Functional Analysis of Problem Behavior
Basic Methods, Extensions, & Challenges

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Special Note

JABA
Journal of Applied Behavior Analysis

- Spring 2013 (Vol. 46, #1)
- Special issue on functional analysis
- 31 articles on various aspects of assessment & treatment
- See Wiley online library for reprints
Self-Injurious Behavior (SIB)

**Definition**
- Behavior that produces injury to the individual's own body (Tate & Baroff, 1966)

**Prevalence**
- 10% - 17% among IDD and ASD (Didden et al., 2012)

**Common forms (topographies)**
- Biting
- Eye gouging
- Head banging
- Hitting/slapping
- Pica
- Pinching
- Ruminating
- Scratching

**Common approaches to treatment**
- Drugs
- Restraint
- Operant conditioning (applied behavior analysis)

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Structural vs. Functional Analysis

**Structural analysis:**
- Identification of parts or components
- General: Of what is this thing made?
- Environment & behavior: What events are happening?

**Functional analysis:**
- Identification of uses or purpose
- General: What does this thing do?
- Environment & behavior: Why are these events happening?
Functional Analysis of Behavior

Purpose:
- To discover “cause-effect” relations
- Effects: Changes in behavior
- Causes: Experience

Goals:
- Understanding: Why does behavior occur?
- Treatment: How to change behavior?
- Prevention: How to inhibit development of behavior?

Learned Functions of Behavior Disorders

Most behavior problems are learned
- Behavior is acquired and maintained by consequences
- Similar consequences produce adaptive and maladaptive behavior

Major contingencies of reinforcement
- Positive Reinforcement (Sr+, reward)
- Negative Reinforcement (Sr-, escape or avoidance)
<table>
<thead>
<tr>
<th>Function</th>
<th>Antecedent Event</th>
<th>Consequent Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sr+</td>
<td>Deprivation (no attention)</td>
<td>Attention</td>
</tr>
<tr>
<td>Automatic Sr+</td>
<td>Deprivation (no sensory stimulation)</td>
<td>Sensory stimulation</td>
</tr>
<tr>
<td>Social Sr-</td>
<td>Aversive stimulation (task demands)</td>
<td>Removal of task</td>
</tr>
<tr>
<td>Automatic Sr-</td>
<td>Aversive stimulation (pain or discomfort)</td>
<td>Alleviation of pain</td>
</tr>
</tbody>
</table>

**Functional Behavioral Assessment**

<table>
<thead>
<tr>
<th>Precision</th>
<th>Simplicity</th>
</tr>
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<tbody>
<tr>
<td>Least</td>
<td>Most</td>
</tr>
<tr>
<td>Anecdotal (Indirect) Methods</td>
<td>Descriptive (Naturalistic) Analysis</td>
</tr>
<tr>
<td>Most Functional (Experimental) Analysis</td>
<td>Least</td>
</tr>
</tbody>
</table>

**Terminology**

- *Functional behavioral assessment (FBA):* Any systematic attempt to identify determinants of problem behavior
- *Functional analysis (FA):* Use of the experimental model to identify cause-effect (environment-behavior) relations
Indirect (Anecdotal) Methods

- **General Characteristics**
  - Focus on circumstances under which behavior occurs
  - Based on informant recall (no direct observation)

- **Examples**
  - MAS (Motivational Assessment Scale)
  - QABF (Questions about Behavioral Function)
  - FAST (Functional Analysis Screening Tool)

- **Advantages**
  - Simplicity, efficiency, no risk, potentially useful information

- **Limitations**
  - Poor reliability, questionable validity

- **Suggestion for implementation**
  - Use only as a preliminary guide
Descriptive (Naturalistic) Analysis

- **General Characteristics**
  - Direct observation of circumstances under which behavior occurs
- **Examples**
  - Scatter plot: Temporal recording of behavior
  - ABC analysis: Recording of interactional sequences
  - Interval recording: Temporal recording of rapid sequences
- **Advantage**
  - More reliable than indirect methods
- **Limitations**
  - Structural analysis only; no information about function
- **Suggestion for implementation**
  - Use to clarify definition of target behavior
  - Use to evaluate consistency of intervention

A-B-C Analysis

**Purpose**
- To identify naturally occurring, observable antecedents and consequences of behavior

**Typical procedure**
- Define target behaviors (B)
- Specify criteria for antecedent (A) and consequent (C) events
- Occurrence of B ➔ Record A, B, C
- Organize A-C clusters
- Generate hypothesis based on A-C correlations with B
# A-B-C Form

## Layout
- Client info
- Time
- Location
- Antecedent: Precedes PB
- Behavior: Target PB
- Consequence: Follows PB

## Record
- Occurrence of PB serves as occasion for recording

## Summary
- Organize A & C events into functional groupings

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## Functional (Experimental) Analysis

- **General Characteristic:** Systematic exposure to controlled conditions
  - Test: Suspected antecedent and consequent present
  - Control: Suspected antecedent and consequent absent

- **Variations**
  - BFA, single-function, trial based, latency, precursor

- **Advantage**
  - Most precise method of assessment

- **Limitation**
  - Most complex approach
Some Key Terms

Antecedent event: Establishing operation (EO)
- Alters the effects of a reinforcer
- EO present: Sr more valuable
- EO absent: Sr less valuable
- Example: Food deprivation ➔ food more valuable

Antecedent event: Discriminative stimulus (S⁰)
- Stimulus in whose presence reinforcement is more likely
- S⁰ present: Sr available
- S⁰ absent: Sr unavailable
- Example: Traffic light ➔ Stop/go more likely to be reinforced

Consequent event: Reinforcement contingency (Sr)
- If-then relation between a response and a consequence
- Contingency present: Behavior maintains
- Contingency absent: Behavior extinguishes

Functional Analysis Protocol

<table>
<thead>
<tr>
<th>Condition</th>
<th>S⁰</th>
<th>EO</th>
<th>Consequence</th>
<th>Contingency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention</td>
<td>S1</td>
<td>Th. ignores Cl.</td>
<td>Th. attends to beh. Problem</td>
<td>Positive rfmnt (attention)</td>
</tr>
<tr>
<td>Demand</td>
<td>S2</td>
<td>Th. presents learning trials</td>
<td>Timeout for beh. problem</td>
<td>Negative rfmnt (escape)</td>
</tr>
<tr>
<td>Alone</td>
<td>N/A</td>
<td>No stimulation</td>
<td>N/A</td>
<td>Automatic reinf</td>
</tr>
<tr>
<td>Play</td>
<td>S3</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A Control</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attn: Free</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demands: None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Toys: Free</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Typical Response Patterns

Function: Social Positive Reinforcement (attention)
Function: Social Negative Reinforcement (escape)
Function: Automatic Reinforcement (self-stimulation)

Challenges to Functional Analysis Methodology
- Complexity of assessment: It’s too difficult
- Time constraints: It takes too much time
- Setting constraints: I don’t have a controlled setting
- High-risk behavior: It’s too dangerous
- Low-rate behavior: I never see the behavior
- Uninterpretable results: I can’t identify the function
- Ethical issues: Explicit worsening of behavior
Complexity of Assessment: Logic & Data

Logical analysis
- What skills are needed to conduct a functional analysis?

Empirical analysis
- Undergraduate students (Iwata et al., 2000)
- B.A.-level therapists (Moore et al. 2002)
- Teachers (Bloom et al., 2013; Wallace et al., 2004)
- Teleconferencing (Barretto et al., 2006)

Time Constraints
Brief Functional Analysis (BFA)
- Northup et al. (1991): One, 5-min session of each condition
- Derby et al. (1992): 50% functions identified (40/79)
## Probable Functions of Specific Behavior Disorders

<table>
<thead>
<tr>
<th>Behavior Disorder</th>
<th>Positive Reinforcement</th>
<th>Negative Reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Social</td>
<td>Automatic</td>
</tr>
<tr>
<td>Aggression</td>
<td>+</td>
<td>Ø</td>
</tr>
<tr>
<td>Tantrums</td>
<td>+</td>
<td>Ø</td>
</tr>
<tr>
<td>Noncompliance</td>
<td>+</td>
<td>Ø</td>
</tr>
<tr>
<td>Property Destruction</td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td>“Stereotypy”</td>
<td>?</td>
<td>+</td>
</tr>
<tr>
<td>SIB</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

## Examples of Single Function Tests

![Graphs showing examples of single function tests](image)
Setting Constraints

FA in the home?
- Day et al. (1994), Harding et al. (2001), Nadjowski et al. (2008)

FA in typical classroom?
- Berg et al. (2007); Derby et al. (1994); Dolezal & Kurtz (2010); Frea & Hughes (1997); Grauvogel & Wallace (2010); Lang et al. (2008, 2009, 2010); McComas et al. (2000, 2003); Mueller et al. (2003); O’Reilly et al. (2009)

Trial-Based (Classroom) FA

(Bloom et al., 2011, 2013; Kodak et al., 2013; Lambert et al., 2013)

Classroom characteristics
- Rapidly changing activities ➔ Brief sessions
- Contiguous test-control comparison (control precedes test)
- Capitalize on naturally occurring activities

Study arrangement (Bloom et al.): 4-min trial
- 2-min control ➔ PB yes or no
- 2-min test ➔ PB yes or no

Recommended arrangement: 5-min trial
- 1-min control ➔ PB yes or no
- 4-min test ➔ PB yes or no
FA Trials

Attention (no tasks present)
- Control: Stand near student; initiate pleasant conversation
- Test: Stand near student but ignore; deliver attention only following problem behavior

Task Demand
- Control: Observe while no task demands are present
- Test: Deliver frequent prompts to engage in difficult work; remove work following problem behavior

Alone
- Two consecutive test segments. Observe when student is not working, not interacting with others, and has no access to leisure items

Correspondence: Social Sr-

![Graph showing correspondence between social stimuli and aggression levels.](image)
Rate (frequency) vs Latency

Start

Latency = time from start to response

End

High rates → Short latencies
Low rates → Long latencies

High-Risk Behavior

Latency FA (Thomason et al., 2011, Study 3)

- N=10, SIB or AGG
- Latency FA
  - Deliver consequence for 1st response and terminate session (or if no response in 5 min)
  - Measure: # seconds to occurrence of 1st response
- Typical FA: Standard protocol, 10-min sessions
- Results: 9/10 correspondence
Correspondence: Social Sr+ (Attention)

Correspondence: Social Sr- (Escape)
Analysis of Precursor Behavior
(Smith & Churchill, 2002)

- **Precursor**
  - Different R that predicts occurrence of target R
- **Method**
  - N= 4 (3 SIB, 1 AGG)
  - FA #1: Contingencies on SIB / AGG
  - FA #2: Contingencies on precursor Rs
- **Results**
  - 4/4 matched FAs
  - PB lower during FA of precursor R
- **Implications**
  - If one can identify a precursor to PB, and
  - If precursor and PB members of the same functional class
  - FA of precursor ➔ function of PB and lower rate of PB
  - Treatment of PB based on function of precursor
  - Question: How does one identify the precursor?
    - See Fritz et al. (JABA, 2013)

Why does Problem Behavior Occur at Low Rates?

- **Insufficient exposure to test condition**
  - Lengthen sessions
- **Idiosyncratic EO or reinforcer**
  - See retrospective review
- **Response class hierarchy**
  - Do not combine PBs
- **Combined EOs (same maintaining contingency)**
  - Divided attention condition
- **Combined contingencies (Sr+ and Sr- simultaneously)**
  - Escape to tangible condition
- **Covert behavior**
  - Hidden observation
  - Response product measures
More Reasons for Low-Rate Behavior
(I’m making these up)

Delayed EO (as in “revenge”)
• EO ➔ either no opportunity or S (punishment)
• EO ➔ delay ➔ opportunity available or S (punishment) absent

Cumulative EOs (“the straw the broke the camel’s back”)
• EO 1 ➔ Not a problem
• EO 2 ➔ Not a problem
• EO 1 ➔ EO 2 ➔ EO 3 ➔ Problem

Undifferentiated Results: Case Analysis
(Hagopian et al., 2013)

Modifications to 82 undifferentiated FAs

∗ Most effective
  • Simplify design (pairwise, extended “alone”)

∗ 2ⁿᵈ most effective
  • Separating aggregate responses

∗ Least effective
  • Antecedent changes (location, stimuli)
Summary of Functional Analysis Variations

<table>
<thead>
<tr>
<th>Limitation</th>
<th>Suggestion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexity</td>
<td>Sorry, I cannot help you</td>
</tr>
<tr>
<td>Time</td>
<td>Extended BFA, Single-function test</td>
</tr>
<tr>
<td>Setting</td>
<td>Trial-based FA</td>
</tr>
<tr>
<td>Risk</td>
<td>All approximations and occurrences, Protective devices, Latency or Precursor FA</td>
</tr>
<tr>
<td>Low-rate</td>
<td>Lengthen sessions, combine EOs or contingencies, unobtrusive observation</td>
</tr>
<tr>
<td>A mess</td>
<td>Simplify design, separate PBs</td>
</tr>
</tbody>
</table>

Ethical Issues in the Functional Analysis of Problem Behavior

Utility of the FA?
- Data highly reliable (unlike indirect assessment)
- Identifies cause-effect relation (unlike DA)
- The gold standard of assessment

Explicit worsening of behavior?
- "Sometimes it can be just as illuminating to demonstrate how a behavior may be worsened"
- FA involves exposure to common, everyday conditions
- Analogy: Dermatologic patch test
- PB does not get worse during an FA (Kahng et al., 2015)

Risk management and client protection?
- FA policy and protocol
Risk Management for FA

FA Policy

Rational for FA
- Purpose: To identify causes of problem behavior
- General description: Exposure to common conditions that may influence PB

Client Protection
- Risk assessment: Medical evaluation, HS of injuries
- Informed consent: A must
- Safeguards: Periodic status checks

Oversight
- Approval and review: Who is in charge?
- Staff qualifications and competency: CBA + experience?

Risk Management for FA

FA Protocol

Description of
- Conditions: Tests and controls
- Designs: Arrangement of conditions
- Duration: Arbitrary limit = 20 cycles of conditions?

Safety measures
- Protective equipment (or blocking)
- Low-risk FA format: Latency, precursor

Session termination criteria
- Outcome (usually nature of injury)
- Response (type or rate)

Emergency procedures
RECAP: Functional Behavioral Assessment

Indirect Methods
- Simple but unreliable

DA: Descriptive (Naturalistic) Analysis
- Reliable but time consuming; structural analysis only

FA: Functional (Experimental) Analysis
- The gold standard but complex

Common recommendations
- Three-stage assessment: Indirect ➞ DA ➞ FA
- Two-stage assessment: DA  ➞  FA
- My suggestion: NEITHER

Characteristics of FBA Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Data</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect</td>
<td>Subjective</td>
<td>Structure &amp; Function</td>
</tr>
<tr>
<td>Descriptive</td>
<td>Objective</td>
<td>Structure</td>
</tr>
<tr>
<td>Experimental</td>
<td>Objective</td>
<td>Function</td>
</tr>
</tbody>
</table>
Recommended Assessment Sequence

Step #1: Clinical interview + MAS, QABF, or FAST

Step #2: Skip the DA (instead, spend few minutes learning how to interact with the client)

Step #3: Functional analysis (FA, BFA, single function test, trial-based FA, latency FA, precursor FA)

Rationale: Clinicians may do #1 well but not #2 or #3. Compare the value of watching a client for 30 min (#2) vs. seeing what a client does when ignored, when presented with demands, etc. (#3)

Barriers to Implementation

Current status of FA methods
- The standard in clinical research and practice
- Still not the the most common approach to assessment
- Why the 30+ year lag in widespread application?

Commonly mentioned limitations
- Practical constraints
- Ethical issues

The real barriers
- Most academics have never conducted an FA of PB
- Most graduate students never learn how to conduct an FA
- DA is an excellent structural analysis (A ➔ B ➔ C)
- Everyone knows how to conduct a DA
Implications for Intervention

Classification of Intervention Procedures

Structural approach: Emphasis on procedures
- Advantage: Well-defined practice guidelines
  - Eg: Time out = Planned ignoring vs. Isolation room
- Disadvantage: Effects unpredictable, behavior change mechanism unknown (Same procedure → different results)
  - Planned ignoring → extinction if PB maintained by attention
  - Planned ignoring → Sr- if PB maintained by escape

Functional approach: Emphasis on learning mechanism
- Advantage: Generalizable across response functions
  - Extinction → cessation of reinforcement
- Disadvantage: Procedural details not specified
  - Extinction → what procedures?
"Nonaversive" Behavioral Interventions
(aka Positive Behavioral Support)

- Behavioral momentum
- Choice making
- Communicative correspondence training
- Curricular revision
- Differential reinforcement of other behavior (DRO)
- Differential reinforcement of alternative behavior (DRA)
- Differential reinforcement of communication (DRC)
- Extinction (EXT)
- Functional communication training (FCT)
- Functional equivalence training
- Gentle teaching (GT)
- Multimodal behavioral intervention
- Neutralizing routines
- Noncontingent reinforcement
- Planned ignoring
- Response covariation
- Response priming
- Redirection
- Tolerance training

Reinforcement-Based Approaches to Behavior Reduction

1. Eliminate the behavior's establishing operation or antecedent influence (deprivation or aversive stimulation)
   - Noncontingent reinforcement (NCR)

2. Eliminate the behavior's maintaining contingency
   - Extinction (EXT)

3. Replace the behavior with an alternative response
   - Differential reinforcement (DRA)
**Function: Social Positive Reinforcement**

Establishing operation: Deprivation from attention
- Noncontingent attention (NCR): Dense schedule gradually thinned out

Maintaining reinforcer: Attention
- EXT (attention) or “planned ignoring”
- Timeout

Behavioral replacement
- DRO (Differential reinforcement of other behavior): Sr+ for absence of PB
- DRA (differential reinforcement of alternative behavior, aka FCT - functional communication training): Establish an alternative attention-seeking response

**Function: Social Negative Reinforcement**

Establishing operation: Aversive stimulation (e.g., demands)
- Noncontingent breaks from work (NCR - escape)
- Maintenance tasks substituted for acquisition tasks
- Reduced session duration
- Demand fading (difficulty or frequency)
- High probability (Hi-p) instructional sequence
- Noncontingent Sr+

Maintaining reinforcer: Escape
- EXT (escape): Do not allow PB to terminate ongoing activity
- EXT (attention) contraindicated

Behavioral replacement:
- Reinforce precursor behavior
- Establish an alternative escape behavior
- Strengthen compliance via Sr- and Sr+
Establishing operation: Generalized deprivation

- Noncontingent stimulation (NCR): Free access to sensory stimulation

Maintaining reinforcer: Sensory stimulation

- EXT (sensory): Mechanical devices, blocking, etc.
- Response effort interventions
- Response interruption & redirection (RIRD) → punishment

Behavioral replacement:

- Establish an alternative self-stimulatory response

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Case Study: Henry

- Individual: 3 yr, profound mental retardation, no productive language, no instruction following, socially responsive. Lived at home with parents
- Behavior problem: SIB (head banging)
Treatment Procedures

Phase 1: Noncontingent reinforcement (NCR) + EXT
- NCR: Continuous attention
- EXT: SIB Ignore

Phase 2: NCR + EXT + DRA
- NCR: Thin schedule of attention
- EXT: SIB Ignore
- DRA: Hand wave Attention + edible

Phase 3: DRA + EXT
- EXT: SIB Ignore
- DRA: Fade out edible and thin schedule to FI 4 min

Treatment Results
Behavioral Replacement: Atypical Maintenance

Typical acquisition:
- Choice: Adaptive behavior vs. nothing
- Prompting, shaping, continuous Sr+ (CRF, FR-1)
- Maintenance: Intermittent Sr+
- Typical progression: FR-1 FR-2 FR-5 FR-X
- Effect of ratio schedules?
- What happens if ratio too large?

Behavioral replacement
- Choice: Replacement behavior vs. problem behavior
- Ratio schedules may be detrimental
- Goal: low rates of replacement behavior
- Preferred schedules for replacement behavior?

Treatment Results

![Graph showing treatment results](image)
Example: Complex Environmental Events

Components of a “transition”

Event #1
↓
Event #2
↓
Event #3

Case Study: Michael

- Individual: 38 yr, severe MR, autism, some manual signs. Lived in state residential facility
- Behavior problem: SIB (biting), reportedly occurred during transitions

- Activity Assessment:
  - Activity preference
  - Activity avoidance

- Functional analysis trials:
  - Activity termination: preferred vs. nonpreferred
  - Activity initiation: preferred vs. nonpreferred
  - Location change: present vs. absent
A common intervention during transitions for students with ASD

Procedure
- Salient cue (vocal or visual signal)
- Typically 2 min prior to transition

Research on advanced notice
- General findings: No facilitative effect
- When positive effects
  - Compliance: Effects confounded with reinforcement
  - Problem behavior: Effects confounded with extinction
Treatment Procedures

Treatment contexts:
- Location change (walking)
- Task initiation (picking up)

Phase 1: Advance notice (no EXT)
- Prompt delivered 2 min prior to transition
- SIB \rightarrow Transition terminated

Phase 2: DRA (no EXT)
- Compliance \rightarrow edible
- SIB \rightarrow Transition terminated

Phase 3: DRA + EXT
- Compliance \rightarrow edible
- SIB \rightarrow Transition continued (no escape)

Summary

You SHOULD conduct a functional analysis
- More reliable than a questionnaire or rating scale
- More efficient and precise than a DA

You CAN conduct a functional analysis
- Easy to do (control antecedent and consequent events)
- Procedural variations for almost all limiting conditions

You WILL find that your results translate directly into action

SO JUST GO DO IT!
FAST
Functional Analysis Screening Tool

Client:__________________________ Date:________________
Informant:____________________ Interviewer:____________________

To the Interviewer: The FAST identifies factors that may influence problem behaviors. Use it only for screening as part of a comprehensive functional analysis of the behavior. Administer the FAST to several individuals who interact with the client frequently. Then use the results to guide direct observation in several different situations to verify suspected behavioral functions and to identify other factors that may influence the problem behavior.

To the Informant: Complete the sections below. Then read each question carefully and answer it by circling “Yes” or “No.” If you are uncertain about an answer, circle “N/A.”

Informant-Client Relationship
1. Indicate your relationship to the person: ___Parent ___Instructor ___Therapist/Residential Staff (Other)
2. How long have you known the person? ___Years ___Months
3. Do you interact with the person daily? ___Yes ___No
4. In what situations do you usually interact with the person?
   ___Meals ___Academic training ___Leisure ___Work or vocational training ___Self-care (Other)
   ___Other

Problem Behavior Information
1. Problem behavior (check and describe):
   ___Aggression
   ___Self-Injury
   ___Stereotypy
   ___Property destruction
   ___Other

2. Frequency: ___Hourly ___Daily ___Weekly ___Less often
3. Severity: ___Mild: Disruptive but little risk to property or health ___Moderate: Property damage or minor injury ___Severe: Significant threat to health or safety

4. Situations in which the problem behavior is most likely to occur:
   Days/Times ____________________________
   Settings/Activities ____________________________
   Persons present ____________________________

5. Situations in which the problem behavior is least likely to occur:
   Days/Times ____________________________
   Settings/Activities ____________________________
   Persons present ____________________________

6. What is usually happening to the person right before the problem behavior occurs?

   ______________________________________

7. What usually happens to the person right after the problem behavior occurs?

   ______________________________________

8. Current treatments______________________________________________________________

   ______________________________________

1. Does the problem behavior occur when the person is not receiving attention or when caregivers are paying attention to someone else? Yes No N/A

2. Does the problem behavior occur when the person’s requests for preferred items or activities are denied or when these are taken away? Yes No N/A

3. When the problem behavior occurs, do caregivers usually try to calm the person down or involve the person in preferred activities? Yes No N/A

4. Is the person usually well behaved when (s)he is getting lots of attention or when preferred activities are freely available? Yes No N/A

5. Does the person usually fuss or resist when (s)he is asked to perform a task or to participate in activities? Yes No N/A

6. Does the problem behavior occur when the person is asked to perform a task or to participate in activities? Yes No N/A

7. If the problem behavior occurs while tasks are being presented, is the person usually given a “break” from tasks? Yes No N/A

8. Is the person usually well behaved when (s)he is not required to do anything? Yes No N/A

9. Does the problem behavior occur even when no one is nearby or watching? Yes No N/A

10. Does the person engage in the problem behavior even when leisure activities are available? Yes No N/A

11. Does the problem behavior appear to be a form of “self-stimulation?” Yes No N/A

12. Is the problem behavior less likely to occur when sensory stimulating activities are presented? Yes No N/A

13. Is the problem behavior cyclical, occurring for several days and then stopping? Yes No N/A

14. Does the person have recurring painful conditions such as ear infections or allergies? If so, list: ____________________________ Yes No N/A

15. Is the problem behavior more likely to occur when the person is ill? Yes No N/A

16. If the person is experiencing physical problems, and these are treated, does the problem behavior usually go away? Yes No N/A

Scoring Summary
Circle the number of each question that was answered “Yes” and enter the number of items that were circled in the “Total” column.

<table>
<thead>
<tr>
<th>Items Circled “Yes”</th>
<th>Total</th>
<th>Potential Source of Reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4</td>
<td></td>
<td>Social (attention/preferred items)</td>
</tr>
<tr>
<td>5 6 7 8</td>
<td></td>
<td>Social (escape from tasks/activities)</td>
</tr>
<tr>
<td>9 10 11 12</td>
<td></td>
<td>Automatic (sensory stimulation)</td>
</tr>
<tr>
<td>13 14 15 16</td>
<td></td>
<td>Automatic (pain attenuation)</td>
</tr>
</tbody>
</table>