

# **Steps to a Decision Making Ecology: Implications for Child Welfare Prevention and Intervention**

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# Overview

- The Economics and Psychology of Decision Making
- Decision Making in Child Welfare
- The Decision Making Ecology
- Thresholds and the General Assessment and Decision Making Model(GADM)
- Some Theory on Decision Outcomes
- A Few Question



# Understanding Decision-Making Frameworks: Advances in Economics and Psychology

- Economics and Exchange Theory
  - Assumption of rationality
  - People weigh the costs and benefits of a decision and optimize
- Herbert Simon and Satisficing
  - Bounded rationality- we do “well enough”
  - Reason is limited and we do not optimize
- Tversky, Kahneman and Meehl
  - Reason is very limited and we are poor decision-makers
  - Under conditions of uncertainty we use heuristics (rules of thumb) and make errors
  - Thinking fast and slow under different circumstances
  - Cumulative Prospect Theory (choices based on gains and losses)
- Gigerenzer
  - heuristics work a lot of the time
  - Fast and frugal reasoning (based on probability cues)
  - We make the choice with the best cue



# Understanding Decision-Making Frameworks: Assumptions

- Assumptions
  - Decisions have psychological (cognitive, motivational and emotional) properties and are at the individual level
  - Decisions have a context
  - People have different thresholds for different decisions
  - People make errors when they make decisions
  - Sources of error and accuracy can be empirically understood and improved upon

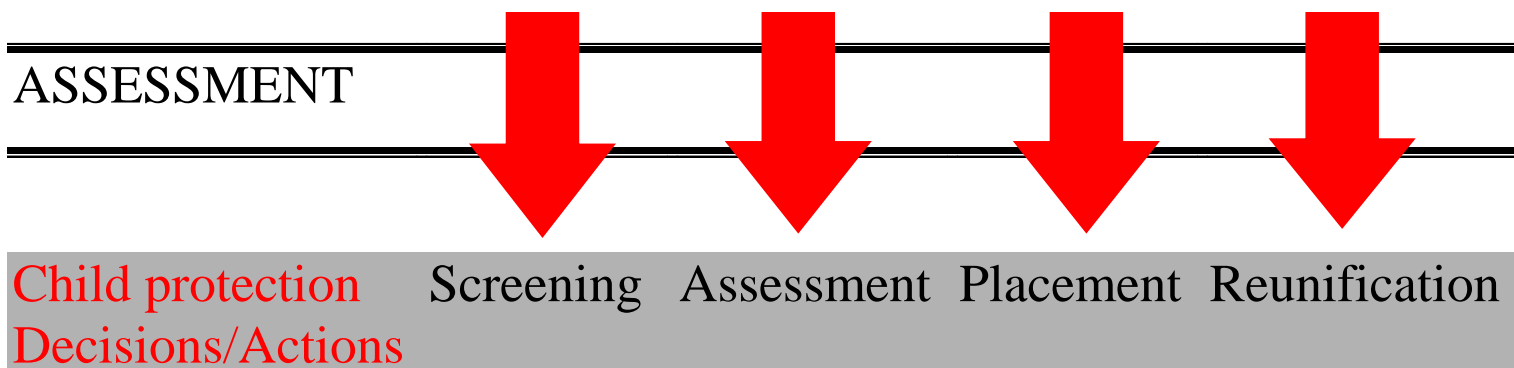


# Understanding Decision-Making Frameworks: Implicit and Explicit Judgments

- Implicit (Intuitive) Judgments
  - Powers of intuition (fast thinking): Somewhat instantaneous making for efficiency
  - Limits of intuition: The speed can make us error prone when we need to slow down and think about things more
- Explicit Judgments
  - Powers of explicit judgments (slow thinking): The length of processing can make us less error prone
  - Limits of explicit judgments: Cognitively labor intensive and inefficient



# The Continuum of Child Welfare Intervention



- Assessments and decisions are made at key points along the child protection continuum
- Each key decision point requires a specific decision and action





# Research and Risk Assessment

## What Do We Know about What is Tied to Risk?

- Prior History of Maltreatment
- Child Disability
- Type(s) of Maltreatment
- Severity of Maltreatment
- Substance Abuse
- Younger children
- Domestic Violence
- Family Stress
- Lacking Social Supports
- Inability to Use Resources
- Provision of Services

“Risk Assessment is Not All There Is”  
Len Dalglish



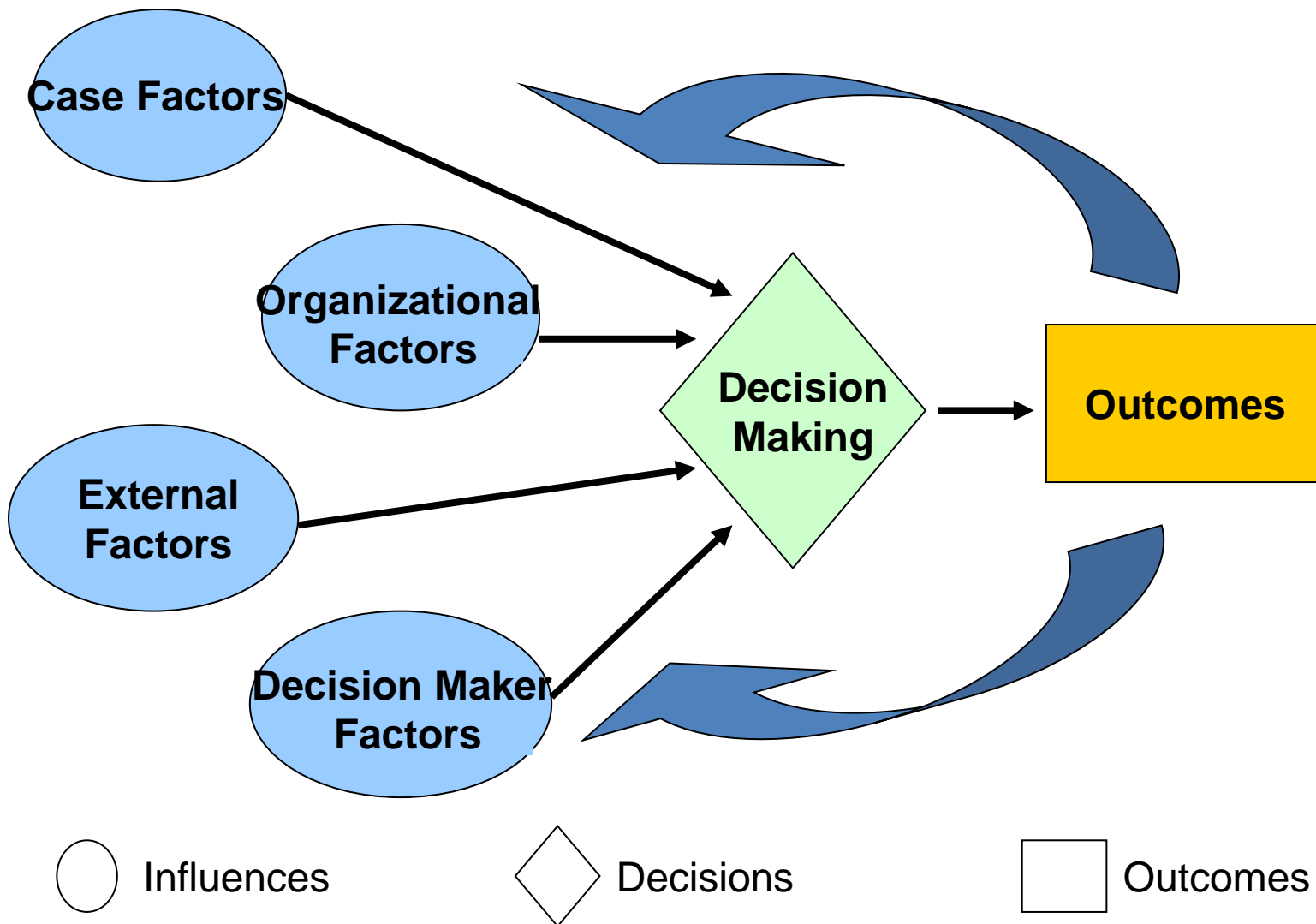
# DECISION-MAKING ECOLOGY (DME)



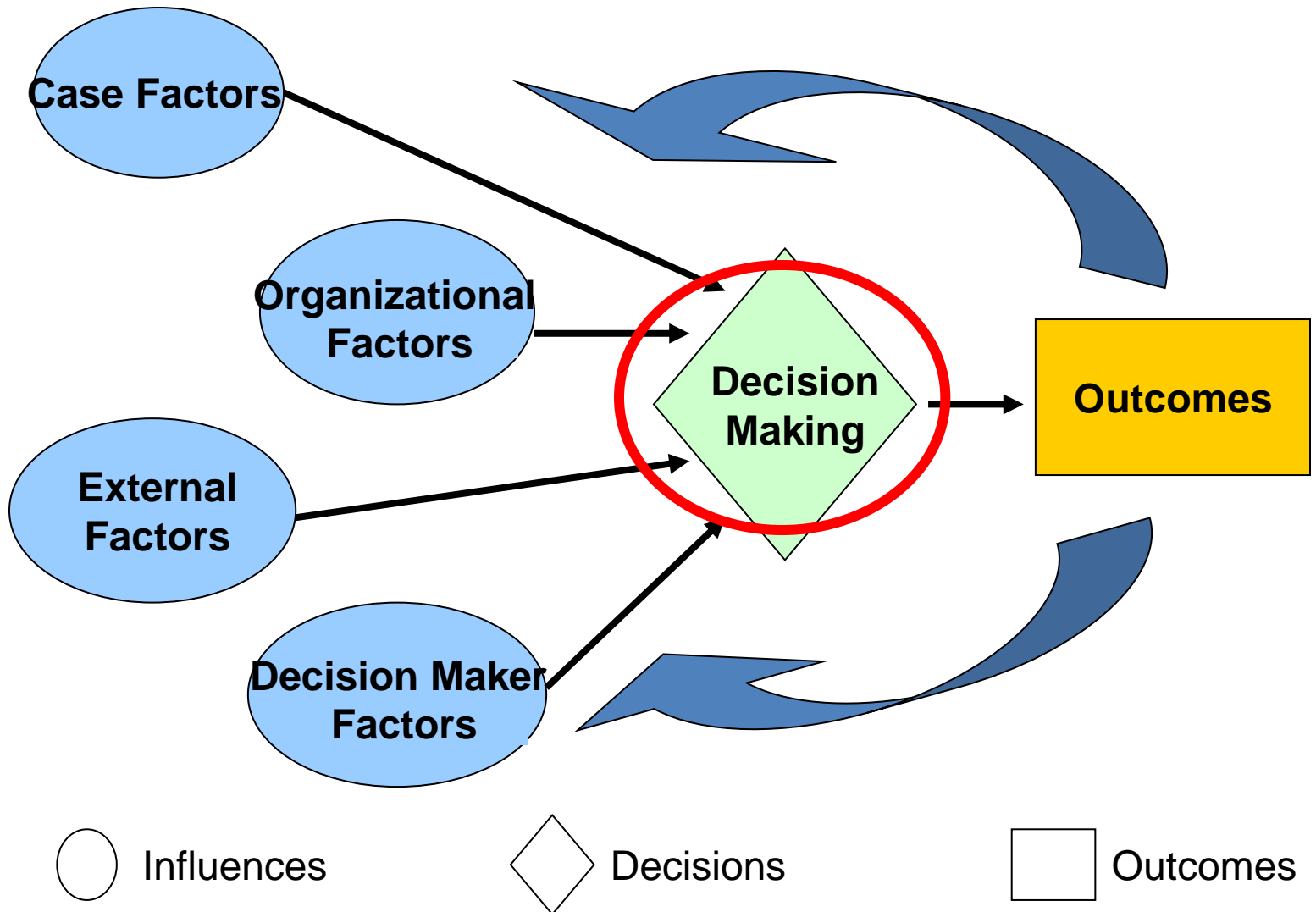


# Decision Making Ecology

(Baumann, Dalglish, Fluke & Kern, 2011)



# Decision Making Ecology



**GENERAL ASSESSMENT AND  
DECISION MAKING (GADM)  
MODEL: THE PROCESS OF  
DECISION-MAKING**



# Assessment and decision making are difficult tasks

- Assessments and decisions are based on information that is often unclear, noisy and uncertain.
- Sometimes made under time pressure in a highly emotional atmosphere.
- There are structural and resource constraints, media interest, unpredictability of outcomes.
- This is:  
Decision making under **uncertainty**.



# Crucial points:

The general model for assessment and decision making.

Separates: **The assessment of the situation.**

From: **The decision to something about it.**

– Qualitatively different factors influence assessment and decision making.

Distinguishes: **The person's ability to detect the need to take action (how good they are).**

From: **The person's willingness to take action (their threshold).**

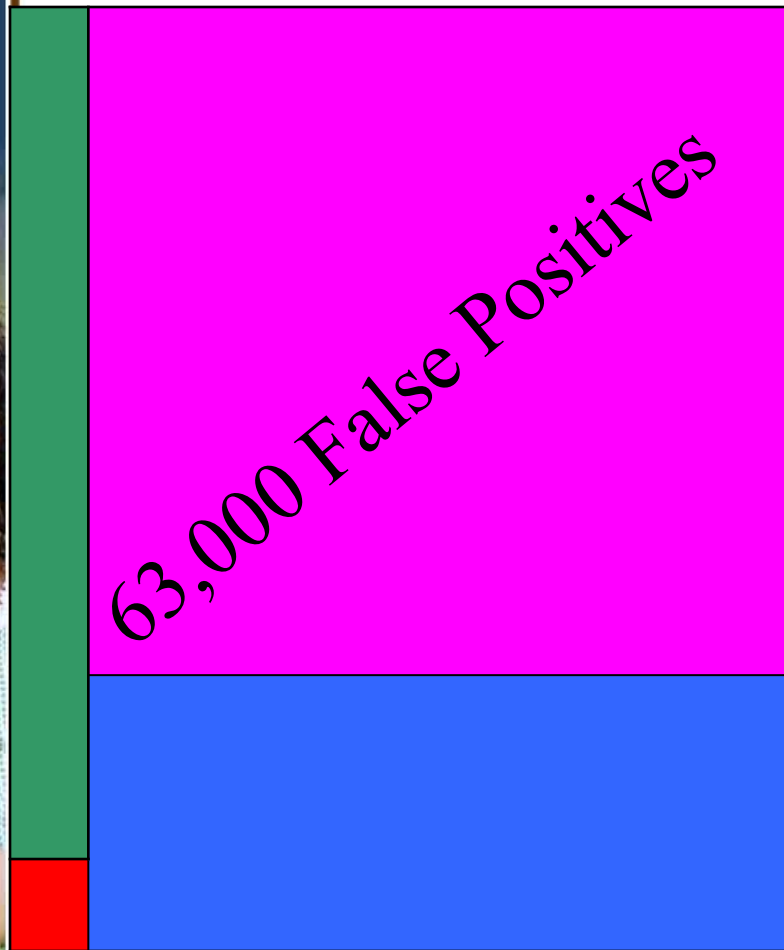


The Big Problem in Making  
Decisions Under Uncertainty: An  
Illustration Using the Receiver  
Operator Characteristic Curve-  
Risk Assessment Accuracy  
Estimate

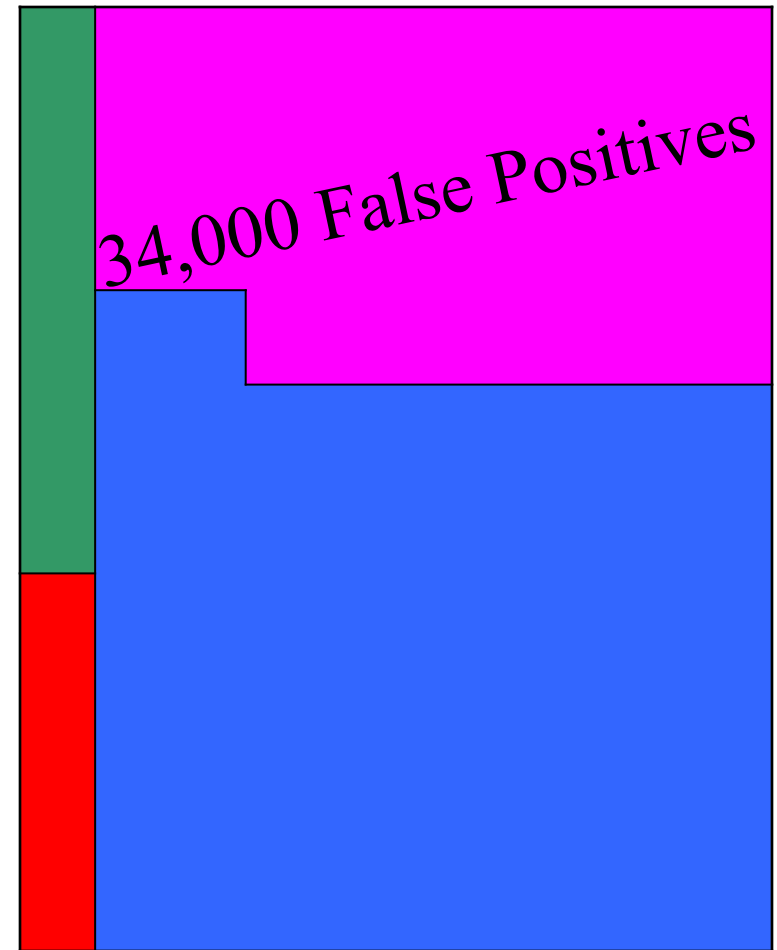


# Effect of Thresholds on False Positives

The assessment has an Area Under the Receiver Operator Curve = 63%:  
Prevalence assumed to be 10%: Applied to 100,000 children



**LOW THRESHOLD**



**HIGHER THRESHOLD**





# Assessments and thresholds are influenced by different factors

- The **Risk Assessment** derives from **case information** on the **Child**, the **Family** and the **nature of the current and past concerns**.
- Information **organized** into operationally defined **factors**.
- From Theory, the **Threshold for Action** derives from the **experiences** and **history** of the **worker**.
  - Possible **consequences** for the different stakeholders.
  - How the worker **values** the consequences.

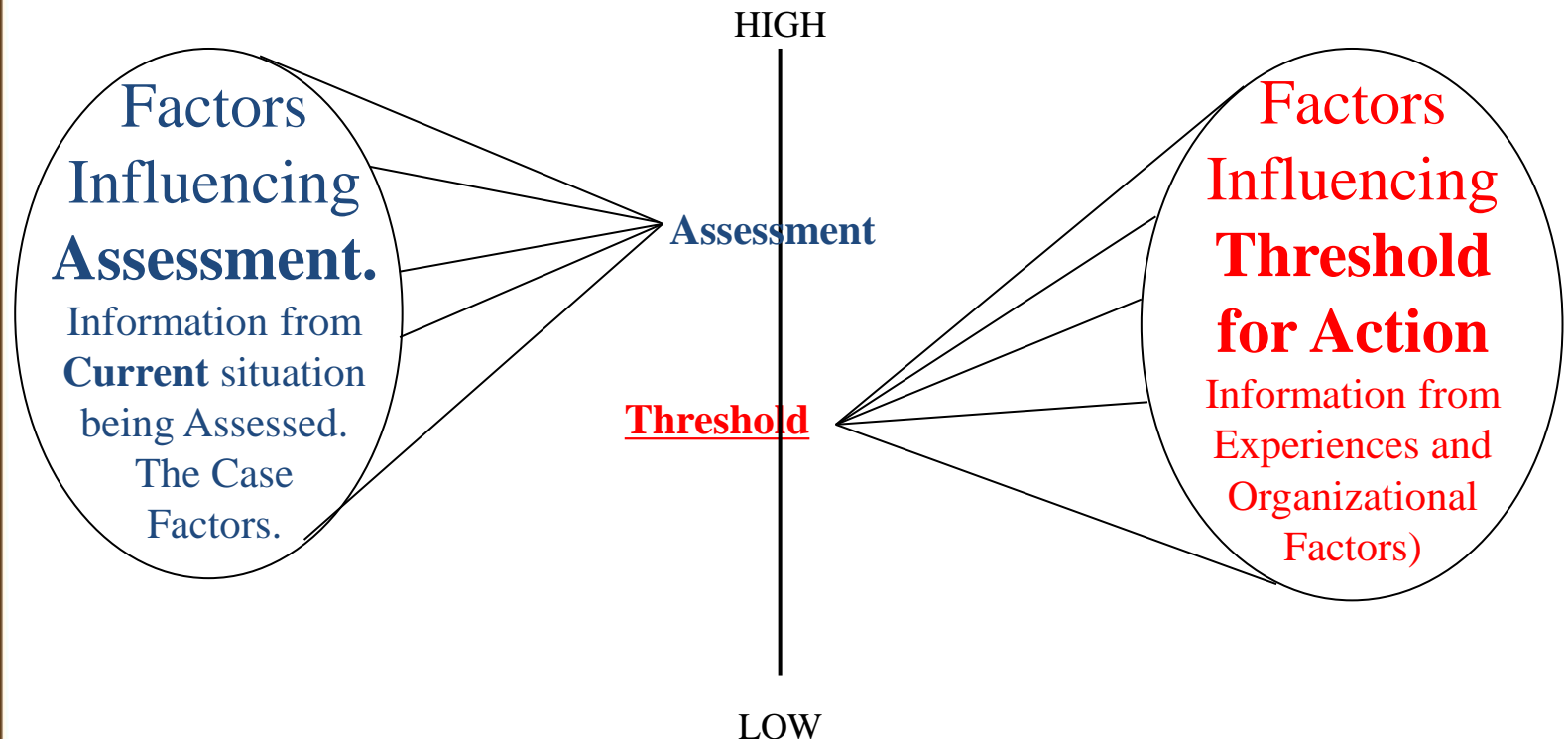
E.g. A comprehensive system

Dalgleish and Drew  
(1989)



# A General Model for *Assessing* the Situation and *Deciding* what to do about it - Dalglish

Assessment Dimension:  
e.g. Risk or 'Level of Concern'

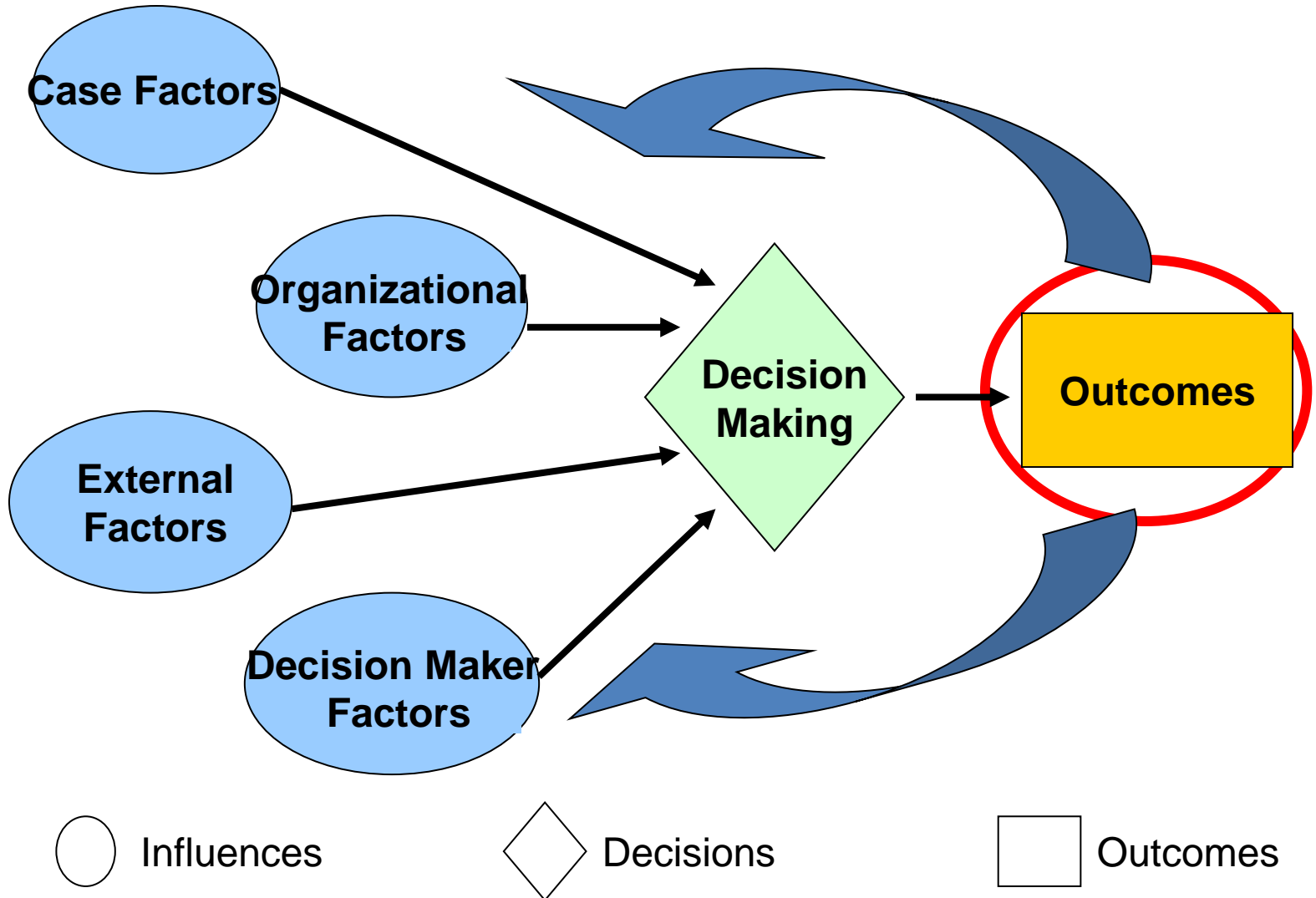


If the **Assessment** is *ABOVE* the **Threshold**, then ACTION is taken.

If the **Assessment** is *BELOW* the **Threshold**, then NO ACTION is taken.



# Decision Making Ecology



# Outcomes/Consequences

- Children
  - Safety
  - Permanence
  - Well-Being
- Workers/Supervisors
  - Satisfaction
  - Turnover
  - Corrective Actions
  - Reorganization
  - Redefinition of Functions
- External
  - Public Anxiety
  - Media Scrutiny
  - Legislative Scrutiny



# Cumulative Prospect Theory (Tversky & Kahneman, 1992)

- A psychological theory for explaining non-rational decisions under uncertainty
- Principles
  - We make choices based on change in gains and losses relative to a reference point; a reference point based on what we have or know. Child Welfare
    - Example: a child is safe at home.
  - Given the choice of a large sure loss compared to a chance that we either might not have a loss or have a large loss, we tend to take the riskier option; we take a sure gain and do not take a risk even when a risk might increase our gains. We dislike losing more than we like winning.



# Cumulative Prospect Theory (Tversky & Kahneman, 1992)

- Principles

- Given the equal choice of a larger gain and smaller loss we tend to choose neither; asymmetric loss aversion.

- Example: There is a 50/50 chance If we provide a specific service a child will be safe for 6 months, or the child will certainly be maltreated again in 4 months.

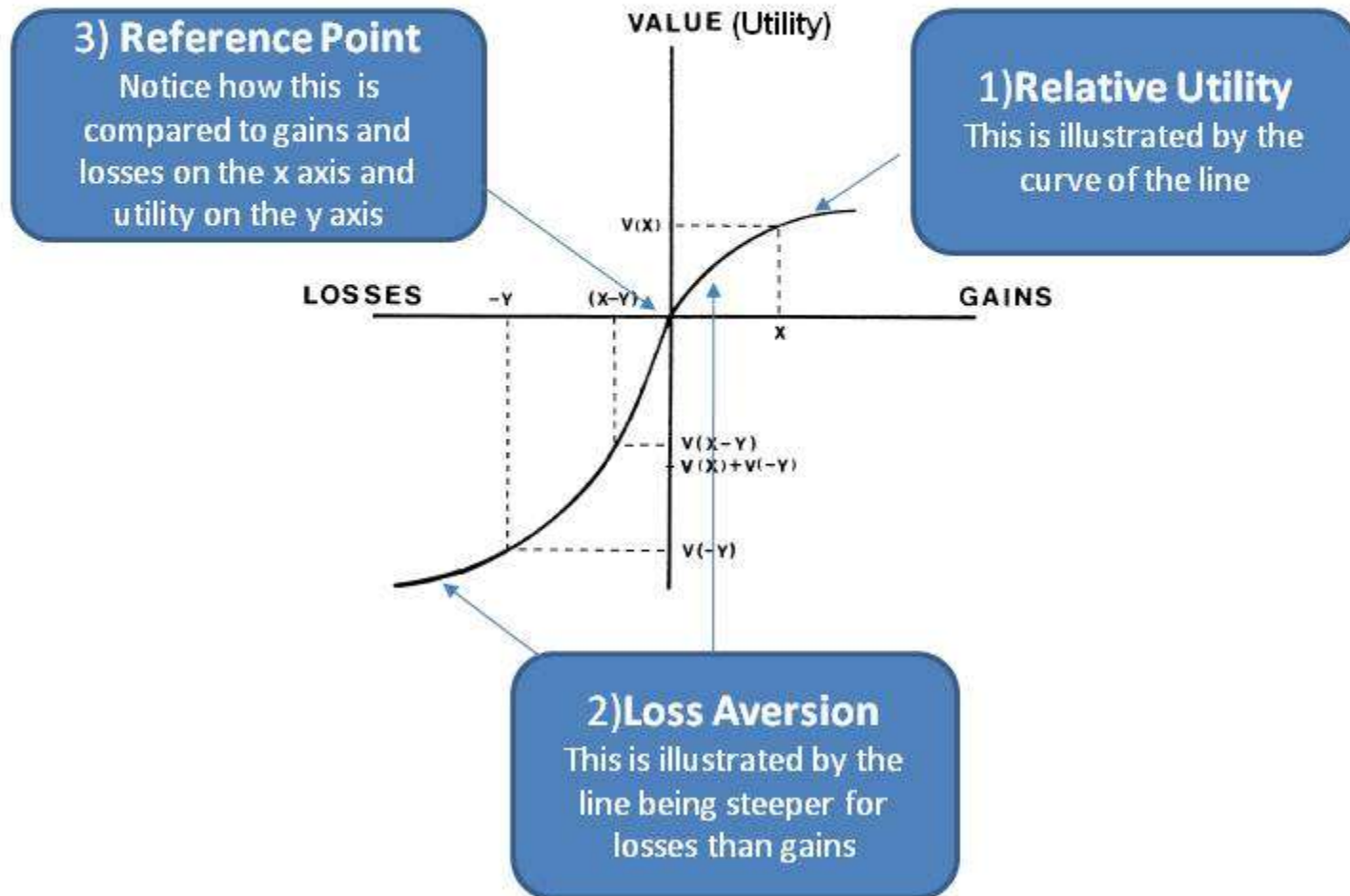
- We tend to make choices based on very unlikely events as if they are more likely; overweighting unlikely events.

- Example: Involving the court in a child maltreatment case is a large worry.





# Relationships of Gains and Losses in Prospect Theory





A vertical photograph on the left side of the slide shows a young girl with dark, curly hair, smiling and looking towards the camera. She is wearing a light blue, textured, short-sleeved top. She is holding a clear plastic water bottle with a white cap and a blue label. The background is a blurred outdoor setting with green foliage and a clear blue sky.

# **A CHILD WELFARE EXERCISE IN PROSPECT THEORY**





# Some Questions

- Worker/Supervisory Level
- Given that Validated Risk and Safety Assessment is Not Very Accurate:
  - Can we improve it?
  - Can we do better at combining risk assessment with a formulation of expertise?
    - How can we provide feedback given that outcomes emerge over time?



# Some More Questions

- Administrative and system level
- In the DME can we leverage our empirically based understanding of decision influences to make work force changes in areas like disparities?
  - Example: exposure to families of color
- Can we leverage our empirically based understanding of decision influences to help modify and target services?
  - Example: Supply driven resources such as congregate care



# Some More Questions

- Research (there is a growing body of research)
  - <http://www.americanhumane.org/assets/pdfs/children/cprc-dme-monograph.pdf>
- Can we develop a clearer sense of how to measure decision errors?
  - Example: better ways to define false positives and negatives for key child welfare decisions
- Can we develop a better understanding of decision influences?
  - Example: multi-level modeling: simulation methods
  - Example: applications of prospect theory
  - Example: decision making processes in groups

