Chapter 1

**General introduction**
This dissertation presents several empirical studies that aim to gain insight into the influence of methods and decision-maker factors on decision-making in child maltreatment, including research into methods that may improve the decision-making process and outcomes. Professionals in child welfare and child protection make difficult decisions on interventions in the lives of children and their families on a daily basis, which place the professionals in dilemmas. Is the child safe at home? Do they need to intervene? Should the child be placed in care? Good-quality decisions are necessary, especially in cases where these interventions are involuntary and have a major impact on the lives of both the children and their families.

**Child maltreatment**

Child maltreatment is a social problem which can be defined as ‘the abuse and neglect that occurs to children under 18 years of age. It includes all types of physical and/or emotional ill-treatment, sexual abuse, neglect, negligence and commercial or other exploitation, which results in actual or potential harm to the child’s health, survival, development or dignity in the context of a relationship of responsibility, trust or power’ (World Health Organization, 1999, p. 15). While this definition is generally agreed upon (see for comparison the definitions used in the Dutch Youth Act 2015, Jeugdwet, 2014, Art. 1.1, and the US National Child Abuse and Neglect Data System, NCANDS, Children’s Bureau, 2016), it only offers a broad perspective on what constitutes child maltreatment. It does not specify what behaviours are regarded as child maltreatment (cf. Baartman, 2009; Leeb, Paulozzi, Melanson, Simon, & Arias, 2008; Sedlak, Mettenburg, Schultz, & Cook, 2003). Cultural beliefs lead to considerable variations in what are deemed healthy and abusive child-rearing practices over time and between cultures (Baartman, 2009; Raman & Hodes, 2012). For example, in the past, children witnessing violence between their parents was not considered child maltreatment, but it is currently receiving much attention as such (Baartman, 2009).

Child maltreatment rates show that abuse and neglect occur frequently, although the rates differ between countries. Dutch prevalence studies (Alink et al., 2011; Van IJzendoorn et al., 2007) have shown that about 3 percent of children under 17 are exposed to child maltreatment within the family. Children report emotional and physical neglect more often than other forms of child maltreatment, while sexual abuse is reported the least. In the UK, the prevalence of child maltreatment ranges from 2.5 percent for children younger than 11 years to 6 percent for children between 11 and 17 years (Radford et al., 2011). In the US, estimated victim rates vary between 9.4 (Children’s Bureau, 2016) and 17.1 victims per 1,000 children in the population (Sedlak et al., 2010). Children suffer most often from neglect and physical abuse (Children’s Bureau, 2016). Child maltreatment rates also differ between countries due to varying definitions, measures and estimation procedures (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002).

Child maltreatment is a complex and dynamic problem that is often influenced by multiple risk factors related to the parents, the child, the family and the environment (Munro, 2014). Risk factors concerning the parents are the most influential. Examples include excessive expectations of the parents regarding the child, negative attributions concerning the child’s behaviour, the parent’s personality (e.g. little control over impulses), psychological problems, drug abuse, domestic violence, problematic relationships with their partner, or a parent’s physical and/or mental disabilities (De Jong & Meeuwse, 2014; Mulder, 2014; Stith et al., 2009). While child, family and environmental factors (e.g. behavioural problems of the child, low cohesion within the family or financial problems) influence the risks to a lesser extent, they may interact with the personal...
difficulties of parents and thereby increase the risk of child maltreatment (Mulder, 2014; Stith et al., 2014). Each of the risk factors related to the parents, the child, the family and the environment may increase the chance of child maltreatment. However, none of them lead to child maltreatment necessarily (Begle, Dumas, & Hanson, 2010; MacKenzie, Kotch, & Lee, 2011; Munro, 2014).

Child maltreatment has short-term and long-term adverse effects on the development and wellbeing of the child victims, and these also have high societal costs. In the short term, children may be injured due to the harsh treatment of their parents, may have a sexually transmitted disease as a result of sexual abuse or may develop emotional, behavioural and attachment problems. In the long term, maltreated children are more likely to develop asthma and heart disease, psychiatric disorders (such as posttraumatic stress disorder, depression and dissociative disorder), delinquency and addictions (Felitti et al., 1998; Gezondheidsraad, 2011). These short-term and long-term consequences can lead to greater use of child protective services, as well as health and mental health services, or reduced levels of employment and greater levels of delinquency, all resulting in high societal costs. Conti and colleagues (2017) conservatively estimated the societal lifetime costs in the UK as lying between €50,992 and €165,268 per victim of non-fatal child maltreatment, while Fang, Brown, Florence and Mercy (2012) estimated the average lifetime costs of non-fatal child maltreatment at €183,928 per victim in the US. In the Netherlands, child maltreatment is also estimated to cost billions due to greater use of mental health services and productivity loss (Speetjens, Thielen, Ten Have, De Graaf, & Smit, 2016).

Child maltreatment is often largely invisible to outsiders, which makes it hard to detect and address. Signs of the occurrence of child maltreatment are diverse and often vague and non-specific. The observation of one or more potential signs does not necessarily prove that a parent is maltreating the child. Often, it is the accumulation of observations by different sources and on different occasions, and their careful interpretation, which leads to the conclusion that a child has been or is being maltreated (Munro, 2008, 2014; Wolzak & Ten Berge, 2005).

**Assessment and decision-making**

Because of the serious consequences for children and society, child maltreatment needs to be recognized and addressed in a timely and adequate manner to prevent further harm. Both unrecognized cases of child maltreatment (false negatives) and unjust accusations of maltreatment (false positives) have major consequences for children and families (Hacking, 1992). This places high pressure on professionals involved in the decision-making process in the field of child welfare and child protection, who must recognize signs of child maltreatment, make an accurate assessment of the situation and decide on the course of action that may have the best possible outcomes for the children and families involved (Munro, 2008).

Decision-making is a cognitive process of assessing a situation and identifying and choosing alternative possibilities, resulting in the selection of a course of action (Wang, Wang, Patel, & Patel, 2004). Several decision-making theories distinguish deliberate, conscious and analytical strategies in decision-making from unconscious and intuitive strategies (Evans, 2008; Hogarth, 2005; Kahneman, 2003, 2011; Sloman, 1996). Which strategy decision-makers choose depends, for example, on their general preference for one or other strategy and their mood (De Vries, Holland, & Witteman, 2008). A replicable analytical process is most often appreciated and emphasized in clinical practice to make complex decisions easier to handle (Munro, 2008). However, empirical evidence repeatedly shows that professionals tend to make decisions intuitively and look for
reasons to justify their choice retrospectively (Klein, 2000). Every decision-making process results in a final choice that may or may not prompt action. This choice is principally based on the decision-makers’ intuitive or rational analysis of the situation (i.e. case factors), their knowledge of effective interventions and their personal values and preferences (Kahneman, 2011).

**Shortcomings in decision-making**

Research has repeatedly indicated that decision-making processes in child welfare and child protection are flawed in several respects. First, it has been found that professionals relatively often disagree about the assessment of the family situation (whether or not the child is exposed to or at risk of child maltreatment) and about the decisions to be made (what action should be taken; cf. Berben, 2000; Britner & Mossler, 2002; Gold, Benbenishty, & Osmo, 2001; Knorth, 1995; Rossi, Schuerman, & Budde, 1999; Ten Berge, 1998). Second, some studies have shown that professionals have difficulty making accurate assessments of the situation and in predicting the future behaviour of their clients (cf. Metselaar, Knorth, Noom, Van Yperen, & Konijn, 2004; Skeem, Mulvey, & Lidz, 2000).

There are several explanations for professionals disagreeing in their judgments and decisions and struggling with accurate assessment (see for an overview Gambrill, 2005; Garb, 1998). First, professionals can rarely rely on clear empirical findings (i.e. evidence-based decision-making; Berben, 2000; Kaplan, Pelcovitz, & Labruna, 1999), unambiguous theories (Munro, 1998) or explicit professional knowledge or guidelines (Bartelink, Ten Berge, & Van Vianen, 2015; Drury-Hudson, 1999; Ten Berge, 1998). Rather, it has been found that personal beliefs and experience influence decision-making (Arad-Davidzon & Benbenishty, 2008; Benbenishty et al., 2015; Benbenishty, Segev, Surgis, & Elias, 2002; Brunnberg & Pečnik, 2007; Jent et al., 2011; Osmo & Benbenishty, 2004; Portwood, 1998; Rosen, 1994), as do contextual and individual circumstances, such as family poverty and the professional’s mood (Baumann, Dalgleish, Fluke, & Kern, 2011; Dalgleish, 2000; De Vries et al., 2008; Gambrill & Shlonsky, 2000; Holland, 2000).

Second, professionals have difficulty in processing complex and large amounts of information. Therefore, they may unconsciously use strategies to make the decision-making task easier. However, these strategies make them vulnerable to certain pitfalls. They may be prone to the use of heuristics as a way of dealing with the complexity of the decision-making task. Heuristics are simple, efficient rules which people often use to form judgments and make decisions (Gambrill, 2005). They are mental ‘shortcuts’ that usually focus on one aspect of a complex problem while ignoring others. Usually, these heuristics are based on the previous experience of the professional with other families.

Third, the use of heuristics can lead professionals to be reluctant to revise their initial judgments (Munro, 1996, 1999). Munro (1996, 1999) found that professionals’ first impression of a family strongly influenced their response to additional information. They were sceptical about information that did not correspond to this first impression and were less critical of information that corresponded to their first impression (Munro, 1996, 1999). Munro (1999) also found that professionals tended to make decisions based on evidence that was recent, vivid or emotionally charged. As a consequence, they may suffer from phenomena such as ‘tunnel vision’ and ‘confirmation bias’ (Gambrill, 2005; Parker & Lawton, 2003). Tunnel vision means that professionals become caught up in a narrow picture of the family’s situation. Confirmation bias is the tendency to confirm professional assumptions rather than to falsify them. These phenomena might distort professionals’ judgment of the situation and thereby lead to an incorrect judgment of it (i.e. a false positive or false negative decision).
**Decision-Making Ecology**

To obtain a better understanding of the complex nature of the process of decision-making, Baumann, Fluke, Dalgleish and Kern (2014) proposed a framework for studying decision-making in child welfare and child protection which they called Decision-Making Ecology (see Figure 1). According to them, the decision-making process consists of both the assessment of the situation and the decision on the course of action. They describe decision-making in particular as a psychological process, based on Dalgleish’s General Assessment and Decision-Making Model (Dalgleish, 2003). As part of such a process, the reasoning of the decision-maker, be it implicit or explicit, connects the assessment of the situation to the decision to be made – it is more or less like a ‘debate’ that professionals have with themselves (and possibly with co-workers) about the case and their knowledge, resulting in a choice about the course of action. Reasons, therefore, are the recognizable ‘products’ of this reasoning process (see Gambrill, 2005). In addition, Baumann and colleagues (2014) assumed that the outcomes of previous decisions can influence professionals’ future reasoning and decision-making. These outcomes may be actual as well as perceived costs and benefits to the decision-maker, the client and/or the agency responsible for handling and supporting the case.

![Diagram of Decision-Making Ecology](image)

*Figure 1. Decision-Making Ecology (Baumann et al., 2014)*

Note. The grey items are added to the original model
According to Baumann and colleagues (2014; see Figure 1), a range of factors relating to the case, the decision-maker and the organizational and external contexts also influence the decision-making process and thereby the outcomes. These factors may combine in several ways. Case factors concern the child and family characteristics which influence assessment and decision-making, for example parenting behaviours, children’s health and psychosocial functioning. Decision-maker factors concern the characteristics of the decision-maker which influence assessment and decision-making, for example age, education, work experience and attitude. Organizational factors concern the characteristics of an agency that influence assessment and decision-making, for example excessive caseloads, role ambiguity and adequate or inadequate supervision. External factors mainly concern the broader environmental characteristics, for example the law and the availability of community resources.

This Decision-Making Ecology framework has been applied in a number of studies on the substantiation of maltreatment (Detlaff et al., 2011; Fluke et al., 2001), placement decisions (Fluke, Chabot, Fallon, MacLaurin, & Blackstock, 2010; Graham, Detlaff, Baumann, & Fluke, 2015) and reunification decisions (Wittenstrom, Baumann, Fluke, Graham, & James, 2015). These studies usually focused on the context in which professionals make their decisions (i.e. organizational factors and external factors; Baumann et al., 2010; Detlaff et al., 2011; Fluke et al., 2010). Less is known about the impact of decision-maker factors, although it has been argued that attitudes (e.g. Benbenishty et al., 2015; Jent et al., 2011) and work experience (Benbenishty, Segev, Surgis, & Elias, 2002; Brunnberg & Pečnik, 2007) may influence the decision-making process.

The Decision-Making Ecology is a relevant interpretive framework for research because it describes several sources that influence the decision-making process but does not prescribe the characteristics of good-quality decision-making. In addition to the Decision-Making Ecology, we assume that a good-quality decision-making process can be characterized as:

- structured: judgments and decisions are made systematically and are well-founded, verifiable and transparent (Gambrill, 2005);
- evidence-based: judgments are based on relevant theories and empirical knowledge about the occurrence, causes and factors that prolong child and family problems, and decisions about interventions rely on research-based evidence, professional practice-based knowledge and relevant client experiences (Sacket, Straus, Richardson, Rosenberg, & Haynes, 2000), and the decision-making based on case specific knowledge (i.e., the assessment is used to inform the decisions);
- involving dialogue with parents and children (shared decision-making): parents and children are active participants in the decision-making process (Faber, Harmsen, Van der Burg, & Van der Weijden, 2013; Joosten et al., 2008; Patel, Bakken, & Ruland, 2008; Poston & Hanson, 2010; Swift & Callahan, 2009; Westermann, Verheij, Winkens, Verhulst, & Van Oort, 2013). These three quality criteria are based on common factors that are generally effective in child welfare and child protection (see Van Yperen, Van der Steege, Addink, & Boendermaker, 2010).

Also, the Decision-Making Ecology does not provide leads for improvement of the decision-making process. Therefore, we added the decision-making methods to the Decision-Making Ecology, though it is not clear yet how these methods may influence the assessment, the decision-making and the outcomes, that means whether methods have an effect on the influencing factors or on the decision-making process. We assume that the decision-making methods and risk assessment instruments we studied have the potential to influence how professionals analyse
and assess case factors and support the decision-making process. The use of these methods may lead to more agreement between professionals and fewer incorrect decisions (i.e. false positive or false negative decisions). Previous research has indicated that clinical judgments without the use of instruments are less reliable than judgments based on methods that support systematic information-gathering and analysis of the situation (see e.g. Ægisdottir et al., 2006; Grove, Zald, Lebow, Snitz, & Nelson, 2000).

This dissertation addresses whether methods focused on structured and evidence-based decision-making improve professionals’ decisions; this with the intention to influence which case factors they include during the decision-making process and how they weigh them. Furthermore, it addresses to what extent decision-makers’ individual characteristics (i.e., reasoning about the case, attitudes and work experience) influence the judgments and decisions made.

Objectives of the dissertation

This dissertation aims to gain insight into methods and decision-maker factors which influence the decision-making process in child maltreatment cases and to provide leads for further optimization. The main research focus is to determine whether a methodology aimed at the improvement of decision-making actually contributes to quality enhancement in practice. We will concentrate on the effects of structured and evidence-based decision-making. This dissertation will address the following research questions:

1. What methods may improve assessment and decision-making and what are the effects of these methods?
2. What are the effects of a structured decision-making method on the systematicity, transparency and interrater reliability of the assessment and decision-making by professionals in suspected child maltreatment cases?
3. What are the effects of a risk assessment instrument on the interrater reliability and predictive validity of risk judgments by professionals in suspected child maltreatment cases?
4. What influence does the decision-maker’s reasoning have in a case of suspected child maltreatment on the recommendation to place the child out of home: does such reasoning contribute to the prediction of placement decisions in addition to the risk assessment, attitudes and work experience of the decision-maker?

This dissertation will investigate the structured decision-making method known as ORBA and the risk assessment instrument LIRIK. The ORBA method ¹ was used by the former Advice and Reporting Centres for Child Abuse and Neglect (ARCCAN) ² and is an evidence- and practice-based method that explicates and structures the assessment and decision-making process in cases of suspected child maltreatment. ORBA offers guidelines, criteria and checklists to assist

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¹ ORBA is the Dutch acronym for Onderzoek, Risicotaxatie en Besluitvorming AMKs (in English: Investigation, Risk Assessment and Decision-making by ARCCAN).
² The Advice and Reporting Centres for Child Abuse and Neglect (ARCCAN) investigated cases of suspected child maltreatment. Practitioners in the ARCCAN assessed whether a child was being raised in a threatening or unsafe situation and decided whether care or protection was needed. In 2015, the ARCCANs were closed and their responsibilities transferred to the Safe Home organizations.
in the process of collecting relevant information about cases, in judging if there is a case of substantiated child maltreatment, and in deciding whether care or protection is needed. The LIRIK³ is an instrument for child safety and risk assessment that is designed to improve assessments by guiding professionals through a structured evaluation of relevant signs, risk factors and protective factors. While originally designed to be used in Regional Child Protection Service Agencies (in Dutch: Bureau Jeugdzorg) and ARCCANs, the LIRIK is increasingly used in other organizations, such as large organizations for ambulatory, home-based and residential youth care, organizations for children with mental or physical disabilities, and in general preventive youth health care.

Outline of the dissertation

Chapter 2a consists of a literature review of studies that focus on decision-making methods. There are few studies on the effects of decision-making methods in child welfare and child protection. Questions that still remain to be answered include: What methods may improve assessment and decision-making? And: What are the effects of these methods? Improvement might be expected on several levels, such as the quality of information-gathering and analysis, and agreement on and validity of judgments and decisions, and should result in children and families receiving effective support. The literature review in this dissertation describes and discusses the impact of various decision-making methods.

Van der Put, Assink and Stams (2016) commented on this literature review in a letter to the editor of the journal in which it was published. Chapter 2b presents a response to their commentary.

Chapter 3 presents the effects of ORBA, the structured decision-making method, on the transparency and systematicity of decisions. Structured decision-making methods support a comprehensive assessment and analysis of the situation in families (Léveille & Chamberland, 2010). Usually, the decision-making process is also explained and structured, which supports professionals in determining the most important case factors to be addressed and in deciding what course of action needs to be followed in what specified situation (Shlonsky & Wagner, 2005). We analysed the contents of 100 case records after ORBA had been implemented and compared these with the contents of 60 records before ORBA had been implemented. Specifically, we investigated to what extent these records contained relevant information and to what extent process steps and rationales for decisions could be identified.

Chapter 4 presents the effects of ORBA on the interrater reliability of professionals in the former ARCCANs. Structured decision-making aims to decrease disagreement between professionals about the judgments and decisions made. We presented 40 trained and 40 untrained ARCCAN professionals with written case descriptions (vignettes) and asked them to assess the situation and make a decision. Using intraclass correlation coefficients, we examined the extent to which trained and untrained professionals agreed about judgments and decisions made.

Chapter 5 reports on two studies of the risk assessment instrument LIRIK. Risk assessment instruments focus on a specific part of the decision-making process. They aim to support the assessment of whether a child is at risk of future maltreatment, but they do not support decisions

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³ LIRIK is the Dutch acronym for Licht Instrument Risicotaxatie Kindveiligheid (in English: Light Instrument for Risk Assessment of Child Safety).
on the course of action that needs to be followed to increase child safety and decrease further risks (e.g. D'Andrade, Benton, & Austin, 2005; White & Walsh, 2006). We examined interrater reliability in a vignette study and predictive validity in a prospective study. In both studies, we compared professionals using the LIRIK with professionals not using any instrument. In the vignette study, we asked 36 professionals using the LIRIK and 43 professionals using no instrument to perform a safety and risk assessment on four vignettes. In the predictive validity study, we compared the judgments of professionals on safety and risk of 370 children made using LIRIK (n = 278) or using no instrument (n = 92) with actual outcomes indicating unsafety six months later.

Chapter 6 presents a study on decision-makers' rationales in the case of suspected child maltreatment, especially regarding whether or not a recommendation is made to place the child in foster care. During the above-mentioned studies on the ORBA method and the LIRIK, we found that both had only a limited effect on the decision-making process and the decisions made. With this final study, we intended to gain more insight into the reasoning process and attitudes that may influence the decision-making process. This study aimed to further explore why decision-making methods have such a limited effects. We hypothesized that the rationales decision-makers provide might be the link between personal characteristics on the one hand and their assessment and decisions on the other. Rationales provide insight into the reasoning process of decision-makers. The main research question of this study was to what extent arguments play a part in intervention decisions, in addition to risk assessment, attitudes and work experience of decision-makers. Professionals (n = 214) and students (n = 381) were asked to assess a vignette presenting a suspected case of child maltreatment and decide whether the child needed to be placed in out-of-home care (foster care).

Chapter 7 presents the overall conclusion and general discussion. A summary of the main conclusions of the dissertation and a summary of the study results are provided. The results are discussed in relation to each other and with respect to the relevant literature. Finally, the strengths and limitations of the studies are addressed and recommendations for practice and further research are made.