's *d* values were calculated and interpreted using the guidelines of Cohen (1988) (i.e., small = 0.3; medium = 0.5; large = 0.8).

Results

Prevalence of Child Maltreatment Dimensions

Table 2 provides an overview of the prevalence of the child maltreatment dimensions in the sample. The prevalence of both physical and emotional maltreatment was more than twice as high (57% of all cases) as the prevalence of both neglect and abuse (27% of all cases). The prevalence of all dimensions was 25%.

Table 2
Co-occurrence of Child Maltreatment Dimensions

	Neglect	Abuse	Neglect and Abuse	Total
Physical maltreatment	2.1%	21.2%	0.0%	23.3%
Emotional maltreatment	12.3%	5.5%	2.1%	19.9%
Physical and emotional maltreatment	4.1%	28.1%	24.7%	56.8%
Total	18.5%	54.8%	26.7%	100%

Note. The percentages describe the co-occurrence of the child maltreatment dimensions in the study sample.

Family Demographics and Child Maltreatment Dimensions

Table 3 shows the demographic characteristics separately for children who experienced child neglect, child abuse and both neglect and abuse as well as for children who experienced physical maltreatment, emotional maltreatment, and both physical and emotional maltreatment. First, children who experienced neglect lived more often in a single-parent family than children who experienced abuse. Second, children who experienced the co-occurrence of physical and emotional maltreatment more often had a primary caregiver with a Dutch ethnicity than children who experienced only physical maltreatment. Third, children who experienced emotional maltreatment more often had an unemployed primary caregiver than children who experienced the co-occurrence of physical and emotional maltreatment. Last, the children who experienced only emotional maltreatment or the co-occurrence of physical and emotional maltreatment were victimized twice as long as the children who experienced only physical maltreatment before the start of the clinical program at the mental health care facility.

Child Maltreatment Dimensions and Child Behavior Problems

Table 4 shows the differences in scores on the CBCL problem behavior scales between victims of child abuse and/or neglect. No significant differences were found. Mean scores in the borderline range were found on the “withdrawn/depressed”, “aggressive problems”, and “posttraumatic stress problems” scales in victims of both neglect and abuse. In victims of only abuse, a mean score in the borderline range was found on the “aggressive problems” scale. In conclusion, a co-occurrence of having experienced abuse and neglect was not associated with more problem behavior, compared to having experienced only child abuse or neglect.

Table 5 shows the differences in T-scores on the CBCL problem behavior scales between victims of physical and/or emotional maltreatment. In victims of both emotional and physical maltreatment, mean scores in the borderline range were found on the “withdrawn/depressed”, “aggressive problems”, and “posttraumatic stress problems” scales. In victims of only physical maltreatment, a mean score in the borderline range was found on the “aggressive problems” scale. Significant differences between the maltreatment types with small to medium effect sizes were found for nine CBCL scales. First, children who experienced the co-occurrence of physical

and emotional maltreatment showed more withdrawn/depressed problems, social problems, internalizing problems, affective problems, and posttraumatic stress problems than children who experienced only emotional maltreatment. Second, children who experienced only physical maltreatment or the co-occurrence of physical and emotional maltreatment showed more aggressive problems, externalizing problems, total problems, and oppositional defiant problems than children who experienced only emotional maltreatment.

In conclusion, children who experienced both physical and emotional maltreatment showed more internalizing and externalizing problems compared to children who experienced only emotional maltreatment, but not compared to children who experienced only physical maltreatment. Furthermore, children who experienced physical maltreatment, or the combination of emotional and physical maltreatment, showed more externalizing problems than victims of emotional maltreatment.

Single Type and Multitype Maltreatment and Child Behavior Problems

Table 6 shows the differences in scores on the CBCL problem behavior scales between victims of any single type maltreatment and multitype maltreatment. Significant differences with small effect sizes were found for three CBCL scales. Children who experienced multitype maltreatment showed more social problems, attention problems, and attention deficit/hyperactivity problems than children who experienced any single type of maltreatment. A mean score in the borderline range was found on the “withdrawn/depressed” scale in victims of multitype maltreatment.

Table 3
Differences in Family Demographics between Victims of Various Child Maltreatment Dimensions

Variable	Neglect		Abuse		Neglect and abuse		Physical		Emotional		Physical and emotional	
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	χ^2 V
Gender												5.59 .196
Male	10 (37) _a	37 (46.3) _a	21 (53.7) _a	16 (47.1) _a	8 (27.6) _a	44 (53) _a						
Female	17 (63) _a	43 (53.8) _a	18 (46.2) _a	18 (52.9) _a	21 (72.4) _a	39 (47) _a						
Living situation												1.51 .109
Single-parent family	18 (75) _a	25 (36.2) _b	20 (58.8) _{a,b}	13 (44.8) _a	14 (60.9) _a	36 (48) _a						
Two-parent family	6 (25) _a	44 (63.8) _b	14 (41.2) _{a,b}	16 (55.2) _a	9 (39.1) _a	39 (52) _a						
Ethnic origin ¹												7.33* .225
Dutch	20 (74.1) _a	53 (67.1) _a	27 (69.2) _a	19 (55.9) _a	17 (58.6) _{a,b}	64 (78) _b						
Non-Dutch	7 (25.9) _a	26 (32.9) _a	12 (30.8) _a	15 (44.1) _a	12 (41.4) _{a,b}	18 (22) _b						
Educational level ¹												3.12 .150
Low	14 (56) _a	42 (53.8) _a	16 (41) _a	21 (61.8) _a	15 (55.6) _a	36 (44.4) _a						
High	11 (44) _a	36 (46.2) _a	23 (59) _a	13 (38.2) _a	12 (44.4) _a	45 (55.6) _a						
Employment ¹												8.69* .247
Employed	8 (29.6) _a	37 (47.4) _a	16 (43.2) _a	12 (37.5) _{a,b}	6 (21.4) _b	43 (52.4) _a						
Unemployed	19 (70.4) _a	41 (52.6) _a	21 (56.8) _a	20 (62.5) _{a,b}	22 (78.6) _b	39 (47.6) _a						
Age	<i>M</i> (<i>SD</i>) 12.17 (3.01) _a	<i>M</i> (<i>SD</i>) 12.11 (3.23) _a	<i>M</i> (<i>SD</i>) 11.76 (3.25) _a	<i>M</i> (<i>SD</i>) 11.23 (3.58) _a	<i>M</i> (<i>SD</i>) 12.20 (3.19) _a	<i>M</i> (<i>SD</i>) 12.29 (2.98) _a	<i>F</i> .826	<i>p</i> .826	<i>F</i> 1.39	<i>p</i> .253		
Maltreatment duration (months)	<i>M</i> (<i>SD</i>) 36.04 (37.20) _a	<i>M</i> (<i>SD</i>) 41.54 (41.25) _a	<i>M</i> (<i>SD</i>) 36.00 (32.46) _a	<i>M</i> (<i>SD</i>) 22.17 (22.11) _a	<i>M</i> (<i>SD</i>) 43.48 (43.24) _b	<i>M</i> (<i>SD</i>) 44.04 (39.67) _b	<i>F</i> 0.344	<i>p</i> .709	<i>F</i> 3.96*	<i>p</i> .021		

Note. Means with different subscripts differ significantly from each other. * $p < .05$, ¹Variable related to primary caregiver.

Table 4
Differences in CBCL Scale Scores between Victims of Child Neglect and Abuse

CBCL scales	Neglect (<i>n</i> = 26) <i>M</i> (<i>SD</i>)	Abuse (<i>n</i> = 80) <i>M</i> (<i>SD</i>)	Neglect and Abuse (<i>n</i> = 39) <i>M</i> (<i>SD</i>)	<i>F</i>	η^2
<i>Syndrome scales</i>					
Anxious/Depressed	59.62 (9.39) ^a	60.65 (9.97) ^a	61.24 (8.48) ^a	0.23	.003
Withdrawn/Depressed	61.65 (11.16) ^a	63.55 (9.37) ^a	65.90 (12.15) ¹ ^a	1.34	.019
Somatic Complaints	59.88 (10.03) ^a	59.68 (9.46) ^a	60.00 (9.73) ^a	0.02	.000
Social Problems	58.68 (9.29) ^a	61.69 (8.33) ^a	62.67 (10.37) ^a	1.45	.020
Thought Problems	59.92 (9.59) ^a	62.11 (9.20) ^a	60.82 (9.45) ^a	0.63	.009
Attention Problems	60.08 (9.96) ^a	60.92 (8.08) ^a	64.26 (12.60) ^a	1.92	.027
Aggressive Problems	59.85 (10.90) ^a	65.16 (12.07) ¹ ^a	65.62 (13.62) ¹ ^a	2.12	.029
Rule-Breaking Behavior	59.36 (8.27) ^a	61.91 (9.17) ^a	62.77 (9.77) ^a	1.10	.015
Total Internalizing	58.96 (11.97) ^a	61.68 (9.95) ^a	62.46 (11.88) ^a	0.87	.012
Total Externalizing	58.19 (14.02) ^a	63.43 (12.45) ^a	63.46 (12.45) ^a	2.13	.029
Total Problems	59.12 (12.35) ^a	63.74 (9.84) ^a	64.03 (12.27) ^a	1.97	.027
<i>DSM-Oriented scales</i>					
Affective Problems	62.69 (11.06) ^a	63.84 (9.33) ^a	64.97 (10.19) ^a	0.42	.006
Anxiety Problems	58.96 (8.72) ^a	59.43 (8.43) ^a	60.03 (8.28) ^a	0.13	.002
Somatic Problems	59.65 (9.74) ^a	58.82 (9.73) ^a	58.08 (10.31) ^a	0.20	.003
Attention Deficit/Hyperactivity Problems	58.12 (9.82) ^a	60.89 (8.73) ^a	63.31 (10.16) ^a	2.44	.033
Oppositional/Defiant Problems	58.27 (8.04) ^a	62.86 (9.33) ^a	62.36 (9.46) ^a	2.54	.034
Conduct Problems	60.88 (10.39) ^a	63.81 (9.53) ^a	64.05 (11.14) ^a	0.95	.013
<i>Other scales</i>					
Cognitive Problems	60.04 (8.45) ^a	58.61 (7.84) ^a	61.08 (9.33) ^a	1.19	.017
Obsessive Compulsive Problems	59.04 (9.89) ^a	61.45 (10.32) ^a	61.79 (9.78) ^a	0.68	.010
Posttraumatic Stress problems	61.23 (10.74) ^a	63.96 (10.26) ^a	65.18 (11.43) ¹ ^a	1.09	.015

Note. Means with different subscripts differ significantly from each other ($p < .05$). ¹ = Borderline range (T-score > 65), $\eta^2 = .001 = \text{small}$, $\eta^2 = .059 = \text{medium}$, $\eta^2 = .128 = \text{large}$ (Cohen, 1988)

Table 5
Differences in CBCL Scale Scores between Victims of Physical and Emotional Child Maltreatment

CBCL scales	Physical (n = 34)		Emotional (n = 28)		Physical and emotional (n = 83)		F	η^2
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)		
<i>Symptom scales</i>								
Anxious/Depressed	61.40 (11.02) ^a	57.64 (7.22) ^a	60.74 (8.81) ^a	1.60	60.74 (8.81)	1.60	.023	
Withdrawn/Depressed	63.56 (9.55) ^{ab}	59.29 (7.96) ^a	65.49 (11.28) ^{1b}	3.80*	65.49 (11.28) ^{1b}	3.80*	.051	
Somatic Complaints	60.71 (8.79) ^a	56.89 (8.37) ^a	60.41 (10.15) ^a	1.63	60.41 (10.15) ^a	1.63	.022	
Social Problems	60.38 (8.56) ^{ab}	57.46 (8.38) ^a	63.22 (9.17) ^b	4.70*	63.22 (9.17) ^b	4.70*	.062	
Thought Problems	62.82 (8.72) ^a	58.36 (8.99) ^a	61.80 (9.54) ^a	2.00	61.80 (9.54) ^a	2.00	.028	
Attention Problems	60.71 (7.83) ^{ab}	58.25 (8.35) ^a	63.24 (10.83) ^b	2.96	63.24 (10.83) ^b	2.96	.040	
Aggressive Problems	66.44 (12.05) ^{1a}	58.93 (10.69) ^b	65.29 (12.71) ^{1a}	3.51*	65.29 (12.71) ^{1a}	3.51*	.047	
Rule-Breaking Behavior	61.59 (8.60) ^a	59.07 (8.32) ^a	62.60 (9.62) ^a	1.51	62.60 (9.62) ^a	1.51	.021	
Total Internalizing	62.35 (10.35) ^{ab}	56.89 (8.84) ^a	62.53 (11.38) ^b	3.08*	62.53 (11.38) ^b	3.08*	.042	
Total Externalizing	64.71 (9.12) ^a	56.61 (14.46) ^b	63.58 (11.34) ^a	4.63*	63.58 (11.34) ^a	4.63*	.061	
Total Problems	64.35 (9.05) ^a	57.46 (11.15) ^b	64.29 (11.34) ^a	4.52*	64.29 (11.34) ^a	4.52*	.060	
<i>DSM-Oriented scales</i>								
Affective Problems	64.91 (9.17) ^{ab}	59.36 (8.98) ^a	65.08 (10.05) ^{1b}	3.91*	65.08 (10.05) ^{1b}	3.91*	.052	
Anxiety Problems	60.35 (8.53) ^a	59.96 (8.61) ^a	59.50 (8.39) ^a	1.45	59.50 (8.39) ^a	1.45	.020	
Somatic Problems	59.88 (9.42) ^a	56.25 (8.89) ^a	59.17 (10.28) ^a	1.21	59.17 (10.28) ^a	1.21	.017	
Attention Deficit/Hyperactivity Problems	60.41 (8.64) ^a	57.93 (8.98) ^a	62.35 (9.70) ^a	2.45	62.35 (9.70) ^a	2.45	.033	
Oppositional/Defiant Problems	63.06 (8.63) ^a	57.75 (8.49) ^b	62.83 (9.45) ^a	3.63*	62.83 (9.45) ^a	3.63*	.049	
Conduct Problems	64.24 (9.68) ^a	61.04 (10.74) ^a	63.77 (10.11) ^a	0.93	63.77 (10.11) ^a	0.93	.013	
<i>Other scales</i>								
Cognitive Problems	59.03 (8.14) ^{ab}	56.64 (6.75) ^a	60.71 (8.80) ^b	2.60	60.71 (8.80) ^b	2.60	.035	
Obsessive Compulsive Problems	61.94 (10.95) ^{ab}	57.57 (7.55) ^a	61.96 (10.30) ^b	2.17	61.96 (10.30) ^b	2.17	.030	
Posttraumatic Stress problems	64.47 (10.64) ^{ab}	58.89 (9.03) ^a	65.18 (10.83) ^{1b}	3.87*	65.18 (10.83) ^{1b}	3.87*	.052	

Note. Means with different subscripts differ significantly from each other. * $p < .05$, ¹ = Borderline range (T-score > 65), $\eta^2 = .001$ = small, $\eta^2 = .059$ = medium, $\eta^2 = .128$ = large (Cohen, 1988)

Table 6
Differences in CBCL Scale Scores between Victims of Single and Multitype Maltreatment

CBCL scales	Single type maltreatment (n = 59)	Multitype maltreatment (n = 86)	t	d
<i>Syndrome scales</i>				
Anxious/Depressed	59.88 (9.68)	61.13 (9.29)	0.79	.135
Withdrawn/Depressed	61.95 (9.10)	65.14 (11.27) ¹	1.81	.305
Somatic Complaints	59.34 (8.82)	60.12 (10.09)	0.48	.081
Social Problems	59.39 (8.61)	62.85 (9.23)	2.28*	.385
Thought Problems	61.00 (9.09)	61.64 (9.51)	0.40	.069
Attention Problems	59.63 (8.16)	63.09 (10.74)	2.09*	.354
Aggressive Problems	63.41 (12.13)	64.97 (12.63)	0.74	.126
Rule-Breaking Behavior	60.88 (8.50)	62.26 (9.64)	0.88	.135
Total Internalizing	60.15 (10.17)	62.26 (11.28)	1.15	.195
Total Externalizing	61.63 (12.15)	63.09 (11.65)	0.73	.123
Total Problems	61.59 (10.54)	63.94 (11.39)	1.26	.213
<i>DSM-Oriented scales</i>				
Affective Problems	62.53 (9.57)	64.91 (9.97)	1.44	.243
Anxiety Problems	59.07 (8.23)	59.80 (8.53)	0.52	.087
Somatic Problems	58.54 (9.40)	58.93 (10.19)	0.23	.040
Attention Deficit/Hyperactivity Problems	59.12 (8.77)	62.36 (9.67)	2.06*	.348
Oppositional/Defiant Problems	61.14 (8.87)	62.43 (9.52)	0.83	.139
Conduct Problems	63.22 (10.19)	63.44 (10.15)	0.13	.022
<i>Other scales</i>				
Cognitive Problems	57.93 (7.74)	60.63 (8.67)	1.92	.325
Obsessive Compulsive Problems	60.07 (9.94)	61.83 (10.18)	1.03	.175
Posttraumatic Stress problems	62.31 (10.37)	64.83 (10.82)	1.40	.237

Note. Single type = one type of maltreatment, multitype = two or more types of maltreatment. ¹ Borderline range (T-score > 65), * $p < .05$, $d = 0.2 =$ small, $d = 0.5 =$ medium, $d = 0.8 =$ large (Cohen, 1988)

Discussion

Being a victim of child maltreatment is often associated with serious physical and mental health consequences (Dubowitz & Bennett, 2007; Mullen et al., 1996; Norman et al., 2012; Stoltenborgh et al., 2015). Maltreated children frequently experience multiple types of maltreatment, but relatively few studies examine this issue directly (Herrenkohl & Herrenkohl, 2009). Consequently, little is known about the consequences of experiencing specific co-occurring forms of maltreatment in terms of the development of child behavior problems (Arata et al., 2007; Edwards et al., 2003; Turner et al., 2010; Witt et al., 2016). Therefore, the main aim of this study was to examine behavior problems in children that were victims of different child maltreatment dimensions: neglect versus abuse and physical versus emotional maltreatment.

Family Demographics and Types of Child Maltreatment

First, we examined differences in family demographics in children that were victims of different maltreatment types. As for maltreatment duration, children who experienced only emotional maltreatment or both physical and emotional maltreatment were victimized approximately twice as long as children who experienced only physical maltreatment. This may be explained by the problem that emotional maltreatment more often involves chronic situations that are not as easily identified as incident-specific physical maltreatment cases (Hildyard & Wolfe, 2002). This relates to the fact that although emotional neglect is the most commonly reported form of child maltreatment in the United States and the Netherlands (Hildyard & Wolfe, 2002; Schumacher et al., 2001; van Berkel et al., 2020), many people including professionals working in child protection may not be aware that the consequences of emotional maltreatment may be at least as severe as those of physical maltreatment (Hildyard & Wolfe, 2002). Identifying emotional maltreatment may be even more difficult in families with a different ethnic background than the appointed care providers, due to cultural differences in childrearing practices that can be perceived as inadequate (Korbin, 1980). This may explain the significant minority of non-Dutch families in the victim group that experienced both physical and emotional maltreatment. These results underscore the importance of the need for improved recognition and reporting of emotional maltreatment, and the need for clinical programs to support parents and children at risk for emotional maltreatment (Fraser et al., 2010; Stoltenborgh et al., 2013).

Regarding parent employment, we found that children who experienced emotional maltreatment had more often an unemployed primary caregiver than children who experienced the co-occurrence of physical and emotional maltreatment. These results are in line with findings of Stith et al. (2009), who found a stronger association between parent unemployment and child emotional neglect than between parent unemployment and physical maltreatment. This association can be explained by mediators affected by unemployment, such as the experience of stress and financial pressure (Slack et al., 2004). Further research should be undertaken to examine the effects of parental unemployment on the experience of specific child maltreatment types to support intervention strategies that are effectively tailored to specific needs of families (Slack et al., 2004). For example, a full child support pass-through policy (i.e., a policy that allows the custodial parent to receive all child support paid; no portion is retained by the state), as compared to a partial pass-through policy, has been associated with reduced risks of child maltreatment (Cancian et al., 2013).

Further, children who experienced neglect were found to be living more often in a single-parent family than children who experienced abuse. This result reflects previous findings of the presence of child neglect in single-parent families, mainly headed by women who are more prone to be socially isolated and may struggle with a variety of social and health problems (Dufour et al., 2008; Jones & McCurdy, 1992). However, other studies suggest that the presence of a man in the family may actually increase the risk of neglect and other forms of maltreatment, for example because of mental health or substance abuse problems of the mother's partner (Coohey & Zhang, 2006; Dufour et al., 2008; Radhakrishna et al., 2001). It should be noted that the examined family structure reflects the observed situation when the data were collected, and not the length or quality of the spousal relationship, or potential partners who visit the single parents but do not reside with them (Dufour et al., 2008).

Child Maltreatment Types and Child Behavior Problems

Second, behavior problems were examined between children that were victims of different maltreatment types. Interestingly, differences were found in child behavior problems between victims of emotional and physical maltreatment, but not between victims of abuse and neglect. These results indicate that classifying child maltreatment subtypes into emotional versus physical maltreatment may be more relevant in identifying and treating developmental problems in child maltreatment victims.

However, this finding may also be explained by a low statistical power due to a relatively small sample size of the children who experienced only neglect in comparison to children that experienced only abuse, or children that experienced the co-occurrence of both maltreatment types. Further, this finding can be explained by characteristics of the clinical sample that was examined in the study. The severity of both maltreatment types was sufficiently high for families to become involved in child protection services, and were thus in urging need of intensive treatment. In turn, this may have resulted in similar behavior problem scores for the victims of both maltreatment types.

Regarding behavior problems in victims of physical maltreatment versus emotional maltreatment, the results were consistent with previous findings of more externalizing behavior problems such as aggressive behavior in children who experienced physical maltreatment compared to children who experienced emotional maltreatment (Briere & Runtz, 1990; Huguenel et al., 2021; Trickett and McBride-Chang, 1995). These findings highlight the need for identifying such behavior problems in victims of physical maltreatment specifically, and for providing personalized treatment based on those individual needs. For example, parent-child interaction therapy (PCIT) has been developed for children with externalizing behavior problems and their parents. A specific component of PCIT is to teach parents behavior management strategies, focusing on positive reinforcement rather than power assertion to reduce the disruptive behavior of their child (Thomas & Zimmer-Gembeck, 2012). A second finding was that children who experienced the co-occurrence of physical and emotional maltreatment showed more externalizing as well as internalizing problems compared to children who experienced only emotional maltreatment, but not compared to children who experienced only physical maltreatment. Those results are in line with recent findings of Huguenel et al., (2021), who suggested that despite inconsistencies in study results (English et al., 2005; Manly et al., 2001; Pears et al., 2008), the co-occurrence of one or more types of maltreatment with physical maltreatment increases the risk of severe internalizing and externalizing symptoms.

Last, the results in this study support previous findings of poorer health outcomes, such as social problems and attention problems, for victims of multitype maltreatment compared to victims of single type maltreatment (Arata et al., 2007; Clemmons et al., 2003; Edwards et al., 2003; Gross & Keller, 1992; Huguenel et al., 2021; Ney et al., 1994; Spinazzola et al., 2014). In addition, the results in this study support previous conclusions that co-occurrence of maltreatment types is associated with more severe

trauma symptoms than the experience of single-type maltreatment (Hodgdon et al., 2018; Huguenel et al., 2021; Schneider et al., 2007). These findings can be explained by the strong effects of cumulative trauma exposure (i.e., simultaneous or sequential co-occurrence of maltreatment) on developing severe PTSD symptoms (Messman-Moore & Bhuptani, 2017). Posttraumatic stress as a result of child maltreatment is frequently comorbid with disorders that involve emotional dysregulation, such as substance use and eating disorders in adolescence and adulthood (Messman-Moore & Bhuptani, 2017). Therefore, clinicians should carefully assess posttraumatic stress symptoms and target emotional dysregulation in treatment for children who experienced child maltreatment, and particularly multitype maltreatment, so that adverse health outcomes at a later age can be prevented.

Limitations and Further Research

To our knowledge, this study was the first to examine developmental problems in victims of two child maltreatment dimensions: abuse versus neglect, and physical versus emotional maltreatment. Although the results of this study increase the understanding of developmental outcomes in victims of different maltreatment subtypes, the results must be considered in light of the study's limitations. First, as child problem behavior was measured using the CBCL, results may be biased due to the tendency to overreport the severity of child behavior problems by parents in child protection services. For example, parents may overstate the level of problematic behavior of their children in their own defense, or because of a low tolerance for essentially "normal" child problem behaviors due to environmental stress (Reid et al., 1987). High parent-reported negative child behavior may also indicate parents' irritability with their child's behavior, and in turn a bias in which they underestimate the reciprocal effect between their parenting behavior and the negative behavior of their child (Moens et al., 2018). It is therefore recommended that in future studies on behavior problems in victims of child maltreatment, data should be gathered from various informants (e.g., teacher reports or clinical observations) whenever feasible (Reid et al., 1987). However, as this limitation concerned the data of the total study sample, it was not expected to affect the comparability of the child maltreatment dimensions.

Compared to other studies on child maltreatment, the total sample size in the current study can be considered as a "middle" sample as it included more than 100 victims (Chen & Chan, 2016). Although important significant results were found, a second

limitation of this study may be that the relatively small sample sizes of children having experienced specific maltreatment types (e.g., victims of emotional maltreatment and victims of neglect) negatively affected the statistical power in the analyses. In addition, the role of other maltreatment dimensions than maltreatment type such as frequency, chronicity, and developmental timing of maltreatment could therefore not be examined. Future exploration of interactions between these dimensions may contribute to better insights into the effects of child maltreatment in different groups of victims (English et al., 2005; Pears et al., 2008).

Third, this study involved a clinical sample of families that are involved in Dutch child protection services due to the presence of child maltreatment, and this may limit the study's generalizability. However, MST-CAN is a protocolled intervention program with similar inclusion criteria across different European and Anglo-Saxon countries (e.g., Hebert et al., 2014; Hefti et al., 2020; Swenson et al., 2010). It can therefore be assumed that the clinical sample in the current study is representative of at-risk families that are involved in child protection services in other Western countries. Nevertheless, perceptions of child maltreatment differ across countries and race, and future studies may consider exploring interactions among country-level variables and individual factors such as parenting styles and childhood experiences of maltreatment (Fakunmoju et al., 2013). In addition, future studies may also consider including rural and urban populations, and populations that are representative of the socio-demographic backgrounds of the population across countries (Fakunmoju et al., 2013).

Last, MST-CAN includes children and adolescents in the range from six to 17 years. As age of onset of child maltreatment can affect the development of problems in psychological functioning at a later age, further research should be undertaken to examine the effects of single-type and multitype maltreatment between different age classifications in victims (Kaplow & Widom, 2007).

Conclusion

This study aimed to examine behavior problems in children that were victims of different dimensions of child maltreatment subtypes (i.e., physical/emotional maltreatment and abuse/neglect). The results show differences in family demographics between maltreatment types, such as parent employment and family composition. Further, differences were found in child behavior problems between victims of

physical and emotional maltreatment, but not between victims of abuse and neglect. Notwithstanding the relatively small and clinical sample, this work offers valuable insights into the developmental outcomes of victims of different child maltreatment subtypes. In turn, these insights can be used by child welfare practitioners to provide personalized treatment so that adverse health outcomes at a later age can be prevented.

Chapter 7

Summary of Main Findings and General Discussion

Dissertation Objective

Child maltreatment affects millions of children around the world (Stoltenborgh et al., 2015), and is associated with serious short- and long-term consequences, such as depression, substance abuse, post-traumatic stress symptoms, and aggression (Cicchetti & Handley, 2019; English et al., 2005; Gilbert et al., 2009; Stoltenborgh et al., 2015). Unfortunately, programs aimed at reducing child maltreatment show only small to moderate overall effects (Euser et al., 2015; Van der Put et al., 2018a; Vlahovicova et al., 2017). An explanation for these results may be that interventions provided by youth and family services are insufficiently personalized to the individual risks, needs, and characteristics of families at risk. In the criminal justice system, a widely used approach for providing personalized interventions to criminal offenders is applying the principles of the Risk Need Responsivity (RNR) model (Andrews et al., 1990). Although the RNR model was specifically designed for preventing recidivism of criminal offenders, it seems very promising to apply the RNR principles to other domains as well, such as the child welfare domain, that addresses (risks for) family problems and child maltreatment (Van der Put et al., 2015; Van der Put et al., 2018a). This idea is promising because the etiology of both delinquency and child maltreatment can be explained by the interplay of risk factors (e.g., psychopathology) and protective factors (e.g., social support) across various social systems, such as the family, school, and neighborhood (see Belsky, 1993; Bronfenbrenner, 1979). Further, the occurrence of delinquency and child maltreatment are both determined by the balance between risk and protective factors (Belsky, 1980, 1984; Cicchetti and Carlson, 1989; Cicchetti and Rizley, 1981; Folger and Wright, 2013; Smith et al., 2009; Stouthamer-Loeber et al., 2002).

Implementing the RNR model in youth and family services to prevent adverse outcomes in families at risk implies that interventions should be delivered following three core principles: (1) the *risk principle* is about matching an intervention's intensity to a family's risk for (recurring) child unsafety; (2) the *need principle* indicates that interventions should target unique dynamic criminogenic risk factors (i.e., needs) of families to successfully reduce the risk of child unsafety, and (3) the *responsivity principle* refers to tailoring interventions to specific abilities and characteristics of families. In recent years, the implementation of the risk principle has already proven to be beneficial for improving the quality of assessment procedures in child welfare agencies (Van der Put et al. 2018; Van der Put et al. 2016; Vial et al., 2021). However, research

on the implementation of the need and responsivity principles in youth and family services is not yet available. Therefore, this dissertation aimed to extend the research on implementing a comprehensive RNR approach in youth and family services. Below, the dissertation's contributions to the research, strengths and limitations, suggestions for future research and practice, and final conclusion are discussed.

Summary of Main Findings

Chapter 2 featured a meta-analysis on the effects of adhering to the Risk, Need, and Responsivity principles in family interventions aimed at reducing criminal recidivism of delinquent youth. We chose to critically re-evaluate the effectiveness of adhering to the RNR-principles in family interventions specifically, as the risk factors that are targeted in these type of interventions (e.g., harsh parental discipline and poor parent-child-communication) have been associated with both youth delinquency and child maltreatment. A three-level random-effects meta-analytic model was used to synthesize all effect sizes and to model effect size dependency that arose from the fact that more than one relevant effect size could be extracted from individual primary studies. The meta-analysis of $k = 31$ studies reporting on 71 effect sizes revealed an overall small and significant intervention effect on criminal recidivism of youth ($d = 0.382, p < .001$). However, the results revealed that none of the RNR principles significantly moderated the overall intervention effect, meaning that we did not find significant differences in effects between interventions adhering to the RNR principles and interventions not adhering to the RNR principles. We suggest that the absence of convincing empirical support for the effectiveness of applying the RNR principles is likely to be driven not by a lack of relevance of these principles for practice, but rather by a limited implementation of these principles in primary research on intervention effectiveness. More specifically, we urge future primary researchers to explicitly and thoroughly describe whether and how RNR principles were implemented in studies on treatment effectiveness. Further, we emphasize the importance of using valid and reliable instruments for risk, need, and responsivity assessment so that treatment can be tailored to needs and circumstances of individual clients.

The study in **Chapter 3** assessed the clinical value and usability of a needs assessment tool (ARIJ-Needs) in the decision-making processes of practitioners choosing an appropriate intervention for families that are involved in child protection services. ARIJ-Needs is a Dutch computer application designed to support practitioners in

adhering to the Needs principle of the RNR model, through assessing treatment needs of individual families, and in selecting interventions that best target those needs (Van der Put et al., 2018). Semi-structured interviews were conducted with fifteen practitioners ($n = 12$ women and $n = 3$ men) who had a variety of child protection-related occupations, such as family social workers and psychologists. First, the semi-structured interview started with questions about the current practitioner's decision-making process for selecting appropriate interventions. Next, a vignette that described a (fictitious) child protection case with a variety of family problems was presented. Practitioners were asked to identify any care need in the vignette, and to indicate which intervention would be appropriate to address the needs that they identified. Third, ARIJ-Needs was introduced and explained to each participant, after which practitioners were asked to perform a second needs assessment using ARIJ-Needs. Last, questions were asked about the user experiences of the instrument, after which the practitioners evaluated the results of their needs assessment with the instrument. The results revealed that practitioners identified significantly more needs in the vignette when they used ARIJ-Needs compared to their unstructured needs assessment without using the instrument. In particular, family- (e.g., domestic violence, and financial difficulties), parent-, (e.g., criminal behavior) and parenting-related (e.g., a problematic parent-child relationship) needs were more often assessed by practitioners using the instrument, which is an important finding given that these factors are the strongest predictors of child maltreatment (see, for instance, Assink et al., 2019; Mulder et al., 2018; Stith et al., 2009). These findings indicate that ARIJ-Needs seems to support practitioners in identifying relevant treatment targets in families at risk for child maltreatment that otherwise may be overlooked in unstructured needs assessments.

Although a growing body of research has appeared on how child protection can benefit from principles of the Risk-Need-Responsivity model, no attention has yet been paid to the implementation of the responsivity principle in child protection. Therefore, in **Chapter 4**, the clinical value of applying the responsivity principle in child protection services was examined. Put simply, the responsivity principle states that interventions must be tailored to specific characteristics of clients to optimize its effectiveness (Bonta & Andrews, 2017). For identifying relevant responsivity factors, a literature review on components of (forensic) responsivity and treatment readiness assessment instruments ($N = 19$) was performed. Based on the results of the review, an

overview of responsivity factors primarily related to caregiver characteristics in child protection services was drafted. Next, the overview was presented in semi-structured interviews to 14 professionals working in the field of child protection – specifically in health care institutions offering care to families – to evaluate the clinical relevance of tailoring treatment to each responsivity factor. In addition, practitioners were asked to provide clinical treatment suggestions for tailoring treatment to each of the identified responsivity factors. The results derived from this study support child protection practitioners in identifying core responsivity factors (e.g., problem denial, cultural background, and practical barriers such as financial problems) that may interfere with caregivers' abilities to succeed in treatment, and in providing tailored care to enhance caregivers' treatment engagement.

In **Chapter 5**, gender differences in criminogenic risk factors between male and female domestic violent perpetrators were examined. Although many studies have concluded that men and women engage in domestic violence at equal levels, existing studies have hardly focused on gender specific risk factors for domestic violence perpetration. Therefore, this study aimed to examine gender differences in criminogenic risk factors between Dutch male and female forensic outpatients who were referred to forensic treatment for domestic violence. Clinical structured assessments (using the RAF-MH, Van Horn et al., 2012) of criminogenic risk factors were retrieved for 366 male and 87 female outpatients. Gender differences in the prevalence of criminogenic risk factors measured with the RAF-MH were determined, and for men and women separately, the associations between risk factors and treatment dropout were examined. To examine the interrelatedness of the risk factors for male and female outpatients, statistical networks were created to model the interactions between risk domains. The results revealed gender differences in not only the prevalence and interrelatedness of criminogenic risk factors, but also in associations between criminogenic risk factors and treatment dropout. In domestic violent men, risk factors related to the criminal history, substance abuse, and criminal attitudes were more prevalent than in women, whereas socio-economic risk factors (e.g., education/work and finances) were more prevalent in domestic violent women. Further, having criminal friends, having a criminal history, and drug abuse were associated with treatment dropout in men, whereas a problematic relationship with family members, housing instability, a lack of personal support, and unemployment were associated with treatment dropout in women. The results provide important insights into gender specific differences in

criminogenic risk factors for domestic violence, which support clinical professionals in adhering to the needs principle of the RNR model, by tailoring treatment to the specific needs of male and female perpetrators of domestic violence.

Although it is likely that victims have experienced multiple forms of child maltreatment, very few studies have examined the co-occurrence of maltreatment subtypes within their sample. Consequently, there is a lack of knowledge on the effects of specific co-occurring maltreatment subtypes. Therefore, the study in **Chapter 6** examined the distinctiveness of two maltreatment dimensions, i.e., abuse versus neglect, and emotional versus physical maltreatment, in identifying developmental problems in a clinical sample of 146 Dutch children from families involved in a Multisystemic Therapy – Child Abuse and Neglect treatment trajectory. The results revealed no differences in child behavior problems within the dimension abuse versus neglect. However, more externalizing behavior problems (e.g., aggressive problems) were found in children who experienced physical maltreatment compared to children who experienced emotional maltreatment. Further, more behavior problems (e.g., social problems, attention problems, and trauma symptoms) were found in victims of multitype maltreatment compared to victims of any single-type maltreatment. The results of this study increase the understanding of the impact of child maltreatment poly-victimization, and highlight the value of classifying child maltreatment into physical and emotional maltreatment. In turn, this understanding may strengthen prevention efforts offered by child protection professionals, given that potential differences in associations between specific dimensions of maltreatment and different developmental outcomes might inform professionals on how interventions addressing those negative outcomes can be further tailored to the needs of individual victims.

General Discussion

In this thesis, we used the core principles of the Risk-Need-Responsivity (RNR) model (Andrews et al., 1990) as a theoretical framework to increase the knowledge on how interventions can be better tailored to specific risk factors, needs, and characteristics of families that are involved in youth and family services. Even though meta-analytic research mostly supports the effectiveness of the RNR principles in forensic care (e.g., Andrews & Dowden, 2006; Dowden & Andrews, 1999; 2000), gaining renewed insights into the effectiveness of adhering to the RNR principles was important, given that the coding of the RNR principles was performed inconsistently across these meta-analytic reviews (Chapter 2; Smith et al., 2009). Notably, we established that none of the included primary studies in the meta-analytic review in Chapter 2 used a validated instrument for risk assessment, and only one of the included studies used a structured instrument in assessing the criminogenic needs of individual clients. These results indicate that treatment programs may be tailored to the general needs of an intervention target group, but not to specific individual risks and needs based on structured assessment procedures. Therefore – in Chapter 2 – we stress the urge for using validated instruments for risk, need, and responsivity assessment to tailor interventions in a systematic, protocolled manner in order to draw a final conclusion about the value of working with RNR principles as described by Bonta and Andrews (2017); i.e., matching intervention intensity and content to the risk level and need factors of individual clients.

The advantages of using validated and reliable assessment instruments compared to clinical, intuitive judgment in decision-making on appropriate care are already well-known in child protection services (Douglas et al., 2002; Van der Put et al., 2016). Structured risk classifications outperform clinical judgment in predicting (the recurrence of) problematic child-rearing situations, and are timesaving in practice as they only comprise variables that are significantly related to problematic outcomes (Van der Put et al., 2016). However, the study in Chapter 3 supported previous assumptions (Douglas et al., 2002; Van der Put et al., 2016) that decision-making processes of practitioners may still be primarily based on unstructured, clinical judgment. Overreliance on such intuitive thinking can be prone to various biases, such as the tendency to overlook important information, or selecting interventions solely based on prior experiences (Helm, 2011; Saltiel, 2016). The study in Chapter 3 showed promising results of using a structured needs assessment instrument (i.e.,

ARIJ-Needs) in clinical practice to prevent such biases, as practitioners assessed significantly more treatment needs during a needs assessment round with the structured instrument compared to an assessment round without the instrument. In particular, family-, parent-, and parenting-related needs were more often assessed by practitioners using the instrument, which is an important finding given that these factors are the strongest predictors of child maltreatment (see, for instance, Assink et al., 2019; Mulder et al., 2018; Stith et al., 2009). It is expected that by further developing and implementing ARIJ-Needs in child protection services, practitioners can be better supported in identifying relevant treatment targets in families at risk. However, it should be emphasized that ARIJ-Needs is not designed to replace clinical judgment, as case and time specific factors (e.g., severity and urgency) always remain important to consider in choosing the right approach for families involved in child protection services (Van der Put et al., 2018b).

Although the implementation of the risk and need principles in child protection have been addressed in the literature, this was not yet done for the responsivity principle, which states that treatment programs must be tailored to characteristics of clients to optimize treatment effectiveness (Bonta & Andrews, 2017). Applying the responsivity principle allows flexibility in delivering an intervention program based on identified treatment barriers (i.e., responsivity factors), such as a lack of motivation or problem denial that may have a negative impact on the outcome of protocolled interventions in youth and family services if these programs are not specifically designed to target such factors (Van Yperen et al. 2017). The results in Chapter 4 revealed seven distinct treatment barriers related to caregiver characteristics: problem denial, motivation/willingness to cooperate with treatment, psychological problems, cognitive abilities, cultural background, practical barriers (e.g., financial problems/social support), and barriers to treatment program type (e.g., group therapy). By personalizing treatment circumstances to specific characteristics of caregivers, treatment engagement and completion may be enhanced (Van Yperen et al. 2003). As it is empirically supported that interventions which are better tailored to clients' responsivity characteristics yield better outcomes (Andrews et al., 1990; Hanson et al., 2009), it may in turn be expected that introducing the responsivity principle in youth and family services boosts optimization of treatment circumstances, and hopefully, intervention effectiveness. However, to accomplish this, further research should focus on determining the best approach to treatment optimization after responsivity factors have been assessed. The

study in Chapter 4 provided expert-based knowledge on such treatment tailoring techniques to address responsivity factors (e.g., using visual support or at home video training adapted to the conceptual skills of caregivers, or facilitating transport to care facilities), but this can be substantiated with research-based insights in effective treatment techniques.

Enhancing treatment engagement and completion of specifically domestic violent caregivers is important, considering the high treatment dropout rates of domestic violent perpetrators, and the small treatment effects for reducing domestic violence (Babcock et al., 2002; Buttel & Pike, 2002; Rosenfeld, 1992; Sartin et al., 2006). In Chapter 5, we highlighted the finding that not much is known about which criminogenic risk factors are associated with treatment dropout in domestic violent women, even though recent studies report equal domestic violence victimization prevalence in men and women (de Vogel et al., 2014; de Vogel et al., 2016; Lysova et al., 2019). Despite the availability of such studies that undermine the gendered perspective of domestic violence (i.e., the belief that men are more often perpetrators than women), this approach is often reflected in the aims of many organizations to date (Dixon & Graham-Kevan, 2011; Dutton, 2007). That is, women convicted of domestic violence offenses are still often mandated into batterer intervention programs designed to intervene with male perpetrators (Carney et al., 2007).

By providing gender sensitive interventions tailored to the identified criminogenic needs as described in Chapter 5, the risk of dropping out may be reduced for domestic violent perpetrators. For example, the results in Chapter 5 revealed that socioeconomic risk factors (e.g., unemployment and housing instability) were more prevalent among violent women than men. Along with having a lack of personal support and unstable relationships with family members, these socioeconomic factors were identified as risk factors for treatment dropout in violent women. These results underline the importance of providing socioeconomic support and resources to female perpetrators of domestic violence, which may increase treatment completion and thereby treatment effectiveness in reducing domestic violence perpetrated by women (Buttall et al., 2012). Further, the study in Chapter 5 emphasized the importance of treating substance abuse in male domestic violent perpetrators, as abusing substances is an important risk factor for treatment dropout in male perpetrators. An important consideration regarding the study in Chapter 5 is that factors that predict general recidivism may not be the same for men and women, and there is an ongoing debate

on whether risk assessment tools – such as the one that was used in this study – are sufficiently gender responsive (de Vogel et al., 2019; Henning et al., 2009). Therefore, broadening risk assessment by measuring unique need factors of female perpetrators, such as those related to abuse and trauma, self-esteem and assertiveness, and parenting and childcare, in risk assessment instruments for perpetrators of domestic violence may contribute to further insights into gender differences in risk factors for criminal recidivism and, consequently, better tailored treatments (Hollin & Palmer, 2006).

Besides stressing the urge for assessing (gender) specific needs of domestic violence perpetrators, we highlighted the importance of differentiating between victims of different dimensions of child maltreatment in Chapter 6. Child maltreatment may often be approached as a global public health problem, but limiting the focus to studying the dichotomy of being maltreated or not maltreated falls short of reality as certain combinations of maltreatment are associated with different developmental outcomes (Chapter 6, Manly et al., 2001; Turner et al., 2010; Witt, 2016). The results in this study supported previous findings of poorer health outcomes, such as social problems and attention problems, for victims of multitype maltreatment compared to victims of single type maltreatment (Arata et al., 2007; Clemmons et al., 2003; Edwards et al., 2003; Gross & Keller, 1992; Huguenel et al., 2021; Ney et al., 1994; Spinazzola et al., 2014). Further the results in Chapter 6 were in line with recent findings of Huguenel et al., (2021), who suggested that despite inconsistencies in study results (English et al., 2005; Manly et al., 2001; Pears et al., 2008), the co-occurrence of one or more types of maltreatment with specifically physical maltreatment increases the risk of severe internalizing and externalizing symptoms. These results can be explained by the strong effects of cumulative trauma exposure (i.e., simultaneous or sequential co-occurrence of maltreatment) on developing adverse health outcomes, such as severe PTSD symptoms (Messman-Moore & Bhuptani, 2017). Although the results in Chapter 6 increase the understanding of the impact of child maltreatment poly-victimization, it is also clear that examining the interplay among dimensions of child maltreatment other than maltreatment subtypes (e.g., developmental timing and severity) may provide further insights in adverse health outcomes in victims of child maltreatment (Manly et al., 2001). In turn, these insights may guide practitioners in effectively tailoring interventions to the needs of maltreated children (Pears et al., 2008).

Strengths and Limitations

An important strength of this dissertation is that it is focused on translating the theoretical Risk-Need-Responsivity model that was originally designed to provide appropriate care to individual criminal offenders, into the practice of youth and family services aimed at preventing the risk of (recurring) violence in family systems. In Chapter 2, we critically re-evaluated the empirical evidence supporting the effectiveness of the RNR principles in family interventions. Our coding of the RNR principles was more in line with the original definitions of the RNR principles of Bonta and Andrews (2017) compared to previous meta-analytic reviews (e.g., Dowden and Andrews 2003). Further, recent studies were also included in the current meta-analysis, and we applied a three-level approach to meta-analysis meaning that all information reported in primary studies could be retained, and maximum statistical power could be achieved in the analyses. From the results of Chapter 2, we draw the lesson that the theoretical RNR framework may be promising in providing appropriate treatment, but that the principles need to be applied appropriately first, after which their true effectiveness can be assessed.

The studies in Chapter 3 and Chapter 4 were the first to assess the clinical value of adhering to the need and responsivity principles in child protection services based on practice-oriented qualitative data. By involving practitioners in evaluating theoretical assumptions for improving treatment delivery, we were able to provide practical suggestions to further develop an overall implementation of the RNR model in youth and family services. We aimed to further build a bridge between research and practice in Chapter 5 and 6, by optimizing the use of data that were collected as part of routine outcome monitoring at health care facilities. To our knowledge, no studies used comprehensive measures of criminogenic risk factors for criminal behavior and recidivism in examining gender differences and similarities in domestic violence perpetrators. The study in Chapter 5 was the first to address this gap by identifying risk factors for treatment dropout and risk factor interrelatedness specifically in samples of male and female domestic violent perpetrators, including using an innovative statistical technique for network modeling. The study in Chapter 6 was the first to examine developmental problems in victims of two child maltreatment dimensions: abuse versus neglect, and physical versus emotional maltreatment. The results of this chapter increase the understanding of developmental outcomes in victims of different maltreatment subtypes.

The research presented in this dissertation also has several limitations that need to be mentioned. First, information on treatment fidelity (i.e., accuracy and consistency of intervention delivery) was not reported in most of the included primary studies in Chapter 1, meaning that it was uncertain whether the risk, need, and responsivity principles were properly applied in intervention delivery. In addition, we were unable to thoroughly examine the effectiveness of the risk and need principles according to the original definitions as described by Bonta and Andrews (2017), as most of the included primary studies failed to use validated risk and need assessment instruments. This limitation is probably an important explanation for not finding significant moderating effects of the RNR principles, and in turn, highlights an important shortcoming in the delivery of treatment in clinical practice and intervention research.

Second, Chapter 3, 4, 5, and 6 included data derived from welfare services located in an urban agglomeration in the Netherlands, which may limit the study's generalizability to youth and family services across other (rural) populations and foreign countries. Therefore, we suggest that future studies may consider including populations that are representative of the socio-demographic backgrounds of the population across countries (Fakunmoju et al., 2013). In addition, varying individual differences (e.g., age and ethnicity) between the sampled participants in Chapter 5 and 6 may have affected the found results. Further research should be undertaken to examine possible interactions between such demographic variables.

Third, the data used in Chapter 5 and 6 concerned retrospective file data that were collected as part of a ROM procedure at health care facilities, meaning that the used instruments were not preselected by the researchers. However, in Chapter 5, the used validated instrument has been based on well-known risk factors for recidivism, and fits the circumstances of clients referred to Dutch forensic outpatient treatment specifically (Wilpert et al., 2018). In chapter 6, the internal consistency of the used Child Behavior Checklist (Achenbach & Rescorla, 2001) was excellent. Therefore, these measurements were considered appropriate measures to meet the aims of the studies.

Suggestions for Future Research and Practice

Using extended randomized controlled study designs in examining 'what works for whom' in youth and family services is highly desirable. However, using available routine

outcome monitoring data gathered in health care facilities (as in Chapter 5 and 6) may also be very valuable for gaining knowledge on common needs and characteristics of specific treatment groups. Such information supports practitioners in providing appropriate interventions through an increased awareness of factors that are associated with the risk of treatment dropout or problematic developmental outcomes, such as child maltreatment.

Hereby, increasing the awareness of the impact of parental- and family-related risk factors should be prioritized, given that such factors are stronger associated with child maltreatment than child related factors (see, for instance, Assink et al., 2019; Mulder et al., 2018; Stith et al., 2009). Child maltreatment with tragic consequences due to clinically overvaluing child-related risk factors and undervaluing parent-related risks may be prevented in the future by implementing validated RNR assessment instruments in practice (e.g., ARIJ-Needs, Chapter 4; Mulder et al., 2018).

In Chapter 2, we further urged future researchers to use validated RNR assessment so that the effects of adhering to the RNR principles on program effectiveness can better be assessed. However, a prerequisite for such studies is the availability of reliable and valid assessment instruments. Although practitioners acknowledged the clinical value of the implementation of the need and responsivity principles from the RNR model (Chapter 3 and 4), the question whether or not adhering to these principles truly strengthens child maltreatment prevention efforts needs to be further examined. Then – in addition to adhering to the risk principle (Van der Put et al. 2018; Vial et al., 2021) – tailoring treatment in youth and family services following the RNR principles can actually be realized.

Final Conclusion

To draw solid conclusions on the effectiveness of the Risk Need Responsivity principles in preventing adverse outcomes in youth and their families, further research is needed in which implementation of the RNR principles in interventions is tested and explicitly described. Therefore, valid and reliable RNR assessment instruments should be used so that treatment can effectively be tailored to the risks, needs and circumstances of individual clients in youth and family services. The results of this dissertation showed that a structured needs assessment supports practitioners in identifying relevant needs of families at risk, and in selecting appropriate interventions

that target those needs. In addition, seven core responsivity factors related to caregiver characteristics were identified as treatment barriers that may be useful to assess and addressed to enhance treatment engagement and completion of families involved in child protection services. Further, the results of this dissertation highlight the need for developing gender-sensitive risk assessment instruments, and for providing gender-specific intervention components to enhance treatment engagement in domestic violence perpetrators. Last, the results in this dissertation contributed to a better understanding of the impact of child maltreatment poly-victimization. In turn, these insights may guide practitioners in tailoring interventions to the needs of maltreated children.

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Note. Articles indicated with an asterisk (*) were included in the meta-analysis of Chapter 2.

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Publications and Contributions of Authors

Publications and Contributions of Authors

Chapter 2 is under review as: Bijlsma, A. M. E., Assink, M., Stams, G. J. J. M., & van der Put, C. E. (2022). A critical evaluation of the Risk, Need, and Responsivity Principles in family interventions for delinquent youth: A meta-analysis.

AB, CvdP, and MA designed the study. AB conducted literature searches, AB, MA, and CvdP coded the studies, and AB and MA conducted the statistical analyses. AB wrote the first draft of the manuscript, and all authors contributed to and have approved the final manuscript.

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AB, CvdP, and MA designed the study. AB conducted and coded the interviews, and performed the statistical analyses. AB wrote the first draft of the manuscript, and all authors contributed to and have approved the final manuscript.

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AB, CvdP, and MA designed the study. AB conducted and coded the interviews. AB wrote the first draft of the manuscript, and all authors contributed to and have approved the final manuscript.

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AB, CvdP, and MA designed the study. AB and CvdP performed the statistical analyses. AB wrote the first draft of the manuscript, and all authors contributed to and have approved the final manuscript.

Appendices

Appendices Chapter 2

Appendix A

Coding Sheet

Coding sheet RNR Meta-analysis

Variable	Coding	Source/Page
GENERAL ARTICLE INFORMATION		
1. Study ID number (1, 2, 3....)		
2. Bibliographic reference: Write a complete citation in APA form		
3. Coder name		
4. Date of coding		
5. Year of publication		
6. Study design	(1) Randomized Controlled Trial (2) Quasi-Experimental	

Subject	Coding	Source/Page
SAMPLE DESCRIPTORS		
7. Overall mean age of sample (at start of the study)		
8. Percentage of cultural minority		
9. Gender of sample	(1) Females (2) Males (3) Both	
10. Percentage of boys		

Subject	Coding	Source/Page
TREATMENT DESCRIPTORS		
11. Which intervention (program) was provided to the treatment group?		
12. Which type of care was provided to the control group?	(0) Waiting list (1) Care/treatment as usual (2) Other intervention program	
13. (average) Duration of treatment (in weeks)		
14. (average) Intensity of treatment (in hours per week)		
15. (average) Total contact hours (mentioned in text or treatdur * treatintens)		
16. (average) Frequency of treatment (number of sessions per week)		

Subject	Coding	Source/Page
RISK, NEED, & RESPONSIVITY PRINCIPLES		
17. On which risk factors was the sample selection based (inclusion criteria)?		
18. On how many (above) risk factors was the sample selection based?		
19. Has the sample selection been based on the results of an assessment scale/instrument?	(0) No (1) Yes	
20. What was the general risk level of the sample?	(0) Low (1) High (the majority of participants had formally penetrated the judicial system at the time of the study and had a prior criminal record or by author's judgments severe antisocial/violent behavior.)	
21. How many previous offenses were convicted on average?		
22. Has the risk principle been adhered to terms of matching the intervention intensity to the general recidivism risk level of the sample? (<i>aggregate sample approach, by authors' judgements</i>)	(0) No (1) Not mentioned (2) Yes: mentioned in the manual/factsheet (3) Yes	
23. Has the risk principle been adhered to terms of matching intervention intensity to recidivism risk of individuals? (<i>within-sample approach</i>)	(0) No (1) Yes, based on clinical judgment (2) Yes, based on an instrument	
24. Has the need principle been adhered to terms of a criminogenic need assessment?	(0) No (1) Yes, based on clinical judgment (2) Yes, based on an instrument	
<i>25-32. Which criminogenic need factors were targeted? (see examples of treatment elements, Bonta & Andrews, 2017)</i>		
25. Criminal involvement (<i>build up noncriminal alternative behavior in risky situations</i>)	(0) No (1) Yes	
26. Antisocial Personality Pattern (<i>build problem-solving skills, self-management skills, anger management, and coping skills</i>)	(0) No (1) Yes	
27. Procriminal attitudes (<i>reduce procriminal cognitions, recognize risky thinking and feeling, build up alternative prosocial thinking and feeling, adopt a prosocial identity</i>)	(0) No (1) Yes	

28. Procriminal associates (<i>reduce association with criminal others, enhance association with prosocial others</i>)	(0) No (1) Yes
29. School/Work (<i>enhance involvement, rewards, and satisfactions</i>)	(0) No (1) Yes
30. Leisure/Recreation (<i>enhance involvement, rewards, and satisfactions</i>)	(0) No (1) Yes
31. Substance abuse (<i>reduce substance abuse, reduce the personal and interpersonal supports for substance-oriented behavior, enhance alternatives to substance abuse</i>)	(0) No (1) Yes
32. How many criminogenic need factors were targeted?	
33. Did the family program target improving the parent-child relationship (<i>affection/communication</i>)?	(0) No (1) Yes
34. Did the family program target increasing monitoring/supervision?	(0) No (1) Yes
35. Has the need principle been adhered to terms of consideration of the Central Eight criminogenic need factors (25-32)?	(0) No, treatment was not targeted at the (assessed) criminogenic needs of individual offenders (1) Yes, treatment was targeted at criminogenic needs of individual offenders (<i>at least one of the above</i>)
36. Has the need principle been adhered to terms of consideration of either or both of the "appropriate forms" of family intervention (37/38)?	(0) No (1) Yes, improving parent-child relationship (2) Yes, increasing monitoring/supervision (3) Yes, both (1) and (2)
37. Has the <i>general</i> responsivity principle been adhered to? (<i>social-learning or cognitive-behavioral programs that used modelling, role-play, reinforcement, and graduated practice</i>)	(0) No (1) Yes
<i>38-45. Has the intervention been tailored to clients based on the following factors?</i>	
38. Intelligence/Cognitive skill level (<i>e.g. verbal intelligence, interpersonal maturity, empathy</i>)	(0) No (1) Yes
39. Social support (<i>e.g. modeling, neutralize procriminal associates</i>)	(0) No (1) Yes
40. Gender (<i>e.g. abuse, trauma</i>)	(0) No (1) Yes
41. Age (<i>e.g. developmentally appropriate services</i>)	(0) No (1) Yes
42. Culture/Race/Ethnicity (<i>e.g. responsiveness</i>)	(0) No (1) Yes

43. Psychopathological problems (<i>e.g. counseling, aftercare, medication, institutionalization</i>)	(0) No (1) Yes
44. Treatment motivation (<i>e.g. stages of change, motivational interviewing techniques, collaborative goal setting</i>)	(0) No (1) Yes
45. Other:	
46. Has the <i>specific</i> responsivity principle been adhered to terms of intervention tailoring to client motivation, personal, or situational factors (at least one of the above)?	(0) No (1) Yes
47. Adherence to the risk/need/responsivity principles	(0) No adherence to any of the three principles (1) Adherence to only the risk principle (2) Adherence to only the need principle (3) Adherence to only the responsivity principle (4) Adherence to the risk and need principles (5) Adherence to the risk and responsivity principles (6) Adherence to the need and responsivity principles (7) Adherence to all three principles
48. Adherence to number of RNR principles	(0) 0 principles (1) 1 principle (2) 2 principles (3) 3 principles

Subject	Coding	Source/Page
EFFECT SIZE CODING		
49. Effect size ID number		
50. Effect size type	(1) Pre-test comparison (baseline; prior to start of the intervention) (2) Post-test comparison (first measurement point; post intervention) (3) Follow-up comparison (all subsequent measurement points; post intervention)	
51. If the effect size type is a follow-up comparison, what is the length of the follow-up in months?		

52. Delinquency dimension (what is measured in delinquent behavior?)	(1) Participation (yes/no) (2) Frequency (3) Seriousness (4) Versatility (number of crime types)
53. Measurement type of delinquency dimension	(1) Official record (2) Self report (3) Parent report (4) Other_____
54. Total sample size after randomisation on which ES is based	
55. Treatment group sample size for this effect size	
56. Control group sample size for this effect size	
57. Calculated effect size (Cohen's <i>d</i>)	
58. When there is a difference between groups, which group shows less delinquency?	(0) Treatment/Experimental group (1) Control group

Appendix B

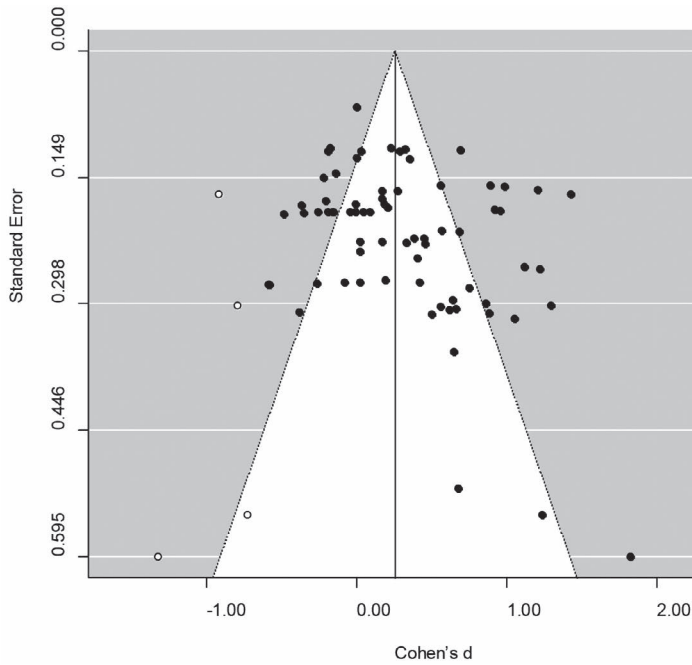
Characteristics and References of Included Studies

Reference	Year	Sample size (N)	% Minority	% Male	Age (M)	Treatment duration (weeks)	Program	Quality Control (Scale 0-15)
Asscher et al.	2014	256	45	73.44	16.02	-	Multisystemic Therapy	11
Bank et al.	1991	55	-	100	13.67	52	Oregon Social Learning Center – program in family management	6
Barton et al.	1985	74	35	-	-	-	Functional Family Therapy	6
Borduin et al.	2009	46	29.2	95.8	14	30.8	Multisystemic Therapy	8
Borduin et al.	1995	176	30	67.5	14.8	-	Multisystemic Therapy	9
Borduin et al.	1990	16	37.5	100	14	-	Multisystemic Therapy	9
Byles & Maurice	1979	305	37	87	11.5	-	Juvenile Services Project	10
Celinska et al.	2018	155	30.8	59.8	15.4	74.4	Functional Family Therapy	8
Dakof et al.	2015	112	94	88	16.1	20	Multidimensional Family Therapy	11
Davidson et al.	1987	84	26	83	14.2	18	Action Family Focus	9
Dembo et al.	2000	303	66	55	14.6	10	Family Empowerment Intervention	11
Elrod & Minor	1992	43	62.79	76.74	14.8	12	Project Explore	7
Gilman et al.	2020	1593	29.9	65.5	16.1	21	Step Up	10
Gordon et al.	1995	45	0	70.37	15.4	22	Functional Family Therapy	7
Gordon et al.	1988	54	0	55.56	15.4	22	Functional Family Therapy	4
Greenwood & Turner	1993	148	40	100	16.6	46.71	Paint Greek Youth Center	9
Henggeler et al.	2002	70	53	79	15.7	19	Multisystemic Therapy	8

Reference	Year	Sample size (N)	% Minority	% Male	Age (M)	Treatment duration (weeks)	Program	Quality Control (Scale 0-15)
Henggeler et al.	1999	118	53	79	15.7	19	Multisystemic Therapy	11
Henggeler et al.	1992	84	58	77	15.2	13.4	Multisystemic Therapy	9
Howitt & Moore	1991	206	20	89	-	48	Early Offender Program	8
Karam et al.	2015	310	70	74	15.4	24	Parenting with Love and Limits	9
Klein et al.	1977	56	-	44.19	-	-	Short-term behavioral intervention with delinquent families	4
Lab et al.	1993	155	32	100	14.2	-	Sexual Offender Treatment program	8
Letourneau et al.	2009	127	85	97.6	14.6	28.4	Multisystemic Therapy	9
Letourneau et al.	2013	124	85	100	14.7	28.4	Multisystemic Therapy	8
McPherson et al.	1983	75	-	-	15	14	Intensive Family Counseling	6
Quinn et al.	2004	455	50	58	13.91	10	Multiple Family Group Intervention - Family Solutions Program	10
Sawyer & Borduin	2011	148	23.9	69.3	14.5	-	Multisystemic Therapy	10
Schaeffer & Borduin	2005	165	23.9	69.3	14.5	-	Multisystemic Therapy	11
Sexton & Turner	2010	917	22	79	15.02	-	Functional Family Therapy	11
Timmons-Mitchell et al.	2006	93	22.5	78	15.1	20.69	Multisystemic Therapy	10

Appendix C

Funnel Plot



Note. A contour enhanced funnel plot with Cohen's d on the X axis and standard error on the Y axis. The black dots denote the observed effect sizes and the white dots the filled effect sizes. The solid vertical line represents the summary effect. From inside to outside, the dashed lines limit the 90%, 95%, and 99% pseudo confidence interval regions. The imputation of 4 white dots to the left of the summary effect indicates that publication bias may have been present in our results.

Appendix Chapter 3

Appendix A

Vignette (fictitious CPS case)

The family comprises father, mother, and their three sons K. (9), I. (7), and U. (3). Parents got divorced after twelve years of marriage marked by a long period of arguments and fights. Father mentioned that mother cheated on him, although mother claims that her contact with other men took place after they broke-up. For a long time, father kept hoping they would get back together. This 'on-again, off-again' situation has been very confusing for the children.

Mother has no own place to live, so she and the youngest son are currently staying in a house that is rented by her parents. The middle son stays with her every now and then, but is mostly staying with father who lives at his parents' house together with the oldest son.

Mother is unemployed and has debts. Father has a fulltime job at a bakery, and is getting assistance from social services to pay off his debts. Mother feels very dependent on father, and she frequently asks him to help her out with parenting and financial issues. Father tries to meet her needs as best he can.

The children struggle with their parent's divorce. The oldest son (K.) blames mother for the break-up, and he prefers not to visit her. When he does visit mother, he shows rebellious and defiant behavior causing mother to call father to come and pick him up. K. is having angry outbursts, in which he sometimes kicks and hits mother. Father says that he does not recognize the problematic behavior of K.

The middle son (I.) blames father for hitting mother and finds it difficult to decide where he should live. Parents are not making consistent decisions for him on suitable parental access arrangements. I. witnessed father hitting mother after which the police arrived at their house. He has spoken about this bad experience openly at school with his classmates.

The youngest son (U.) cries a lot and clings to mother when she leaves. He also sleeps in mother's bed when he is scared at night. U. has speech problems and struggles with expressing himself.

From the first few conversations with parents, it became clear that no progress has yet been made. Parents would like to solve their problems, but they keep on arguing a lot. There are serious doubts on whether or not the children should be placed out of home. Mother experiences stress and difficulties in raising her children, but is willing to cooperate with child protection services. However, father shows less treatment motivation. He is ashamed of his living situation, because his parents smoke in the house, and he is afraid that the children will be placed out of his home.

Nederlandse Samenvatting

(Dutch Summary)

Het Belang van Behandeling op Maat in de Jeugdbescherming

Kindermishandeling is een omvangrijk probleem dat wereldwijd de levens van miljoenen kinderen beïnvloedt. Het is gerelateerd aan ernstige korte- en lange termijn gevolgen voor slachtoffers, zoals depressie, middelenmisbruik, agressie en posttraumatische stresssymptomen. Een effectieve aanpak gericht op het voorkomen van kindermishandeling is dan ook essentieel. Helaas zijn interventies in de jeugdzorg gericht op het voorkomen van kindermishandeling nog slechts in beperkte mate effectief. Een mogelijke oorzaak van deze matige effectiviteit is dat interventies niet of onvoldoende zijn toegespitst op zorgbehoeften en kenmerken die per risicogezin kunnen verschillen. Dit terwijl het personaliseren van behandeling de effectiviteit van interventies kan vergroten, zoals ook beschreven wordt door middel van het Risk-Need-Responsivity (RNR) model. Dit model is ontwikkeld voor de inrichting van strafrechtelijke zorg en schrijft in een aantal principes voor hoe interventies vormgegeven moeten worden om de effectiviteit te vergroten. Hoewel het RNR-model is ontwikkeld ter voorkoming van criminele recidive, is het model ook veelbelovend voor de preventie van kindermishandeling. Zo kunnen zowel delinquent gedrag als kindermishandeling worden verklaard door een disbalans tussen risicofactoren (denk aan armoede, stress en psychopathologie) en beschermende factoren (zoals sociale steun) in verschillende sociale systemen rondom een cliënt of risicogezin, zoals de familie, een school, en de buurt waarin een cliënt of gezin woont.

Het implementeren van het RNR model in de jeugdbescherming om kindermishandeling in risicogezinnen te voorkomen omvat het personaliseren van interventies aan de hand van drie kernprincipes: (1) het *risicoprincipe* betreft het aanpassen van de intensiteit van een interventie aan het risico op toekomstige kindermishandeling binnen een gezin (een hoger risico vraagt om een intensievere aanpak), (2) het *behoefteprincipe* houdt in dat interventies gericht moeten zijn op veranderbare (dynamische) risicofactoren die samenhangen met (het risico op) kindermishandeling en (3) het *responsiviteitsprincipe* betreft de aanpassing van interventies aan specifieke mogelijkheden en kenmerken van gezinnen. Om het RNR model te kunnen toepassen in jeugdbescherming zijn instrumenten nodig om risico's, behoeften en responsiviteitsfactoren in kaart te brengen. Er is tot op heden echter nog geen onderzoek beschikbaar over de implementatie van de behoefte- en responsiviteitsprincipes in de jeugdbescherming. Daarom staat in dit proefschrift de

toepassing van een complete RNR-aanpak in de jeugdbescherming centraal, onder andere door middel van onderzoek naar de toegevoegde waarde van het toepassen van de behoefte- en responsiviteitsprincipes in de jeugdbescherming.

Studies in dit Proefschrift

Hoewel er nog geen onderzoek beschikbaar is naar de effectiviteit van het toepassen van de RNR principes in de jeugdbescherming, is er al wel veel wetenschappelijke ondersteuning beschikbaar van de effectiviteit van de RNR principes in forensische zorg. Dit bewijs kan echter in twijfel worden gebracht, aangezien er inconsistenties zijn tussen studies in de toetsing van de effectiviteit van de RNR principes. Daarnaast zijn sommige van deze studies enkele decennia oud en ontbreekt recent onderzoek naar implementatie van het RNR model. Daarom betreft **hoofdstuk 2** een update van een meta-analyse naar de effecten van toepassing van de risico-, behoefte- en responsiviteitsprincipes in gezinsinterventies gericht op het voorkomen van recidive van criminele jongeren. Er is gekozen om de effectiviteit van de RNR principes in specifiek gezinsinterventies kritisch te her-evalueren, omdat deze interventies zich richten op risicofactoren die gelinkt zijn aan zowel delinquent gedrag als kindermishandeling (o.a. een verslechterde communicatie tussen ouder en kind). Uit de meta-analyse van $k = 31$ studies die 71 effectgrootten rapporteerden, is een klein significant effect gevonden van gezinsinterventies op het verminderen van recidive onder criminele jongeren ($d = 0.382, p < .001$). Hoewel er grotere effecten werden gevonden bij toepassing van de RNR principes, waren deze verschillen niet significant. Deze resultaten impliceren dat wel of geen toepassing van de RNR principes geen invloed heeft op de uitkomsten van gezinsinterventies voor delinquente jongeren. Mogelijk zijn deze resultaten te verklaren door een lage statistische power door een klein aantal studies dat volgens de codering niet voldeed aan de RNR principes. Een andere verklaring is dat deze resultaten waarschijnlijk niet per se duiden op een gebrek aan effectiviteit van de principes, maar eerder op een gebrek aan concrete implementatie van de principes in interventiestudies. We benadrukken daarbij het belang van het gebruik van valide en betrouwbare risico-, behoefte-, en responsiviteitstaxatie instrumenten om interventies op een gestructureerde manier aan te passen aan de diverse kenmerken en behoeften van individuele cliënten.

De studie in **hoofdstuk 3** onderzoekt de klinische waarde en bruikbaarheid van een behoeftetaxatie instrument (ARIJ-Needs) in het besluitvormingsproces van

professionals over passende zorg voor gezinnen in de jeugdbescherming. ARIJ-Needs is een computerapplicatie waarmee klinici worden ondersteund bij het toepassen van het behoefteprincipe in de jeugdbescherming, door middel van het structureel taxeren van zorgbehoeften van gezinnen en het selecteren van interventies die aansluiten op de getaxeerde behoeften. Voor dit onderzoek werden semigestructureerde interviews gehouden met 15 professionals ($n = 12$ vrouwen en $n = 3$ mannen) die werken met gezinnen in de jeugdbescherming (o.a. sociaal maatschappelijk werkers en psychologen). De interviews begonnen met vragen over het huidige besluitvormingsproces van de professionals. Vervolgens werd een fictief vignet voorgelegd waarin een jeugdbeschermingscasus over een multiprobleemgezin werd beschreven. Er werd gevraagd aan de professionals of zij alle zorgbehoeften uit de casus wilden taxeren en welke interventie zij passend vonden bij de casus. Daarna werd ARIJ-Needs geïntroduceerd en gevraagd of de professionals een tweede behoefte-taxatie wilden uitvoeren met ARIJ-Needs. Ten slotte werden gebruikservaringen met ARIJ-Needs uitgevraagd en werden de resultaten van de behoefte-taxatie met de tool geëvalueerd. Uit de resultaten bleek dat professionals significant meer zorgbehoeften taxeerden met behulp van ARIJ-Needs dan met de behoefte-taxatie zonder ARIJ-Needs. Specifiek gezins- (o.a. huiselijk geweld en financiële problemen), ouder- (o.a. crimineel gedrag) en opvoeding-gerelateerde factoren (o.a. een problematische ouder-kind relatie) werden vaker getaxeerd met ARIJ-Needs dan met de ongestructureerde taxatie. Deze factoren zijn sterke voorspellers voor kindermishandeling en daarmee belangrijke aanknopingspunten voor behandeling. De bevindingen van dit onderzoek wijzen erop dat ARIJ-Needs professionals kan ondersteunen in het identificeren van relevante aanknopingspunten voor behandeling in risicogezinnen, die zonder de tool wellicht over het hoofd worden gezien. Daarnaast werd de zorgkeuzemodule van ARIJ-Needs beoordeeld als een 'verbreding van de horizon' in het voortdurend groeiende aanbod van zorg en interventies in de jeugdbeschermingspraktijk.

Hoewel er steeds meer onderzoek beschikbaar is over de voordelen van toepassing van de RNR principes in de jeugdbescherming, is er tot op heden weinig aandacht besteed aan de implementatie van het responsiviteitsprincipe. Om die reden is in **hoofdstuk 4** de klinische waarde van toepassing van het responsiviteitsprincipe in de jeugdbescherming onderzocht. Kortgezegd houdt het responsiviteitsprincipe in dat interventies moeten aansluiten op specifieke kenmerken van cliënten om de effectiviteit ervan te vergroten. Om relevante responsiviteitsfactoren te identificeren, werd een

literatuurreview uitgevoerd naar componenten van (forensische) responsiviteitstaxatie-instrumenten ($N = 19$). Op basis van deze resultaten is een overzicht opgesteld met responsiviteitsfactoren gerelateerd aan kenmerken van gezinnen in de jeugdbescherming. Vervolgens werd dit overzicht tijdens semigestructureerde interviews voorgelegd aan 14 professionals die werkzaam zijn in de jeugdbescherming om de relevantie van elke factor in de jeugdbeschermingspraktijk uit te vragen. Aanvullend werd aan de professionals gevraagd of zij klinische behandelingsuggesties konden geven voor het aanpassen van behandeling aan geïdentificeerde responsiviteitsfactoren. De resultaten van de interviews leidden tot een overzicht van zeven responsiviteitsfactoren gerelateerd aan opvoeders van gezinnen in de jeugdbescherming: probleemontkenning, behandelmotivatie, psychische problemen, cognitieve capaciteiten, culturele achtergrond, praktische behandelbarrières (o.a. financiële problemen), sociale steun, en barrières voor groepstherapieën. Dit overzicht kan professionals ondersteunen in het identificeren van belangrijke responsiviteitsfactoren die een positieve uitkomst van behandeling mogelijk belemmeren. Daarnaast biedt dit onderzoek aanknopingspunten voor behandeling op maat om behandelbetrokkenheid van opvoeders in de jeugdbescherming te versterken.

Hoewel uit onderzoek blijkt dat mannen en vrouwen in gelijke mate betrokken zijn bij huiselijk geweld, is er nog weinig onderzoek beschikbaar naar genderspecifieke risicofactoren gerelateerd aan het plegen van huiselijk geweld. Om die reden was het doel van de studie in **hoofdstuk 5** om mogelijke verschillen in criminogene risicofactoren tussen mannelijke en vrouwelijke huiselijk geweldplegers te onderzoeken. Er is gebruik gemaakt van gegevens uit klinisch gestructureerde risicotaxaties van 366 mannelijke- en 87 vrouwelijke forensische zorgcliënten die een GGZ behandeltraject hebben gevolgd vanwege betrokkenheid bij huiselijk geweld. Verschillen in de prevalentie van criminogene risicofactoren tussen mannelijke en vrouwelijke huiselijk geweldplegers werden onderzocht, en voor mannen en vrouwen is afzonderlijk de relatie tussen deze factoren en behandeluitval onderzocht. Om de onderlinge samenhang tussen de risicofactoren te onderzoeken, zijn door middel van netwerkanalyses statistische netwerken gecreëerd waarmee interacties tussen risicodomeinen (gegroepeerde risicofactoren) werden bepaald. De resultaten lieten genderverschillen zien in zowel de prevalentie van- en onderlinge samenhang tussen risicofactoren, als in de relaties tussen risicofactoren en behandeluitval van mannelijke en vrouwelijke huiselijk geweldplegers. Bij mannelijke huiselijk geweldplegers was de prevalentie van de

risicofactoren ‘een crimineel verleden’, ‘middelenmisbruik’ en ‘criminele attitudes’ hoger dan bij vrouwelijke huiselijk geweldplegers. Bij vrouwen bleek de prevalentie van sociaaleconomische risicofactoren (o.a. werkloosheid en financiële problemen) hoger dan bij mannen. Behandeluitval bij mannen bleek gerelateerd te zijn aan de risicofactoren ‘omgang met vrienden in het criminele circuit’, ‘een crimineel verleden’ en ‘drugsmisbruik’. Bij vrouwen bleek behandeluitval gerelateerd te zijn aan de risicofactoren ‘een problematische relatie met familieleden’, ‘woninginstabiliteit’, ‘een gebrek aan sociale steun’ en ‘werkloosheid’. Uit de netwerkanalyses bleek dat emotionele/persoonlijke risicofactoren (o.a. impulsiviteit en een gebrek aan zelfinzicht) een centrale positie innamen in de onderlinge samenhang met andere risicofactoren voor zowel mannelijke als vrouwelijke huiselijk geweldplegers. Dit betekent dat het behandelen van deze risicofactoren een indirect positief effect kan hebben op de vermindering van andere risicofactoren, zoals de risicofactor ‘problematische relaties met familieleden’, die sterk samenhangt met emotionele/persoonlijke risicofactoren. De resultaten van dit onderzoek bieden inzichten in genderspecifieke verschillen in criminogene risicofactoren voor huiselijk geweld en in de onderlinge samenhang tussen deze factoren. Deze inzichten kunnen aanknopingspunten bieden voor klinici bij het vormgeven van behandeling op maat voor huiselijk geweldplegers.

Hoewel de meeste slachtoffers van kindermishandeling meerdere vormen van kindermishandeling hebben ervaren, zijn er relatief weinig studies naar de comorbiditeit van typen kindermishandeling en de gevolgen van specifieke typen kindermishandeling binnen steekproeven. Daarom is in **hoofdstuk 6** het onderscheidend vermogen van twee dimensies van kindermishandeling onderzocht (‘mishandeling versus verwaarlozing’ en ‘emotionele versus fysieke mishandeling’) in het identificeren van ontwikkelingsproblematiek in een klinische steekproef van 146 Nederlandse kinderen uit gezinnen die de interventie ‘Multisystemic Therapy – Child Abuse and Neglect (MST-CAN)’ kregen aangeboden. Uit de resultaten bleek dat er geen verschillen waren in ontwikkelingsproblematiek (externaliserende en internaliserende problematiek) bij slachtoffers binnen de dimensie ‘mishandeling versus verwaarlozing’. Er was echter wel sprake van meer externaliserende problematiek (o.a. agressiviteit) bij slachtoffers van fysieke mishandeling vergeleken met slachtoffers van emotionele mishandeling. Verder werd er meer gedragsproblematiek (o.a. sociale problemen, aandachtsproblemen en traumasymptomen) gesignaleerd bij slachtoffers van meerdere vormen van kindermishandeling vergeleken met slachtoffers van één

type kindermishandeling. De resultaten van dit onderzoek dragen bij aan meer kennis over de impact van meervoudige kindermishandeling, en belichten de waarde van het onderscheiden van fysieke en emotionele kindermishandeling. Deze kennis kan klinici mogelijk ondersteunen in het aanpassen van behandelingen aan individuele behoeften van slachtoffers van kindermishandeling.

Belangrijkste Conclusies

In dit proefschrift wordt het belang van implementatie van valide en betrouwbare RNR taxatie instrumenten benadrukt, zodat behandeling op gestructureerde wijze aangepast kan worden aan risico's, behoeften en omstandigheden van individuele cliënten in de jeugdbescherming. De resultaten uit dit proefschrift lieten zien dat een gestructureerde behoefte-taxatie klinici kan ondersteunen in het identificeren van relevante behoeften van risicogezinnen die samenhangen met toekomstige kindermishandeling, die met een ongestructureerde klinische taxatie wellicht over het hoofd worden gezien. Aanvullend zijn in dit proefschrift zeven responsiviteitsfactoren geïdentificeerd als mogelijke behandelingsbarrières die gesignaleerd en geadresseerd kunnen worden om behandelingssucces van gezinnen in de jeugdbescherming te verhogen. Verder bieden de resultaten inzichten in de belangrijkste risicofactoren van vrouwelijke en mannelijke huiselijk geweldplegers en in de onderlinge samenhang tussen deze factoren, hetgeen belangrijke informatie kan opleveren voor behandeling. Ten slotte bieden de resultaten in dit proefschrift inzichten in de impact van meervoudige kindermishandeling en in het belang van differentiatie tussen fysieke en emotionele mishandeling. Deze inzichten vormen mogelijke aanknopingspunten voor professionals bij het personaliseren van interventies voor slachtoffers.

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About the Author

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Anne Bijlsma (1993) was born in Sliedrecht, the Netherlands. She currently lives in Houten with her husband Reinier and their daughter Julia (2021). Anne received a bachelor's degree in Child and Youth Psychology at Utrecht University (2015). After this, she started her master's degree in Clinical Child and Youth Psychology at Utrecht University. During her master, she was an intern at the Department of Children and Youth Medical Psychology at the Diakonessenhuis hospital in Utrecht. After her cum laude graduation in 2016, she worked at Utrecht University as a research assistant for the 'Better Start' project, a trial on the effectiveness of parent training for incarcerated mothers. In addition, she started teaching courses in the bachelor's and masters' program of Clinical Child and Youth Psychology. In 2017, she decided to join the Vrije Universiteit Amsterdam to teach at the Psychology bachelor's program. In 2018, she started her Ph.D. project at the Department of Forensic Child and Youth Care at the University of Amsterdam. The main focus of her research was on strengthening the prevention of child abuse, by examining how treatment can best be personalized to the specific needs and characteristics of at-risk families and children. In 2019, she received the Early Career Researcher Prize Certificate for her poster presentation on tailoring interventions for reducing child maltreatment at the annual European Society for Prevention Research conference. Anne recently started as a postdoctoral researcher at the Department of Preventive Youth Care at the University of Amsterdam. The main focus of her research project is on examining 'what works' in Home-Start, a preventive parenting program that provides volunteer led services supporting families through challenging times.

