Manual for the ASEBA
Brief Problem Monitor™ (BPM)

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Contents

The BPM provides normed multi-informant monitoring of children's functioning & responses to interventions (RTIs)

Parallel Multi-Informant Instruments

- Separate forms are completed in 1 to 2 minutes by parent figures (BPM-P), teachers (BPM-T), & youths (BPM-Y)
- Internalizing, Attention Problems, Externalizing, & Total Problems scales
- Parallel items & scales on the BPM & the CBCL/6-18, TRF, & YSR enable users to link comprehensive initial & outcome assessments to BPM scores
- Users can add items for assessing strengths & problems
- Completed at user-selected periods of days, weeks, months

Normed Scale Scores

- Norms for each gender at ages 6-11 & 12-18 (BPM-P & BPM-T) or 11-18 (BPM-Y)
- Separate norms for parent, teacher, & self-ratings
- User-selected multicultural norms for dozens of societies

Computer Output

- Computer output compares item ratings & normed scale scores from up to 4 informants
- Trajectories of normed scale scores are displayed across multiple occasions

What is the Brief Problem Monitor (BPM)?

Completed in 1 to 2 minutes, the BPM is a rating instrument for monitoring children's functioning and responses to interventions (RTIs). The BPM can also be used to compare children's responses to different intervention and control conditions.

The BPM includes items for rating Internalizing (INT), Attention (ATT), and Externalizing (EXT) problems over user-selected rating periods (e.g., 5, 7, 14, 30, 45 days). The items are drawn from the Child Behavior Checklist for Ages 6-18 (CBCL/6-18), Teacher's Report Form (TRF), and Youth Self-Report (YSR) (Achenbach & Rescorla, 2001). Each item is rated *0 = not true, 1 = somewhat true,* or *2 = very true.* Users can add problems and/or strengths not already on the BPM, such as those that are especially targeted for change.

Appendix A has directions for using the BPM. Appendix B details the development of the BPM, while Appendices C-E provide psychometric data.

Who Completes the BPM?

Separate forms are designed for completion by parents (BPM-P), teachers (BPM-T), and 11- to 18-year-old youths (BPM-Y). Other informants—such as family members, staff in residential, inpatient, and detention facilities, school personnel, observers, and practitioners—can also complete the BPM-P and BPM-T. Many children younger than 11 may be able to complete the BPM-Y. The forms can be self-administered or administered by interviewers in person or by telephone. Worded appropriately for the intended informant, each form of the BPM assesses the same 18 items. However, the BPM-P and BPM-Y have an additional item for disobedience at home, which would not be appropriate for the BPM-T.

How to Use the BPM

Figure 1 displays the BPM-P. Spaces are provided for writing in additional problems and strengths, as well as comments for each item. The superscripts INT, ATT, and EXT in Figure 1 indicate items whose 0-1-2 ratings are summed to yield scores for each BPM scale. (The superscripts are not printed on the actual BPM forms.) All the INT, ATT, and EXT ratings are summed to yield the Total Problems (TOT) score.

After an informant completes the BPM, the ratings are entered into the BPM software program. The output includes bar graphs that provide side-by-side displays of scale scores obtained from ratings by 1 to 4 informants on each occasion. As detailed in the Directions (Appendix A), each rating occasion is designated by a *Rating Period #*. As illustrated in Figure 2, the bars indicate standard scores (T scores) based on norms for the child's age and gender, the type of informant, and user-selected multicultural norms (explained later). The broken line across the bar graphs marks T scores of 65 (93rd percentile for normative samples of children). T scores <65 are considered to be in the normal range. T scores $\geq$65 are sufficiently elevated to be of concern. By looking at the bars, users can quickly identify scales on which informants' ratings agree on problem levels in the normal vs. elevated range and scales on which informants' ratings disagree.

The lowest T score on all scales is 50 (50th percentile for normative samples). The T scores are truncated at 50 to prevent overinterpretation of differences among scores that are in the low normal range, indicating very low levels of problems. The highest T score is 75 (99.4[th] percentile) on the INT, ATT, and EXT scales. On the TOT scale, the highest T score is 80 (99.9[th] percentile), which allows extra differentiation among high scores that are based on all the BPM items.

Abbreviated versions of the items comprising each scale are listed beneath the bar graphs, along with each informant's 0-1-2 ratings. The 0-1-2 ratings enable users to identify items on which informants agree or disagree.

The software can also print line graphs that display trajectories of T scores across rating periods. Figure 3 illustrates trajectories of BPM-T scores. These trajectories enable users to identify scales on which a child's problems improve, worsen, or stay the same, according to ratings by each informant. In addition, the software can display scale scores from each informant's ratings for each Rating Period, plus ratings of up to three user-specified problems and/or strengths.

Please print

BRIEF PROBLEM MONITOR-PARENT FORM (BPM-P) FOR AGES 6-18

| CHILD'S First Middle Last | CHILD'S GENDER | CHILD'S AGE | CHILD'S BIRTHDATE |
| FULL NAME _ADAM RAYMOND AMES_ | ☒ Boy ☐ Girl | _11_ | Mo. _3_ Day _3_ Year _2000_ |

COMPLETE THIS FORM BY:	THIS FORM FILLED OUT BY	Your gender: ☐ Male ☒ Female
Mo. _6_ Day _6_ Year _2011_	(print your name)	Your relation to the child: ☒ Biological Parent ☐ Step Parent
TODAY'S DATE	_REBECCA Ames_	☐ Grandparent ☐ Adoptive Parent ☐ Foster Parent
Mo. _6_ Day _6_ Year _2011_		☐ Other (specify): _____

Below is a list of items that describe children and youths. Please rate each item to describe your child *now or within the past* ___7___ *days.* Please circle the **2** if the item is *very true* of your child. Circle the **1** if the item is *somewhat true* of your child. If the item is *not true* of your child, circle the **0**. *Please answer all items as well as you can, even if some do not seem to apply to your child.*

0 = Not True (as far as you know)   1 = Somewhat True   2 = Very True

Comments

0	1	**②**	1. Acts too young for his/her age[ATT]	_____
0	**①**	2	2. Argues a lot[EXT]	_____
0	1	**②**	3. Fails to finish things he/she starts[ATT]	_____
0	1	**②**	4. Can't concentrate, can't pay attention for long[ATT]	_____
0	**①**	2	5. Can't sit still, restless, or hyperactive[ATT]	_____
⓪	1	2	6. Destroys things belonging to his/her family or others[EXT]	_____
⓪	1	2	7. Disobedient at home[EXT]	_____
0	**①**	2	8. Disobedient at school[EXT]	_____
0	**①**	2	9. Feels worthless or inferior[INT]	_____
0	1	**②**	10. Impulsive or acts without thinking[ATT]	_____
0	**①**	2	11. Too fearful or anxious[INT]	_AFRAID OF BEING PUNISHED_
⓪	1	2	12. Feels too guilty[INT]	_____
⓪	1	2	13. Self-conscious or easily embarrassed[INT]	_____
0	1	**②**	14. Inattentive or easily distracted[ATT]	_____
⓪	1	2	15. Stubborn, sullen, or irritable[EXT]	_____
⓪	1	2	16. Temper tantrums or hot temper[EXT]	_____
⓪	1	2	17. Threatens people[EXT]	_____
0	1	**②**	18. Unhappy, sad, or depressed[INT]	_____
0	1	**②**	19. Worries[INT]	_WORRIES ABOUT SCHOOL_

Additional items

0	1	**②**	_TOO MUCH TIME ON VIDEO GAMES_	_____
0	**①**	2	_HELPFUL WITH YOUNGER SIBLINGS_	_____
0	1	2	_____	_____

Figure 1. The BPM-P. Superscripts indicate the items scored on the INT, ATT, and EXT scales, which are summed to yield the TOT score. (Superscripts are not printed on the actual form.)

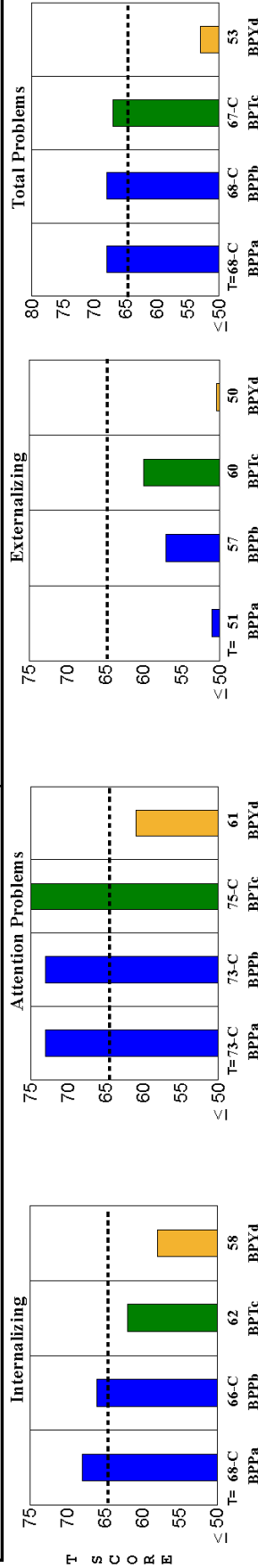# Brief Problem Monitor Cross-Informant Report

ID: 397 **Name: Adam R. Ames** **Gender: Male** **Birth Date: 03/03/2000** **Report Date: 07/12/2011**

Rating Period 1

Form	Society	Age	Informant Name	Relationship	Date
BPPa	United States	11	R. Ames	Biological Mother	03/04/2011
BPPb	United States	11	S. Ames	Biological Father	03/04/2011
BPTc	United States	11	R. Perez	Classroom Teacher (F)	03/04/2011
BPYd	United States	11	Self	Self	03/04/2011

Internalizing

	BPPa	BPPb	BPTc	BPYd
T=	68-C	66-C	62	58
Worthless	1	0	1	1
Fearful	1	1	0	0
Guilty	0	0	0	0
SelfConc	0	1	1	0
Unhappy	2	1	0	1
Worries	2	2	1	1

Attention Problems

	BPPa	BPPb	BPTc	BPYd
T=	73-C	73-C	75-C	61
ActsYoung	2	1	2	1
FailsToFinish	2	2	2	1
Concentrate	2	2	2	1
SitStill	1	2	2	0
Impulsive	2	2	2	1
Inattentive	2	2	2	1

Externalizing

	BPPa	BPPb	BPTc	BPYd
T=	51	57	60	50
Argues	1	1	1	0
DestroysThings	0	0	0	0
DisobeyHome	0	1	*	0
DisobeySchl	1	1	1	0
Stubborn	0	1	1	0
Temper	0	0	0	0
Threatens	0	0	0	0

Total Problems

BPPa	BPPb	BPTc	BPYd
T=68-C	68-C	67-C	53

* Item not included on BPM-T

Rating Period 2

Form	Society	Age	Informant Name	Relationship	Date
BPPa	United States	11	R. Ames	Biological Mother	03/11/2011
BPPb	United States	11	S. Ames	Biological Father	03/11/2011
BPTc	United States	11	R. Perez	Classroom Teacher (F)	03/11/2011
BPYd	United States	11	Self	Self	03/11/2011

Internalizing

	BPPa	BPPb	BPTc	BPYd
T=	68-C	66-C	62	58
Worthless	1	0	1	1
Fearful	1	1	0	0
Guilty	0	0	0	0
SelfConc	0	1	1	0
Unhappy	2	1	0	1
Worries	2	2	1	1

Attention Problems

	BPPa	BPPb	BPTc	BPYd
T=	69-C	71-C	73-C	56
ActsYoung	1	1	2	1
FailsToFinish	2	2	2	0
Concentrate	1	2	2	1
SitStill	1	1	1	0
Impulsive	2	1	1	1
Inattentive	2	2	2	1

Externalizing

	BPPa	BPPb	BPTc	BPYd
T=	53	57	60	50
Argues	1	1	1	0
DestroysThings	0	0	0	0
DisobeyHome	0	1	*	1
DisobeySchl	1	1	1	0
Stubborn	1	1	1	0
Temper	0	0	0	0
Threatens	0	0	0	0

Total Problems

BPPa	BPPb	BPTc	BPYd
T= 67-C	68-C	66-C	53

* Item not included on BPM-T

C = Scores above broken line are high enough to be of concern

BPM version 1.0

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Figure 2. Cross-informant comparisons of parent, teacher, and youth BPM scale scores for Rating Periods 1 and 2. Cross-informant comparisons can be displayed for 1 to 10 rating periods.

Brief Problem Monitor Trajectory Graphs
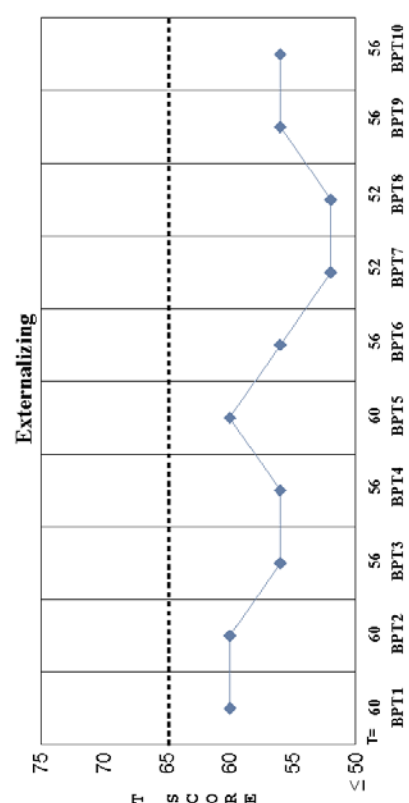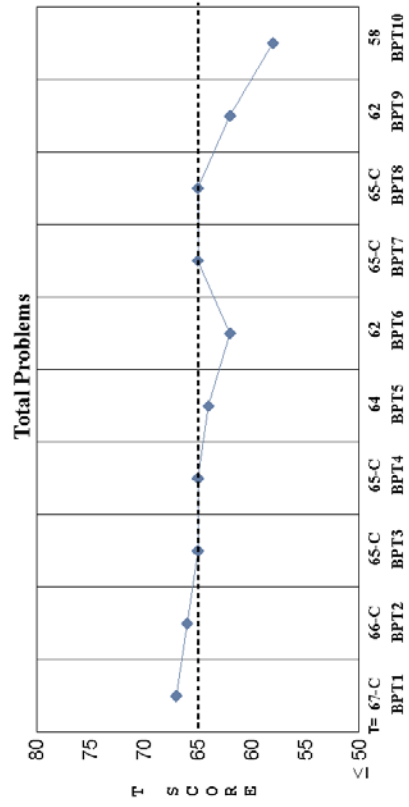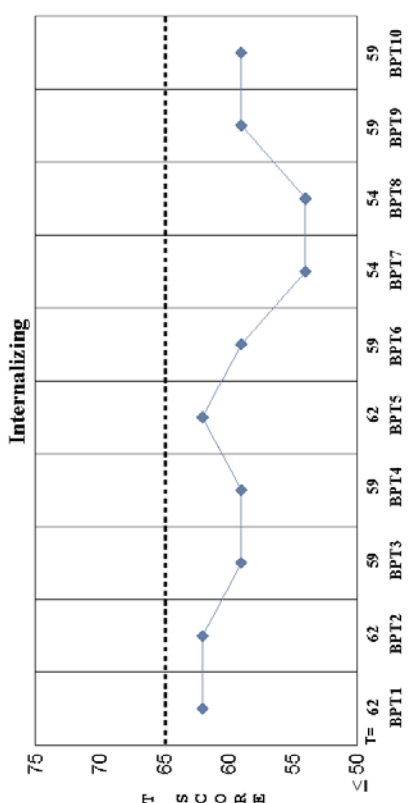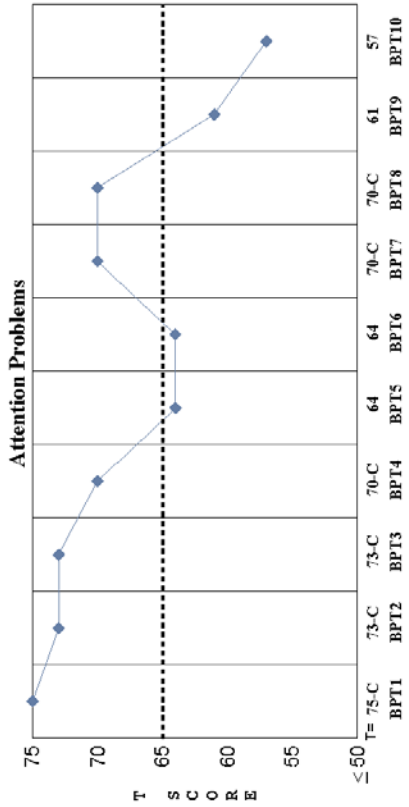
ID: 397   Name: Adam R. Ames   Gender: Male   Birth Date: 03/03/2000   Report Date: 07/12/2011

Form	Rating #	Age	Informant Name	Relationship	Date
BPT1	1	11	R. Perez	Classroom Teacher {F}	03/04/2011
BPT2	2	11	R. Perez	Classroom Teacher {F}	03/11/2011
BPT3	3	11	R. Perez	Classroom Teacher {F}	03/18/2011
BPT4	4	11	R. Perez	Classroom Teacher {F}	03/25/2011
BPT5	5	11	R. Perez	Classroom Teacher {F}	04/01/2011
BPT6	6	11	R. Perez	Classroom Teacher {F}	04/08/2011
BPT7	7	11	R. Perez	Classroom Teacher {F}	04/15/2011
BPT8	8	11	R. Perez	Classroom Teacher {F}	04/22/2011
BPT9	9	11	R. Perez	Classroom Teacher {F}	04/29/2011
BPT10	10	11	R. Perez	Classroom Teacher {F}	05/06/2011

Attention Problems

Total Problems

Internalizing

Externalizing

BPM version 1.0

C = Scores above broken line are high enough to be of concern

* = No scale score for this rating period

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Figure 3. Trajectories of BPM-T scale scores over 10 rating periods. Trajectories can be displayed for 2 to 10 rating periods.

Comprehensive Initial and Outcome Assessments

The CBCL/6-18, TRF, and/or YSR provide more comprehensive assessments than are possible with brief forms such as the BPM. Interviews with children and parents, tests, developmental histories, and medical examinations may also be relevant in many cases. It is strongly recommended that comprehensive assessments be used to design interventions. The BPM is then used to assess responses to the interventions.

Assessments of outcomes should also be sufficiently comprehensive to permit detailed comparisons of children's post-intervention functioning with their initial functioning. For example, if the CBCL/6-18, TRF, and/or YSR are among the initial assessments, users can readminister them to evaluate outcomes in terms of changes in many items and scales.

Age, Gender, Informant, and Multicultural Norms

The bar graphs in Figure 2 and the trajectory graphs in Figure 3 display BPM scales in terms of T scores that are based on norms for a child's age and gender, as rated by parents (BPM-P), teachers (BPM-T), or 11- to 18-year-olds (BPM-Y). If the user does not select particular multicultural norms, the default norms are based on a U.S. national sample (Achenbach & Rescorla, 2001).

Multicultural norms are available for many non-U.S. societies (Achenbach & Rescorla, 2007). The BPM software lists the societies for which BPM-P, BPM-T, and BPM-Y norms are available. For example, if a parent from Society A fills out the BPM-P, the user can have the software display the BPM-P scale scores in terms of T scores that are appropriate for the child's age and gender, as rated by parents from Society A. If the child attends a U.S. school, the user can have the software display the BPM-T scale scores in terms of T scores that are appropriate for the child's age and gender, as rated by U.S. teachers. And if the child is old enough to complete the BPM-Y and is somewhat acculturated to the U.S., the user can have the software display the BPM-Y scores in terms of T scores that are appropriate for the child's age and gender, as rated by 11- to 18-year-olds in Society A and then by 11- to 18-year-olds in the U.S.

What if an informant is from a society that is not listed in the software or in the updated list of societies at www.aseba.org? Extensive research has shown that normative scores from all societies analyzed to date fall into three groups: Compared to all the societies analyzed, *Group 1* has relatively low problem scores; *Group 2* has intermediate scores; and *Group 3* has relatively high scores. If an informant comes from a society that is not listed, the user can elect to have the BPM scales displayed in terms of the default T scores (U.S. norms, which serve as the Group 2 norms). As an alternative, the user can have the BPM scales displayed in terms of T scores appropriate for a society that is similar to the informant's society.

Illustrations of BPM Applications

The BPM can be used in many ways and under many conditions. The following illustrations exemplify applications by a school psychologist, a mental health practitioner, staff in a residential facility, and a research team. All names and other personal identifying information are fictitious. In the case studies, "CBCL" refers to the CBCL/6-18.

Use of the BPM-T by a School Psychologist. Third-grade teacher Dorothy Randall contacted her school psychologist for help with a student named Robby, who was disrupting her class. After Robby's parents consented to an evaluation, the school psychologist asked each parent to complete the CBCL and asked Ms. Randall to complete the TRF. The school psychologist also reviewed Robby's test scores and grades, which were mostly in the low average range. Comments from Robby's previous teachers indicated moderate behavior problems.

The profile scored from the TRF completed by Ms. Randall yielded scores well up in the clinical range on the Aggressive Behavior, Externalizing, and DSM-oriented Oppositional Defiant Problems scales. Robby's scores on the TRF Social Problems and Attention Problems syndromes were in the borderline clinical range, while his scores on the other problem scales were in the normal range. His Academic Performance and Adaptive Functioning scores were in the borderline clinical range, with an especially low rating for Behaving Appropriately.

On the profiles scored from the CBCLs completed by Robby's parents, the School scale of the competence profile and the Aggressive Behavior scale were in the borderline clinical range, but all other scales were in the normal range. The parents' responses to the CBCL's open-ended questions indicated that they did not feel any need for help with Robby's behavior outside school. However, they consented to have the school psychologist work with Ms. Randall on a contingency management intervention that would include sending home daily report cards documenting Robby's progress toward specific behavioral and academic goals. Robby could earn rewards in school for achieving the goals.

To provide systematic, norm-referenced assessment of Robby's school behavior, the school psychologist asked Ms. Randall to complete a BPM-T form each week for 10 weeks. Ms. Randall decided to complete the BPM-T after school on Fridays to reflect Robby's behavior on Monday through Friday. The school psychologist entered Ms. Randall's weekly ratings into the BPM software.

For Weeks 1, 2, and 3, the BPM-Ts completed by Ms. Randall yielded T scores well above 65 on the EXT scale for boys of Robby's age in the U.S. norm group. His T scores on the ATT and TOT scales were also above 65. However, after Week 3, Robby's T scores on all three scales gradually dropped, until they were all below 65 by Week 8. The declining scores for ATT, EXT, and TOT suggested that Robby was responding well to the contingency management intervention.

To evaluate the outcome of the intervention, the school psychologist asked Ms. Randall to complete the TRF and both parents to complete CBCLs. When compared with the initial TRF scores for Aggressive Behavior, Oppositional Defiant Problems, and Externalizing, the outcome TRF showed declines from the high end of the clinical range to the low end of the borderline clinical range. TRF scores for the Social Problems, Attention Problems, and other problem scales and for adaptive functioning were now in the normal range. These changes in TRF scores indicated that the improvements found in the BPM-T ratings were substantiated by the more comprehensive TRF scales.

The profiles scored from both parents' outcome CBCLs showed improvement on the School scale of the competence profile from the borderline clinical to the normal range, plus a smaller improvement on the Aggressive Behavior syndrome scale. The school psychologist and Ms. Randall met with Robby's parents to discuss the improvements in Robby's school behavior and possibilities for implementing contingency management at home.

Use of the BPM-P and BPM-Y by a Mental Health Practitioner. Concerned about 13-year-old Angie's lack of friends, social withdrawal, and chronic underachievement in school, Angie's mother sought help from a mental health practitioner. Angie's mother felt that the problems dated back at least to the death of Angie's father, 4 years earlier.

As part of the initial evaluation, the practitioner asked Angie to complete the YSR and her mother to complete the CBCL. Compared with norms for girls of Angie's age from the appropriate multicultural norm group, the YSR and the CBCL both yielded scores in the clinical range on the Withdrawn/Depressed, Internalizing, and DSM-oriented Affective Problems scales. The scores were in the borderline clinical range on the Anxious/Depressed syndrome. The CBCL also yielded a score in the clinical range on the Social Problems syndrome and in the borderline clinical range on the Thought Problems syndrome. Angie's YSR score for Social Problems was in the borderline clinical range. On the social competence profiles, the YSR and CBCL Activities, Social, and Total Competence scores were in the low normal or borderline clinical ranges. The CBCL School scale score was in the clinical range.

Based on Angie's history, the CBCL and YSR scores, and interviews with Angie and her mother, the practitioner concluded that Angie met criteria for a diagnosis of Dysthymic Disorder. The practitioner recommended weekly cognitive behavioral therapy sessions for Angie, plus occasional family sessions for Angie and her mother together. To monitor Angie's response to treatment, the practitioner asked Angie to complete the BPM-Y and her mother to complete the BPM-P on the day before the first treatment session and on the same day each week thereafter.

On both the BPM-Y and the BPM-P, the initial *T* scores were above 65 for INT and TOT but were well below 65 for ATT and EXT. After 6 weeks of individual sessions and 3 family sessions, the BPM-Y *T* score for INT declined to just above 65, while the TOT score declined to the high normal range. The BPM-P *T* scores remained somewhat above 65 on the INT and TOT scales.

Based on the BPM findings and the progress of therapy, the practitioner recommended that Angie attend a weekly social skills group, which Angie reluctantly did. The practitioner continued to meet with Angie for individual therapy sessions every other week and for occasional family sessions.

After 3 months in the social skills group, Angie again completed the BPM-Y and her mother completed the BPM-P. On both forms, the INT and TOT scores were now in the normal range.

For an outcome evaluation 6 months after the initial evaluation, the practitioner asked Angie to complete the YSR and her mother to complete the CBCL. Both forms yielded substantially lower scores than at the initial assessment on the Withdrawn/Depressed, Internalizing, Social Problems, and Affective Problems scales. Scores on the Activities, Social, and School scales of the competence profile had also improved. To support further development of Angie's social skills and to help her prepare for developmental challenges, the practitioner arranged to continue seeing Angie at 3-month intervals.

Use of the BPM-P, BPM-T, and BPM-Y in a Residential Facility. After a suicide attempt, 12-year-old Lucas entered residential treatment at Hatfield House. Lucas had received special education since first grade, due to learning difficulties and emotional disturbance, and had attended a self-contained school-based mental health program for the past 2 years. Prior to entering Hatfield House, Lucas had lived with his mother and siblings in many places, including a homeless shelter. When admitted to Hatfield House, Lucas had lived with his grandparents for 2 years, following his mother's incarceration for drug offenses.

As part of the admissions procedure, Lucas's grandparents completed CBCLs, Lucas completed the YSR, and his teachers completed TRFs. On most forms, scores were in the clinical range on the Anxious/Depressed, Withdrawn/Depressed, Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior, and Aggressive Behavior scales. Lucas was described as funny and friendly at times, but also as prone to violent rages in which he would attack others, destroy property, and sometimes hurt himself. Although his IQ was in the normal range, Lucas had severe attention problems and his competence/adaptive functioning scores were low. He was often belligerent and confrontational with teachers and peers.

Because Lucas's reading and math skills were only at a fourth grade level, Lucas's school program at Hatfield addressed his basic skill deficits. The staff psychiatrist prescribed medications for Lucas's attention problems, mood dysregulation, and aggressive behavior. Lucas also received daily group therapy, weekly individual therapy, and weekly family sessions with his grandparents, and he could earn privileges for achieving behavioral goals.

The BPM was used to monitor Lucas's response to treatment, with his teacher, his houseparent, and Lucas completing forms at 2-week intervals. Over the first 3 months, his EXT scores gradually dropped, declining from >70 to 65-66 according to all three raters. He had fewer angry and aggressive outbursts, enabling him to earn video game and TV privileges. Lucas showed improved focus and persistence in the classroom, with his BPM-T ATT scores declining from 72 to 67 over the first 5 rating periods. However, the BPM-P completed by his houseparent suggested that Lucas still had attention problems with homework, so a more structured homework program was implemented.

On the BPM-Y, Lucas's INT score was 73 at Rating Period 1 and was still above 70 by Rating Period 5. Lucas's therapist reported that Lucas had only recently begun sharing information about his life, including memories of his mother's absences from the home, her abusive boyfriends, frequent moves, and struggles in school. In addition to talking with Lucas about these painful experiences, the therapist encouraged Lucas to think about interests he could pursue at Hatfield House. In response, Lucas began working out in the fitness room and running on the track and soon joined a group who jogged with a staff member. Lucas also started working in the shop, where he learned to use tools.

As he advanced, he started helping the Hatfield House custodian with repairs. These experiences seemed to be helpful, because by Rating Period 8 Lucas's BPM-Y INT score had declined to 66.

During his last months at Hatfield House, Lucas spent weekends with his grandparents. BPMs (now completed monthly) indicated further improvements. At discharge, CBCLs completed by his grandparents and his Hatfield houseparent as well as the YSR and the TRF yielded scores in the borderline range on Anxious/Depressed, Attention Problems, and Aggressive Behavior. These scores indicated continuing needs for support but also significant improvements since his intake evaluation.

Use of the BPM-P and BPM-T by a Research Team. Rigorous tests of intervention effects require statistical comparisons of scores on comprehensive assessment instruments administered prior to interventions and again following interventions. However, to evaluate the course of functioning during interventions, it is often necessary to use briefer measures that can be quickly completed multiple times between the initial and outcome assessments. The BPM is especially useful for monitoring the course of functioning during evidence-based interventions for the following reasons: The BPM takes only 1 to 2 minutes to complete, can be completed by different kinds of informants, can be re-administered at user-selected intervals, and displays trajectories of normed scale scores, plus quantitative ratings of specific items.

As an example, a research team designed a comparison of *(a)* stimulant medication, *(b)* training in executive functioning, and *(c)* both treatments for 6- to 11-year-olds diagnosed as having Attention Deficit-Hyperactivity Disorder-Combined Type (ADHD-C). As part of the recruitment for the study, parents completed the CBCL and teachers completed the TRF. Children who obtained scores in the clinical range on the CBCL and TRF DSM-oriented Attention Problems scale were then evaluated clinically to confirm whether they met criteria for ADHD-C. Children who met criteria for ADHD-C were randomly assigned to 14-week trials of intervention condition *a, b,* or *c*. To evaluate the course of the children's functioning, the BPM-P and BPM-T were completed at weekly intervals during the first 10 weeks of the interventions. Medical evaluations were done to detect possible side effects. Trajectories of functioning during the three intervention conditions were compared via statistical analyses of raw scale scores from the 10 administrations of the BPM-P and BPM-T. The scores for three groups of participants at 10 rating periods make a variety of analyses possible, such as comparisons of slopes, growth curve modeling, and repeated measures analysis of variance.

Raw BPM scale scores are often preferable to *T* scores for statistical analyses, because the BPM *T* scores are truncated at 50. The truncation at 50 prevents overinterpretation of unimportant differences between low scores when viewing profiles for individual children. For group analyses, however, raw scale scores can increase statistical power by preserving greater differentiation among scale scores than the truncated *T* scores do.

Outcomes for intervention conditions *a, b,* and *c* were compared via statistical analyses of raw scale scores on CBCLs and TRFs completed at 14 weeks, based on ratings of the preceding 4 weeks. Pre-intervention CBCL and TRF scale scores were statistically covaried out of the comparisons between outcome scores for children receiving conditions *a* versus *b* versus *c*. Clinical evaluations were also performed to categorize children as still meeting diagnostic criteria or no longer meeting diagnostic criteria for ADHD-C and to identify possible changes in other diagnoses. The results could thus be compared in terms of changes measured by the BPM-P and BPM-T during the course of intervention conditions *a, b*, and *c*, as well as CBCLs, TRFs, and diagnoses following the interventions.

References

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Appendix A. Directions for Using the BPM

Informants who complete the BPM. **BPM-P:** Parents, other adult household members, staff of inpatient units, camps, detention and residential facilities. **BPM-T:** School teachers, staff, observers. **BPM-Y:** 11-18-year-old youths; younger children if they are able.

User. The <u>*User*</u> is the person who organizes BPM assessment of a child.

ID #. In the "For office use only" box (top right hand corner of the BPM), the User should write an *ID #* for the child. All BPMs completed for a child should have the same ID # that is used only for that child's BPMs to enable the BPM software to link the child's BPMs.

Days in Interval: The User should decide the number of days on which ratings are to be based. The User should then write this number (e.g., 7) on the BPM in the "For office use only" box and also in the space before "days" in the instructions to raters.

Rating Period #. In the "COMPLETE THIS FORM BY" box, the User should write the date by which informants should make their first ratings of a child. Ratings made by this User-specified date should all be designated as *Rating Period #1. Rating Period #2* should be used to designate all ratings made after the deadline for Rating Period #1 and by the User-specified deadline for Rating Period #2, and so on for Rating Periods #3, 4, etc.

Omission of item ratings. If an informant omits ratings for >2 of the items printed on the BPM, the BPM software will display the following message: *Scale scores may be invalid because x* (the number of unrated items*) items were left unrated.* Omitted items count as zeroes in scale scores.

Adding items. Users can write in additional problems and/or strengths in the spaces provided at the bottom of the BPM. The 0-1-2 ratings of up to 3 additional items can be key entered for display and export by the BPM software. However, because the additional items are nonstandard, they are excluded from the scale scores and from the tally of omitted items.

BPM software output. Scores for Internalizing (INT), Attention Problems (ATT), Externalizing (EXT), and Total Problems (TOT) scales are displayed in 2 kinds of graphs:

1. **Bar graphs.** Bar graphs display *T* scores from up to 4 informants for each scale for each Rating Period. The *T* scores show how the child's scores compare with norms for the child's age, gender, the type of informant (P, T, or Y), and user-selected multicultural norm group. The *T* scores range from 50 (50th percentile for normative samples of children) up to 75 (99.4th percentile) on the INT, ATT, and EXT scales, and up to 80 (99.9th percentile) on the TOT scale. *T* scores ≥65 are high enough to be of concern. Separate bar graphs can also be produced for each BPM.

2. **Trajectory graphs.** Trajectories of BPM *T* scores can be displayed across 2 to 10 Rating Periods.

Appendix B. Development of the BPM

The BPM consists of CBCL/6-18, TRF, and YSR items selected as follows:

1. The BPM INT and EXT items were selected from the CBCL/6-18 and YSR using item response theory and factor analysis in a study by Chorpita et al. (2010). Although Chorpita et al. combined *Disobedient at home* and *Disobedient at school* into a single item, the BPM-P and BPM-Y preserve the greater differentiation afforded by retaining the separate CBCL/6-18 and YSR items for disobedience at home and disobedience at school. Because school personnel are not apt to know about a child's disobedience at home, the BPM-T has only *Disobedient at school,* but all other BPM-T items are TRF counterparts of BPM-P and BPM-Y items. Consequently, the EXT and TOT scales have one less item on the BPM-T than on the BPM-P and BPM-Y.

2. Because Chorpita et al. focused only on Internalizing and Externalizing, we conducted analyses to select items for assessing problems of attention and overactivity, on which interventions often focus. Our samples included 6- to 11-year-old children meeting research criteria for DSM-IV-TR (American Psy-

chiatric Association, 2000) diagnoses of ADHD, plus children seen in the same clinical settings but not meeting criteria for any type of ADHD diagnosis (McConaughy et al., 2010). We tested the ability of the 10 items common to the CBCL/6-18 and TRF Attention Problems syndrome to discriminate between the two diagnostic groups. Separately for the children's CBCL/6-18 ($N = 204$) and TRF ($N = 199$), we entered the 10 items as candidate predictors in stepwise discriminant analyses, with diagnoses of ADHD versus non-ADHD as the classification variable.

The following items survived as significant discriminators in the CBCL/6-18, TRF, or both discriminant analyses: *Fails to finish things he/she starts; Can't concentrate, can't pay attention for long; Can't sit still, restless, or hyperactive; Impulsive or acts without thinking;* and *Inattentive or easily distracted.* We added *Acts too young for age* to the five items identified in the discriminant analyses, because extensive factor analytic research has shown that this item obtained higher loadings on a general ADHD factor derived from TRF ratings of general population ($N = 2,635$) and clinical ($N = 2,702$) samples than other items common to the CBCL/6-18 and TRF (Dumenci, McConaughy, & Achenbach, 2004). Confirmatory factor analyses by Dumenci et al. supported the general ADHD factor in a 3-factor model where all items of specific Inattention and Hyperactivity-Impulsivity factors loaded on the general ADHD factor.

Appendix C. Test-Retest Reliability and Internal Consistency

The table below displays test-retest reliability correlations (Pearson *r)* and internal consistencies (Cronbach's *alpha*) of BPM scale scores computed for the U.S. samples described in the *Manual for the ASEBA School-Age Forms & Profiles* (Achenbach & Rescorla, 2001, pp. 101-102).

		BPM-P[a]		*BPM-T*[a]		*BPM-Y*[a]	
Scale		*r*	*Alpha*	*r*	*Alpha*	*r*	*Alpha*
	$N =$	73	3,210	44	3,086	89	1,938
INT		.81[b]	.80	.86[b]	.80	.80[b]	.78
ATT		.83[b,c]	.85	.93	.87	.77	.74
EXT		.83[b]	.88	.88	.88	.85[b,c]	.75
TOT		.85[b]	.92	.93[b,c]	.90	.88[b]	.86

Note. Samples are described by Achenbach and Rescorla (2001, pp. 101-102). All Pearson *r*s were significant at $p<.001$.
[a]Mean test-retest interval for BPM-P and BPM-Y = 8 days; for BPM-T = 16 days.
[b]Time 1 mean scale score > Time 2 by *t* test ($p<.05$).
[c]When corrected for the number of comparisons, Time 1 versus Time 2 difference was not significant.

Appendix D. Criterion-Related Validity

Criterion-related validity was tested via multiple regression analyses of BPM scale scores for U.S. samples of children referred for mental health services vs. demographically similar nonreferred children (Achenbach & Rescorla, 2001, pp. 109-114, describe the samples and analytic procedures). Numbers in the table are effect sizes, i.e., the percentage of variance in BPM scale scores that was uniquely accounted for by differences between scores obtained by referred vs. nonreferred children, after partialing out effects of age, socioeconomic status (SES), and ethnicity (white, African American, and Hispanic on the BPM-P and BPM-Y; white and African American on the BPM-T).

According to Cohen's criteria for multiple regression, effect sizes 2-13% are small, 13-26% are medium, and $\geq 26\%$ are large. All BPM scale scores were significantly ($p<.001$) higher for referred than nonreferred children.

Effect Sizes for Referral Status[a,b]

Scale	BPM-P	BPM-T	BPM-Y
N =	3,210	3,086	1,938
INT	25	16	11
ATT	29	22	11
EXT	31	19	12
TOT	39	29	17

Note. Each sample was equally divided between demographically similar referred and nonreferred children. Analyses were multiple regressions of raw BPM scale scores on referral status, age, SES, white vs. other ethnicity, African American vs. other ethnicity, and Latino vs. other ethnicity (except BPM-T).

[a]Effect sizes are the mean percentages of variance uniquely accounted for by referral status, averaged across each gender/age group analyzed separately (each gender at ages 6-11 and 12-18 for BPM-P and BPM-T; each gender at ages 11-18 for BPM-Y), after partialing out effects of age, SES, and ethnicity.

[b]The only demographic variable whose significant ($p<.001$) effects exceeded chance expectations was SES for BPM-T ATT, EXT, and TOT scale scores obtained by girls ages 6-11 and boys ages 12-18. Averaged across the 4 gender/age groups, the effect sizes for SES were 1% for BPM-T ATT and 2% for BPM-T EXT and TOT. These very small effect sizes reflect teachers' tendencies to rate children from lower SES families slightly higher than children from higher SES families.

Appendix E. Cross-Informant Correlations

The table below lists Pearson correlations between raw scores on the corresponding scales of the BPM-P, BPM-T, and BPM-Y completed by parents, teachers, and youths, respectively.

Cross-Informant Correlations for BPM-Scales

Scale	Parents x Teachers[a]	Parents x Youths[b]	Teachers x Youths[a]
N =	6,406	27,861	3,929
INT	.21	.38	.18
ATT	.38	.37	.23
EXT	.32	.42	.25
TOT	.33	.42	.22

[a]Data from samples included in Achenbach and Rescorla (2007).
[b]Data from samples included in Rescorla et al. (2011).