Where Do Components Come From and What Can We Do With Them?

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I am a founder and co-owner of PracticeWise, LLC, which builds evidence resources and provides consultation in their use, an arrangement that has been reviewed and approved by the UCLA Chancellor.
• “Spoiling” - Pixelating an image
• Structured Coding of Interventions
• 2,700+ protocols → ~60 components
• Only about 15 are “common” in EBTs
Structured Ontologies

A Systematic Account of What Exists

A commitment to specifying objects and their relationships in a representative vocabulary

(Gruber, 1991; 1995)
Structured Ontologies

Int A  Int B  Int C
Structured Ontologies and Levels of Analysis

We have implicitly committed to an ontology of practice situated at the level of *Interventions*.

*Chorpita et al. (2005)*
Structured Ontologies and Levels of Analysis
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Diagram:
- **Parent Training**
  - **Int A**
    - Commands
    - Time Out
    - Rewards
    - Praise
  - **Int B**
    - Attending
    - Praise
  - **Int C**
    - Commands
    - Attending
    - Time Out
    - Praise
Profile of Components
72 Interventions for Disruptive Behavior
Profile of Components
72 Interventions for Disruptive Behavior

Frequency of Practice Element

- Praise
- Time Out
- Tangible Rewards
- Commands
- Differential Reinforcement
- Problem Solving
- Psychoeducational-Parent
- Modeling
- Monitoring
- Cognitive
- Response Cost
- Attending
- Communication Skills
Profile of Components
72 Interventions for Disruptive Behavior
“This is exactly what science is: the process of replacing unordered masses of brute fact with tidy statements of orderly relations from which these facts can be inferred.”

Simon (1971).
Are Components Effective?

- **Parent Training**
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  - **Int B**
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    - Praise
    - Commands
  - **Int C**
    - Commands
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Are Components Effective?

Practices

- Parent Training
- Int A
  - Commands
  - Time Out
  - Rewards
  - Praise
- Int B
  - Attending
  - Praise
- Int C
  - Commands
  - Attending
  - Time Out
  - Praise

Outcomes

- Meta Analysis
- Efficacy Trials
- Causal Mechanism Research
  - Single Component Studies
  - Dismantling
Are Components Effective?

Practices

- Parent Training
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Outcomes

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- Efficacy Trials
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Descriptive

Explanatory
Chunking/Aggregating by Components

An Example

Separation Anxiety

Social Anxiety

- Exposure
- Preschool-Child
- Cognitive/Coping
- Self-monitoring
- Tangible Rewards
- Relaxation
- Psychoed-Parents
- Parent coping
- Problem Solving
- Parent Phase
- Ignoring or DRO
- Modeling
- Parent-monitoring
- Assertiveness Training
- Communication Skills
- Natural and Logical
- Therapist Praise/Rewards
- Social Skills Training
- Skill Building
- Maintenance
- Activity Scheduling
- Educational Support
- Cost Response
- Time Out
- Limit Setting
- Directed Play

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Chunking/Aggregating by Components

An Example

Anxiety
Chunking/Aggregating by Components

An Example

Anxiety

Phobia
Distillation Trees

Problem

- Depression

Autism

Externalizing
- Aggression
- Anger
- Attention
- Conduct
- Hyperactive
- Justice Involved
- Oppositional

Anxiety, Stress
- Anxiety
- Phobia
- Shyness
- Traumatic Stress
- Avoidance

School Refusal

Substance Use
Distillation

Trees
From Analysis to Intervention Systems: Building “Knowledge Appliances”
From Analysis to Intervention Systems: Building “Knowledge Appliances”

Much of Our Methodology Gives Us This

Efficacious  Efficacious
Personalized  Dynamic
Accommodating of Diversity  Easy to Use
Building Knowledge Appliances

A structured mapping of the terrain is one of many steps.

The Appliance is here

- Strategic Intelligence
- Measurement Feedback
- Dynamic Architecture
- Coding Streets
- High-level Coordination
- Satellites
- Local Traffic Data
- GPS Software & Hardware
- Your Current Position

Your Current Position

Image of a GPS navigation system showing streets and coordinates.
Building Knowledge Appliances

A structured mapping of the terrain is one of many steps
There is a lot more information in the evidence base if we look within the interventions.

Applying a structured “components” ontology lets us wield more information in more ways.

Those analytic capabilities allow us to build powerful GPS-like “knowledge appliances”.

Many already exist, and we will see some examples of what these look like in other talks today.


