

Assessing Outcomes in Early Intervention Programs for Young Children with Behavior Problems

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Abstract

The outcome measures and program evaluation design used to assess an in-home, early intervention program for parents of toddlers and preschoolers with behavior problems who live in poverty will be described. The measures were designed to be short, quick to administer, score and interpret, and provide clear outcomes to evaluate a child's progress. This evaluation model has been consistently used to seek and successfully obtain external funding for programs designed to improve parenting skills and children's behavior.

The information presented is based on our work with inner city families of young children since 2003 and was used to establish Early Pathways (EP) as an evidence-based program for resolving behavior problems in children five years of age and younger. The EP program has been presented at regional and national conventions and published in several peer reviewed journals. This presentation proposal will highlight our program evaluation model, which has become increasingly important for obtaining external funds to support programs.

Learning Objectives

1. Participants will learn four quality measures that assess young children's behavior, parent behavior and expectations, parent-child interactions during child-led play, and family barriers to treatment.
2. Participants will understand how to use these measures within a program evaluation model that has been well-accepted by external funders.
3. Participants will learn evaluation strategies for managing families who drop out of programs prematurely.

Workshop Agenda

- Outcomes: Importance and Use
- The Behavior Clinic and Early Pathways Program: A brief overview
- Measures
 - Early Childhood Behavior Screen (ECBS)
 - Parent Behavior Checklist (PBC)
 - Parent-Child Play Assessment
 - Parent-Child Relationship Scale
- Putting It All Together: Case Study
 - Integrating Measures for Intake and Termination Reports
 - Interpreting Measures for Treatment Direction
- Outcome Reports
 - Use of Measures for Grant Reports, Workshops, Articles, etc.

The Behavior Clinic & Early Pathways (EP) Program

- The Behavior Clinic began in 2003, with the mission of providing in-home mental health services for families in poverty with children under five years of age with significant behavioral and emotional problems. Our work with these families served as the basis for developing the EP program. EP has been used by the Behavior Clinic to serve Milwaukee County families for over 12 years.
- In 2014, the Behavior Clinic served over 400 children and introduced a trauma-informed component to our treatment, New Hope, which is in its efficacy testing stage.
- Early Pathways (EP) is an evidence-based program for resolving behavior problems in children five years of age and younger, particularly for families living in poverty.

Five components to the EP program:

1. Parent-Child Relationship (Child-led play)
2. Appropriate Expectations (Psychoeducation)
3. Cognitive Strategies (STAR – Stop, Think, Ask, and Respond)
4. Strengthening Positive Behaviors
5. Limit setting strategies for Challenging Behaviors

*This program is offered online for training professionals. A printed manual is also available: marquette.edu/early-pathways (see handout)

Early Childhood Behavior Screen

Purpose

- To discriminate between typical behavior problems in children and clinical behavior problems (according to age) as well as assess prosocial behaviors and client progress

Description of Measure & Scoring

- 20 item caregiver-report measure
- Two subscales of 10 items each: Positive Behavior Scale (PBS) and a Challenging Behavior Scale (CBS)
- Items are rated on a 3 point Likert scale: Often = 3 ; Sometimes = 2; Almost Never = 1
- The items are summed in their respective columns and referenced against the age cutoff to determine clinical significance
- Total scores in each subscale from range 10-30 with higher scores indicating a greater frequency of behaviors
- The CBS is administered at every treatment session to track progress and for attrition

Interpretation

- Higher scores indicated higher frequency of behaviors. If a raw score exceeds the cutoff for clinical significance, this means that the behaviors present a significant challenge for the parent/caregiver.

Psychometric properties

- This tool was developed for use with children from low-income families and it is written at a 3.9 grade level
- Field-tested with a representative, diverse sample of 439 parents from low socioeconomic status in an urban community.
- The internal consistency using coefficient alpha was .87
- The ECBS demonstrated adequate levels of concurrent validity ($r = .75$) with the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999), as well as adequate levels of sensitivity (82%) and specificity (80%) based on the relationship with the ECBI

Reference

- Holtz, C.A., & Fox, R.A. (2012). Behavior problems in young children from low-income families: The development of a new screening tool. *Infant Mental Health Journal*, 33, 82-94.

Early Childhood Behavior Screen (ECBS)

Instructions: Listed below are common behaviors of toddlers and preschoolers. Think about your child's behavior over the past week, and rate how often you observed each behavior. Circle "often" if it happened at least daily, circle "sometimes" if it happened several times, and circle "almost never" if it rarely or never happens.

Your Child....

How often does the behavior occur?

	Often	Sometimes	Almost Never		
1. Hits others					
2. Eats with a spoon					
3. Throws things at others					
4. Listens to you					
5. Has temper tantrums					
6. Breaks things					
7. Is angry					
8. Hurts others					
9. Understands you					
10. Does what you ask					
11. Plays well with others					
12. Sleeps through the night					
13. Takes toys away from others					
14. Shares toys					
15. Helps others					
16. Bothers others					
17. Eats well					
18. Cooperates in getting dressed					
19. Refuses to go to bed at night					
20. Kicks others					
Clinician Note: Sum each column after scoring each item according to the following scale: Often = 3; Sometimes = 2; Almost Never = 1 Clinical significance is reached if child's raw score meets or exceeds the following cutoff scores:				Raw Score Pro-Social	
				Raw Score Challenging	
				Clinically Significant?	Y N

Age	Cutoff
1 year old	21
2 years old	20
3 years old	19
4 years old	18
5 years old	17

Parent Behavior Checklist

Purpose

- Measures caregiver behaviors and expectations of the child between ages 1-5

Description of Measure

- 32 item measure with three subscales:
 1. Expectations (includes 12 items) measures caregiver's developmental expectations
 2. Discipline (includes 10 items) measures caregiver's use of verbal and corporal punishment
 3. Nurturing (10 items) measures caregiver's behaviors that foster child's social/emotional development

Scoring and Interpretation

- Items are rated using a four-point frequency scale: 4 = almost always/always; 3 = frequently; 2 = sometimes; 1 = almost never/never
- Total scores for expectations range from 12-48, with higher scores suggesting higher expectations of child's behaviors compared to their developmental level
- Total scores for discipline range from 10-40, with higher scores indicating more frequent use of verbal and corporeal punishment
- Total scores for nurturing range from 10-40, with higher scores suggesting more frequent use of positive nurturing activities

Psychometric properties

- Internal consistency was determined from a representative sample of 1,140 mothers, and the following coefficient alphas were reported: Expectations = .97, Discipline = .91, and Nurturing = .82.
- Test-retest reliabilities for each of the three subscales were: Expectations = .98, Discipline = .87, and Nurturing = .81.

Reference

- Fox, R. A. (1994). *Parent behavior checklist*. Austin, TX: ProEd (Currently available from the author, Marquette University, School of Education, P.O. Box 1881, Milwaukee, WI 53201-1881; Email: robert.fox@marquette.edu).

Parent Behavior Checklist – Short Form

Instructions: The *Parent Behavior Checklist* includes statements about how parents raise young children. For each statement, circle the letter **A** if the statement **ALMOST ALWAYS OR ALWAYS** applies to how you raise your child. Circle the letter **F** if the statement **FREQUENTLY** applies. Circle the letter **S** if the statement **SOMETIMES** applies. Circle the letter **N** if the statement **ALMOST NEVER OR NEVER** applies. Mark only one letter for each statement. If you feel a statement does not apply, mark **N** (Never). **Do not skip any items.** Please begin with the first item.

A = Almost Always/Always F = Frequently S = Sometimes N=Almost Never/Never

					E	D	N
1. I praise my child for learning new things	A	F	S	N			
2. My child and I play together on the floor	A	F	S	N			
3. If my child would hit, kick, bite, or scratch someone, I would spank him/her	A	F	S	N			
4. I get books for my child (from the library or store) at least once a month	A	F	S	N			
5. When my child doesn't do what I tell him/her to do I spank him/her	A	F	S	N			
6. If my child is overactive, I involve him/her in activities	A	F	S	N			
7. I yell at my child for whining	A	F	S	N			
8. My child should be able to understand taking turns during games	A	F	S	N			
9. I tell my child that he/she is bad	A	F	S	N			
10. I send my child to a room or corner in the house as punishment	A	F	S	N			
11. I would spank my child in public for bad behavior	A	F	S	N			
12. My child should be able to ride a tricycle	A	F	S	N			
13. My child should be quiet when I'm on the phone	A	F	S	N			
14. I spend at least one hour a day playing with or reading to my child	A	F	S	N			
15. I yell at my child for being too noisy at home	A	F	S	N			
16. I scold my child for soiling his/her pants	A	F	S	N			
17. My child should be old enough to share toys	A	F	S	N			
18. I allow messy play	A	F	S	N			
19. My child should be able to draw a circle	A	F	S	N			

A = Almost Always/Always F = Frequently S = Sometimes N=Almost Never/Never

					E	D	N
20. I take walks with my child once a week	A	F	S	N			
21. My child should be able to say his/her first name when asked	A	F	S	N			
22. I get so angry with my child that I spank him/her on the bottom	A	F	S	N			
23. My child should be able to understand what I tell him/her to do	A	F	S	N			
24. I arrange activities for my child to play such as coloring, painting, or toy play	A	F	S	N			
25. My child should be able to put away his/her toys	A	F	S	N			
26. I spank my child at least once a week	A	F	S	N			
27. My child should be old enough to speak in clear sentences	A	F	S	N			
28. My child has a regular bedtime routine (such as wash up, put on pajamas, read a story, say prayers)	A	F	S	N			
29. I take my child to the park, playground, movies, library, or ball games	A	F	S	N			
30. My child should be able to wash and dry his/her own hands	A	F	S	N			
31. When my child has a temper tantrum, I spank him/her	A	F	S	N			
32. My child should be able to stay dry during the day	A	F	S	N			
<i>Page 2 Subscale Raw Scores</i>							
<i>Page 1 Subscale Raw Scores</i>							
<i>Total Subscale Raw Scores</i>							
					E	D	N

	Total Intake Score	Total Post-Test Score	Improvement Yes No
Expectations			
Discipline			
Nurturing			

Note: A=4, F=3, S=2, N=1

Parent-Child Play Assessment

Purpose

- A direct behavioral observation measure of the parent/caregiver and child play interaction
- Used to gauge the quality of the current relationship between the parent and child

Description of Measure and Scoring

- Parents/caregivers are asked to play with their child using available toys or ones provided by the clinician while the clinician rates five dimensions of the child's behavior and six dimensions of the parent/caregiver's behavior using a three-point frequency scale (1 = poor, 2 = fair, 3 = good)

Interpretation

- Higher scores for both parents/caregivers and children indicate more interactive, reciprocal, sensitive, and positive play between the parent/caregiver and child

Psychometric properties

- Two clinicians independently completed the play assessment for 66 children and parents. Kappa coefficients ranged between .63 to .92 for the individual child and parent items; average Kappas for the child items was .76 and .80 for the parent items (Harris et al., 2015) which reflects good inter-rater reliability
- Separate total scores were computed for the six dimensions of the parents' behaviors and the five dimensions of the children's behaviors, and coefficient alphas were computed for the child behavior scale (.85) and the parent behavior scale (.82)

Reference

- Harris, S. E., Fox, R.A., & Love, J.R. (2015). Early Pathways therapy for young children in poverty: A randomized controlled trial. *Counseling Outcome Research and Evaluation*, 6, 3-17. doi: 10.1177/2150137815573628

Parent-Child Play Assessment

Child Ratings

<i>1. Positive Affect</i>	Poor	Fair	Good
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Poor = little or no expression of positive feelings (no smiles or laughter; flat affect)
 Fair = some expression of positive feelings (intermittent smiles and pleasant reactions)
 Good = persistent expression of positive feelings (smiles, laughs, hugs, appears happy)

<i>2. Negative Affect</i>	Poor	Fair	Good
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Poor = persistent expression of negative feelings (frowns, cries, hits, says "no")
 Fair = some expression of negative feelings (occasional frowns, cries, etc.)
 Good = no expression of negative feelings (smiles, laughs, appears happy)

<i>3. Interest in Play</i>	Poor	Fair	Good
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Poor = low interest (stares into space, moves away from toy/activity)
 Fair = moderate interest (plays sporadically and ignores from time to time)
 Good = high interest (consistently focuses on toy/activity, watches others play)

<i>4. Initiates Interactions</i>	Poor	Fair	Good
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Poor = no initiations (child makes no attempt at initiating play; ignores, avoids)
 Fair = periodic initiation (occasionally leads but also avoids play at times)
 Good = predominately initiates (points, offers objects, talks, visually checks, touches)

<i>5. Socially Responsive</i>	Poor	Fair	Good
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Poor = non-responsive (consistently ignores, actively resists initiations by others)
 Fair = sporadically responsive (attends at times and ignores prompts at other times)
 Good = eagerly responsive (visually attentive, attempts compliance, actively complies)

Parent Ratings

<i>6. Parent Leads</i>	Poor	Fair	Good
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Poor = predominant use of commands, gestures and/or physical guidance for child compliance
 Fair = frequent use of suggestions and requests for child response
 Good = occasional use of indirect requests or suggestions

<i>7. Parent Engagement</i>	Poor	Fair	Good
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Poor = little or no engagement in play with child
 Fair = somewhat engaged in play; occasionally responds to child

Good = fully engaged in play; consistent interaction with child

8. <i>Sensitivity</i>	Poor	Fair	Good
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Poor = low sensitivity (extreme form/combination of intrusiveness, rejection of child leads, developmental inappropriateness, disorganized or rapid pace)

Fair = moderate sensitivity (alternation between positive elaboration of child's behavior and rejection of child leads, responds appropriately but is also intrusive at times)

Good = high sensitivity (elaborates on child's behavior, shows awareness of child's activity, developmental capacity and affective state; responds appropriately)

9. <i>Expectations</i>	Poor	Fair	Good
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Poor = inappropriate (moves too quickly for child to keep up, starts activities above child's capabilities, disorganized and scattered in play; hard to follow)

Fair = occasionally appropriate (allows child time to perform activities but may move too quickly at times, somewhat scattered in play, behaviors tend to make sense but may be confusing at times)

Good = appropriate (gives child time to perform activity/request, starts activities at or just above child's capabilities, clear in intentions, uses behaviors that make sense in the context)

10. <i>Limit Setting</i>	Poor	Fair	Good
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Poor = inappropriate (has no limits, lets child do what he/she wants, gives in to child's demands, yells or hits child)

Fair = occasionally appropriate (sets limits and follows through sporadically, firm at times but inconsistent)

Good = appropriate (sets appropriate limits, remains firm with limits, no yelling/hitting, no need to set limits)

11. <i>Reciprocity</i>	Poor	Fair	Good
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Poor = low reciprocity (child and parent do not share same goal, engage in parallel play)

Fair = moderate reciprocity (child and parent interact at times but engage in parallel play at others)

Good = high reciprocity (parent and child seem in harmony, share same goal, play interactively)

Total Child Rating (items 1-5)	
(Poor = 0, Fair = 1, Good = 2)	
Total Parent Rating (items 6-11)	
(Poor = 0, Fair = 1, Good = 2)	

Parent-Child Relationship Scale

Purpose

- Measures the clinician's subjective assessment of the quality of the caregiver-child relationship
- Provides a baseline for clinician to compare pre-treatment and post-treatment scores

Description of Measure and Scoring

- The PCRS uses a scale of 0-100 with five anchors at 20-point intervals:
 - poor (ranging from 0-20)
 - below average (ranging from 20-40)
 - average (ranging from 40-60)
 - good (ranging from 60-80)
 - exceptional (ranging from 80-100)
- Multiple descriptive markers are provided for each interval to improve inter-rater reliability
 - (e.g., "Parent is often thoughtful when interacting with child" or "Parent can be responsive to child's needs and set appropriate limits on child's behavior, but not consistently").

Psychometric Properties

- Two clinicians independently completed the parent-child relationship scale for 101 children and parents; the resulting Kappa coefficient was .57 indicating moderate inter-rater reliability.

Interpretation

- Higher scores suggested a higher quality relationship between the caregiver and child

Reference

- Fung, M.P., & Fox, R.A. (2014). The culturally-adapted early pathways program for young Latino children in poverty: A randomized controlled trial. *Journal of Latina/o Psychology*, 2, 131-145. DOI-10.1037/lat0000019.

- **Parent-Child Relationship Scale**

Circle the number that best applies to this parent's current relationship with their child.

100	Exceptional Relationship
95	Parent is consistently thoughtful when interacting with child. Parental expectations are appropriate. Parent is responsive to child's needs and sets appropriate limits on child's behavior.
90	Minimal or no evidence of verbal or corporal punishment. The parent-child relationship is excellent.
85	
80	Good Relationship
75	Parent is often thoughtful when interacting with child. Parental expectations are usually appropriate. Parent normally is responsive to child's needs and usually sets appropriate limits on child's behavior. Minimal evidence of verbal or corporal punishment. The parent-child relationship is very good.
70	
65	
60	Average Relationship
55	Parent is thoughtful at times when interacting with child. Parental expectations are appropriate at certain times but not others. Parent can be responsive to child's needs and set appropriate limits on child's behavior but not consistently. Some evidence of verbal or corporal punishment. The parent-child relationship is good.
50	
45	
40	Below Average Relationship
35	Parent is less thoughtful when interacting with child. Parental expectations are often too high or too low. Parent is less responsive to child's needs and sets inconsistent limits on child's behavior. Consistent evidence of verbal or corporal punishment. The parent-child relationship is fair.
30	
25	
20	Poor Relationship
15	Parent is usually not thoughtful when interacting with child. Parental expectations are often inappropriate. Parent often is not responsive to child's needs and usually does not set appropriate limits on child's behavior. Ample evidence of verbal or corporal punishment. The parent-child relationship is weak.
10	
5	
0	

Recent Publications and Presentations

Publications

1. Fox, R.A. (1994). *Parent Behavior Checklist*. Formerly published by Clinical Psychology Publishing, Brandon VT and ProEd Publishers, Austin, TX; currently available from the author.
2. Fox, R.A., Keller, K. Grede, P., & Bartosz, A. (2007). A mental health clinic for toddlers with developmental delays and behavior problems, *Research in Developmental Disabilities*, 28, 119-129.
3. Fox, R.A., & Holtz, C.A. (2009). Treatment outcomes for toddlers with behavior problems from families in poverty. *Child and Adolescent Mental Health*, 14, 183-189.
4. Holtz, C.A., Carrasco, J.M., Mattek, R.J., & Fox, R.A. (2009). Behavior problems in toddlers with and without developmental delays: Comparison of treatment outcomes. *Child & Family Behavior Therapy*, 31, 292-311.
5. Mattek, R. J., Jorgenson, E.T., & Fox, R.A. (2010). Home-based therapy for young children in low-income families: A student training program. *The Family Journal: Counseling and Therapy for Couples and Families*, 18, 189-194.
6. Holtz, C.A., & Fox, R.A. (2012). Behavior problems in young children from low-income families: The development of a new screening tool. *Infant Mental Health Journal*, 33, 82-94.
7. Carrasco, J., M. & Fox, R. (2012). Varying Treatment Intensity in a Home-Based Parent and Child Therapy Program for Families Living in Poverty: A Randomized Clinic Trial. *Journal of Community Psychology*, 40, 621-630.
8. Fox, R.A., Mattek, R., & Gresl, (2013). Evaluation of a university-community partnership to provide home-based, mental health services for children from families living in poverty. *Community Mental Health Journal*, 49, 599-610.
9. Solis, P.S., Fung, M. P., & Fox, R.A. (2014). Parenting in Mexico: Relationships by love and obedience. In Helaine Selin (Ed.) *Parenting across cultures: Childrearing, motherhood and fatherhood in non-western cultures*. The Netherlands: Springer Publishing.
10. Gresl, B.L., Fox, R.A. & Fleischmann, A. (2014). Home-based parent-child therapy in low-income African American, Caucasian, and Latino Families: A comparative examination of treatment outcomes, *Child & Family Behavior Therapy*, 36 (1), 33-50, DOI:10.1080/07317107.2014
11. Fung, M.P., & Fox, R.A. (2014). The culturally-adapted early pathways program for young Latino children in poverty: A randomized controlled trial. *Journal of Latina/o Psychology*, 2, 131-145. DOI-10.1037/lat0000019.
12. Tate, K. A., Lopez, C., Fox, R., Love, J. R., McKinney, E. (2014). In-home counseling for young children living in poverty: An exploration of counseling competencies. *The Family Journal*, 22, 371-381. DOI: 10.1177.1066489714530268
13. Fung, M., P., Fox, R. A., & Harris, S. E. (2014). Treatment outcomes for at-risk young children with behavior problems: Toward a new definition of success. *Journal of Social Service Research*, 40, 623-641. <http://dx.doi.org/10.1080/01488376.2014.915283>
14. Harris, S. E., Fox, R.A., & Love, J.R. (2015). Early Pathways therapy for young children in poverty: A randomized controlled trial. *Counseling Outcome Research and Evaluation*, 6, 3-17. doi: 10.1177/2150137815573628

Presentations

1. Holtz, C. A., Carrasco, J. M., & Fox, R. A. (2008). Development of a screening measure for behavior problems in young children. Paper presented at the annual meeting of the Association for Behavioral and Cognitive Therapies, Orlando FL.
2. Mattek, R. J., Carrasco, J. M., Holtz, C. A., Fox, R. A. (2009). Treatment outcomes for toddlers with developmental delays and behavior problems receiving in-home, family behavioral therapy. Paper presented at the 2nd Annual Pediatric Behavioral Health Research Conference: Existing Projects and Promising Innovations in Southeastern Wisconsin. Children's Hospital Research Institute, Milwaukee WI.
3. Gresl, B., Mattek, R.J., & Fox, R.A. (2010). In-Home Treatment for Toddlers with Developmental Delays and Behavioral Problems. Wisconsin Infant and Early Childhood Mental Health, Early Relationships Matter Conference, Lake Geneva, Wisconsin.
4. Holtz, C.A., Carrasco, J.M., Mattek, R.J., & Fox, R.A. (2010). Behavior problems in toddlers with developmental delays: Treatment outcomes. Paper presented at Head Start's 10th National Research Conference, Washington D.C.
5. McCormick, K., & Fleischmann, A. (March 2012). In-home parent-child therapy for toddlers. Workshop presented at the annual Fulfilling the Promise conference, Stevens Point, WI.
6. Gresl, B. L., & Fox, R. A. (March, 2014). *Barriers to treatment in a pediatric population from families in poverty*. Paper presented at The Society of Pediatric Psychology Annual Conference. Philadelphia, PA.
7. Fung, M. P., & Fox, R. A. (May, 2014). The Early Pathways Program for Young Latino Children in Poverty. Paper presented at the Midwestern Psychological Association Annual Conference, Chicago, IL.
8. Harris, S. E., Fox, R. A., Love, J. & Stocker, A. (2014, May) Early Pathways: Home-Based Therapy for Young Children in Poverty. Paper presented at the Midwestern Psychological Association, Chicago, IL.
9. Harris, S. E., & Fox, R. A. (2014, August). Validation of a First Line Screener for Early Childhood Behavior Problems. Poster session presented at the American Psychological Association, Washington, DC.
10. Love, J. R., Harris, S.E., Fox, R.A., Scheunemann, J.L. & Besasie, L. A. (2015, May) Imaginative play in children's academic school readiness: Preliminary findings for a Latino sample of young children living in poverty. Paper presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL.
11. Love, J. R., Scheunemann, J. L., & Fox, R.A. (2015, May). New Hope for very young children exposed to trauma: Two case studies. Paper presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL.