A Biobehavioral Approach to Functional Assessment

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Objectives

Three major kinds of setting events:

- Genetic factors
- Biological issues
- Mental Health issues

Setting Events

- Can be environmental (e.g., noisy room, crowds)
- Can be biological (genetic syndrome, illness)
- All affect the efficacy of reinforcers for both problem behavior and adaptive behavior

Functional Assessment Process

- The focus of a functional assessment is to gather data on the setting events, antecedents, and consequences
- How does having a specific genetic disorder, medical illness, or psychiatric disorder affect the FA process?
- All of these could be seen as setting events that affect reinforcement process

Biological Setting Events

- Pain due to:
  - Otitis Media
  - Headaches
  - Gastroesophageal Reflux Disease or other GI problems
  - Menstrual Pain
- Illness (chronic conditions or acute illness)

Biological Setting Events

- Sleep Deprivation
- Mood
- Allergies (skin scratching)
- Fatigue
- Hunger

Functional Assessment and Intervention

- Get a complete medical evaluation of possible biological factors
- Collect data on presence/absence of these factors and frequency of problem behavior
- Use this information to inform FA process
- Intervention – based on alleviated SE or modifying the environment when SE present

Genetic Factors

Behavioral phenotype associated with a genetic disorder can impact behavior plan on many levels:

- Certain reinforcers are more or less effective
- More predisposed to certain behaviors and response patterns
- Also impacts types of interventions chosen

Genetic Disorders – Behavioral Factors

- Often have associated health issues
- Thus, families are more likely to treat the child as fragile
- Attribute behavior to the disorder ("they can't help it, they have ___")

Prader-Willi Syndrome

Behavioral phenotype:

- Hyperphagia
- Temper tantrums
- Obsessive compulsive behavior
- Skin picking
- Rigidity/stubbonness

Functional Assessment with People with Prader-Willi Syndrome

- Evaluate the role of food as a motivator for problem behavior
- Look at other family dynamics as motivator
- Skin picking => sensory reinforcement but evidence that there may be other motivators as well

Fragile X syndrome

Features usually include:

- mental impairment, ranging from learning disabilities to mental retardation
- attention deficit and hyperactivity
- anxiety and unstable mood
- autistic behaviors
- long face, large ears, flat feet
- hyperextensible joints, especially fingers
- Seizures (epilepsy) affect about 25% of people with fragile X

Williams Syndrome

Common features:

- Characteristic facial appearance
- Heart and blood vessel problems
- Low birth weight/slow weight gain
- Feeding problems
- Irritability (colic during infancy)
- Musculoskeletal problems
- Hyperacusis (sensitive hearing)
- Musculoskeletal problems
- Overly friendly, excessively social personality
- Developmental delay
- Attention deficits

Genetic Syndromes Associated with SIB

Smith-Magenis Syndrome

- 50-70% of individuals
- Body self-hugging, putting objects in body orifices

Genetic Syndromes Associated with SIB – Rett Syndrome

Neurodegenerative syndrome in females
Early normal growth followed by

- a loss of purposeful use of the hands,
- distinctive hand movements (hand wringing),
- slowed brain and head growth,
- gait abnormalities,
- seizures,
- mental retardation

Lesch-Nyhan Syndrome

- 100% of individuals engage in SIB
- Topography: lip and finger biting
- Treatment involves constant mechanical and physical restraints or blocking of SIB
- Neurological symptoms including
  - facial grimacing,
  - involuntary writhing, and repetitive movements

Functional Assessment of Genetic Syndromes

- Need to behavioral phenotype into account, but not always cut and dried
- Neurodevelopmental or neurodegenerative issues
- Medical/genetic issues may affect efficacy of reinforcers as motivators for both adaptive and problem behavior

Is autism a genetic syndrome?

- Definitely has a genetic component
- But given spectrum – there is a lot of variability in behavioral phenotype
- Multiple phenotypes?
  - Kids with severe autism (males vs females)
  - PDD kids
  - Asperger kids

Functional Assessment with Individuals with Autism

Must take into account autism-specific issues

- Sensory issues
- Communication issues
- Interruption of perseverative activities
- Access to perseverative activities/toys

Comparison of "typical" versus autism-related functions

Typical Reinforcers:

- Gain attention
- Gain access to toys, activities
- Escape demands

Autism-Related:

- Gain access to perseverative activities or toys
- Escape demands when engaged in perseverative activities
- Escape sensory stimulation

Mental Health Issues

How do you take into account mental health diagnoses into your work as a facilitator?

Some of these factors overlap with their developmental disability

E.g., a child with autism that has a obsessive compulsive disorder or can be hyperactive

Diagnosing Mental Illness in Individuals with ID

- Historically ignored in people with severe ID
- Now getting better at looking at behavioral symptoms, but primarily rely on caregiver
- Several rating scales being developed to assist in diagnosis

Diagnostic Measures

- Diagnostic Assessment for the Severely Handicapped (Second edition)
- The Child Behavior Checklist
- Developmental Behavior Checklist
- Reiss Screen for Maladaptive Behavior
- Psychiatric Assessment Schedule for Adults with Developmental Disability (PAS-ADD)

Rating Scales for Specific Disorders

- Yale-Brown Obsessive-Compulsive Scale (Y-BOCS)
- Compulsive Behavior Checklist
- Glasgow Depression Inventory
- Mental Retardation Depression Scale
- Child Depression Inventory
- Intellectual Disability Mood Scale

Mental Health

- How do you separate behavior that is motivated by environmental factors versus behavior affected by mental illness (or an interaction between the two)?

Behavioral Interventions

- How does having a mental health disorder affect the behavioral intervention you choose?
  - Type of reinforcers used
  - Target behaviors
  - Choice of alternative behaviors selected
  - Requires ongoing evaluation of setting events

Mental Health Issues

- Collaborating with team is more complex
- May have to refer to other specialists (counselors, psychiatrists, social workers)
- Wider circle of support

Medication Evaluation

- KIPBS facilitators can have a big impact on evaluating medication effects
- Use of direct observation measures before, during and after trial
- Can also use rating scales and other behavioral measures
- Can inform decision on behavioral efficacy and side effects

Medication Evaluations

- Collaborating with medical providers a critical component of team-based approach
- Perfect opportunity to bring together expertise in biomedical and behavioral approach to treatment
- Opportunities for this combined approach in conducting better clinical trials (both industry-sponsored and investigator initiated)

Developing Behavioral Interventions

During FBA process, identify the biobehavioral setting events and develop interventions based on modifying these variables:

- Interventions that modify/improve diet, sleep, mood
- Interventions that change when SE present
- Medications – measure both behavioral and side effects