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Bartelink, Cora; Van Yperen, Tom A.; Ten Berge, Ingrid J.; Knorth, Erik J.

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Cora Bartelink, PhD

The Hague University of Applied Sciences

Tom A. van Yperen, PhD

University of Groningen / Netherlands Youth Institute

Ingrid J. ten Berge, PhD

Expert Centre William Schrikker Foundation Amsterdam

Erik J. Knorth, PhD

University of Groningen

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Author Note

Erik J. Knorth, Tom A. van Yperen, Department of Special Needs Education and Youth Care, University of Groningen. Correspondence concerning this paper should be addressed to E.J. Knorth, PhD, Department of Special Needs Education and Youth Care [Afdeling Orthopedagogiek], University of Groningen, Grote Rozenstraat 38, 9712 TJ Groningen, The Netherlands. Electronic mail may be sent to E.J.Knorth@rug.nl.

The use and usability of decision-making theory in child welfare policy and practice

Cora Bartelink, Tom A. van Yperen, Ingrid J. ten Berge, and Erik J. Knorth

1 Introduction

The aim of this chapter is to discuss how decision-making processes within the context of child welfare and child protection could be improved by decision-making theories, and especially by methods that are based on these theories and that are intended to support practitioners. Our contribution relates to our studies on decision-support systems in the Netherlands.

Decision-making is an essential element of the work of professionals within the context of child welfare and child protection. The term refers to a cognitive process of assessing a situation and identifying and choosing alternative possibilities, resulting in the selection of a course of action (Bartelink, 2018; Wang, Wang, Patel, & Patel, 2004). The assessment of the situation involves problems, risks, strengths, and protective factors present in the lives of children, as well as the interaction between these aspects. The entire process is aimed at reducing problems and risks, while reinforcing strengths and protective factors. Some of the situations that practitioners must assess and the choices they must make are uncomplicated and have limited impact, as is the case with decisions to advise parents to offer the child training in social skills as a means of addressing mild shyness. Other decisions are of vital importance, as is the case with the recommendation to take a child into protective custody and/or to place the child in family foster care due to severe child maltreatment.

Decision-making theories are used to describe and develop hypotheses on the mechanisms of deliberate, conscious, and analytical strategies in decision-making, as well as in the unconscious and intuitive processes that may be involved (Evans, 2008; Hogarth, 2005;

Kahneman, 2003, 2011; Sloman, 1996). Professional decision-making is often associated with a replicable, analytical process (Munro, 2008). In this respect, it can be distinguished from decision-making by laypeople. Professionals base their decisions on sound observations and other data, and they construct clear rationales that are explicit and that can be critically evaluated for validity – at least in theory. In practice, however, decisions by professionals are often made intuitively (Klein, 2000). Moreover, research has repeatedly indicated that decision-making processes within the context of child welfare and child protection are flawed in several respects. First, it has been found that professionals relatively often disagree about the assessment of family situations (e.g., whether the child is being exposed to or at risk of child maltreatment) and about the decisions to be made (i.e., the action to 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 situations and predicting the future behavior of their clients (cf. Metselaar, Knorth, Noom, Van Yperen, & Konijn, 2004; Skeem, Mulvey, & Lidz, 2000).

There are several explanations for the lack of consensus in the judgments and decisions of professionals and their struggle to make accurate assessments (for an overview, see Gambrill, 2005; Garb, 1998). First, professionals are rarely able to rely on clear empirical findings. In other words, they have few possibilities for evidence-based decision-making (Berben, 2000; Kaplan, Pelcovitz, & Labruna, 1999) or access to unambiguous theories (Munro, 1998) or explicit professional knowledge and guidelines (Bartelink, Ten Berge, & Van Vianen, 2015; Drury-Hudson, 1999; Ten Berge, 1998). On the contrary, it has been found that their decision-making is influenced by personal beliefs and experiences (Arad-Davidzon & Benbenishty, 2008; Benbenishty et al., 2015; Benbenishty, Segev, Surgis, & Elias, 2002; Brunnberg & Pećnik, 2007; Jent et al., 2011; Osmo & Benbenishty, 2004;

Portwood, 1998; Rosen, 1994), as well as by such contextual and individual circumstances as family poverty and the mood of the professional (Baumann et al., 2011; Baumann, Fluke, Dalglish, & Kern, 2014; Baumann, Kern, & Fluke, 1997; Dalglish, 2003; De Vries et al., 2008; Fluke, Baumann, Dalglish, & Kern, 2014; Gambrill & Shlonsky, 2000; Holland, 2000).

Professionals further have difficulty processing large, complex volumes of information. They may therefore unconsciously use strategies to simplify the task of decision-making, and they may tend to rely on heuristics to cope with complexity in this regard. Heuristics are simple, efficient rules that people often use to form judgments and make decisions (Kahneman & Tversky, 1973; Tversky & Kahneman, 1974, 1981). By using such strategies, however, professionals make themselves vulnerable to a number of pitfalls. As mental “shortcuts,” most heuristics focus on only one aspect of a complex problem while ignoring others. They are often based on factors unrelated to the cases in question (e.g., the previous experiences that the professional has had with other families). Given the personal nature of these “shortcuts,” they may lead different professionals to make different decisions, thereby decreasing the accuracy of their assessments.

Professionals also appear reluctant to revise their initial judgments. For example, Munro (1996, 1999) found that the first impressions that professionals have of specific families bear a strong influence on the ways in which they respond to additional information. The professionals in Munro’s research were skeptical about information that did not correspond to their initial impressions, and they were less critical of information that did correspond (Munro, 1996, 1999). Moreover, they tended to base their decisions on evidence that was recent, vivid, or emotionally charged (Munro, 1996). As a consequence, they may have suffered from “tunnel vision,” “confirmation bias,” or similar phenomena (Gambrill, 2005; Kahneman, 2011; Wason, 1960). Tunnel vision refers to a situation in which a

professional becomes trapped in a narrow view of a family's situation. Confirmation bias refers to the tendency to confirm professional assumptions, rather than seeking to falsify them. These phenomena may distort the ways in which professionals evaluate situations, leading them to make incorrect judgments (i.e., false-positive or false-negative decisions).

The improvement of decision-making is apparently difficult. In this chapter, therefore, we discuss theoretical frames and practical methods that may support decision-making. In Section 2, we discuss two theoretical frames underlying the complexity of decision-making tasks within the context of child welfare and child protection, followed by a reflection on methods that are intended to support decision-making based on the professional's own findings. Section 3 focuses on an apparently crucial factor: the actual decision-maker. In Section 4, we discuss several options that may help to improve decision-making, and we present our conclusions in Section 5.

2 Decision-making theory and methods within the context of child welfare and child protection

2.1 Theory

2.1.1 Decision-making ecology

To enhance understanding of the complex nature of the process of decision-making, Baumann, Fluke, Dalglish, and Kern (2014), propose a framework for studying decision-making within the context of child welfare and child protection. Known as the *decision-making ecology* (see Figure 1; see also Baumann et al., 1997; Fluke et al., 2014), this framework depicts the decision-making process as consisting of both the assessment of the situation and the decision concerning the course of action. In particular, it approaches decision-making as a psychological process based on the *general assessment and decision-*

making model developed by Dalglish (2003). As part of this process, the reasoning of the decision-maker connects the assessment of the situation to the decision to be made (whether implicitly or explicitly). It could be regarded as a “debate” that professionals have with themselves (and possibly with co-workers) concerning the case and their professional knowledge, which ultimately results in a choice about the course of action. The recognizable “products” of this reasoning process are thus reasons (see Gambrill, 2005).

The decision-making ecology assumes that professionals have limited rationality and that their decision-making may be influenced by factors other than case characteristics. For example, Baumann and colleagues (2014) argue that the outcomes of previous decisions can influence the future reasoning and decision-making of professionals. Such outcomes may include both actual and perceived costs and benefits for decision-makers, their clients, and/or the agencies responsible for handling and supporting cases. The limited rationality of professionals may prevent them from *accurately* considering previous outcomes.

According to Baumann and colleagues (2014; see Figure 1), the decision-making process – and, thereby, the outcomes of the process – are influenced by a range of factors relating to the case, the decision-maker, and the organizational and external contexts. These factors may combine in several ways. *Case factors* concern characteristics of the child and the family that influence assessment and decision-making (e.g., parenting behaviors and the health and psychosocial functioning of the child). *Decision-maker factors* concern the characteristics of the decision-maker that influence assessment and decision-making (e.g., education, work experience, and attitudes). *Organizational factors* concern the characteristics of an agency that influence assessment and decision-making (e.g., excessive caseloads, role ambiguity, and adequate or inadequate supervision). *External factors* are largely related to broader environmental characteristics (e.g., the law and the availability of community resources; see also Baumann et al., 1997; Fluke et al., 2014). Recent evidence suggests that

the influence of the factors included in the decision-making ecology may not be limited to the assessment, but may also have a direct effect on the decision threshold (i.e., the tendency to act or intervene; see Graham, Dettlaff, Baumann, & Fluke, 2019; Fluke & Gautshi, 2018).

Figure 1. The decision-making ecology (Baumann et al., 2014)

Note. The items in gray have been added to the original model, as explained in this section.

The framework of the decision-making ecology 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). Most of these studies focus on the *contexts* 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 factors relating to the decision-maker, even though it has been argued that the decision-making process is likely to be influenced by attitudes (e.g., Benbenishty et al., 2015; Jent et al., 2011) and work experience (Benbenishty, Segev, Surgis, & Elias, 2002; Brunnberg & Pećnik, 2007).

The decision-making ecology is a relevant interpretive framework for research, as it describes several sources that influence the decision-making process. However, it does not prescribe the characteristics of good decision-making. In addition to the factors included in the decision-making ecology, we suggest that a good professional decision-making process can be characterized as follows:

- *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. Decisions about interventions rely on research-based evidence, knowledge based on professional practice, and relevant client experiences (Sacket, Straus, Richardson, Rosenberg, & Haynes, 2000), while decision-making is based on case-specific knowledge (i.e., the assessment is used to inform the decisions).
- *Dialogue-based:* Parents and children are active participants in the decision-making process (Joosten et al., 2008; Patel, Bakken, & Ruland, 2008; Poston & Hanson, 2010; Swift & Callahan, 2009).

These three quality criteria are based on common factors that are generally effective within the context of child welfare and child protection (see Van Yperen, Van der Steege, Addink, & Boendermaker, 2010).

As an analytical model, the decision-making ecology does not emphasize the improvement of the decision-making process, although research outcomes related to this framework may provide leads for the further development of child-protection practices. We have therefore added decision-making methods and instruments to the framework (see Figure 1). It is not yet clear, however, how these methods may influence assessment, decision-making, and outcomes. In other words, we do not yet know whether the methods have any effect on the influencing factors and/or on the decision-making process. We assume that decision-making methods and risk-assessment instruments *have the potential* to influence the ways in which professionals analyze and assess case factors, as well as the capacity to support the decision-making process. The use of these methods and instruments may enhance agreement between professionals and reduce the incidence of incorrect decisions (i.e., false-positive or false-negative decisions). Most previous studies have indicated that clinical judgments made without the use of instruments are less reliable than those based on methods that support systematic information-gathering and an analysis of the situation (see e.g., Ægisdottir et al., 2006; Grove, Zald, Lebow, Snitz, & Nelson, 2000; for exceptions, see Baumann, Law, Sheets, Reid, & Graham, 2005).

2.1.2 *Decisional conflict model*

Another decision-making theory – probably one of the first that does not proceed from the postulate that a decision problem is “well-defined” (see Vlek & Wagenaar, 1979) – is the *conflict theory* developed by Irvin Janis (Janis, 1989; Janis & Mann, 1976, 1977; Wheeler & Janis, 1980). This theory is tailored to *consequential choices*: decision problems for which a choice has had or can have far-reaching consequences, and which therefore have an emotional impact on the decision-maker (see also Munro, 1999). The theory also addresses decisions that do not have exclusively positive consequences. Both benefits and disadvantages are to be

expected, regardless of the choice that is made. The necessity of choosing between alternatives that have both advantages and disadvantages makes the decision situation *conflicting*, and negative points should always be expected.

Some ways of coping with decision conflicts are more adequate than others. The criterion applied by Janis and Mann (1977) is the likelihood that a decision-maker will later *regret* a decision (for more on “regret,” see also Kahneman, 2011) and, if possible, cancel the choice that was made. The authors use the term *vigilant* to refer to the decision-making pattern that minimizes the likelihood of such regret.¹ A vigilant decision-making pattern is characterized by the attempt to answer a few key questions as well as possible *before* making a decision. The questions correspond to four phases in the decision-making process: a) appraising the situation, b) surveying alternatives, c) weighing alternatives, d) preparation/implementation. We have summarized the phases and their specific questions in a table (see Appendix; adapted from Knorth, Van den Bergh, & Smit, 1997). In addition to general questions (to the left, under the heading “Questions”), other questions (to the right, under the same heading) have to do with specific decisions (e.g., whether to place a child in family foster care). The sequence of questions reflects a clear logic. In vigilant decision-making, however, the very fact *that* questions are addressed is more important than ensuring that they are addressed in a strictly logical sequence (Knorth, 1994).

One crucial moment in the decision-making process involves the weighing of decision alternatives (Phase 3 in the table). At this point, the decision-maker seeks to identify the arguments in favor of and against the various alternatives that have been distinguished. In the model, the decision to proceed (or not to proceed) with an alternative is determined by the balance between the advantages and disadvantages perceived by the decision-maker. To promote vigilant decision-making, Janis and Mann developed a paper-and-pencil method for

¹ In addition to the vigilant decision pattern, Janis and Mann distinguish four non-vigilant patterns: unconflicted inertia, unconflicted change, defensive avoidance, and hypervigilance.

the weighing phase, the *Decisional Balance Sheet (DBS)*, which assists a decision-maker in the systematic consideration of the relevant factors in a situation in which a choice must be made. With respect to “drawing up the balance,” the authors distinguish between anticipations regarding the decider (practitioner) and the people concerned (e.g., child, parents, referring agency) and what they refer to as utilitarian and appreciative anticipations. *Utilitarian* anticipations relate to the expected practical advantages and disadvantages of an alternative. *Appreciative* anticipations concern whether the people involved in decision-making (e.g., parents, children, teachers, professionals) approve or disapprove of the option at hand.

2.2 *Methods for decision-making*

Several methods are available to support decision-making. In this section, we discuss three: the structured decision-making methods known as ORBA and LIRIK, the clinical DBS methodology, and actuarial methods. Our conclusions about the structured decision-making methods and DBS methodology are based partly on studies that we have conducted ourselves. For actuarial methods, we refer to studies conducted by other researchers, both in the Netherlands and other countries.

2.2.1 *Structured decision-making: ORBA and LIRIK*

As discussed above, the use of protocols and diagnostic tools could enhance the assessment and decision-making processes of professionals. In the Netherlands, two of these tools have been widely implemented: ORBA and LIRIK. The first, ORBA (Ten Berge & Vinke, 2006a),² is a structured decision-making method that includes guidelines, criteria, and checklists, and that is intended to help professionals collect relevant information, make judgments on the safety and risks that a child is facing, and decide whether child protection is or is not needed.

² Acronym for: *Onderzoek, Risicotaxatie en Besluitvorming* AMKs (Investigation, Risk Assessment and Decision-making by centers for advice and reporting on child abuse and neglect).

The second method, LIRIK (Ten Berge, Eijgenraam, & Bartelink, 2014),³ is a checklist that guides professionals in the assessment of signs, risk factors, and protective factors for the safety of the child. It contributes to the systematic evaluation of relevant factors, thereby helping professionals arrive at conclusions concerning whether the safety of children is or is not at risk.

Effects of ORBA on decision-making within the context of child protection

The effects of ORBA have been investigated within the context of centers for advice and reporting on child abuse and neglect in the Netherlands (ARCCAN; Ten Berge & Vinke, 2006b). The objective of the first empirical study (De Kwaadsteniet et al., 2013) was to investigate the transparency and systematic nature of the decision-making process in the case records of these centers. We compared case records from before the implementation of ORBA to those from after the method had been implemented. The analyses in this study concerned the following characteristics of records from 2010: 1) content aspects, 2) process aspects, and 3) rationales for conclusions and decisions. In our analyses, the case records showed clear improvements after the implementation of ORBA in terms of both content and process. According to these records, the professionals involved considered more elements of risk assessment (i.e., risk and protective factors, estimation of chance of reoccurrence of child maltreatment), provided more explanations for the problems present in the family, had more elaborate investigation plans, and made more explicit decisions. These records did not reflect any differences, however, in the frequency with which professionals stated their conclusions about whether the child was maltreated or whether help was needed, as compared to before the ORBA method was implemented. The later case records also did not reflect any increase in the frequency with which professionals provided rationales for their conclusions and

³ Acronym for: *Licht Instrument Risicotaxatie Kindveiligheid* (Light Instrument for Child-safety Risk Assessment).

decisions. We concluded that the case records demonstrated a more systematic and transparent decision-making process after ORBA implementation. Further improvements are needed, however, as the many of the case records continued to reflect a lack of several important elements.

The objective of a second empirical study (Bartelink et al., 2014) was to investigate whether ORBA enhanced uniformity in judgments and decisions. To this end, we performed a vignette study and compared trained and untrained professionals in the centers for advice and reporting. We found little consensus in the judgments and decisions of trained and untrained professionals. Despite some differences between trained and untrained professionals, the judgements and decisions of trained professionals did not reflect any greater consensus than did those of untrained professionals. Based on these results, we cannot conclude that ORBA leads to greater uniformity in judgments and decisions.

Interrater reliability and predictive validity of LIRIK

In a third study (Bartelink et al., 2017), we investigated the interrater reliability and predictive validity of the LIRIK risk-assessment instrument (Ten Berge, Eijgenraam, & Bartelink, 2014). This instrument is a checklist that supports professional judgments concerning current child safety and the future risk of child abuse and neglect. The LIRIK checklist is based on scientific knowledge about risk and protective factors, and it is used to help professionals reach structured conclusions about current safety and future risk by systematically addressing relevant cues in relation to parent-child interaction and child functioning, as well as with regard to risk and protective factors. In this vignette study, we examined whether professionals agreed about safety and risk judgments, with and without the use of LIRIK. The results revealed little consensus on these judgments, regardless of whether the LIRIK instrument was used. We concluded that reliability of the instrument was insufficient.

In a study of organizations for child welfare and child protection, we examined the extent to which safety and risk judgments with and without LIRIK were able to predict future abuse and neglect. The professionals addressed in this study made safety and risk judgments in the cases assigned to them within the regular care process (i.e., the cases were not selected specifically for this study). After six months, we examined the case records to determine whether the professionals had reported unsafe outcomes (i.e., reports of child maltreatment, child-protective orders, out-of-home placements, safety or crisis interventions). We found that the safety and risk judgments were moderately effective in predicting unsafe outcomes six months later, both with and without LIRIK. Based on the absence of clear differences between professionals who used LIRIK and those who did not, we concluded that LIRIK did not lead to judgments that were any better (i.e., more reliable and more valid) than those made without the use of this instrument.

2.2.2 Clinical DBS methodology for placement decisions

The Decisional Balance Sheet (DBS) provided the basic structure for the development of a clinical instrument to support placement decisions in child and youth care (Knorth, 1991, 1994; Knorth, Van den Bergh, & Smit, 1997). Based on several small-scale studies, Knorth and Veerbeek (2007) conclude that the utility value of the DBS consists of three qualities: First, it encourages decision-makers to explicate all considerations in proposing particular alternatives, including the advantages and disadvantages for all those concerned, as well as both utilitarian and appreciative consequences. Second, the DBS promotes the mapping of considerations, including the assessment of risks and potential setbacks, while facilitating the identification of specific areas of concern for care and treatment, thereby forming the foundation for a supervision or treatment plan. Third, when applied within team settings, the

DBS helps to structure group discussion and avoid “groupthink” (Janis, 1972).⁴ In contrast to other contexts (e.g., political decision-making, the resolution of ethical dilemmas, the selection of study programs, cancer treatment, abortion considerations, and personal counselling; exemplary and convincing evidence exists for all of these areas – see Knorth & Veerbeek, 2007, p. 191), research on implementation within the context of child protection and child welfare is still in the early stages.

2.2.3 Actuarial methods

Actuarial decision-making can be regarded as a research-based method, and it is guided by assessment instruments containing items that statistically predict clinical conditions and the best decisions. Cut-off scores are based on empirical research.

Evidence from several disciplines indicates that actuarial prediction methods are more accurate than clinical judgment (Ægisdottir et al., 2006; Grove et al., 2000; Meehl, 1954, 1986; Stepura, Schwab, Baumann, Sowinski, & Thorne, 2019). Although the difference between the predictions generated by these methods and those of clinical judgment is not very large (the actuarial method increases accuracy by an average of 13%; see Ægisdottir et al., 2006), any improvement is arguably important. One serious drawback, however, is that the existing studies do not pertain to the fields of child protection and child welfare. Although several studies have indicated that the use of algorithms and databases may lead to improvements in clinical decision-making (Barth et al., 2012; Weisz et al., 2012) and a recent review demonstrates that actuarial methods outperform clinical judgements (Van der Put, Assink, & Boekhout van Solinge, 2017), results from other studies on the use of actuarial

⁴ Definition: Groupthink is a psychological phenomenon that occurs within a group of people in which the desire for harmony or conformity in the group results in an irrational or dysfunctional decision-making outcome. Group members try to minimize conflict and reach a consensus decision without any critical evaluation of alternative viewpoints by actively suppressing dissenting viewpoints and by isolating themselves from outside influences (cf. <https://en.wikipedia.org/wiki/Groupthink>).

instruments in complex cases of child maltreatment (see Bolton & Lennings, 2010; Herman, 2005; Keary & Fitzpatrick, 1994) are inconsistent. Actuarial methods are subject to flaws as well, especially with regard to offering cues for treatment plans. Because actuarial instruments focus on the statistical relevance of factors in making predictions, they might ignore other factors that are relevant to changes in the situations of specific children. Professionals may ignore the outcomes of actuarial instruments, because the numeric output “does not tell a story” about what is going on in a family (Baumann et al., 2011; Schwalbe, 2004; see also Webster et al., 1994, 1995). Taking all evidence into account, decision-making within the context of child welfare and child protection may benefit from actuarial decision-support systems, although we are only beginning to understand the benefits and pitfalls of these systems.

2.3 General message

Existing studies indicate that decision-making methods and instruments (focused on case factors in cases of suspected child abuse or neglect) do have a limited effect on the decision-making process, as well as on the reliability and validity of the judgments and choices made by professionals in these contexts. Although actuarial methods may be more precise in making valid judgements, they may ignore factors that are relevant to decisions concerning treatment and intervention. Methods and instruments like DBS, ORBA, and LIRIK may be of greater clinical relevance. According to the results of our studies on two of these approaches, however, professionals still often disagree in their judgments and decisions, and the predictive validity of their judgments remains limited. Although case factors play a central part in the decision-making process, the DME framework reveals that other factors influence the decision-making process and outcomes as well. Although the DBS does acknowledge these

factors, they are not addressed in structured decision-making methods (ORBA, LIRIK) or in actuarial methods and instruments.

The finding that decision-making methods have a limited effect is not unique (e.g., Ægisdottir et al., 2006; D'Andrade et al., 2005; Grove, Zald, Lebow, Snitz, & Nelson, 2000). Previous studies on structured decision-making methods within the context of child welfare and child protection have demonstrated that these methods support a comprehensive assessment of situations within families (for an overview, see Léveillé & Chamberland, 2010). Our findings indicate that professionals take a more holistic view and make more complete assessments when they use instruments like ORBA. In line with previous research, however, we also found that these instruments do not improve interrater agreement (Kang & Poertner, 2006; Regehr, Bogo, Shlonsky, & LeBlanc, 2010). With respect to risk-assessment instruments, our results are not exceptional (e.g., Barlow et al., 2012). Instruments that support structured clinical judgments are often criticized for their lack of consistency and validity (D'Andrade et al., 2005; Van der Put et al., 2017). For example, Schouten (2017) reports that a child-abuse screening instrument used by physicians in out-of-hours primary care facilities and emergency departments had low predictive validity.

In conclusion, despite the utility of methods and instruments like DBS, ORBA, and LIRIK, their application demonstrates only partial improvements in the decision-making process. With regard to the decision-making ecology (Baumann et al., 2014), our findings indicate that methods focused on case factors have only a limited effect on the interrater agreement and the predictive validity of the decisions.

3 Influences of the decision-maker

The limited effect of instruments like ORBA and LIRIK on the quality of decision-making by professionals led us to shift our focus from these instruments to the reasoning and attitudes of decision-makers themselves. With this shift, we intended to gain additional insight into the reasoning process and attitudes that may influence the decision-making process. Given that rationales provide insight into the reasoning processes of decision-makers, we hypothesized that the rationales of professionals may provide clues linking their personal characteristics to their assessments and decisions.

The main research question of this study (Bartelink et al., 2018) concerned the extent to which rationales play a part in intervention decisions, in addition to risk assessment and the attitudes and work experiences of decision-makers. To explore this question, we asked professionals and students to assess a vignette presenting a suspected case of child maltreatment and to decide whether the child should be placed in out-of-home care (i.e., family foster care).

The professionals and students mentioned a wide range of reasons, thus indicating substantial diversity in reasoning. The mean number of reasons mentioned by each person was low ($M=2.9$). Moreover, at the group level, the rationales provided by students differed little from those provided by professionals. For both groups, the risk assessment and attitude toward placement predicted the placement decision. More specifically, an assessment of high risks and a positive attitude toward out-of-home placement was associated with a high likelihood of a recommendation for family foster care. The attitudes of the participants toward out-of-home placement and their rationales (e.g., “lack of information” “effectiveness of earlier interventions,” “willingness of parents to cooperate”) were strong predictors of placement decisions. Work experience was not a significant predictor.

These results are in line with those of previous studies (Arad-Davidzon & Benbenishty, 2008; Arruabarrena & De Paúl, 2012; Bartelink et al., 2015; Font & Maguire-

Jack, 2015; Horwitz et al., 2011; Jent et al., 2011; Lambert & Ogles, 2004; Minkhorst et al., 2016). As demonstrated by our results, important reasons (e.g., endangered development of the child and inadequacy of the parenting) were often lacking, and the rationales presented were often unconvincing. Participants tended to focus on the advantages of their recommended interventions, and they rarely discussed disadvantages or alternatives. In this sense, the reasoning of these practitioners appears biased. It may be, however, that practitioners find it too cognitively demanding to consider the many factors related to a case and deliberately argue either for or against different recommendations.

In accordance with some previous studies (Garb, 1989; Lambert & Ogles, 2004; Minkhorst et al., 2016), our findings suggest that work experience does not influence the quality of reasoning. Other studies have reported such a relationship (Benbenishty et al., 2002; Brunnberg & Pećnik, 2007; Portwood, 1998), however, and a few have indicated that work experience may add little or nothing, especially in case of complex decisions (Devaney, Hayes & Spratt, 2017; Spengler et al., 2009). In one study, Devaney and colleagues (2017) demonstrate that the picture is still quite puzzling. Although they found differences between the decisions of more-experienced and less-experienced professionals, they found no differences between those of experienced professionals and students. Taken together, the available evidence suggests that the influence of work experience on the quality of decision-making is too complex to allow any firm conclusions.

4 Where do we go from here?

Decision-making methods and instruments focusing on case factors have only a limited effect on decision-making processes and the judgments and decisions made as a result. Although these tools do make the process more transparent and systematic, professionals still often

disagree in their judgments and decisions, and the predictive validity of their judgments remains limited. Attitudes and individual reasoning processes appear to influence the decisions that are ultimately made, thus indicating that factors relating to the decision-maker (e.g., attitudes and reasoning) play an important part in the decision-making process.

The research reported in this chapter demonstrates the difficulty of improving individual decision-making. This raises questions concerning whether further optimization is possible for decision-making within the context of child welfare and child protection and, if it is, how and to what extent. Although systematic methods and instruments do have some value, several additional options are available as well.

4.1 *Critical thinking*

One way to reduce the tendency toward the pitfalls associated with decision-making could involve “critical thinking” (Gambrill, 2005; Munro, 1996; Toulmin et al., 1984) or “vigilant decision making” (Janis & Mann, 1977; Knorth, 1991). Munro (1996; 2008) argues that the single most important factor in minimizing error in child-protection practice is for professionals to admit that they may be wrong. Critical thinking is characterized by critical self-reflection and thinking about alternative explanations, in addition to the advantages and disadvantages of the proposed intervention and possible alternatives. Several strategies can be used to stimulate critical thinking, including hypothesis testing, taking the opposing point of view (Munro, 1999), and scrutinizing evidence for strengths and weaknesses in a structured and systematic way (Duffy, 2011; Knorth et al., 1997). Through self-reflection, professionals critically investigate the factors underlying their decisions (e.g., their own attitudes, feelings, and assumptions in relation to their cases). The DBS methodology offers one way of conceptualizing decision-making for professionals that supports self-reflection and critical thinking (cf. Hakel & Hakel, 1984; Knorth & Veerbeek, 2007; Van der Ploeg, 1987; see for

additional examples of a balance sheet also O'Sullivan, 2011). Critical thinking may help people to remain receptive to new information. Mistakes could be minimized by ensuring that professionals are aware of the need to revise their views regularly upon receiving new information and in light of changes to their knowledge base. Training and continuing on-the-job supervision may support the development of critical thinking skills (see Duffy, 2011; Pelaccia et al., 2011).

4.2 *Team decision-making*

Another potential way to improve decision-making could involve the use of decision-making in teams. Team decision-making is a process in which professionals discuss cases with each other and determine how to proceed, often before discussing the course of action with families. Although team decision-making can be prone to the same pitfalls that are associated with individual decision-making (e.g., Klomp & Wielhouwer, 1987; Pijnenburg, 1996; Van den Bossche et al., 2006; Van Diest, 1994; West, 2004), it may strengthen decision-making when co-workers purposely ask each other critical questions about their reasons, motivations, and attitudes, possibly addressing alternative explanations and exploring the limitations of the preferred solution and the advantages of alternative interventions (Nouwen et al., 2012). We assume that critical thinking is quite useful in and readily adapted to team decision-making. The DBS methodology may be able to support critical thinking in team decision-making as well (cf. Turner & Pratkanis, 1998).

4.3 *Systematic feedback*

Systematic feedback on the effects of judgments and decisions may improve the validity of the decision-making process (see Spengler et al., 2009). Outcome monitoring may be a useful tool for increasing feedback on judgments and decisions that have been made (Van Yperen, 2013). This technique supports reflection on decisions, in addition to making professionals more aware that their interventions do not always result in the desired outcomes and providing them with the opportunity to adapt their intervention strategies (Delicat, 2011; Hutschemaekers, 2010; Lambert & Shimokawa, 2011). Outcome monitoring systematically increases professional-practice knowledge and provides professionals with new information that may lead to adaptations in the decisions that they make.

4.4 *Shared decision-making*

Shared decision-making is of particular interest, as it has to do with the personal influences of individual decision-makers, in addition to being a motivational strategy for encouraging clients to share values and definitions of the child's wellbeing. Shared decision-making is characterized by the reciprocal process of decision-making between professionals and clients, with both parties sharing relevant information and discussing what may be the best way to proceed. It leads to a shared assessment and decisions about treatment or other interventions. The professional shares information about the diagnosis, prognosis, and treatment options including their advantages and disadvantages. Clients contribute to the discussion by sharing their views on their situation, as well as the thoughts underlying their preferences and previous experiences in relation to treatment options (Ouwens, Van der Burg, Faber, & Van der Weijden, 2012). Shared decision-making consists of three phases (Elwyn et al., 2012):

1. Choice talk: Information exchange and exploration of the treatment or intervention options

In this phase, professionals and their clients exchange their assessments of the

situation and bring forward options that may be considered in the further discussion.

The professional's proposals may arise from scientific evidence or practice-based knowledge. The client's input is likely to arise from personal values or experiences, as well as from experts based on previous experience.

2. Option talk: Description and consideration of all options, along with their advantages and disadvantages

In this phase, professionals can share information about the possible positive or negative effects of treatment and intervention options. Clients can contribute to the discussion by sharing their personal preferences or experiences with previous treatments.

3. Decision talk: Joint decision between professionals and their clients about the treatment

Based on an analysis of the advantages and disadvantages, the professional and the clients make a joint decision about the most appropriate treatment.

Solid evidence of the positive effects of shared decision-making is found in medical literature. For adult patients, shared decision-making seems to result in more active participation in the treatment process and a better fit between the treatment and the patient's needs and wishes, in addition to enhancing patient satisfaction with the treatment. Patients are more satisfied about the decision-making process, feel better informed, and have more knowledge about the diagnosis and treatment. They are more confident that the right decision has been made. Moreover, shared decision-making may potentially decrease costs (Drake, Cimpean, & Torrey, 2009; Faber, Harmsen, Van der Burg, & Van der Weijden, 2013; Patel, Bakken, & Ruland, 2008).

Research on shared decision-making in the context of child welfare and protection is still scarce. A review by Barnhoorn and colleagues (2013) demonstrates that one typical

aspect of shared decision-making, an interactive approach, has a positive impact on the satisfaction of both clients and professionals in child welfare services, as well as on the outcomes of treatments. These results have been confirmed in other studies within a comparable context (see McLendon, McLendon, Dickerson, Lyons, & Tapp, 2012; Ten Brummelaar, Harder, Kalverboer, Post, & Knorth, 2018; Vis, Strandbu, Holtan, & Thomas, 2011).

Methods that are reasonably popular among professionals – including *Signs of Safety* (Turnell & Edwards, 1999; see also Morton & Salovitz, 2001, 2006) and *Family Group Conferences* (Merkel-Holguin, 2003) – demonstrate the possibility of shared decision-making in cases of suspected child maltreatment (Sheehan et al., 2018). Although few studies have applied robust research designs to investigate these methods, and although their results with regard to child safety may not be any more positive than those of other interventions, they do seem to increase parent and child participation (Dijkstra et al., 2016; Sheehan et al., 2018; Vink et al., 2017). Further research is needed to investigate the elements of shared decision-making that could be effective in improving child safety.

5 Conclusion

Decision-making in child welfare and child protection is not an easy task. Decision-makers are often faced with incomplete and biased information, time pressure, and choices that could have far-reaching consequences for children and families. Especially when dealing with issues regarding child safety and risks, professionals are under great pressure to make decisions that will result in the best possible outcome, even though it is often unclear (or difficult to predict) which course of action will have greatest benefits and least disadvantages.

According to decision theory and previous research, decision-making processes and outcomes are influenced by case-related factors, as well as by factors relating to decision-makers, organizations, and various external characteristics. Together with the pitfalls associated with intuitive decision-making (Kahneman, 2011), this results in a lack of interrater agreement concerning judgments and decisions, as well as in low predictive value.

The possible impact that false positives and false negatives can have on children and families in decisions concerning child safety and well-being justifies efforts to gain greater insight into the complex nature of the decision-making process and ways to improve decision-making within the context of child welfare and child protection. In this chapter, we have discussed some of these efforts. Based on our studies in the Netherlands, we conclude that structured decision-making methods and instruments result in a more systematic and transparent decision-making process, but not in better (i.e., more consistent and valid) judgments and decisions. Actuarial methods result in somewhat better predictive value, but have other limitations for child welfare practice.

As confirmed in our study on rationales for placement decisions, factors relating to decision-makers play an important role, and the reasoning process shows some serious flaws. We therefore argue that further improvements in decision-making could be realized through a combination of three approaches. The first involves the use methods of structured decision-making and instruments intended to make the decision-making process more systematic and transparent. The second approach involves reinforcing critical thinking in both individual and team settings. By providing valuable input on the validity of judgments and decisions, systematic feedback and outcome monitoring can support a reflective attitude and critical thinking. Finally, instead of striving to achieve a high level of objectivity and validity in the decision-making process, shared decision-making could offer a more fruitful approach. The ultimate goal of the decision-making process is to choose the intervention or treatment that

has the best results for the child's safety and well-being. Shared decision-making is promising, in that it involves children and parents as important and equal participants in deciding on the best course of action, thereby resulting in a broader perspective on their situation, as well as enhancing their motivation to change.

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Appendix

Table

Decision-making phases and questions based on a vigilant strategy

Decision-making phases	Questions	
	General	Upon placement of a child in family foster care
1 Appraising the situation	<ul style="list-style-type: none"> - Which problems are occurring in the current situation? - Which risks would the decision-maker take by not changing the existing situation? 	<ul style="list-style-type: none"> - Which problems are occurring with regard to the child and the family/environment? - Would there be any serious risk to the child and the family/environment if placement in foster care did not occur?
2 Surveying alternatives	<ul style="list-style-type: none"> - What is the decision-maker trying to accomplish by changing the current situation (which goals have been set)? - Which alternatives would be acceptable for achieving the goals set? 	<ul style="list-style-type: none"> - What is the purpose of the possible placement of the child in foster care? - Is foster care acceptable as a helpful environment, knowing the goals set, the matching criteria used, and the possibilities available for placement and support? - Do any other forms of support deserve serious consideration as options for achieving the goals set?
3 Weighing alternatives	<ul style="list-style-type: none"> - Which alternative could be considered the best (relatively speaking), in light of requirements that are deemed essential? 	<ul style="list-style-type: none"> - What is the balance between the pros and cons (positive and negative expectations) if a decision for placement is made, and what is the balance for alternative decisions? - Is this balance so favorable that placement in foster care is the most helpful (relatively speaking)?
4 Preparation / implementation	<ul style="list-style-type: none"> - How is the best alternative put into practice, and how can possible negative consequences be anticipated? 	<ul style="list-style-type: none"> - Which measures could contribute to the best possible realization of the placement in practice (if this option is selected) or prevent the anticipated negative consequences or risks?