

**Fifty Years of Cognitive Science and Decision-Making:  
Implications for the AFCC Community**

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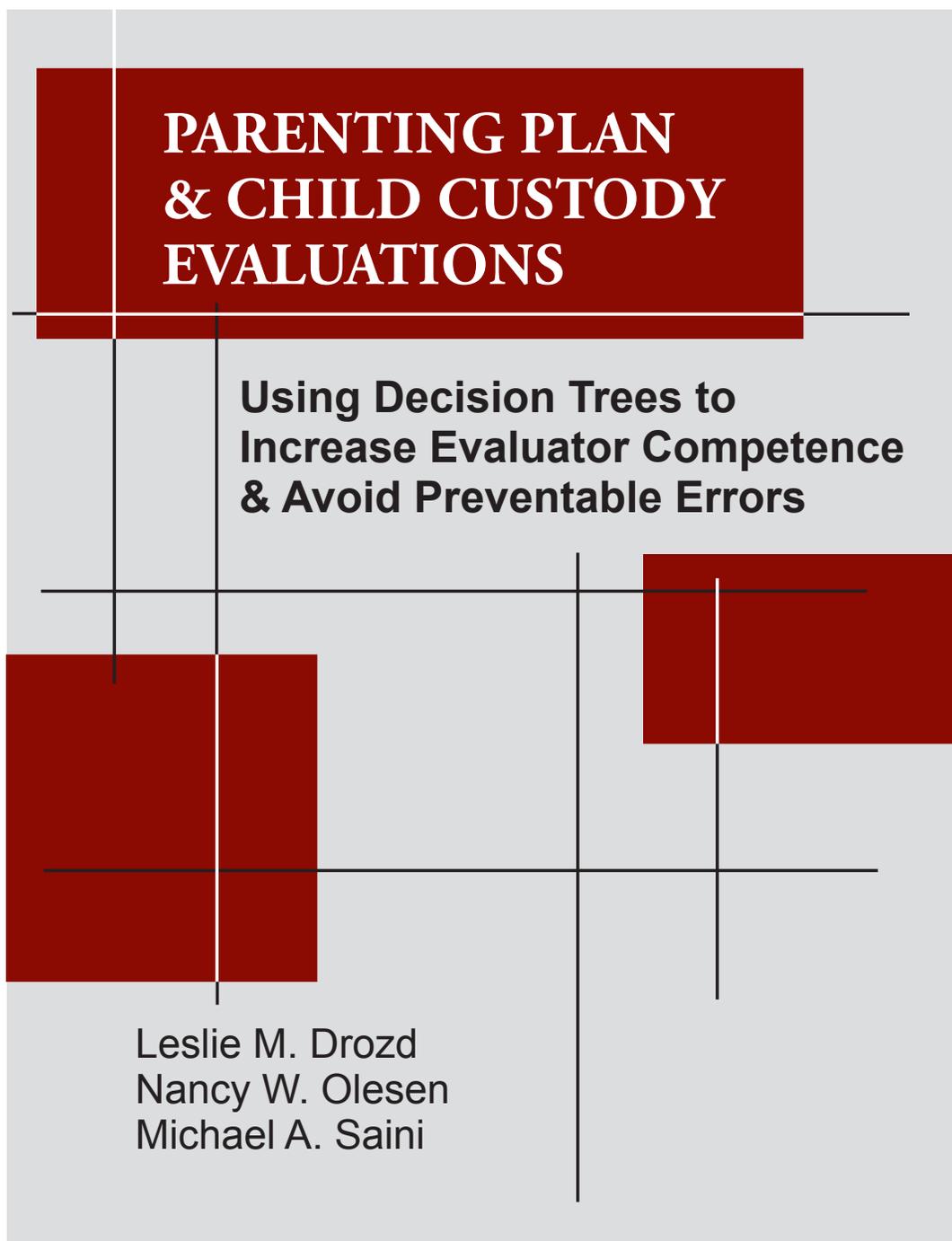
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**Abstract**

Even years of experience and practical wisdom of the family law practitioner may not fully help to arm against the vulnerabilities to bias and errors in procedures and in thinking. Cognitive research in recent decades has demonstrated systematic tendencies in human thinking that lead to predictable errors in decision-making. This paper will highlight this robust and impressive literature about systematic thinking errors and its impact on decision-making. Specific connections to the context of family law will be made drawing on case examples. The paper will give concrete tools for reflecting on these biases and for developing checklists to better identify and mitigate biases and simplified thinking.



Author's Note: The impetus for this article was birthed from a new book: Drozd, Olesen, & Saini (2013). Parenting Plan and Child Custody Evaluations: Using Decision Trees to Increase Evaluator Competence and Prevent Avoidable Errors. Professional Resource Press: Sarasota, FL.

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A recent finding illustrated that preventable medical errors lead to the death of 100,000 people every year in the US (the equivalent of a Boeing 737 crashing every day). In settings with critical complex systems operated by humans, such as nuclear power plants and aircraft, designers have developed systems that work with human tendencies and expectations so that they are more likely to be efficient and safe. From the design of controls to the mandated use of checklists, procedures have been implemented to reduce error and improve competence.

One example of error is called selective inattention, in which the person is so focused on one aspect of the environment or the problem that he or she is blind to another factor, which would otherwise be completely obvious. One place this is demonstrated is in airline mid-air collisions, where some version of selective inattention almost always has been operating. The pilot has been concentrating on some aspect of the flight data and failed to look around for obvious problems like the proximity of another plane.

Family law practitioners (e.g. judges, lawyers, mental health professionals, etc.), being human, are at least as likely to make serious and potentially catastrophic errors in our work as hospitals and physicians are in theirs. Family law practitioners need to recognize that we are vulnerable to the same predictable errors in observation, memory, thinking, and decision making as all other humans in these other areas.

Recent controversies about the reliability and validity of programs and services within family law emphasize the importance of considering both the potential benefits and harm when making decisions regarding the lives of children and families involved in family courts. Errors in decision-making in family law matters can change the lives of children and families in negative ways. These errors are very rarely made by professionals who are evil, incompetent, or corrupt,

as some vocal family court critics might assert. But instead, the mistakes are the product of basic cognitive errors that have been identified and described for decades in the cognitive psychological literature. As is true in other settings, the solution to the minimization of cognitive errors is recognizing them and creating systems to counteract them.

### **Decision Making**

The cognitive revolution in psychology that took place over the last 50 years gave rise to an extensive empirical literature on cognitive biases and errors in decision-making, but this advance has been ponderously slow to enter the family court arena. Evaluators within family law have clung to normative models of clinical decision-making, despite many concerns about the quality of these decisions. For example, repeated evidence has shown that mental health professionals have a particularly poor ability to reason intuitively about probabilities (Munro, 2004). Mental health professionals who perform second opinion reviews of parenting plan evaluations see instances of these errors in reasoning and decision-making. There is now ample evidence of the frailty of the human intellect and its vulnerability to cognitive illusions and biases (Tversky and Kahneman, 1974, Kahneman, 2011). As stated by Fish, Monro and Bairstow (2008), “one of the most common, problematic tendencies in human cognition ... is our failure to review judgments and plans – once we have formed a view on what is going on, we often fail to notice or to dismiss evidence that challenges that picture” (p. 9).

### ***Cognitions and Decision Making***

Cognitive science and the study of systematic thinking errors have important insights into why family law practitioners get stuck in biases, binary thinking and rigid perceptions. Once these distortions and biases are cemented either in a particular case or in a comfortable set of

procedures, they can be difficult to change. These thinking errors are of course not limited to the family law professional as there exists a universal human tendency to make predictable errors in thinking. In 1993 Kleinmuntz and Schkade noted two decades of research that had emphasized the shortcomings of human judgement and decision-making processes. We have so much to learn from this important literature that could help us see complex cases differently.

Clinical judgements play a role in almost all clinical evaluations made by mental health professionals who conduct forensic evaluations. The use of clinical judgment in the forensic arena can be fraught with problems (Borum, & Otto, et al., 1993). Martindale (2013; in press) has written about the problems that arise from using previously learned methods and skills in new settings, without consideration for the ways that the well-learned procedures may lead to errors when they are not completely applicable. Professionals should be aware of these problems and take steps to address them. These include the problems of inaccuracy from overreliance on memory and problems with retrieval of information, including lack of attention to problems of recency and primacy. Memory is fallible and humans are most likely to recall the first piece of information they learned (primacy) and the last piece (recency). Other cognitive errors include potential limitations in complex configural analysis and underutilization of base rates, confirmatory bias, misestimation of covariation (or mistaking correlation with causation), hindsight bias, overconfidence, overreliance on unique data, and confusion of fact and statistical artifact.

Colwell (2005) found that human beings use a variety of cognitive heuristics, or mental shortcuts, in processing the information that they encounter every day. Although these tools can be useful in simplifying complex events, they can lead to serious errors in logic and reasoning when they replace the deeper, more controlled and logical processing that is needed in certain

decision making contexts. The influence of heuristics on determinations of guilt, sentencing, negligence claims and awards, jury instructions to disregard evidence, investigative interviewing, and juror's weighting of evidence was reviewed, and various strategies for reducing the impact of these biases in the legal forum are discussed.

The use of heuristics and of short-cuts of many kinds and the established difficulty of thinking in logical and complex ways may lead legal professionals (like everyone else) to be sloppy in their thinking, to not notice that they have formed preliminary opinions and then operated out of confirmatory bias thereafter, or that they have "anchored" their thinking in a pet theory or perhaps a most recent case, or made many other possible cognitive errors (see Table 1).

**Table 1. Types of cognitive biases**

Selective evidence/confirmation bias: We tend to gather facts that support certain conclusions but disregard other facts that support different conclusions.

Premature termination of evidence: We tend to accept the first alternative that looks like it might work. Conflicting evidence is often not discounted but apparently just ignored (Munro, 1996).

Wishful thinking or optimism bias: We tend to want to see things in a positive light and this can distort our perception and thinking. We tend to provide recommendations as if the parties will live happily ever after

Choice-supportive bias: We distort our memories of chosen and rejected options to make the chosen options seem more attractive.

Recency bias: We tend to place more attention on more recent information and either ignore or forget more distant information (Plous, 1993).

Repetition bias: A willingness to believe what we have been told most often and by the greatest number of different sources.

Dichotomous thinking: We get stuck in validating specific claims rather than looking at big picture issues

Source bias: We reject something if we have a bias against the person, organization, or group to which the person belongs: We are inclined to accept a statement by someone we like.

Incremental decision-making and escalating commitment: We look at a decision as a small step in a process and this tends to perpetuate a series of similar decisions.

Illusion of control: We tend to underestimate future uncertainty because we tend to believe we have more control than we have in reality.

In making everyday judgements, people take mental shortcuts. If they were perfectly rational, they would carefully consider all the relevant evidence before reaching a conclusion. In daily life, however, they would be paralyzed by the effort to think deeply about everything small and large. In addition, some assessments may be better made quickly and intuitively, for example, a judgment about how fast a car is approaching when one is crossing the street. Logical analysis is too slow for such assessment and decision-making (“do I need to leap out of the way or not?”).

### ***Emotions and Decision Making***

In the cognitive psychology literature, many researchers have explored complex effects of emotion on decision-making and reasoning, with emotion sometimes hindering normatively correct thinking and sometimes promoting it (Blanchette & Richards, 2010). There are also important effects of emotion on reasoning style. The authors suggest that focusing on some of the constituent mechanisms involved in interpretation, judgement, decision making and reasoning provides a way to link some of the diverse findings in the field.

Oatley and Jenkins (1996) note that emotions bias cognitive processing during judgment and inference, giving preferential availability to some processes over others. For example, happiness improves creative problem solving (Isen, Daubman, & Nowicki, 1987); anxiety restricts attention to features of a situation concerned with safety and danger; and sadness prompts recall from memory of incidents of past comparable sadness. These emotional biases

provide the basis for both normal functioning and for disordered emotional processing (Mathews & MacLeod, 1994).

Blanchette and Richards (2010) examine whether affect influences higher-level cognitive processes. They reviewed research on the effect of emotion on interpretation, judgement, decision-making, and reasoning to explore whether there is evidence that emotion affects each of these processes, and secondly what mechanisms might underlie these effects. Their review highlighted the fact that interpretive biases are primarily linked with anxiety, while more general mood-congruent effects may be seen in judgment. There are also important effects of emotion on reasoning style.

Buontempo (2005) explored the relationship between emotional intelligence (perceiving emotions, using emotions to facilitate thought, and understanding emotions) and decision-making. Using a sample of 150 graduate students and employees in a variety of organizations, the authors found a significant relationships between emotional intelligence and cognitive biases and that a lack of emotional awareness can inhibit effective decision making and bias judgement.

Davies and Turnbull (2011) presented a study that investigated the conflict between well-developed attitudes and emotional reactions towards gambling. These results suggest unaddressed emotional biases are readily harmful in complex decision-making. Higher levels of emotions can reduce the flexibility to consider various options in decision making, this supporting the hypothesis that emotional influences can decisions.

### ***Intuitive and analytical reasoning***

Hammond (1996) distinguished between intuitive and analytical reasoning. Intuitive reasoning typically is: “a cognitive process that somehow produces an answer, solution or idea

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without the use of a conscious, logically defensible, step-by-step process” (p. 60). Analytic reasoning is characterized as “a step-by-step, conscious, logically defensible process” (p. 60). Although these are often considered dichotomous, each has their respective merits and risks. Analytic reasoning has the advantage of being clear and explicit about how it reaches a conclusion. It is identified with a systematic process of using logic and rigorous processes that can be defended by reference to valid, reliable standards. The law, including family law, is based on analytic thinking and relies upon this reasoning in legal decisions. Those who argue against analytic thinking argue that too much is claimed for it; in complex situations, there will always be too many unknown variables to disturb the picture and to falsify the precise predictions of analytic reasoning based only on the known variables.

Intuition, on the other hand, is associated with creativity, imagination and imagery. The strengths of intuition are displayed in situations needing a rapid digest of numerous factors, such as in human interactions. But there should be caution in using only intuition in making complex decisions. As Hammond (1996) points out, “no one can read through the literature of social psychology from the 1960s through the 1980s without drawing the conclusion that intuition is a hazard, a process not to be trusted, not only because it is inherently flawed by ‘biases’ but because the person who resorts to it is innocently and sometimes arrogantly overconfident when employing it.” (p. 88) Hammond (1996) suggested that the two dimensions of reasoning should be seen as existing on a continuum, not as a dichotomy. He argued that questions about which is better can only be answered relative to a particular context and task.

In debates about the nature of knowledge and skill, those advocating a scientific approach exemplify the analytic tradition while their opponents have argued that practice must rest on intuitive and empathic understanding of our fellow humans (Munro, 1998).

Research in psychology has shown that all people tend to prefer imperfect but easier ways of reasoning. They create rules that reduce difficult judgmental tasks to simpler ones by restricting the amount of information they consider. These rules are good enough in many everyday circumstances but, in some more demanding circumstances, they lead to: “large and persistent biases with serious implications for decision-making” (Kahneman, Slovic, & Tversky, 1982, p. 464).

Bell and Mellor (2009) explored issues that are relevant to the judgements routinely made by clinical psychologists. They first considered the relative merits of clinical and statistical approaches to decision-making and note that although much of the empirical evidence demonstrates the greater accuracy of statistical approaches in making judgements (where appropriate methods exist), they are rarely routinely used. Instead, clinical approaches to making judgements continue to dominate in the majority of clinical settings. Second, common sources of errors in clinical judgement are reviewed by those authors, including the misuse of heuristics, clinician biases, the limitations of human information-processing capacities, and the overreliance on clinical interviews. Finally, some of the basic strategies that can be useful to clinicians in improving the accuracy of clinical judgement were described. These include advanced level training programs, using quality instruments and procedures, being wary of overreliance on theories, adhering to the scientist practitioner approach, and being selective in the distribution of professional efforts and time.

### **Decision Making Errors in Family Law**

Parenting plan evaluations include both intuition and analysis. Evaluators use intuitive processes when interviewing and observing parent-child relationships, and also consider analytic

conclusions to understand the underlying basis for these decisions based on intuition and for assessing the validity of them as well as those decisions based on logical analysis.

There are common issues that can be problematic when making decisions in family law matters (see Table 2). For example, legal professionals can make the competing claims of the parties equivalent, and, in so doing, dismiss both sides. This can happen, for example, when domestic violence allegations are countered by allegations of hostility, restrictive gatekeeping, and alienation. When the professional reaches the point of feeling, (or in rare cases writing) the equivalent of Shakespeare’s “A pox on both their houses”, then the decisions are unlikely to be useful to anyone.

**Table 2: Systematic Errors Relevant to Family Law**

| <b>Name of Flaw</b>                | <b>Description of the Flaw</b>   |
|------------------------------------|--|
| Pox on both their houses” flaw     | The evaluator makes the competing claims of the parties equivalent, and dismisses both sides.  |
| “Everyone should be like me” flaw  | The evaluator does not consider or account for religious, ethnic, or cultural differences between the family and him or her.   |
| Pollyanna flaw                     | The evaluator gets weighed down by the seriousness of the problems and retreats into a superficial recommendation that does not account for the data in the report.            |
| Jerry Springer flaw                | The evaluator focuses in detail on the parents and their allegations, with little or no attention on the child’s needs or relationships.                                       |
| Tunnel-vision flaw                 | The evaluator considers one or two concerns and drops all others as though they never existed.   |
| Arrogance of experience flaw       | The evaluator uses training as a clinician in family systems or psychoanalytic theory, without looking at the psycho-legal issues and using forensic tools and understandings. |
| This-is-probably -good-enough flaw | The evaluator lets pressures about time or money lead to limits on the necessary scope of the evaluation.  |
| No-one-can-influence-me flaw       | The evaluator does not control input from the attorneys, including attempts to frame the issues, believing he or she is invulnerable to influence.                             |

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|                           |  |
|---------------------------|--|
| Trust-Me! flaw            | The evaluator does not maintain transparent methods and record keeping.                                      |
| It's not me, its you flaw | The evaluator has unexamined personal reactions to the issues or the people that interfere with objectivity. |
| Confusion flaw            | The evaluator fails to manage the complexity in the case and becomes overwhelmed.                            |

We must safeguard against the tendency to find simple solutions for complex problems.

There are many factors that make child custody disputes complex:

1) There is a matrix of vague, complex and contradictory legislation, policies and legal case laws that often govern practice. Concepts, such as the Best Interest Test, maximum contact, status quo, presumptions etc. are important but cannot be applied simply and directly in all cases and in every circumstance, thus requiring the evaluator to consider case based circumstances within a larger context of family law policies (Emery, Otto, & O'Donohue, 2005; Krauss & Sales, 2000);

2) There continues to be an undeveloped state of child custody behavioral science and empirically validated procedures to guide our work;

3) There remains a lack of consensus on a uniform methodological approach, although evaluations processes are becoming more uniform over time. Tippins and Wittman (2005) suggest that when practice loses its root in evidence, opinions and recommendations tend toward decisions that are more socio-moral and personal than clinical.

Fifty years of cognitive research suggests that people tend to gravitate towards the simplistic, dramatic, the first, or the last information received about a subject or decision. Legal professionals are not immune from tendencies to engage in cognitive errors. In addition, most child custody disputes have both complicated factors (many factors that may be contributing to the family dysfunctions) and complex factors (factors that intersect with and affect each other).

Therefore, it is not sufficient to think of factors in isolation. Solutions will be missed if one looks at, for example, violence in isolation OR alienation OR attachment in isolation. The whole picture is missed if one concentrates only on insensitive parenting OR high conflict. In order to have a clear picture of the family, one must look at the whole picture, not a part of it, at the interplay among these factors and not the factors in isolation.

### **Implications of Cognitive Sciences on Decision Making in Family Law**

Cognitive science offers family law a plethora of research – research on memory, research on how inferences are made, and the effect of following “rules of thumb” or heuristics. All of these have immediate relevance for decision making by parenting plan evaluators and family law mediators, attorneys, and judges.

Memory is subject to many errors. For one important example, observations made during home visits that are not recorded can be subject to a loss of the information, even if written down immediately after the visit. We are also likely to remember the most salient and dramatic facts, either because they have personal meaning to us or they are sensational and emotionally provocative. The most easily recalled facts might not be all the facts that need to be remembered and considered or even the most important. Family law decisions are flawed when specific and important information is left out or ignored because the mental health professional did not remember it.

In addition to memory issues, which involve retrieval of information, there are issues with how the information is stored in the first place—as inference/conclusion rather than as observation. The problem with inferences arises from the human need to make sense of what is observed. Without conscious and logical effort, mental health professionals and others may

make inferences about what is seen, heard, and read and then store these observations in that form, losing track of the facts on which the inferences were made. A common way this occurs can be seen in what may be called “behavioral observations” but when looked at more closely, they are actually conclusions. For example, take the statement, “Mother and child showed a warm attachment relationship.” That is not a behavioral observation. It is a conclusion. And then take the statement, “Mother sat close to the child on the floor and they made frequent eye contact, smiling at the same time, with mother responding to child’s requests for help with the project.” That is indeed a behavioral observation.

The effect of cognitive errors is almost always manifest as the absence of transparency and that is true for unrecognized inferences. With inferences that are not anchored in the observations, the reader of a report will not know the basis for the professional’s opinion. One problem that can occur here is that months down the line the evaluator will not be able to remember what she or he saw or heard that led to the opinion that the relationship was one filled with warmth. And further, the consumer of the report including the court will not know what actually was seen or heard that lead to the inference that there was warmth in the relationship. When observations and inferences are intertwined, the original data is lost forever.

Unrecognized inferences can be seen as another form of intuitive reasoning. The effect of reliance on quick intuitive “takes” on a person or a situation is often “confirmatory bias” in which the evaluator forms an opinion very early in the case or in interactions with the parents and then searches for or selectively attends to data that confirm that original opinion.

(Martindale, 2005)

### **Safeguarding the Process Against Biases and Errors**

The psycholegal professions need to move from an overgeneralizing and simplistic approach to complex cases. There is a need for a framework to embrace the complexity of custody dispute cases while trying to understand the interconnections between the factors that make these cases so complex. Decision trees can help with both—figure out what data mental health professionals need to collect for the issues in the particular case and how to organize and think about the mountain of data after it is collected. A sample decision tree that illustrates how a parenting plan evaluation can be conducted to increase evaluator competence and avoid preventable errors follows in the Appendix A.

### **Hints and Suggestions**

We propose the following hints and suggestions based on the evidence on how best to safeguard against cognitive errors (Arkes, 1986; Croskerry, 2002, 2003a, 2003b; Fischhoff, 1982; Plous, 1993; Slovic & Fischhoff, 1977).

- **Develop insight/ awareness:** Carefully consider the potential for cognitive biases, together with multiple clinical scenarios that can illustrate the impact of cognitive biases and the adverse effects on decision-making. Cultivate humility and question yourself – in a systematic and methodical way.
- **Consider alternatives:** Establish forced consideration of alternative possibilities e.g., the development and working through of a decision tree and revise as needed by routinely asking the question: What else might this be?
- **Metacognition:** Train for a reflective approach to problem solving: stepping back from the immediate problem to examine and reflect on the thinking process.
- **Decrease reliance on memory:** Improve the accuracy of decision making through

- cognitive aids: note taking, use of checklists, decision tree templates.
- **Specific training:** Identify specific flaws and biases in thinking and provide directed training to overcome them (e.g., understanding fundamental rules of probability, distinguishing correlation from causation). In the justice system, it might include regular audits of decisions at various points, and ongoing monitoring of data regarding relative ratios of race, gender, and age, and other groups that experience bias.
  - **Simulation:** Develop mental rehearsal, “cognitive walkthrough” strategies for specific clinical scenarios to allow cognitive biases to show themselves and their consequences to be observed. Construct clinical training videos contrasting incorrect (biased) approaches with the correct unbiased approach.
  - **Make task easier:** Provide more information (from multiple collateral sources) about the specific problem to reduce task difficulty and ambiguity. Make available matrices for clear and well-organized display of information .
  - **Minimize time pressures:** Provide adequate time for quality decision- making.
  - **Feedback** In court situations that allow feedback or in training new evaluators, provide as rapid and reliable feedback to evaluators as possible so that errors are immediately appreciated, understood, and corrected.
  - **Checklists.** Developing and employing checklists at various key decision points can encourage less biased decisions by providing an objective framework to assess your thinking and subsequent decisions.
  - **Look to other fields.** Although implicit bias has some history in psychology and the law, it is important to remember that business, education, and medicine all have

explored the effects of social cognition and implicit bias on organizational functioning, and we can learn much from them as we move forward in our own efforts.

### **Summary and Conclusions**

The hints and suggestions just described can be found in a new Professional Resource, Inc. book, Parenting Plan and Child Custody Evaluations: Increasing Evaluator Competence and Avoiding Preventable Error (Drozd, Olesen, & Saini, 2013). In this book, the authors have presented practical tools including checklists and decision trees designed at assisting the evaluator make better decisions by employing that which we have learned from fifty years of cognitive science. A sample of those checklists can be found in Appendix B and Appendix C.

## References

- Ariely, D. (2008). *Predictably Irrational: The Hidden Forces That Shape Our Decisions*, HarperCollins
- Arkes HA. (1986). Impediments to accurate clinical judgment and possible ways to minimize their impact. In: Arkes HR, Hammond KR (eds). *Judgment and Decision Making: An Interdisciplinary Reader*. New York: Cambridge University Press, 1986: 582–92.
- Bell, I., & Mellor, D. (2009). Clinical judgements: Research and practice. *Australian Psychologist*, 44, 112–121.
- Blanchette, I. and Richards, Anne (2010) The influence of affect on higher level cognition: A review of research on interpretation, judgement, decision-making and reasoning. *Cognition & Emotion* 24 (4), pp. 561-595.
- Borum, R., R. Otto, & Golding, S. (1993). Improving clinical judgment and decision making in forensic evaluation. *Journal of Psychiatry & Law* 21(1): 35-76.
- Buontempo G. (2005). Emotional Intelligence and Decision Making: The Impact on Judgment Bias. Dissertation Abstracts International Section B. The Sciences and Engineering 66(5-B):2863.
- Colwell, L. H. (2005). Cognitive Heuristics in the Context of Legal Decision Making. *American Journal of Forensic Psychology* 23(2): 17-41.
- Croskerry P. (2002). Achieving quality in clinical decision making: cognitive strategies and detection of bias. *Acad Emerg Med*. 9:1184–1204.
- Croskerry P. (2003a). Cognitive forcing strategies in clinical decision-making. *Ann Emerg Med*. 41:110–20.
- Croskerry, P. (2003b). The importance of cognitive errors in diagnosis and strategies to minimize them. *Academic Medicine*, 78(8), 775-780.
- Davies, J. L. & O. H. Turnbull (2011). Affective bias in complex decision-making: Modulating sensitivity to aversive feedback. *Motivation and Emotion* 35(2): 235-248.
- Dunning, D., Johnson, K., Ehrlinger, J., & Kruger, J. (2003). Why people fail to recognize their own incompetence. *Current Directions in Psychological Science*, 12 (3), 83–87.
- Ehrlinger, J. & Dunning, D. (2003). How Chronic Self-Views Influence (and Potentially Misdlead) Estimates of Performance. *Journal of Personality and Social Psychology*, 84 (1), 5–17.
- Ehrlinger, J., Johnson, K., Banner, M., Dunning, D., & Kruger, J. (2008). Why the unskilled are unaware: Further explorations of (absent) self-insight among the incompetent. *Organizational Behavior and Human Decision Processes*, 105, 98–121.
- Emery, R. E., Otto, R. K., & O'Donohue, W. T. (2005). A critical assessment of child custody evaluations. *Psychological Science in the Public Interest*, 6, 1–29.
- Finkelstein, S., Whitehead, J., Campbell, A. (2009). *Think Again: Why Good Leaders Make Bad Decisions and How to Keep It from Happening to You* Harvard Business Review Press
- Fischhoff B. Debiasing. In: Kahneman D. Slovic P. and Tversky A (1982). *Judgment under Uncertainty: Heuristics and Biases*. New York: Cambridge University Press.
- Fish, S., Munro, E. and Bairstow, S. (2008) *Learning together to safeguard children: developing a multi-agency systems approach for case reviews*, London: Social Care Institute for Excellence. (available online at <http://www.scie.org.uk/publications/reports/report19.pdf>)
- Hammond, K. (1996). *Human judgment and social policy*. Oxford, England: Oxford University Press.

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- Isen, A. M., Daubman, K. A., & Nowicki, G. P. (1987). Positive affect facilitates creative problem solving. *Journal of Personality and Social Psychology*, 52, 1122-1131.
- Kahneman, D. (2011). *Thinking, Fast and Slow*. Farrar, Straus and Giroux
- Kahneman, D., Slovic, P., & Tversky, A. (Eds.). (1982). *Judgment under uncertainty: Heuristics and biases*. New York : Cambridge University Press.
- Kleinmuntz, D. N., & Schkade, D. A. (1993). Information displays and decision processes. *Psychological Science*, 4(4), 221–227.
- Krauss, D. A., & Sales, B. D. (2000). The problem of “helpfulness” in applying Daubert to expert testimony: Child custody determinations in family law an exemplar. *Psychology, Public Policy, and Law*, 5(1), 78–99.
- Kruger, J. & Dunning, D. (1999). Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments. *Journal of Personality and Social Psychology*, 77 (6), 1121–34.
- Mathews, A., & MacLeod, C, (1994). A Cognitive approaches to emotion and emotional disorders, *Annual Review of Psychology*, 45, 25-50.
- Martindale, D. A. (2005). Confirmatory Bias and Confirmatory Distortion. *Journal of Child Custody* 1(2), 31-48.
- Martindale, D.A. (2013a). Cognitive encapsulation: Thinking inside the box. *The Matrimonial Strategist*, 31(3),3-5.
- Martindale, D.A. (in press). From treatment provider to evaluator: Overcoming cognitive encapsulation. *The Journal of Child Custody: Research, Issues, and Practices*, X (2).
- Mauboussin, M.J. (2009). *Think Twice: Harnessing the Power of Counterintuition*, Harvard Business Review Press
- Munro, E. (2004) A simpler way to understand the results of risk assessment instruments. *Child and Youth Services Review*, 26 (9) pp. 873-883
- Oatley, K., & Jenkins, J. ( 1996). *Understanding emotions*. Cambridge, MA: Blackwell.
- Plous S. (1993). *The Psychology of Judgment and Decision Making*. Philadelphia: Temple University Press, 1993.
- Tippins, T. M., & Wittmann, J. P. (2005). Empirical and Ethical problems with custody recommendations: A call for clinical humility and judicial vigilance. *Family Court Review*, 43, 193–222.
- Tversky, A. & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124-1131
- Slovic P, Fischhoff B. (1977). On the psychology of experimental surprises. *J Exp Psychol Hum Percept Perform*. 1977;3:544–51.
- Thaler, R.H., & Sunstein, C.R. (2008). *Nudge: Improving Decisions About Health, Wealth, and Happiness*, Caravan.



*Appendix B. Parenting Plan Evaluator’s Cognitive Error Checklist<sup>1</sup>*

| <b>Bias</b>                                 | <b>Problems</b>   | <b>Solutions</b>  |
|---|---|---|
| Self-interested biases                      | Is there any reason to suspect that the report contains recommendation of errors motivated by self-interest?  | Review the report with extra care, especially for over optimism and/or harsh criticism.   |
| Any over commitment to your recommendations | Have you fallen in love with your recommendations?  | Look for evidence that does not support your recommendations.   |
| Groupthink                                  | Were there dissenting opinions within the sources of data?<br>Were they explored adequately?  | Look for evidence from collateral sources that do not support the common views, and explore how these may impact your overall analysis. |
| Bias of memorable data                      | Could your data analysis be overly influenced by an event or situation that you consider to be a memorable success or failure?  | Consider how your thoughts of the case may be guiding your analysis.  |
| Confirmation bias                           | Are credible alternatives included along with the recommendation? In California, the evaluation report must include information that does not support the conclusions of the evaluator. | The presentation of differing information should be separated both in the analysis and in the presentation of findings.                 |
| Anchoring bias                              | Do you know how the data was anchored? Can there be: unsubstantiated numbers? extrapolation from history? a motivation to use a certain anchor?   | Re-anchor with figures generated by other models or benchmarks, and then conduct new analysis.  |
| Halo effect                                 | Are you assuming that a person, organization, or  | Eliminate false inferences by seeking additional comparable examples.   |

<sup>1</sup> Drozd, Olesen & Saini (2013). Parenting plans and custody evaluations: Using decision trees to Increase Competence and Avoid Preventable Errors. Sarasota, FL: Professional Resource Press.

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|   |  |  |
|---|--|--|
|   | approach that is successful in one area (and is your favorite, perhaps) will be just as successful in another? |  |
| Ways that your professional history with similar cases may be impacting your analysis | Are the recommendations overly attached to a history of past decisions/past behaviors?                         | Consider the issue as if you were a new evaluator assigned to the case.  |
| Overconfidence and optimistic biases  | Are the recommendations overly optimistic about the future?  | Consider how the family will manage without court monitoring and/or involvement of professionals.                        |
| Disaster neglect  | Is the worst case bad enough?  | Imagine that the worst has happened, and develop a story about the causes and potential solutions to mitigate the risks. |
| Loss aversion   | Are the recommendations overly cautious?   | Realign recommendations to share responsibility for the risk or to remove risk.  |

*Appendix C: Parenting Plan Evaluation Checklist (PPEC)<sup>2</sup>*

|  |  |                               |                       |
|--|--|-------------------------------|-----------------------|
| <b>Case Name:</b>  |  | <b>Case Number:</b>           |                       |
| <b>Reviewer:</b>   |  | <b>Date(s) of the Review:</b> |                       |
| <b>Scope</b>   |  | <b>Rating</b>                 | <b>Explain Rating</b> |
| Has the scope of the report been delineated by the court order and signed stipulation by the parties?                |  | Yes<br>No                     |                       |
| <b>Cultural Competency</b>   |  |                               | <b>Explain Rating</b> |
| Did the evaluator attend appropriately to the cultural, ethnic, racial, religious issues in the family and the case? |  | Yes<br>No                     |                       |
| <b>Record keeping</b>  |  | <b>Rating</b>                 | <b>Explain Rating</b> |
| Is there a case file complete and transparent?   |  | Yes<br>No                     |                       |
| Has there been reasonable care to prevent loss or destruction of records?  |  | Yes<br>No                     |                       |
| <b>Communication with litigants</b>  |  | <b>Rating</b>                 | <b>Explain Rating</b> |
| Has each party received all correspondence and documents associated with this case?                                  |  | Yes<br>No                     |                       |
| <b>Ex-parte communication</b>  |  | <b>Rating</b>                 | <b>Explain Rating</b> |
| Have steps been taken to minimize ex-parte communication?  |  | Yes<br>No                     |                       |
| <b>Review of policies</b>  |  | <b>Rating</b>                 | <b>Explain Rating</b> |
| Has each party been informed about the policies, procedures, and fees prior to commencing the evaluation?            |  | Yes<br>No                     |                       |
| <b>Informed consent of collaterals</b>   |  | <b>Rating</b>                 | <b>Explain Rating</b> |
| Have the collateral been made aware of the potential use of information they are providing?                          |  | Yes<br>No                     |                       |
| <b>Factors to be assessed</b>  |  | <b>Rating</b>                 | <b>Explain Rating</b> |
| Have all factors that are pertinent to the evaluation been included in the investigation?                            |  | Yes<br>No                     |                       |
| <b>Use of diverse methods</b>  |  | <b>Rating</b>                 | <b>Explain Rating</b> |
| Has the evaluator used multiple methods and sources of information to provide multiple data points?                  |  | Yes<br>No                     |                       |
| Has the evaluator contacted all collateral sources identified by the parties?  |  | Yes<br>No                     |                       |
| <b>Use of a balanced process</b>   |  | <b>Rating</b>                 | <b>Explain Rating</b> |
| Has the evaluator used a balanced process in order to increase objectivity, fairness, and independence?              |  | Yes<br>No                     |                       |
| <b>Use of reliable and valid methods</b>   |  | <b>Rating</b>                 | <b>Explain Rating</b> |
| Have the methods for conducting the evaluation been based on empirically based procedures of data collection?        |  | Yes<br>No                     |                       |

<sup>2</sup> Drozd, Olesen & Saini (2013). Parenting plans and custody evaluations: Using decision trees to increase evaluator competence and avoid preventable errors. Sarasota, FL: Professional Resource Press.

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|   |               |                       |
|---|---------------|-----------------------|
| <b>Assessment of parenting</b>  | <b>Rating</b> | <b>Explain Rating</b> |
| Has the assessment included all adults who perform a caretaking role and/or live in the residence with the children?  | Yes<br>No     |                       |
| <b>Assessment of children</b>   | <b>Rating</b> | <b>Explain Rating</b> |
| Has the evaluator followed generally recognized procedures when conducting interviews with children?  | Yes<br>No     |                       |
| Has the assessment included each child who is subject to the evaluation?  | Yes<br>No     |                       |
| <b>Assessment of adult-child relationships</b>  | <b>Rating</b> | <b>Explain Rating</b> |
| Was the evaluator mindful of the fact that their presence in the same physical environment as those being observed may have created a risk that could influence the very behaviors and interactions that they are endeavoring to observe? | Yes<br>No     |                       |
| Did the evaluator inform the parties the purposes for which observational sessions were being conducted?  | Yes<br>No     |                       |
| <b>In-person meetings</b>   | <b>Rating</b> | <b>Explain Rating</b> |
| Has the evaluator conducted at least one in-person interview with each parent and with other adults who perform a caretaking role and/or are living in the residence with the child(ren)?   | Yes<br>No     |                       |
| <b>Competency of the evaluator</b>  | <b>Rating</b> | <b>Explain Rating</b> |
| Has the evaluator conducted assessments in areas that they are competent?   | Yes<br>No     |                       |
| <b>Incomplete, unreliable, missing data</b>   | <b>Rating</b> | <b>Explain Rating</b> |
| Has the child custody evaluator disclosed incomplete, unreliable, or missing data and the impact on the conclusions?  | Yes<br>No     |                       |
| <b>Use of formal instruments</b>  | <b>Rating</b> | <b>Explain Rating</b> |
| Has the evaluator articulated the bases for selecting the specific instruments used.  | Yes<br>No     |                       |
| <b>Team approach</b>  | <b>Rating</b> | <b>Explain Rating</b> |
| Are all of the mental health professionals competent to fulfill their assigned roles?   | Yes<br>No     |                       |
| <b>Dual role issues</b>   | <b>Rating</b> | <b>Explain Rating</b> |
| Have reasonable steps been made to avoid multiple relationships with any and all participants of an evaluation?   | Yes<br>No     |                       |
| <b>Weighting the evidence</b>   | <b>Rating</b> | <b>Explain Rating</b> |
| Has the evaluator explained how different sources & different types of information were considered & weighted in the formation of their opinions?   | Yes<br>No     |                       |
| Has the evaluator explained the limits and strengths of applying social science research to this case?  | Yes<br>No     |                       |
| <b>Interim recommendations</b>  | <b>Rating</b> | <b>Explain Rating</b> |
| Has the evaluation refrained from making interim recommendations?   | Yes<br>No     |                       |

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| <b>Presentation of findings</b>  | <b>Rating</b> | <b>Explain Rating</b> |
|--|---------------|-----------------------|
| Has the evaluator striven to be accurate, objective, fair, and independent in their work? Does the report appear unbiased (neutral) on its face? | Yes<br>No     |                       |
| Has the evaluator utilized high quality social science research to support his or her work?  | Yes<br>No     |                       |
| Has the evaluator refrained from including information in the report that is not relevant to the issue in dispute?                               | Yes<br>No     |                       |
| <b>Articulation of limitations</b>   | <b>Rating</b> | <b>Explain Rating</b> |
| Have the limits to the evaluation and the basis for making recommendations been provided?  | Yes<br>No     |                       |
| Overall Impressions:   |               |                       |