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**“Brain injury makes me
me, only more.”**

- Jason Lewin

BRAIN INJURY

Congenital Brain Injury

- Cerebral Palsy
- Autism
- Mental Retardation

Traumatic Brain Injury

Open Head Injury

- Profile varies with the site of injury

Closed Head Injury

- **Frontal Lobe Injury/Executive Function Impairments**
 - Reduced ability to plan and set goals
 - Reduced ability to self-monitor –initiate – inhibit
 - Reduced problem solving and flexibility
 - Reduced ability to transfer and generalize learning
 - Reduced abstract reasoning

Acquired Brain Injury

General Issues

- Scatter based on recovered knowledge/skill vs. new deficits
- Assessment challenges
- Neurological change and recovery often leading to delays in disabilities
- Loss/emotional adjustment
- Family challenges/grieving

- Stroke/CVA
- Tumor
- Anoxia
- Encephalopathy

Temporal Lobe Injury

- Reduced memory
- Reduced learning efficiency
- Reduced emotional control

Diffuse Axonal Injury

- Reduced info proc efficiency
- Reduced stamina

Brain Injury is an *event not a disability*

- The disabilities that result from brain injury are a primarily function of the severity of the injury, the age of the individual at the time of the injury, and the site of the injury (amongst other things).
- In addition, the individual's history pre- and post-injury will affect long term outcomes.
- Finally, the disabilities associated with brain injury tend to be contextual; that is, different issues arise in different contexts.

**Chuck's brain injury is different than Connor's
brain injury is different than Sarah's brain injury is
different than Devan's brain injury**

**While there are common traits,
everyone's brain injury manifests itself
differently, so any intervention
strategies will need to be tailored
to address these differences.**

UNIFORMITY
is not necessarily a good
quality in intervention

**There is no single “right”
solution - sometimes the best
you can do is keep trying**



**Sometimes what works today
won't work tomorrow!**

Common Questions

- *How much of this is brain injury anyway?*
 - How many angels can dance on the head of a pin?
 - It's impossible to know.
 - The issues confronting the individual with brain injury are a combination of environmental factors, pre-injury history, the site of injury, and the severity of injury.

Common Questions

- *Is there a standard for therapy or intervention?*
 - No! (Although, there is increasing evidence that when interventions are done in context, there is a greater probability of sustained change *and*, many approaches that are used with other populations are also effective with individuals with BI)
 - There is little evidence that supports the use of much of what provided by rehabilitation professionals. In fact, there is evidence that much of what is done has no positive long-term effect!
 - **Cognitive therapy or cognitive rehabilitation** – no evidence of generalization of skills learned in decontextualized training formats.
 - **Office-bound or specialized settings** – no evidence of generalization and increasing evidence of increased difficulties after return to the typical contexts
 - **Social skills training** – no evidence of any sustained positive impact nor generalization of skills learned outside of the training contexts.

Common Questions

- *When do we get a neuropsychological evaluation?*
 - When you are looking to make someone eligible for services
 - There is ample evidence that most neuropsychological evaluations are notoriously poor predictors of individual performance in context – they have very limited ecological validity.

The Danger of Traditional Diagnostic Assessments

- **Used predominantly for the purpose of meeting eligibility criteria – often the result of a need for a “primary diagnosis”.**
- **Standardized assessment of needs post-injury is often invalid.**
- **Many issues post injury resemble psychiatric and or other disorders, so there is an increased risk of incorrect diagnosis and treatment decisions that often result in a lack of collaboration on the part of the individual.**

**“Intelligence is not just a gift-
it’s a choice”**

-George Shaffner *The Arithmetic of Life*

**Success results from using
what you’ve got
- not from what you’ve got!**

Common Questions

- *What about medications?*
 - There is some evidence that stimulants have some positive effect in increasing individual gains early in rehabilitation (and amantadine).
 - Otherwise, nope. Remember most psychoactive medications are prescribed either hypothetically or symptomatically; and this is not necessarily a bad thing.

Common Questions

- *When should s/he return to the community?*
 - As soon as possible.
 - There is evidence that the longer the period between discharge from rehab and entry into the community to worse the outcome (in both the short and long term).
 - There is great benefit to articulate the needed supports and a plan to reduce those support as part of any transition plan.

Three Beliefs That Will Affect the Likelihood That You'll Be Successful

- **Optimism & Hope.** Evident in the problems that are targeted and the language that is used when describing the individual and when interacting with the individual.
- **Appreciating the Influences of Contextual Factors on Behavior.** Requiring an understanding of the setting events (the distant events on an individual's behavior).
- **Applied Pragmatism.** Recognizing that there is no single "right" solution; moving away from the notion of "consistent" use of a prescribed intervention strategy to "concordance" on the part of all involved.

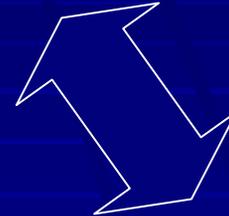
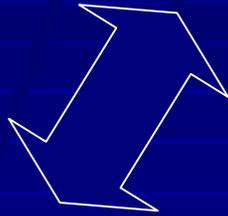
Context Relevancy:

How does this stuff apply to the bigger world?

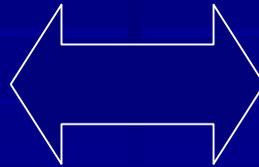
adapted from Sailor, 1999

- **Useful:** Do the outcomes that we're targeting produce something useful to the individual in long run?
- **Desirable:** Does the individual choose the outcomes for him/herself when given the choice? Is the individual given the choice of outcome?
- **Social:** Do the outcomes result in behaviors that will increase interactions with persons other than paid staff?
- **Practical:** Will the behavior be used in real contexts without staff support?
- **Adaptable:** Is there a focus on developing skills that can/will be used in a number of situations and without staff?

Communication



Cognition



Behavior

COGNITION

Organization

Planning
Self Monitoring
Reviewing
Self-evaluating

Memory

Procedural vs. Declarative
Implicit vs. Explicit

Info Processing

Non-strategic

BEHAVIOR

Excesses

Impulsiveness
Aggressiveness
Substance Abuse

Deficits

Initiation Impairments
Insight Impairments

COMMUNICATION

Efficiency

Fluency/Articulation
Discourse

Effectiveness

Functional
Apparent

*Behavior Interventions that Focus on the
Application of Consequences are
Dependent Upon:*

HIGH REASON
(Intellect – “cool”)

- “Choosing the best option”
- Logical application of learned outcomes

*For the Most Part,
We Live in the Somatic World:*

VISCERAL RESPONSES
(Gut feelings – “hot”)

- “I don’t know why! I just did.”
- Implicit application of experiences

The Three Big Things

“When we think of your future – the next 10 years – we need to think about the 3 most important things to work on; the things that, if you achieve, you’ll have a meaningful life.”

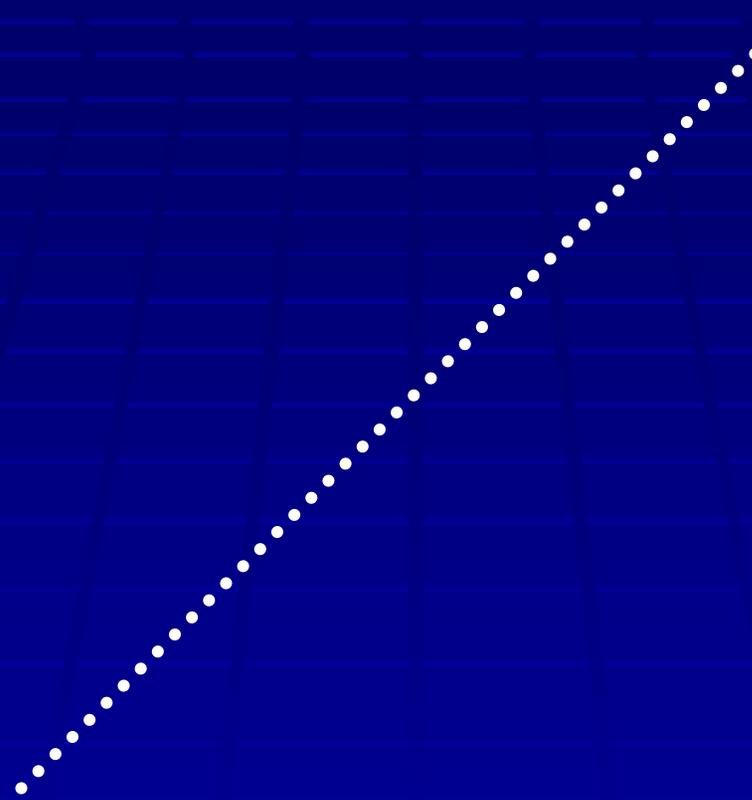
The 3 Things tend to cluster around these areas:

- **Behavioral regulation/self-regulation**
 - **Friendships/social-interaction**
- **Vocational skills/meaningful engagement**
 - **Self-help skills**

Making the “Big Things” Real

- **Creating personal maps or steps to attaining the personally meaningful goals.**
- **Articulated by the individual (with some help from staff, friends, family)**
- **Organized in a visual manner to assure clarity**

Step 55. I'm good at:
Me the: I need to:

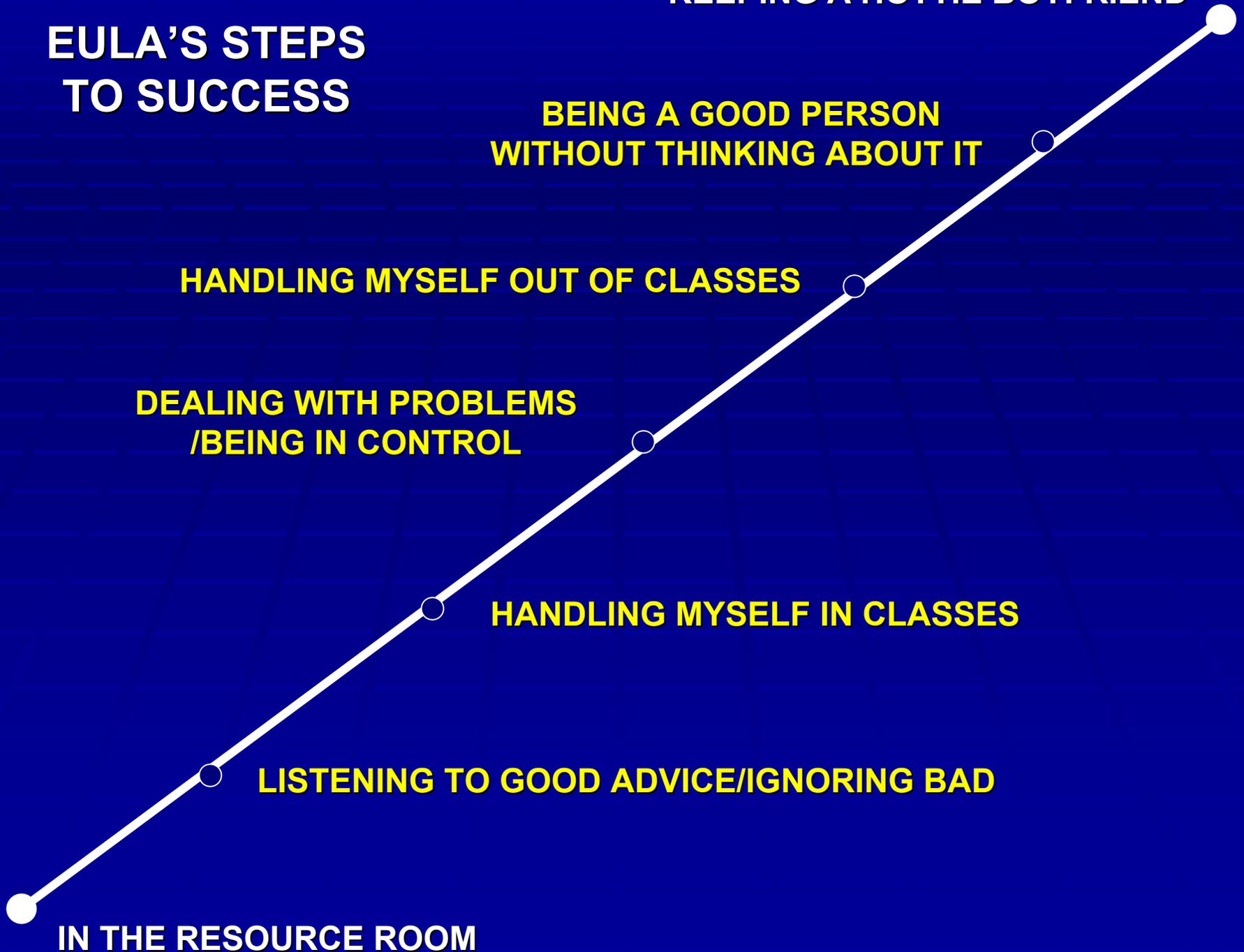


Step 3.

Step 2.

Step 1. I'm good at:
Me Now I need to:

EULA'S STEPS TO SUCCESS



KEEPING A HOTTIE BOYFRIEND

**BEING A GOOD PERSON
WITHOUT THINKING ABOUT IT**

HANDLING MYSELF OUT OF CLASSES

**DEALING WITH PROBLEMS
/BEING IN CONTROL**

HANDLING MYSELF IN CLASSES

LISTENING TO GOOD ADVICE/IGNORING BAD

IN THE RESOURCE ROOM

PETER'S STEPS TO SUCCESS

HAVING A JOB, LIVING IN MY APARTMENT

DON'T FORCE IT

GET OUT OF IT BEFORE
I GET INTO IT

FOLLOW MY PLAN
WHEN I'M OUT IN THE
WORLD
People, Places, Things

MAKING PLANS BEFORE
GOING OUT IN THE WORLD

DEALING WITH
ASSHOLES POSITIVELY

MAKING MEETINGS &
PARTICIPATING
IN THEM

MAKING MY PLAN TO STAY CLEAN EVERYDAY
& LETTING PEOPLE KNOW

IN A TREATMENT PROGRAM

Tom's Plan & Tom's Reality

A doctor

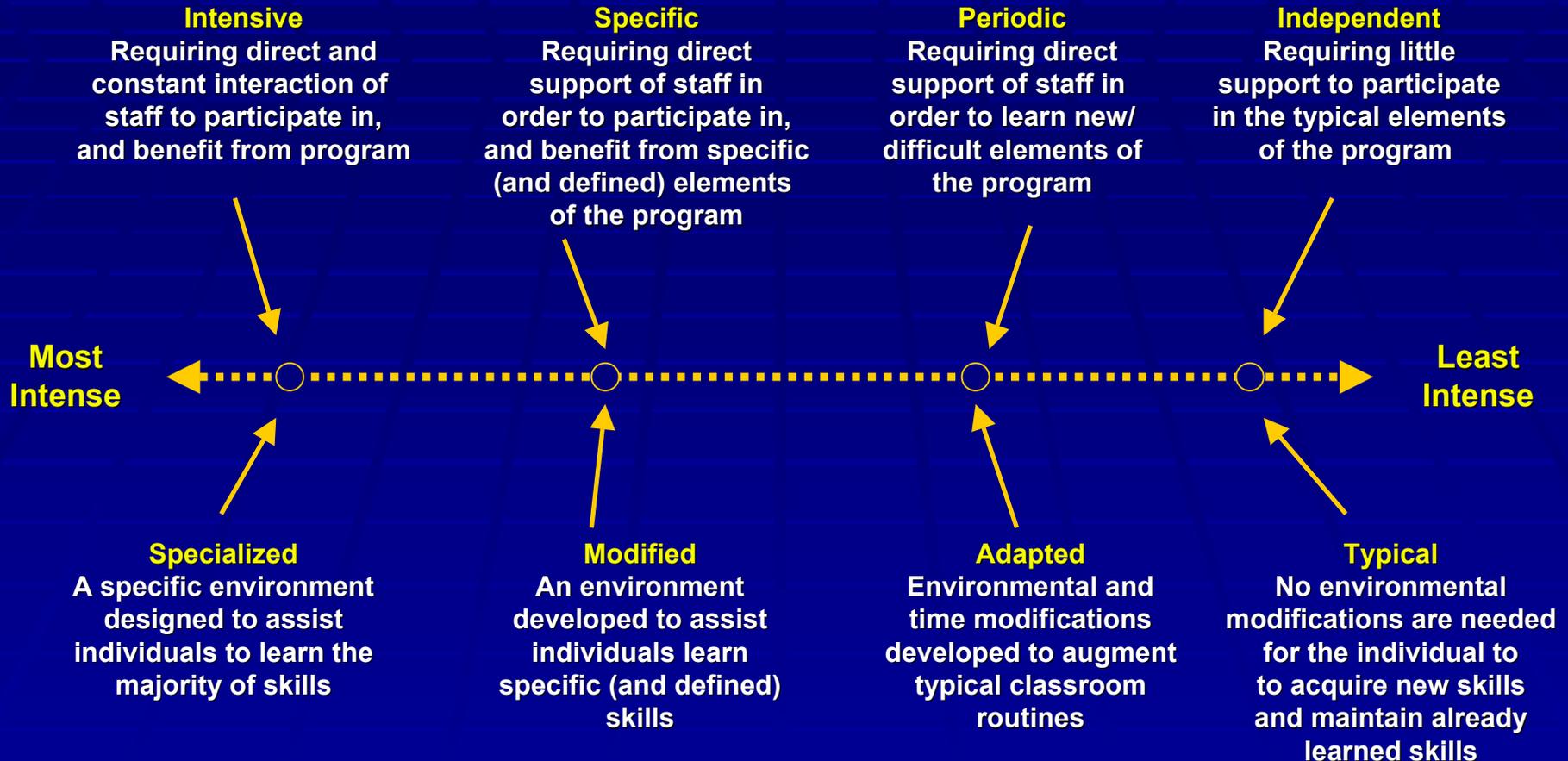
An EMT

Be a helping person

In rehab



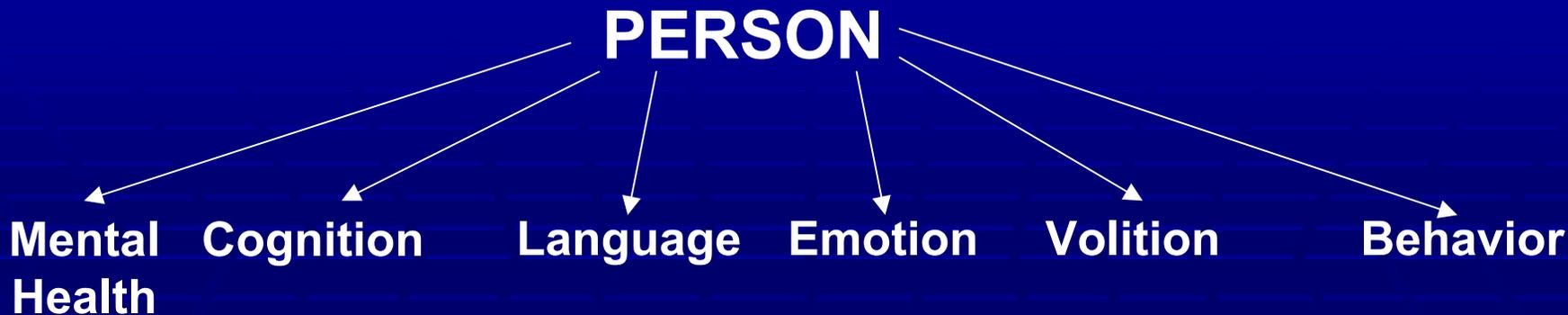
A CONTINUUM OF STAFF SUPPORTS



A CONTINUUM OF ENVIRONMENTAL SUPPORTS

**Successful intervention is
about establishing a
respectful relationship
with someone who's
doing his or her best to
tick you off**

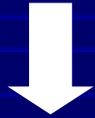
**Introduction to
Intervention Ideas:
*Conceptually Simple,
Procedurally Difficult***



Human beings are a collection of relatively independent structures, processes, and systems

John's Cognition

Attention Perception Memory Organization Reasoning EF



Arousal
Select
Direct/
Filter
Maintain
Divide
Shift

Encode/Store/Retrieve
Episodic/Semantic
Explicit/Implicit
Declarative/Procedural
Involuntary/Strategic
Working Memory/
Knowledge Base
Remote/Recent
Pro/retrospective
Iconic

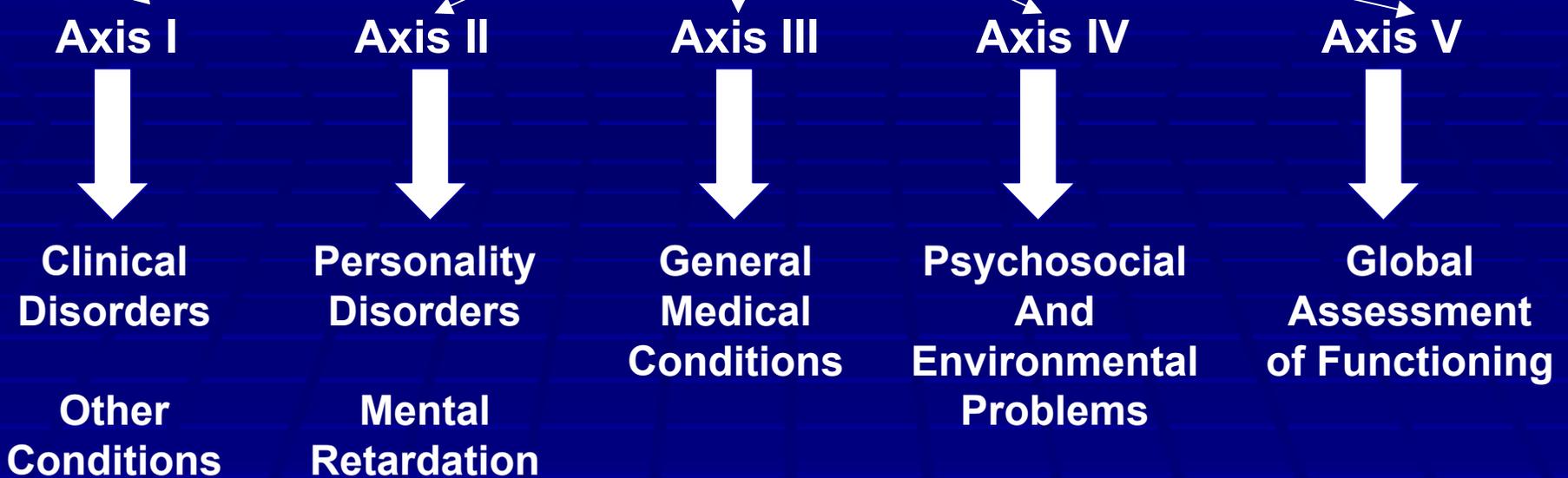
Sequence
Categorize
Associate
Analyze
Synthesize

Inductive
Deductive
Analogical
Divergent
Convergent

Goals for John - John will:

1. Increase duration of maintained attention
2. Increase prospective memory from 3 to 5 minutes
3. Increase category naming from 3 to 5 members per category

John's Mental Health

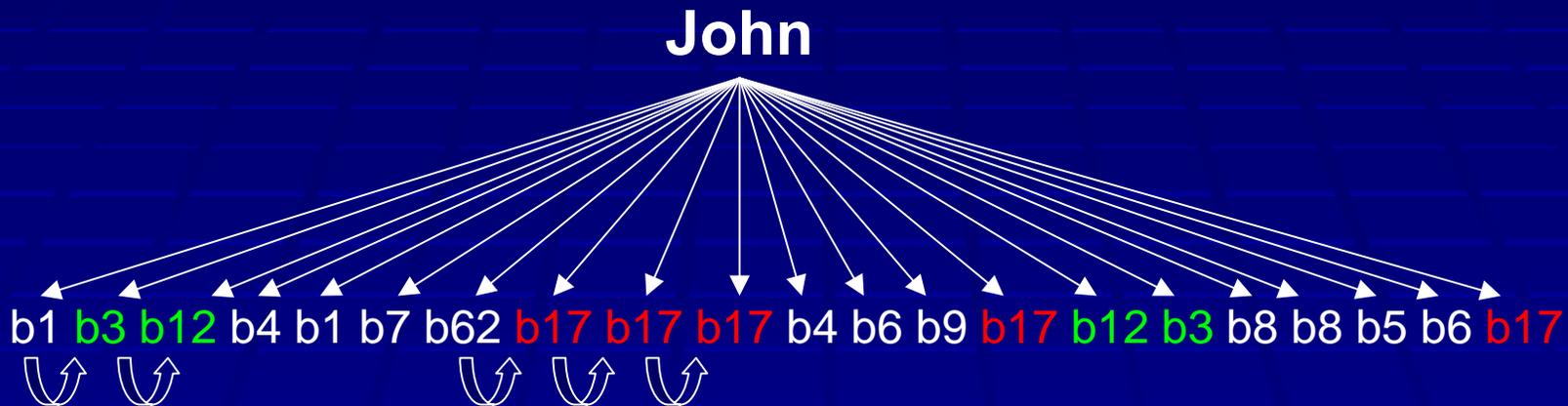


Goals for John: John will

1. Participate in psychotherapy sessions without falling asleep
2. Comply with his medication regimen as directed
3. Follow the recommendations of the clinical staff to assure his safety
4. Seek community services for his disorder and for his living arrangements

John's Behavior

John is the totality of his behaviors and the systematic relationships among them



Goals for John: John will

- 1. Increase frequency of b3 and b12**
- 2. Decrease frequency of b17**

Alternative Understanding of Human Beings



Sarah

Pursuing personally meaningful goals

While participating in culturally valued activities

In social, cultural, and historical contexts

Mediated as necessary by individuals with greater expertise in that domain

Using cultural tools, such as language, category schemes, mathematics, organizational supports, domain-specific strategies

In the presence of varied context facilitators and barriers

Intervention Goals

Sarah will successfully complete ___ **meaningful task**, with ___ **supports**, possibly using ___ **“tools/strategies”**, in ___ **context** (setting, people, activities), in order to achieve ___ **goal**.

Possibly focusing intervention attention on some specific aspects of cognition, communication, social skills, behavioral self-regulation, or educational/vocational skills – aspects that are either particularly weak or particularly important for Sarah.

Goal



Plan



Predict



Do



Review



**Key “Executive System”
Concepts That Help Individuals
Learn Self-Regulation**

Hard - Easy

Big Deal - Little Deal

Ready - Not Ready

Scary - Not Scary

Like - Don't Like

Choice - No Choice

ROUTINES

- Repetition creating temporal structure to improve memory about relevant past events
- Cognitive predictions about what happens next
- Natural occasions for promoting cognitive growth
- An impetus for improvisation when trying to avoid a negative outcome

*are a necessary
prerequisite for*

Planning

Concrete Routines

- **Picture Routines**
- **Written Routines**

Interaction Routines

- **Language Routines**
- **Activity Sequencing**

Routines to Deal with Changes in Routines

- **What I do when what I expected to happen doesn't happen**

Premises for Effective Services and Supports

- Because of the extreme variability within the population of individuals with brain injury and within the agencies serving these individuals, planning requires individualization.
- Frontal lobe injury is the most common form of injury and frequently results in assessment challenges and delayed consequences.
- It is misguided at best to prescribe one or a small number of specific intervention programs for students with brain injury returning to, and remaining in the community.

Premises for Effective Services and Supports

- Cognitive and behavioral challenges often interact to produce the most troubling obstacles vocational and social success.
- Standardized out-of-context assessment often fails to identify functional disability.
- Intervention is most effective if provided in everyday settings and in the context of everyday routines.
- Antecedent based interventions (i.e., positive behavioral supports) are more effective than traditional contingency management in behavioral programming for most students with brain injury.

Premises for Effective Services and Supports

- **Successful supports for individuals with brain injury requires flexibility and frequent review.**
- **Collaborative decision making and services are most effective.**
- **Intensive supports may need to be systematically withdrawn to enable the individual to gain realistic self-awareness and prepare for the future.**
- **Successful life for individuals with brain injury is related to the supports that are provided by family and peers.**

Elements of Successful Service Provision

- **Supports designed to assist an individual to develop functional skills and obtain social and environmental supports (with less emphasis on insight-based therapies)**
- **Continuous assessment (that includes the individual in that assessment) and encompasses the analysis of individual strengths and needs, and ongoing service needs**
- **Intervention services that focus on goal-oriented problem solving, assessment of behaviors in context, and the development of situational plans for behaviors**

Elements of Successful Service Provision

- **Interventions that emphasize lifestyle enhancements as a goal of those interventions (in general contrast to interventions that target personal insight and/or development of specific skill targets)**
- **Interventions that focus on being used in everyday settings, by everyday people, using existing resources**
- **Interventions that make problem behaviors irrelevant, inefficient, and ineffective**

Research-Based Intervention Strategies Related to Common Characteristics of Individuals with Brain Injury

Characteristic: Fluctuating Attention

Strategy: Appropriate Pacing

Delivering material in small increments and requiring responses at a rate consistent with the individual's processing speed increases the acquisition of new materials.

Research-Based Intervention Strategies Related to Common Characteristics of Individuals with Brain Injury

Characteristic: Memory Impairment

Strategy: Errorless learning and high rates of success in interactions

Acquisition and retention of new information tends to increase with high rates of success (and error frequency increases with frequent errors and error correction).

Research-Based Intervention Strategies Related to Common Characteristics of Individuals with Brain Injury

***Characteristic:* Organizational Impairment and
Inefficient Learning**

***Strategy:* Task analysis of activities and
advance organizational support**

**Careful organization of learning and tasks including
systematic sequencing of intervention targets and
advanced organizational supports increases
success.**

Research-Based Intervention Strategies Related to Common Characteristics of Individuals with Brain Injury

Characteristic: Inefficient Learning and Inconsistency in Performance

Strategy: Massed practice and review including frequent cumulative review

Acquisition and retention of new information and consolidation of old information in memory is increased with frequent, routine-based review.

Research-Based Intervention Strategies Related to Common Characteristics of Individuals with Brain Injury

***Characteristic:* Inefficient Feedback Loops and Implicit Learning of Errors**

***Strategy:* Errorless learning combined with corrective (and brief) feedback when errors occur.**

Many individuals with severe memory and learning problems benefit from errorless learning. When errors occur, learning is enhanced when those errors are followed by non-judgmental corrective feedback.

Research-Based Intervention Strategies Related to Common Characteristics of Individuals with Brain Injury

***Characteristic:* Frequent Failure of Transfer/Concrete Thinking and Learning**

***Strategy:* Facilitation of transfer, generalization, and maintenance via contextual teaching.**

Generalization is more likely when skills are taught in the context in which they will be used (context is encoded with information). In addition, using a general case approach (wide range of examples and settings) increases generalization.

Research-Based Intervention Strategies Related to Common Characteristics of Individuals with Brain Injury

***Characteristic:* Unpredictable Recovery, Unusual Profiles, and Inconsistency in Behavior**

***Strategy:* Ongoing assessment and flexibility in curricular modification.**

Adjustment of interaction based on ongoing assessment of the individual's progress facilitates learning and allows for curricular modifications "on the fly".

Research-Based Intervention Strategies Related to Common Characteristics of Individuals with Brain Injury

***Characteristic:* Impaired Strategic Behavior/
Impaired Organizational Functioning**

***Strategy:* Strategy-based intervention.**

Organized intervention designed to facilitate a strategic approach to difficult tasks, including organizational strategies.

Research-Based Intervention Strategies Related to Common Characteristics of Individuals with Brain Injury

***Characteristic:* Decreased Self-Awareness/
Denial of Deficits**

***Strategy:* Self-awareness/attribution training**

**Facilitation of individual's understanding of his/her
role in learning**

Research-Based Intervention Strategies Related to Common Characteristics of Individuals with Brain Injury

***Characteristic:* Behavioral Difficulties**

***Strategy:* Positive behavior supports**

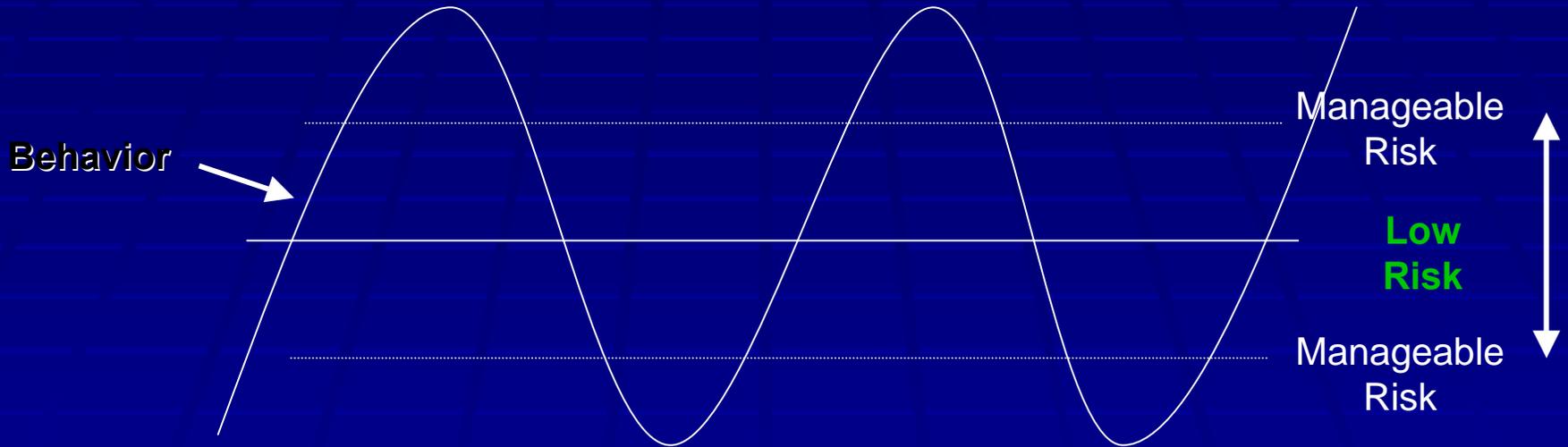
Using an approach to behavior intervention that focuses primarily on the antecedents of behavior in the broadest sense (including setting events and establishing operations), environmental management, and role improvement.

Common Themes of All Successful Interventions

- **Intervention must be delivered early and intensively, through established routines, and focus on the development of self-regulation and problem-solving strategies in context.**
- **In absence of meaningful engagement in chosen life activities all interventions will ultimately fail.**
- **Long term, flexible, and frequently adjusted supports may be needed to prevent behavior problems and to facilitate social development.**

**Fluctuations in behavior are expected,
the goal of behavioral support is to make those fluctuations
*manageable***

High Risk/Unsafe/Unmanageable



High Risk/Unsafe/Unmanageable

Time

Elements of Successful Service Provision

- **Medication programs that are clearly articulated, and include the individual in the determination of effectiveness and side effects**
- **Symptom management that assists the individual to recognize the onset of psychiatric symptoms and engage in activities that prevent, manage, or reduce those symptoms**
- **A therapeutic milieu that allows for the creation of flexible environmental structures that are conducive to treatment**

A FRAMEWORK FOR ASSESSMENT

**ONGOING
CONTEXTUALIZED
COLLABORATIVE
HYPOTHESIS-TESTING**

Problem Behavior

```
graph TD; PB[Problem Behavior] -.-> P[Primary Symptomatic - Organic]; PB -.-> S[Secondary Functional - Learned];
```

Primary

Symptomatic - Organic

Neurophysiological

Limbic Kindling
Perceptual Disturbances

Electrophysiological

Seizure Disorders

Psychiatric

Mood Disturbances
PTSD and/or Postconcussive Syndrome
Perseveration and Obsessive-Compulsive Disorder
Anxiety Disorders

Physiological

Metabolic Tolerance
Pain

Secondary

Functional - Learned

Escape/Avoid

Attention
Qualitative Aspects

Acquisition

Sensation
Automatic SR⁺

Control

Potential Influences on Behavior

**Life
Events**



Environmental Vulnerability
Behavior Problems
Communication Problems

**Setting
Events**



**Neurological/
Psychiatric Impairments**
**Cognitive/Academic/Vocational
Failure**
Physical/Health Problems

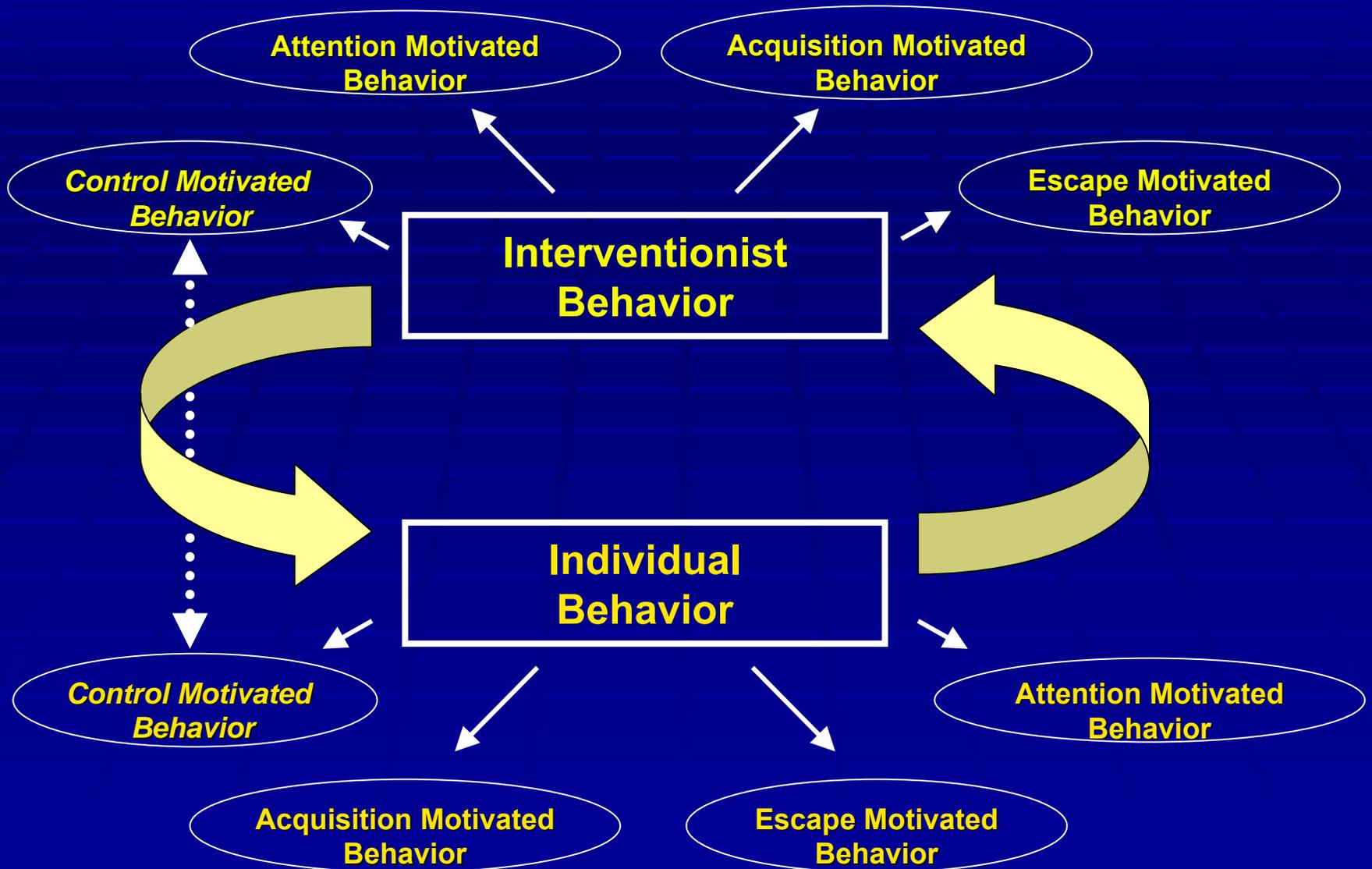
Us



Environmental Rigidity
Decontextualized Intervention
Focus on External Control

**WE MAKE PEOPLE
CRAZY!**

RECIPROCAL INFLUENCES OF BEHAVIOR



**Success via Learning from
Consequences
Presupposes:**

***Reasonable intactness of the neural networks
responsible for connecting:***

Memory for the factual aspects of past behavior

and/or

**Memory for the “Somatic Markers”, or the feeling states
associated with the consequences of those behaviors**

***Without these connections in memory,
past rewards and punishments
lack the power to drive future
behavior***

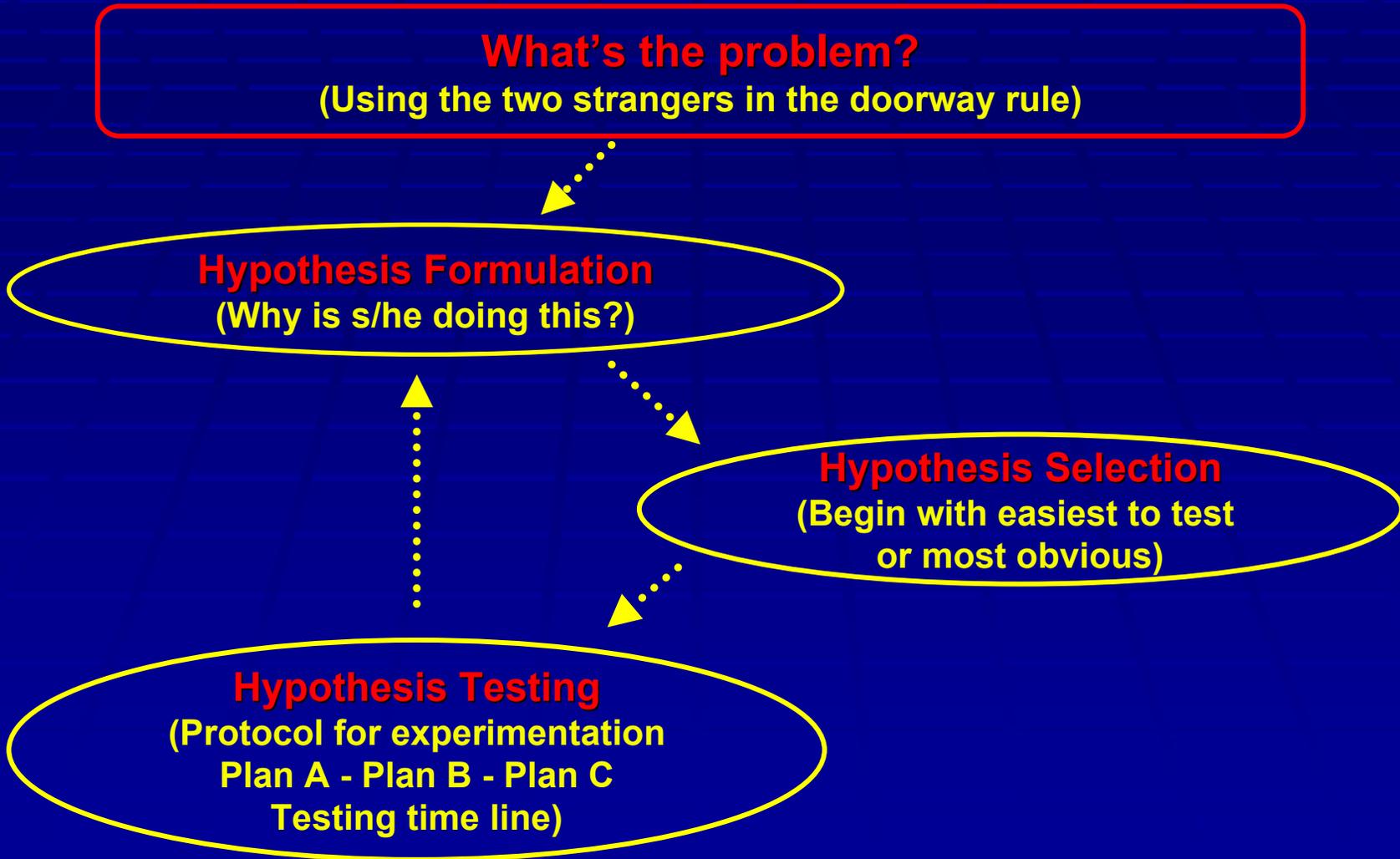
Contextualized Collaborative Hypothesis-Testing

What's the problem?
(Using the two strangers in the doorway rule)

Hypothesis Formulation
(Why is s/he doing this?)

Hypothesis Selection
(Begin with easiest to test
or most obvious)

Hypothesis Testing
(Protocol for experimentation
Plan A - Plan B - Plan C
Testing time line)



A Non-Functional Assessment Question

**“How much of this is brain injury
anyway?”**

A euphemism for

“Who’s problem is it?”

A Functional Assessment Question

**What is the problem that the person
wants us to help with?**

assumes that

THE PERSON WANTS HELP!

WHY TEST HYPOTHESES?

- **Failure on any complex task is multiply interpretable**
- **Complex students can be supported in a variety of ways**
- **Test results do not necessarily indicate how best to achieve success on specific tasks**

WHY COLLABORATE?

- **Increase observations and experiments**
- **Increase compliance**
- **Educate family, staff, others**
- **EF training for student**
- **Show respect**

WHY IN REAL CONTEXTS?

- **Inconsistency**
- **Validity problems of standardized testing**
- **Impact of setting, person, activity**
- **Impact of stress**
- **Observe real-world initiation, inhibition, self-monitoring, problem solving**
- **Observe effects of real-world supports and routines**
- **Observe support behaviors of others**

An impulse

is not

a choice

Choice

(Noun)

1 The act of choosing; selection 2 the right, power, or chance to choose; option 3 a person or thing chosen 4 the best or most preferable part 5 a variety from which to choose 6 a supply that is well chosen 7 an alternative 8 purposive discernment.

Impulse

(Noun)

- 1 **a)** an impelling or driving forward with sudden force **b)** an impelling force; sudden, driving force; push; thrust; impetus
- 2 **a)** incitement to action arising from a state of mind or external stimulus **b)** a sudden inclination to act, usually without premeditation
- 3 sudden involuntary inclination prompting action.

Functional Conceptions of Choice:

- **Free choice**
- **Fixed choice**
- **Forced choice**
- **Feeling the natural and logical results of actions in the environment**

SUCCESSFUL SUPPORT PLANS

Identify the “3 Big Things”
(Remember: Program 1st, Place Emerges)



**Identify Initial Social/Behavioral
Goals and Objectives**
Ideally small range of goals and objectives



Create a Flexible System of Support
People
Places
Events



Create a Plan for Supports
Circumstances for increases & decreases

**ONGOING ASSESSMENT &
ADJUSTMENT**

Teaching People to Think

- Think out loud.
- Think out loud a lot.
- Think out loud with the person: reflect, plan, problem solve, observe, organize, evaluate, remember, review, create, etc.
- Make use of external supports when thinking: diagrams, photos, written routines, day planners, notes, etc.
- Present yourself as an image of thoughtfulness. Help the individual to embrace the notion that being thoughtful is a good and great thing.
- Think out loud in a way that shows that you are fun and flexible and experimental in your own thoughts.
- Think out loud in a way that captures metaphors, analogies, similarities, history, etc.

EXECUTIVE FUNCTIONS

- “... those mental capacities necessary for formulating goals, planning how to achieve them, and carrying out the plans effectively”
(Lezak, 1982)**
- “...ability to maintain an appropriate problem-solving set for attainment of a future goal.”
(Welsh & Pennington, 1988)**

EXECUTIVE FUNCTIONS

Organizing and controlling action, thought, and emotion in a way that is (1) not determined by immediate environmental events, (2) not determined by immediate impulse or states of the body, (3) not determined by the control of others, (4) directed toward personal goals, (5) while taking into account the goals and intentions of others

EXECUTIVE FUNCTIONS

- **Self-regulation**
- **Self-determination**
- **Self-control**
- **Self-management**
- **Self-direction**
- **Maturation**

EF: UNORGANIZED LIST

- **Setting and managing goals**
- **Planning**
- **Organizing**
- **Initiating**
- **Inhibiting**
- **Self-monitoring**
- **Strategic thinking**
- **Problem solving**
- **Flexible shifting**
- **Deliberately controlling any cognitive function**
- **Working memory**
- **Social perception**
- **Controlling emotions**
- **Learning from consequences**
- **Organized sense of self**

More Intervention Ideas:

**Conceptually Simple,
Procedurally Difficult**

Steps to Organize Routines of Everyday Life

- 1. Identify successful and unsuccessful routines of everyday life. What's working, what's not working?**
- 2. Identify changes that have the potential to transform unsuccessful routines into successful routines (including changes in the environment and the behaviors of others.)**
- 3. Identify how changes in routines include activities that are motivating to the individual and everyday people.**

Steps to Organize Routines of Everyday Life

- 4. Implement needed supports to organize routines so that the individual experiences success and receives intensive practice in context.**
- 5. Systematically withdraw supports and expand contexts as much as possible.**

Interaction Scripts for Routines

Making Decisions About the Goal

- “What’re you going to do?”
- “What are we here for?”
- “How will we know we’re done?”
- “We’ll know we’re done when it looks like this . . . “

Making Plans

- **“OK, so what’s the plan?”**
- **“What’ll you need to get this done?”**
- **“How will you and I know you’ll need help?”**
- **“What will help look like?”**
- **“Don’t tell me what you don’t want, tell me what you do want.”**
- **“OK, so what do you want me to do?”**

Making Decisions About Ease or Difficulty Before Beginning

- **“Do you think this will be hard or easy?”**
- **“If it’s hard, then what’ll you need?”**
- **“Have you ever done this before?
What happened?”**
- **“I don’t think I could do this! How do you know that you can?”**
- **“Whaddaya think? Big deal or little deal?”**

Coaching Through Problems

- “You look upset, is there anything I can do?”
- “OK, you’re not ready. No problem; just let me know when you’re ready.”
- “I’ll know you’re ready when you look like this . . .”
- “I’ll wait.”
- “You know we’ve gotta figure this out, let’s try . . . “
- “I know it’s hard, but we’ve got to do this.”

Coaching in Context

- **“So, how’s it going?”**
- **“Is that helping you? Not helping?”**
- **“Is there anything else you can do?”**
- **“Is there anything I can do to help you?”**
- **“So when are you going to start?”**

Review What Occurred

- “So how’d it go?”
- “How’d you do?”
- “Tell me exactly what happened . . . and then what?”
- “What do you think other people thought?”
- “What were you thinking when you . . .”
- “Next time you do this, what’ll you do differently? The same?”
- “What helped?”
- “What didn’t help?”

An Important Goal of Intervention: Learning to Recognize Internal States

- Using some commonly understood method of communicating “my” mood/feelings/health, etc.
 - Red – Yellow – Green
 - A thermometer
 - Rating Scales

Behavior Rating Key

- 1 = Health/Safety Risk
- 2 = Significant Problem
- 3 = Moderate Problem
- 4 = Slight Problem
- 5 = No Problem

DAILY ROUTINE

Student: _____

Date: _____

Prompt Rating Key

- 1 = Total Hand Over Hand
- 2 = Physical Prompt
- 3 = Modeling /Gesturing
- 4 = Verbal Prompt
- 5 = Independent

Routine Activity: Specific Tasks: Evaluation:

		<i>Behavior</i>				
<input type="checkbox"/>		1	2	3	4	5
		<i>Prompt</i>				
		1	2	3	4	5
		<i>Behavior</i>				
<input type="checkbox"/>		1	2	3	4	5
		<i>Prompt</i>				
		1	2	3	4	5
		<i>Behavior</i>				
<input type="checkbox"/>		1	2	3	4	5
		<i>Prompt</i>				
		1	2	3	4	5

My Plan



LISTEN



GET MY MATERIALS READY



IS IS HARD OR EASY?



MAKE A PLAN



JUST DO IT!



LOOK IT OVER

HOW DID I DO?

An Important Goal of Intervention: Learning to Recognize Internal States

- Using some commonly understood method of communicating “my” mood/feelings/health, etc.
 - Red – Yellow – Green
 - A thermometer
 - Rating Scales

Recognizing and Communicating My Internal State



AARON'S RATING SCALE

Prior to, and following, each activity Aaron and his staff will evaluate his general mood using this scale. In addition, the scale can and should be used during activities as a way of helping Aaron recognize his mood changes, and the causes for those changes.

Aaron's Indicators:

Following directions
Making eye contact

→

Red in the face
Staring
Lips clenched

→

Quiet

→

Swearing

PERSEVERATION →

Peaceful

Destructive
Past the Red Line

1 2 3 4 5 6 7 8 9 10

Cool Zone – Blue Zone

Yellow Zone

Red Zone

“Use your strategies”

- take a break and move away
- talk about what your feeling
- listen to music

“Stop and breathe”

“Clear the deck”

- Get somewhere else quiet

Staff Scripts:

Use the “Hard – Easy” Script

- ***“Aaron is this hard or easy?”***
- ***“OK, if it’s hard, no problem I’ll give you some help.”***

Use the Ready – Not Ready Script

- ***“Aaron you’re not ready to do this.”***
- ***“I’ll know you’re ready when you look like _____.”***

**Constructing an identity
that is meaningful and
sustainable is a primary
goal of intervention**



The Doberman threw himself out the second-story window soon after he realized the family had indeed named him "Binky."

Doberman
n

THAT'S WHAT I AM!

THAT'S WHO I AM!

**RIGHT OR WRONG,
I CAN'T CHANGE THAT**

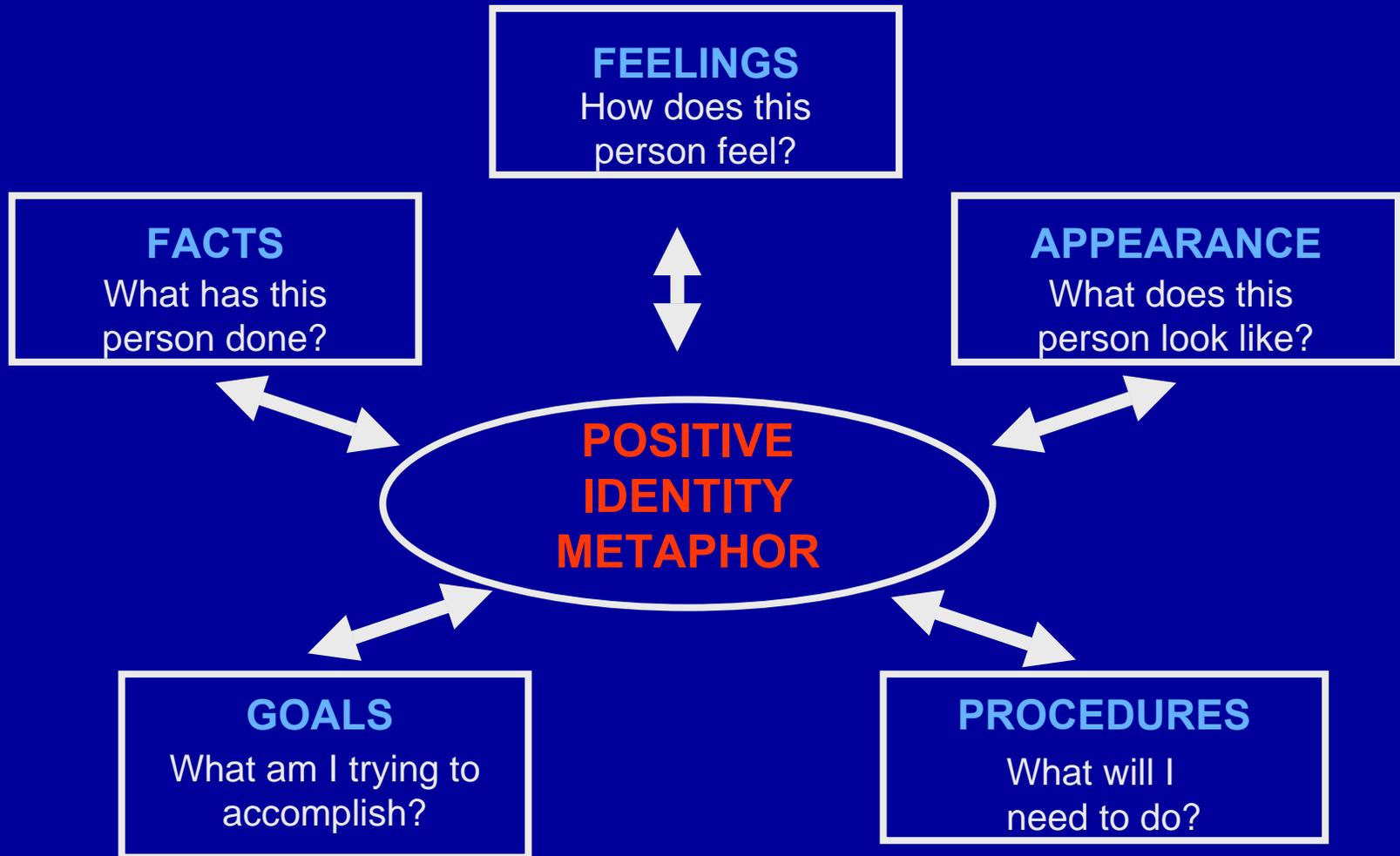
CARLITO (AL PACINO), CARLITO'S WAY

**“The self is not something
ready made but something in
continuous formation
through choice of action.”**

- John Dewey

Reconstructing/Constructing Identity

An Identity Map



Goals:

Simply comply
Others set goals
No goals for self

Feelings:

Anger at driver and all authorities
Inadequacy, dependence
Hopelessness, frustration

Facts:

TBI: 1991
Many injuries
11 weeks: hospitalization
Casts, scars, crutches
Multiple surgeries

Jason the Victim

Appearance:

Crutches, casts, etc

People

Therapists, physicians, aides

Places

Hospitals, clinics

Action strategies:

No need for strategies; others take
responsibility
No sense of responsibility
Other people's charge

Goals:

Freedom
Independence
Retribution (driver, any
source of control)
Victory!!!!

Feelings:

Anger/Oppression
Power/Control
Competence/Independence
Zeal for justice

Facts:

Former marine
(Exaggerated) sense of
Improvement
Disjointed life in
disarray

Jason the
Marine

Appearance:

Attempt to project power

People

Everyday people

Places

Everyday places

Action strategies:

When provoked, scorched earth policy
Demonstrate ability and power
Demonstrate others wrong
Experiment with new things
Try therapy (unsuccessful)

Goals:

First rate production
Make a clear statement
Define self

Feelings:

Satisfaction
Accomplishment
Growth
Control
Focus

Facts:

Actor willing to be directed
Director
Mayor
Producer
Successful

**Clint
Eastwood**

Action strategies:

Contemplate versus react
Plan for success (daily strategy
formulation sessions;
daily plan sheets; barometer)
Script in advance
Practice taking alternative perspectives
Goal-Plan-Do-Review
Use supports wisely

Appearance:

Appropriate to the context

People

Support people
Non-conflict people

Places

IDENTITY CONSTRUCTION

Helping individuals with disability construct a sense of personal identity that is:

- **Satisfying/compelling**
- **Organized**
- **Adequately realistic**

AND that includes the hard strategic effort needed to be successful with a disability

“IDENTITY MAPPING”

- Identification of goals
- Identification of image, hero, metaphor
- Organization of identity description
- [Creation of “identity map”]
- Supported practice
- Modification of others’ support behavior
- Possibly meaningful project

Identity Mapping: Cautions

- **Professional competence**
- **Emotional fragility**
- **Professional imposition**
- **Cognitive prerequisites**
- **Meaningful language**

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- **Dangerous metaphors**
- **Negative use (e.g., “nagging”)**
- **Getting stuck; flexibility**
- **Heroes and victims**
- **Time post injury**

Interacting Cognitive Subsystems

Propositional Code: Semantic meanings;
knowing that ...

Implicational Code: Generic, holistic,
emotional meaning

- Not true/false, but rather motivating vs disheartening; inspiring vs. boring; etc
- Communicated by narrative, symbol, metaphor, image, etc
- Includes sense of self
- Connected to one's "gut"

SENSE OF SELF FOR INDIVIDUALS WITH CO-EXISTING DISABILITIES

- **Perplexity**
- **Unawareness or denial: Retention of preinjury self-concept**
- **Fragmentation**
- **“I am a victim” (passivity; depression)**
- **“I refuse to be a victim” (anger; aggression)**
- **“I’ve changed; I’ve got my work cut out for me” (resolve)**

Self-Awareness: Intervention

Range of options: highly confrontational to non-confrontational. The degree of confrontation that is appropriate depends on:

- **length of time post injury**
- **seriousness of the consequences of unawareness**
- **severity of anosagnosia/potential for change**
- **emotional fragility**
- **age/maturity**
- **available resources and support**
- **environment**

RELATIVELY LOW CONFRONTATION OPTIONS

- 1. Negotiated assessment tasks and self-assessment**
- 2. Routine conversational EF scripts (e.g., hard-easy script; big deal-little deal script)**
- 3. Projects: Identifying domains of expertise and also of need**
- 4. Facilitated "product monitoring" tasks to encourage self-discovery**

Relatively High Confrontation Options

- 1. Verbal recitation of deficits**
- 2. Direct presentation of low test results**
- 3. Peer confrontation (in or out of therapy)**
- 4. Self-observation on video (attempting challenging tasks)**

Learned Helplessness

Adapted from Peterson, Maier, & Seligman, 1990

- ◆ **An individual feels as though they have no control over events and then gives up. The general belief: *FUTURE EVENTS ARE OUT OF MY CONTROL.***
- ◆ **Reduced initiation and apparent lack of motivation.**
- ◆ **A conditioned response – learned uncontrollability. In an uncontrollable situation the probability that an outcome will occur when an individual responds is the same as the probability that an outcome will occur when a response is not made.**
- ◆ **Helplessness resembles depression. Lack of interest, decreased appetite, feelings of worthlessness and guilt, lack of energy, inability to think clearly or concentrate.**

Replacing Learned Helplessness with Self-Regulation

from Bronson, 2000

- ◆ Experience a “reasonable” amount of social attachment
- ◆ Experience a physical and social world that is meaningfully organized and adequately predictable
- ◆ Experience an adequate amount of control over environmental and social events
- ◆ Receive “authoritative/apprenticeship” supports as opposed to an authoritarian or overly permissive style of control
- ◆ Are rewarded for self-regulatory and self-control behaviors by adults who value self-regulation and autonomy

Executive Functions and Learned Helplessness

Learned Helplessness: Core concept = “I have no control over events in my life, particularly negative events”

May result in:

- **Depression**
- **Passivity/apathy**
- **Anger, hostility, and acting out**
- **Combination**

Learned Helplessness and Attribution

Negative Attribution

- **Stable attribution: things will never change**
- **Global attribution: everything happens like this in my life**
- **Internal helplessness: I can't do anything right**

Learned Helplessness and TBI

- **Individuals who experience a world in which most events are out of their control show increased negative affect, slower problem solving, failure to master tasks, and persistent use of unhelpful strategies.**
- **After TBI, there is a natural tendency to remove opportunities for control from the person, risking learned helplessness (manifested as apathy, depression, or anger)**

Learned Optimism

Optimism is associated with:

- **Effective self-regulation of behavior and cognition**
- **Initiation and maintenance of goal-directed behavior**
- **A disposition to obtain relevant information in order to make effective decisions and plans**
- **A tendency to attend to risks as problems to be solved rather than barriers to success**

Teaching Optimism

Pennsylvania Optimism Program: School-Based (Context-Sensitive) Intervention

- 1. Teach a flexible/realistic attributional style**
- 2. Encourage: describe ones behavior first, then identify related factors**
- 3. Teach problem-solving skills in the context of the academic and social “curriculum”**
- 4. Correct errors in social perception/cognition**
- 5. Facilitate assertiveness and negotiation**
- 6. Address cognition, emotion, and behavior as necessarily interdependent**

Helping People Choose to Plan

- **DO NOT** plan on planning in situations that have historical impulsive routines in place
- Help individuals to “connect the dots”; make the outcomes associated with planning explicit and the likely outcomes associated with *not* planning equally explicit
- Show the positive effects of planning for the individual in the short term and long term
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- Create a culture of planning early and often
- Plan *with* the person, *not for* the person

To Assure Long Term Success Individuals Need to:

- ◆ **Know that an event or activity will be difficult**
- ◆ **Establish reasonable goals (in some cases these might be immediate)**
- ◆ **Formulate a plan to achieve the goal (or understand the plan)**
- ◆ **Initiate goal-directed behavior**
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- ◆ **Attend to and evaluate how well they are doing**
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**“You can’t talk your way out of
something
you behaved
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Project Approach

- **Meaningful goal; *product***
- **Deep processing**
- **Planning and organizing**
- **Meaningful context for practice**
- **Integration of activity over time**
- **Integration of several contexts**
- **Expert role**
- **Helper/producer role**

Project Approach: Rationale

- **Organizational impairment**
- **Superior involuntary learning**
- **Weak elaborative encoding**
- **Need for situated learning**
- **Need for errorless learning**
- **Need for routine learning**

Project Approach

Rationale (cont'd)

- **Internalization of mediated interaction**
- **Egocentrism**
- **Unawareness**
- **Intrinsic motivation**
- **Oppositionality**
- **Sense of self**
- **Self-esteem**

Alliances are Critical to Success

1. When working with others in a concordant manner the intensity, consistency, and duration of services improves.
2. There is an increase in the probability of generalization and maintenance of positive change (Brown's Rule of Three: Three people, three places, three times.)
3. There is a necessary infusion of reality, common-sense, and a functional focus of interventions.
4. *"All of us are smarter than any one of us."*

Creating Alliances: Three Rules of Thumb for Professionals

- 1. Demonstrate respect all the time, especially when interacting with someone that you don't like (or who doesn't like you!).**
- 2. Seek the insights of everyday people - find the hidden experts and use their expertise.**
- 3. Keep your hat in your hand; never forget you will always be a visitor in the life of the person with whom you are working.**

Alternative Behavioral Paradigms

A

B

C

**Tradition: Behavior is
a function of its consequences**

A

B

C

**PBS alternative: Satisfying
behavior chains are
created with everyday
antecedent supports**

SETTING EVENTS

INTERNAL STATES OF THE INDIVIDUAL

Neurologic States

- *positive setting events*: normal neurology
- *negative setting events*: e.g., overactiveness of the limbic regions; seizures; neurotransmitter disruption, decreased cerebral blood flow

Other Physiologic States

- *positive setting events*: e.g., rest, relaxation, satiation, appropriate levels of medication
- *negative setting events*: e.g., pain, illness, hunger, over medication, under medication, drug/alcohol usage

Internal States (Cont'd)

Cognitive States

- *positive setting events*: e.g., orientation to task, familiarity with routine, adequate recall of relevant events, adequate recognition of things and people
- *negative setting events*: e.g., confusion, disorientation, frustration, inadequate recall and recognition

Emotional/Mental Health States

- *positive setting events*: e.g., sense of accomplishment, success, achievement, acceptance by others, respect from others
- *negative setting events*: e.g., anxiety, anger, depression, sense of loss and failure

Perception of Task Meaningfulness and Difficulty

- *positive setting events*: belief that assigned tasks are meaningful and can be accomplished
- *negative setting events*: belief that assigned tasks are meaningless, infantilizing, or impossible

(cont'd)

EXTERNAL EVENTS AND CONDITIONS

Presence or Absence of Specific People

- *positive setting events*: presence of preferred people
- *negative setting events*: absence of preferred people, presence of nonpreferred people

Recent History of Interaction

- *positive setting events*: recent positive and pleasurable interactions
- *negative setting events*: recent conflict or disrespectful interaction

External Events/Conditions (cont'd)

Other Environmental Stressors

- *positive setting events*: appropriate and desirable environmental stimulation
- *negative setting events*: irritating environmental stimulation; e.g., ambient noise, improper lighting, other distractors

Time of Day

- *positive setting events*: alertness, best time of day relative to the individual's natural cycles
- *negative setting events*: bad time of day relative to the individual's natural cycles;

ABA Core

Baer, Wolf, and Risley '68

- 1. Applied: social validity**
- 2. Behavioral: actual, measurable, real-world behaviors and outcomes**
- 3. Analytic: understand the function of a specific behavior in specific circumstances**
- 4. Technological: interventions clearly and operationally defined**

ABA Core (cont'd)

- 5. Conceptual: intervention procedures clearly specified within a theoretical framework**
- 6. Effective: interventions determined to be effective for the individual under real-world conditions (SS designs)**
- 7. Generalization**
 - 1. Maintenance over time**
 - 2. Adequate stimulus generalization: spread to reasonable variety of settings/activities**
 - 3. Adequate response generalization: spread to reasonable variety of behaviors**

PBS: CRITICAL THEMES

1. ABA themes:

- A-B-C framework
- FBA (correlational and experimental assessment)
- Teaching: model, prompt, shape, chain, transfer)

2. Primary goal: satisfying life for individual and relevant support people

3. Context: ecology of behavior (assessment and intervention)

4. Context: person-centered values, planning, decision making, self-determination

PBS themes (cont'd)

5. **Context: role of everyday people**
6. **Antecedents: incl. remote and internal**
7. **Antecedent/support focus: alter the context of behavior to make it *irrelevant***
8. **Teach positive communication alternatives**
9. **Organize daily routines to promote positive behavior: choice, meaningful activities, positive momentum, competent communication partners, natural and logical rewards for positive behavior**
10. **Life-long support focus**

PBS PROCEDURES

- 1. Positive, negotiated, well-understood daily routines**
- 2. Prevention: eliminate provocation**
- 3. Prevention: positive communication from communication partners**
- 4. Positive communication alternatives**
- 5. Positive setting events**
- 6. Positive behavioral momentum**
- 7. Choice and control**
- 8. Interesting, meaningful, do-able tasks**

PBS Procedures (cont'd)

9. Pivotal behaviors
10. Positive roles and scripts
11. Recreation and leisure
12. Community mobility and adjustment
13. Satisfying social relationships
14. Positive sense of self
15. Self-control of antecedents

CONCERNS ABOUT PBS

- **Do positive behavior supports merely “control/manage” behavior without modifying it??**
- **Do supports create dependence and helplessness??**

PBS Response

- **Short answer: NO!**
- **Longer answer: Normal developmental model: Support and prevent crises; create habits of positive behavior; but pull back supports when it becomes possible to do so.**
- **Long answer: How in general does one help without creating helplessness?**

FURTHERMORE

“Functional” in functional behavior assessment leads inevitably to:

- **Antecedents, including remote and internal antecedents**
- **A need to modify antecedents in creating positive behavior chains – i.e., habits**

More Intervention Ideas:

**Conceptually Simple,
Procedurally Difficult**

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SUCCESSFUL SUPPORT PLANS

Identify the “3 Big Things”
(Remember: Program 1st, Place Emerges)



**Identify Initial Social/Behavioral
Goals and Objectives**
Ideally small range of goals and objectives



Create a Flexible System of Support
People
Places
Events



Create a Plan for Supports
Circumstances for increases & decreases

**ONGOING ASSESSMENT &
ADJUSTMENT**

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Project Based Intervention

- Present a project in terms of helping others identify important information for transitions
- Provide a context to evaluate and plan for the “big picture” with Sarah and her family
- Provide a context to collaborate, as consultants, with the team (e.g., the aide, classroom teacher, vocational teacher, and parents).

Project Approach

- **Meaningful goal; *product***
- **Deep processing**
- **Planning and organizing**
- **Meaningful context for practice**
- **Integration of activity over time**
- **Integration of several contexts**
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- **Helper/producer role**

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Project Approach

Rationale (cont'd)

- **Internalization of mediated interaction**
- **Egocentrism**
- **Unawareness**
- **Intrinsic motivation**
- **Oppositionality**
- **Sense of self**
- **Self-esteem**

Managing Crises Management: Establishing A Protocol for Problems ***Before*** They Occur

Plans for People

- *Who* will intervene first?
- How will s/he get help?
- How will others respond to requests for help? (“I need help.” “I need help now.”)
- How will we replace a person who’s “done”?

Plans for Interruption and De-escalation

- Identify idiosyncratic signals of impending trouble.
- Identify hierarchy of redirection (e.g., proximity, a break, humor, etc.).
- Identify methods of reducing emotionality of situation

Plans for Protection

- Managing the environment.
- Managing/moving others.
- Having a predetermined place to remove the individual, if necessary.

**General
Crisis
Prevention
Needs**



- **Meaningful executive function routines**
- **Sustained positive personal relationships**
- **Coaching/apprenticeship opportunities for individuals and staff**
- **A definition of manageable and unmanageable crises and a well understood plan for responding to these crises**

**Crisis Response
Needs**



- **Staff trained in crisis intervention approaches**
- **Identification of triggers (by individuals and staff alike)**
- **Identification of solutions that are desired by the individual**
- **Identification of environmental management strategies**
- **Development of a crisis response protocol (for the entire organization)**

A Crisis

An event that results in disruption of routine events and requires actions that are atypical for staff and others

Manageable Crisis

- Requiring a change in the routine activities.
- Disruptive of peer routines.
- Requiring the attention of staff to the detriment of peers.
- May require change in the environment.

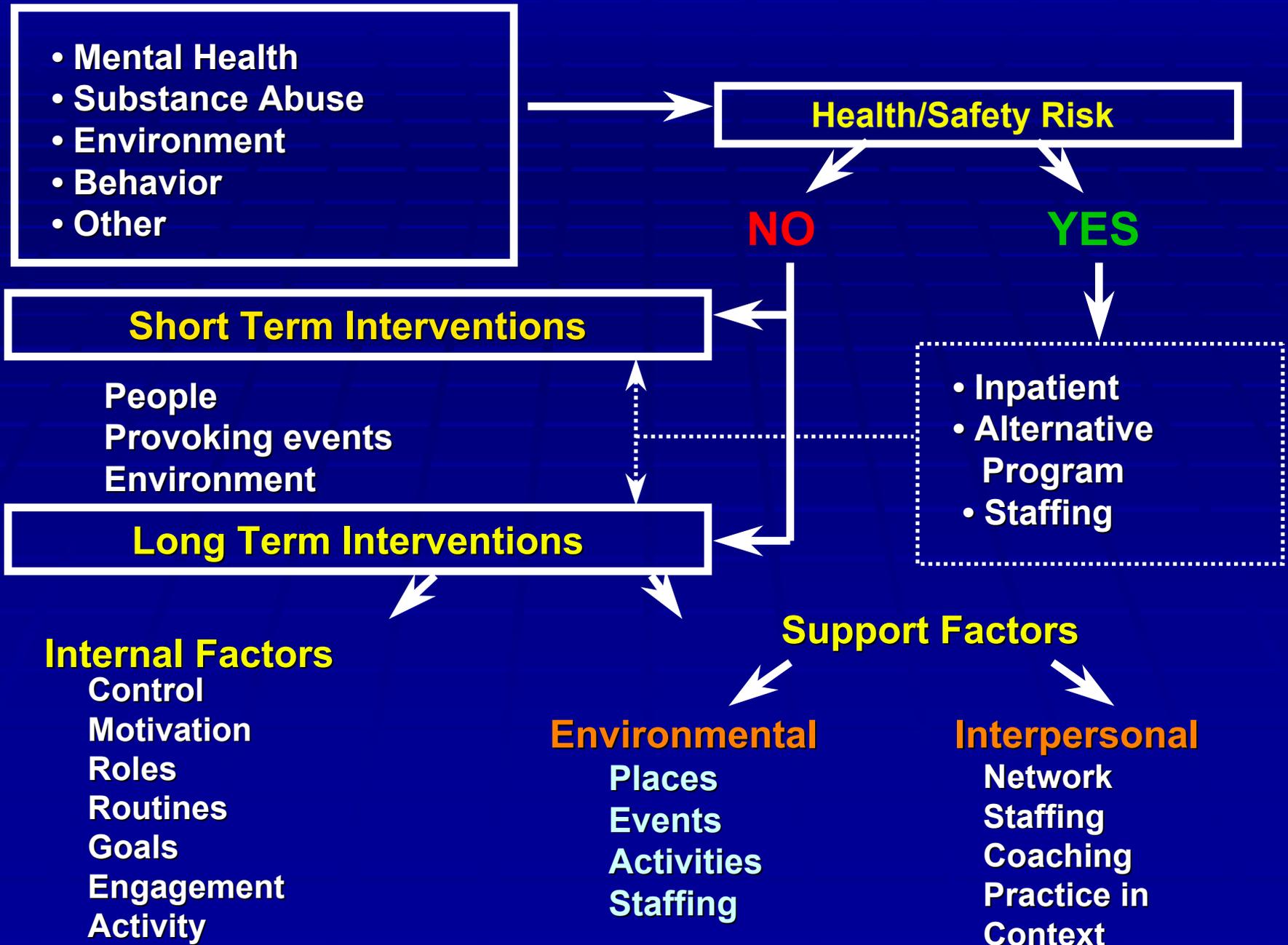
Unmanageable Crisis

- Results in health and safety risk to self or others.
- Requires the attention of more than one staff.
- Results in behavioral contagion effect.
- Requires significant change in environment.

Family Response Plan

911 Plan

A Decision Matrix for Dealing with Difficult Situations



**Brain Injury and
Co-Existing Disabilities:
An Overview of
Common Issues**

Substance Abuse and Poor Long-Term Outcome Following Brain Injury

extrapolated from Corrigan

- **51% of fatal accidents involved a driver with a blood alcohol level of .10 or greater**
- **43% of individuals with poor outcomes (e.g., joblessness, living at home, interpersonal difficulties, etc.), tested at the time of admission to rehabilitation, were intoxicated at the time of injury**
- **62% of individuals with poor long term outcome had a history of alcohol abuse**

Substance Abuse and Poor Long-Term Outcome Following Brain Injury

extrapolated from Corrigan

- **44% of individuals with poor outcome, tested at the time of admission to rehabilitation, tested positive for illicit drugs at the time of injury**
- **34% had a history of drug abuse**
- **64% of individuals with poor outcome had a history of either alcohol or drug abuse**

Consequences of Alcohol or Substance Abuse for the Community Following Brain Injury

- **41% of individuals who have a history of substance abuse and are referred for clinical assistance received their income through government supports**
- **28% of individuals with a history of substance abuse receive the majority of their financial support from family members**
- **Individuals with a history of substance abuse have a higher rate of medical service utilization and more frequent hospitalizations**
- **Heavy users have a greater frequency of criminal activity; 1/2 of those more than 2 years post injury have a minimum of one arrest**

Consequences of Alcohol or Substance Abuse for the Individual Following Brain Injury

- **Approximately 20% of those who abstained or were light drinkers pre-injury were heavy drinkers post-injury**
- **Consumption of substances often approaches or exceeds pre-injury rates 2 years post-injury**
- **Males and those with higher levels of pre-injury use are at greater risk for moderate to heavy use after injury**
- **Individuals with a history for abuse or were intoxicated at the time of injury were less likely to be working 1 year after injury**

Mental Health Consequences of Alcohol or Substance Abuse for the Individual Following Brain Injury

- **Acute *and* chronic substance abuse can cause the development, provoke the re-emergence, or worsen the severity of existing psychiatric disorders**
- **Substance abuse can mask existing psychiatric symptoms and disorders and exacerbate disabilities associated with brain injury**
- **A significant number of individuals use alcohol or illicit drugs to dampen psychiatric symptoms or disabilities associated with brain injury, or to relieve themselves of unwanted side effects of medications**

Mental Health Consequences of Alcohol or Substance Abuse for the Individual Following Brain Injury

- **The symptoms of co-existing psychiatric disorders may be misinterpreted as poor or incomplete recovery from addiction or poor recovery from brain injury**
- **Psychiatric disorders, or disabilities associated with brain injury, may interfere with an individual's ability and motivation to participate in addiction treatment and/or with an individual's willingness to follow any intervention program**

Elements of Co-Existing Disabilities

- **Individuals with a history of substance abuse tend to have multiple brain injuries**
- **The incidences of brain injury increase with Axis I and II diagnoses**
- **There is some evidence that individuals with occluded (or undiagnosed) psychiatric impairments have a greater incidence of brain injury**
- **Individuals who were intoxicated at the time of brain injury have less optimal recovery**
- **Individuals with pre-injury psychiatric disturbances have less optimal recovery**

General Tendencies in Co-Existing Disabilities Post Brain Injury

- **There is no single combination of co-existing disabilities although there are some central tendencies:**
 - **Brain injury, in general, commonly leads to mental disorders (across all Axes) that can be diagnosable using DSM-IVTR criteria.**
 - **Substance abuse increases significantly post-injury, even in those individuals who did not use prior to injury**
 - **Opiate addicts have higher rates of personality disorders (these are often occluded or present at sub-clinical levels prior to brain injury)**
 - **Mental health programs and homeless shelters have higher rates of individuals with schizophrenia (these tend to be present at clinically diagnosable levels but often go untreated prior to brain injury)**

General Tendencies in Co-Existing Disabilities Post Brain Injury

- **Progress in recovery is dependent on the motivation of an individual to change, and the motivation for treatment of each illness (psychiatric and brain injury) will likely vary, therefore the process of recovery from each will vary.**
- ***Motivation is a personal and internal state.***
You, me, we cannot motivate people; we can help them learn to access things and events that are motivating to them.

General Tendencies in Co-Existing Disabilities Post Brain Injury

- **Psychiatric disability and the disabilities that result from brain injury are best regarded as having parallel phases of intervention and recovery:**
 1. **Acute stabilization**
 2. **Engagement in treatment (engagement, persuasion, active treatment)**
 3. **Prolonged stabilization and maintenance**
 4. **Rehabilitation and recovery**

Mental Illness and Brain Injury

- **ICD-10 Diagnoses**
 - **F06: Other mental disorders due to brain damage and dysfunction and to physical disease**
 - **F07: Personality and behavioral disorders due to brain disease, damage, and dysfunction**
 - **F09: Unspecified organic or symptomatic mental disorder**

Organic Mental Disorders

- Evidence of brain disease known to cause a mental disorder
- Temporal relationship between mental disorder and brain disease
- Absence of any other explanation
- *Mental disorder improves when brain disease is treated*

The Relationships Between Site of Injury and Associated Delusions

from Smeltzer, Nasrallah, & Miller, 2004

Site of Injury

1. Diffuse lesions in cortical association areas & the hippocampus
2. Subcortical (basal ganglia, thalamus) and limbic lesions

Delusional Characteristics

1. Simple, loosely held persecutory beliefs that are often transient and responsive to intervention
2. Complex delusions that tend to be chronic and resistant to intervention

The Relationships Between Site of Injury and Associated Delusions

from Smeltzer, Nasrallah, & Miller, 2004

Site of Injury

1. Left side temporal lobe lesions
2. Right hemisphere lesions

Delusional Characteristics

1. Chronic schizophrenia-like delusional syndromes (often with a religiosity or certainty of thought)
2. Capgras Syndrome, reduplicative paramnesia; hallucinations

New York Behavioral Resource Project

The General Framework of Support

- *Intervention programs must be person-centered, person-developed, person-modified.*
- Focused on the meaningful engagement in chosen life activities
- Focused on the “three big things”, or on outcomes that have utility for the person. are sustainable with natural supports, and activities that are important to the individual.

- **Positive Supports**
 - **Maximizing opportunities for individual choice and control**
 - **Creating positive communication cultures and routines of communication alternatives**
 - **Creating opportunities for the individuals to experience positive roles and personally meaningful activities**
 - **Developing interactive scripts for individuals with brain injury and the people who support them**
- ***All intervention programs must be developed with the “real” contexts of an individual’s life in mind***
- **Interventions that are organized around everyday routines**

- **Interventions that are developed with and delivered by everyday people**
- **Interventions that are doable in context**
- ***All intervention programs must be developed in a collaborative manner***
 - **Contextualized collaborative hypothesis testing**
 - **Everyone has a role in the development of intervention strategies and in the assessment of the effectiveness of strategies**

Premises for Effective Services and Supports

- Because of the extreme variability within the population of individuals with brain injury and within programs serving them, planning requires individualization.
- Frontal lobe injury is the most common form of injury and frequently results in assessment challenges and delayed consequences.
- It is misguided at best to prescribe one or a small number of specific programs for individuals with brain injury.

Premises for Effective Educational Services and Supports

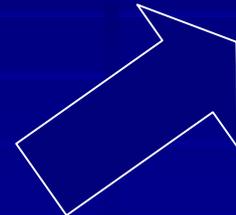
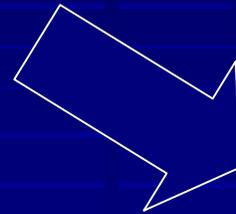
- Cognitive and behavioral challenges often interact to produce the most troubling obstacles to vocational and social success.
- Standardized out-of-context assessment often fails to identify functional disability.
- Intervention is most effective if provided in everyday settings and in the context of everyday routines.
- Antecedent based interventions (i.e., positive behavioral supports) are more effective than traditional contingency management in behavioral programming for most students with brain injury.

Premises for Effective Educational Services and Supports

- **Successful programming for individuals with brain injury requires flexibility and frequent review.**
- **Collaborative decision making and services are most effective.**
- **Intensive supports may need to be systematically withdrawn to enable the individual to gain realistic self-awareness and prepare for the future.**
- **Successful life for individuals with brain injury is related to the supports that are provided by family and peers.**

**Behavioral
Control**

**Social
Competence**



**Academic &
Vocational
Growth**

Three Beliefs That Will Affect the Likelihood That You'll Be Successful

- **Optimism & Hope.** Evident in the problems that are targeted and the language that is used when describing the individual and when interacting with the individual.
- **Appreciating the Influences of Contextual Factors on Behavior.** Requiring an understanding of the setting events (the distant events on an individual's behavior).
- **Applied Pragmatism.** Recognizing that there is no single "right" solution; moving away from the notion of "consistent" use of a prescribed intervention strategy to "concordance" on the part of all involved.

Sow your seed in the morning, and in the evening let not your hands be idle, for you do not know which will succeed, whether this or that or whether both will do equally well.

-Ecclesiastes 11:6

**In many ways good intervention really
based on the systematic application of
common-sense.**

Unfortunately. . .

“Common sense is terribly uncommon!”

- Mark Twain

Incidence and Prevalence

- Roughly 500,000 hospitalizations related to traumatic brain injury in the US per year.
- Each year roughly 50,000-80,000 individuals are added to the prevalence total with some degree of persistent disability associated with TBI leading to the speculative estimate of 5.3 million Americans with TBI (CDC, 1999)
- Direct medical costs (acute hospitalization and rehabilitation) are estimated at \$48.3 billion per year (AHCPR, 1999)

Incidence and Prevalence

- Incidence of TBI highest among young people with 15- to 20-year old males being the most vulnerable (CDC, 1999)
- Risk factors:
 - Males have twice the rate of TBI as females, with the ratio even higher (3 or 4 to1) in the higher risk group.
 - Especially common in lower socio-economic groups
 - Higher rates of injury among people with less than high school education and among those with a history of poor academic performance.
 - Alcohol is a large contributing factor.