User's Guide to the Collaborative Problem Solving Adherence & Impact Measures (CPS-AIMs)

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Chapter 1. Introduction

The Collaborative Problem Solving Adherence & Impact Measures (CPS-AIMs) are self-report measures that assess individuals' adherence to the Collaborative Problem Solving (CPS) philosophy, their perceived competence in using CPS in practice, and positive and negative feelings about their roles.

The CPS-AIMs include three forms, customized to individuals' roles and settings, including CPS-AIM-P for parents or guardians receiving CPS training and treatment; CPS-AIM-E for educators in schools implementing or planning to implement CPS as a school-wide social emotional learning program; and CPS-AIM-S for staff working in clinical systems, such as residential or inpatient programs, in-home services, and foster care programs. These forms offer a quantified description of individuals' beliefs and feelings related to CPS.

The CPS-AIMs can be used as a part of assessing readiness for CPS training and implementation; or they can be used to track changes over time due to learning and practicing CPS, such as monitoring individuals' buy-in to the CPS philosophy prior to- and post-trainings, and evaluating an individual's perceived competence using CPS.

In the sections below, we provide an overview of each of the CPS-AIMs.

1.1. General Description

The three CPS-AIMs differ in the number of items and contents, to better meet the needs and work specificities of each role. Rather than providing a single score, items of all three CPS-AIMs forms are arranged in scales that reflect main components targeted by CPS, including philosophy, assessment and intervention, as well as individuals' feelings about their roles. Individual items from all available forms appear in **Appendix A**.

CPS-AIM-P

The CPS-AIM for parents is a 20-item, self-report questionnaire that can be administrated either individually or in a group of caregivers within 10 minutes. The CPS-AIM-P includes 3 core scales (11 items) and 3 CPS practice-related scales (9 items).

Core Items:

The three scales for the core items include:

The Philosophy Scale, 4 items, assesses parents' adherence to the 'skill-not-will' mindset of CPS; that children's challenging behavior arises from skill deficits rather than poor motivation.

The Prediction Scale, 3 items, examines parents' perceived ability to understand and predict behavioral problems.

The Parental Stress Scale, 4 items, measures the degree of parental stress.

CPS Practice-Related Items:

When learning CPS, caregivers are taught three "Plans," or ways to respond to their child's unmet expectations and misbehavior, including Plan A, Plan B, and Plan C. Plan A is the term used to describe it when caregivers impose their will on their child when he or she fails to meet adults' expectations, insisting that the child do what he or she is being asked. Plan B describes a process whereby caregivers work with their child to find out what is getting in the child's way of meeting adults' expectations, and then together the parent and child solve the identified problem collaboratively. Plan C is used when caregivers drop their expectations temporarily, often in order to help the child stay calm, and come back to the issue later.

The practice-related items include one scale for Plan A, Plan B, and Plan C, respectively. Each consists of 3 items and reflects how often caregivers practice that specific plan at home.

CPS-AIM-E

The CPS-AIM for educators is a 24-item¹, self- report questionnaire that can be administrated individually or in a group of educators within 12 minutes.

The scales in CPS-AIM-E include:

The Philosophy Scale, 7 items, assesses educators' adherence to the 'skill-not-will' mindset of CPS; that students' challenging behaviors arise from skill deficits rather than poor motivation.

The Positive Impact Scale, 9 items, examines the degree to which educators believe they are positively impacting their students' life.

The Burnout Scale, 4 items, measures the degree of stress and burnout that the educator feels.

The CPS Competence Scale, 4 items, evaluates educators' perceived competence of CPS skills. This scale is only used if educators have been using CPS for some time.

¹ 24 active items. Another 8 items are included in the form as pilot items, as shown in Appendix A, but are not used in scoring. They can be removed if preferred.

CPS-AIM-S

The CPS-AIM for staff in clinical systems is a 18-item, self-report questionnaire that can be administrated individually or in a group of staff within 10 minutes.

The scales in the CPS-AIM-S include:

The Philosophy Scale, 5 items, assesses staff's adherence to the 'skill-not-will' mindset of CPS; that children's challenging behavior arises from skill deficits rather than poor motivation.

The Positive Impact Scale, 5 items, examines how much staff believe they are positively impacting their clients'/patients' lives.

The Burnout Scale, 4 items, measures the degree of stress and burnout felt by staff.

The CPS Competence Scale, 4 items, focusing on staff's perceived efficacy in using practices that are consistent with CPS.

In the following chapters, we focus on each form separately, explaining how to administer, score, and interpret the scales of the relevant CPS-AIM form. After deciding which form best suits your setting and your goals, you can jump directly to the corresponding chapter for more details on that form. For those who are interested in conducting and publishing research using CPS-AIMs, we also provide information of their psychometric properties.

Chapter 2.

The Collaborative Problem Solving Adherence & Impact Measure for Parents (CPS-AIM-P)

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2.1 Administration

The CPS-AIM for Parents (CPS-AIM-P) is designed to be intuitive and easy to administer. The CPS-AIM-P can be administered and scored electronically or manually. Electronic administration and scoring is recommended if users have the resources and capacity (e.g., an internal electronic data capture system). This chapter explains manual scoring of the CPS-AIM-P. If conducting electronic administration and/or scoring, administrators are responsible for transferring the items and scoring protocols to their own internal electronic systems.

The CPS-AIM-P can be administered in person or remotely, as well as individually or in a group of caregivers. If administering remotely, caregivers will follow the instructions at the top of the form. If administering in person, we recommend saying the following, to ensure that caregivers fully understand the instructions: "This form has a number of statements about you, and your relationship with your child. Please focus on your thoughts and feelings in the past month and for each item, circle one number between 1 to 7, corresponding to how much you agree or disagree with each statement: 1 means you strongly agree and 7 means you strongly disagree."

There is no time limit for taking the CPS-AIM-P, and most caregivers can complete the form within 10 minutes.

2.2 Scoring & Interpretation

The CPS-AIM-P includes 3 core scales (11 items) and 3 CPS practice-related scales (9 items). All 20 items have a Likert-type, 7-point response format: for the 11 core items, the responses are: strongly agree, agree, agree a little, neutral/not sure, disagree a little, disagree, and strongly disagree; for the 9 practice-related items, the responses are: not at all, rarely, occasionally, half of the time, frequently, very frequently, and most of the time.

Core Scales

- The Philosophy Scale: Scores on this scale tell you how much caregivers believe in the 'skill-not-will' mindset. CPS posits that children do well if they can; if children have the skills needed to meet your expectations, they will do well. This scale represents how much caregivers understand challenging behavior as caused by lagging skills.
- The Prediction Scale: Scores on this scale tell you to what extent caregivers can predict when their child may explode or have a meltdown. CPS asserts that when children behave poorly, they are having trouble handling problems and situations in that moment. Often times, situations that may overwhelm a child follow a general theme and pattern, and thus are predictable, such as being asked to shift from one thing to another, being told 'no' to their request, or being told of a change of routine or plan. CPS focuses on the events that may trigger a child. This scale tells you how much caregivers are aware of what may trigger their child.
- The Parental Stress Scale: Scores on this scale tell you how much stress they feel as a parent. Often times, caregivers of children with challenging behavior feel stressed and exhausted. For instance, they may feel that their child refuses to meet their expectations on purpose, as defiance to their discipline; or they may not know what else to do when traditional discipline practices of praise and punishment result in tantrums and meltdowns. This scale tells you how much caregivers feel stressed and exhausted interacting with their child.

CPS Practice Scales

When learning CPS, caregivers are taught three "Plans," or ways to react to their child's unmet expectations and misbehavior, including Plan A, Plan B, and Plan C. Plan A is used to describe it when caregivers impose their will on their child when he or she fails to meet adults' expectations, insisting that the child do what he or she is being asked. Plan B means caregivers work with their child to find out what is getting in the child's way of meeting adults' expectations, and then together the parent and child solve the identified problem collaboratively. Plan C is used when caregivers drop their expectations temporarily, often in order to help the child stay calm, and come back to the issue later.

The practice-related items include one scale for Plan A, Plan B, and Plan C, respectively. Each consists of 3 items and reflects how often caregivers practice Plan A, Plan B, and Plan C at home.

Calculating Scale Scores

The score of each scale is the mean (average) of the circled values of all items constituting the scale. To calculate the mean, first add up the values of all items constituting a scale, then divide that sum by the number of items constituting the scale. Table 2.1 lists the detailed guide for calculating each scale score of CPS-AIM-P, and a stand-alone scoring guide can be found in Appendix B.

Table 2.1 Calculating Scale Scores of CPS-AIM-Parents

Scales	Meaning	# of Items	Constituting Items
Philosophy	Adherence to CPS philosophy	4	2, 7, 10, 11
Prediction	Perceived ability to predict challenging behavior	3	3, 6, 9
Parental Stress	Perceived stress of parenting	4	1, 4, 5, 8
Plan A	Frequency of parents' practice consistent with Plan A	3	1 to 3
Plan B	Frequency of parents' practice consistent with Plan B	3	4 to 6
Plan C	Frequency of parents' practice consistent with Plan C	3	7 to 9

Interpreting Scores

Scale scores vary from 1 to 7, with midpoint at 4. Information below describes how to interpret the score of each scale, and how to make sense of the changes if you are using CPS-AIM-P to track caregivers' changes over time.

- The Philosophy Scale: higher = more consistent with 'skill-not-will' mindset.
 - Scores lower than 4 = caregivers believe that children behave poorly in order to get something they like or avoid things they do not like.
 - Scores higher than 4 = caregivers understand that skills are underlying their children's behavior. Children want to behave well; and when they behave poorly, it is because they do not have the skills.
- The Prediction Scale: higher = better at predicting their child's problems.
 - Scores lower than 4 = caregivers think their child's behavioral problems are unpredictable and random:
 - Scores higher than 4 = caregivers think they can tell when their child is about to have problems.
- The Parental Stress Scale: higher = less parental stress and more positive relationship.
 - Scores lower than 4 = caregivers report intensive struggle with their child;
 - Scores higher than 4 = caregivers do not experience intensive struggle with their child.

- The Plan A Scale: higher = more frequent use of Plan A Scores lower than 4 = caregivers report little use of Plan A at home; when their child fails to meet expectations, they do not impose their will; Scores higher than 4 = caregivers report frequent use of Plan A; when their child fails to meet their expectations, they respond by imposing their will and insisting their child do what is being asked.
- The Plan B Scale: higher = more frequent use of Plan B
 Scores lower than 4 = caregivers report little use of Plan B at home, and they do not ask
 about the child's perspective, nor solve the problem with their child collaboratively;
 Scores higher than 4 = caregivers report frequent use of Plan B, and when their child fails to
 meet expectations, they try to understand the child's perspective, share their concern, and
 solve the problem with their child collaboratively.
- The Plan C Scale: higher = more frequent use of Plan C
 Scores lower than 4 = caregivers report little use of Plan C, that is, they keep on addressing the unmet expectations in the moment;
 Scores higher than 4 = caregivers report frequent use of Plan C at home; they tend to drop their expectations temporarily when their child has trouble meeting expectations, and address the issue later.

Interpreting Changes over Time

- The Philosophy Scale: Caregivers who haven't learned CPS may believe that their children behave poorly because of intention and will (to get what they want or avoid what they dislike). Ideally, when they learn CPS, their mindset changes gradually to be more consistent with 'skill-not-will.' In this case, you would see scores on this scale increase, from below 4 (midpoint) to above 4.
- The Prediction Scale: Before learning CPS, caregivers often see their child's meltdowns as coming out of nowhere, completely unpredictable and random. CPS helps caregivers shift attention away from the behavior, and start to think about what may have happened prior to those meltdowns and struggles. Eventually, caregivers are expected to understand the common triggers of their child's challenging behavior. In this case, you would see scores on this scale increase, from below 4 (midpoint) to above 4.
- The Parental Stress Scale: Many caregivers who have sought out treatment or who want to learn CPS experience intensive stress and struggles interacting with their child. CPS teaches caregivers to hear the child's perspective and concern, share their concern equally, and collaborate on solutions that address both concerns. This process can help restore a positive parent-child relationship, and therefore reduce parental stress. In that case, you would see scores on this scale increase, when the parental stress lessens, and the parent-child relationship improves.

• The CPS Practice Scales (Plan A, Plan B, and Plan C): Before learning CPS, caregivers often use conventional wisdom and related practices, including rewards and punishments, to encourage their child's compliance when the child fails to meet their expectations. That is, they are likely using Plan A quite frequently. Ideally, when they learn CPS, they will start to practice other plans (Plan B and/or Plan C) more frequently, to help the child stay regulated and meet their expectations while addressing the child's concerns simultaneously. In this case, you would see scores on the Plan A Scale decrease, the scores on the Plan C Scale increase at first (while the caregivers still practicing their Plan B skills), and the scores on the Plan B Scale increase.

2.3 Psychometric Properties

Summary of Psychometric Properties

A study of the psychometric properties of the core scales of the CPS-AIM-P was conducted with a sample of 202 caregivers attending an 8-session parent group training to learn the CPS approach. These groups were offered at the Think: Kids program at Massachusetts General Hospital for families with 3- to 18-year-old children exhibiting significant behavioral symptoms. The internal consistency was good for each core scale, and Cronbach's alpha was 0.87, 0.82, and 0.89, for Philosophy, Prediction, and Parental Stress, respectively.

Study and Data for Validation: Details

Participants were 202 parents attending CPS parent group training at the Think:Kids program at Massachusetts General Hospital (142 mothers; 57 fathers, 3 missing parent demographics). Parents self-referred into these groups because they felt their children were exhibiting significant behavioral symptoms that would benefit from a change in parenting approach. Group sessions typically included 8 to 12 parents. Data from 22 parent groups conducted over a three-year period were used. Use of these clinical data for purposes of the research herein was approved by the relevant Institutional Review Board.

Parents attended weekly group training sessions for 8 sessions. The groups were facilitated by a licensed clinician trained and certified by Think: Kids to teach the CPS approach. All trainers used the same materials, including audio-visual materials and handouts. Prior to each group training session, parents completed the CPS-AIM-P.

In order to assess the criterion validity of Parental Stress scale of CPS-AIM-P, a subgroup of 120 parents filled out the Parent Child Relationship Inventory (PCRI; Gerard, 1994) at the beginning of the first session. There were no differences between this subgroup of parents and the rest of the sample in terms of their ratings on the Parental Stress scale of the CPS-AIM-P, deeming this subgroup representative of the whole sample. To our knowledge, there are no existing measures that correspond to the other two scales of CPS-AIM (Philosophy & Prediction), thus we were unable to assess their validity directly.

We conducted a Confirmative Factor Analysis on CPS-AIM-P from Session 1 data to evaluate the three-factor structure of the scale, with factors including (1) Philosophy; (2) Prediction; and (3) Parental Stress. Results suggest a good model fit² with the three factors, $\chi^2/df = 1.75$ ($\chi^2 = 71.85$, df = 41), CFI = 0.964, RMSEA = 0.064 (90% confidence interval: 0.038 – 0.088), SRMR = 0.054. An alternative model with two factors, including one factor for Philosophy and Prediction combined and one factor for Parental Stress, was also considered. The two-factor model offers a poor model fit ($\Delta\chi^2 = 4.27$, CFI = 0.838, RMSEA = 0.132, SRMR = 0.087), further confirming the three-factor structure of the CPS-AIM-P.

Reliability of the items for each scale was assessed by internal consistency (Cronbach's alpha), and mean inter-item correlations (Allen & Yen, 2002). At each session, the internal consistency as measured by Cronbach's alpha was acceptable to good for each domain, ranging from 0.76 to 0.89. Mean inter-item correlations ranged from 0.45 to 0.68, suggesting that items within each domain cohered well with the overall construct across all eight sessions.

Convergent validity of the Parental Stress scale of the CPS-AIM-P was examined via correlations with the Satisfaction with Parenting scale of PCRI, using the sample of 120 parents who received both PCRI and CPS-AIM-P at Session 1. Pearson correlations indicated a strong relationship between the PCRI and the Parental Stress Scale of the CPS-AIM-P (r = 0.57), which was significantly stronger than the relationship between PCRI-Satisfaction with Parenting scale and the other two domains of CPS-AIM-P (with Philosophy, r = 0.26; with Prediction, r = 0.28; both were significantly different from r = 0.57). Such pattern of correlations provided support to both the convergent and divergent validity of the Parental Stress scale of the CPS-AIM-P.

The CPS Practice-Related Scales of the CPS-AIM-P have not yet been evaluated psychometrically. At this time, we advise using these practice-related scales with caution, and evaluating the psychometric properties of these three scales within your sample whenever possible. Future analyses of these three scales is planned and this report will be updated with additional information when it becomes available.

 $^{^2}$ The following fit indices were used to assess goodness-of-fit (Hooper, Coughlan, & Mullen, 2008): relative χ^2 (χ^2 /df, Tabachnick & Fidell, 2007; < 2 is preferred); Comparative Fit Index (CFI, Hu & Bentler, 1999; between 0 to 1, and >= 0.95 is preferred); Root Mean Square Error of Approximation and the 90% confidence intervals (RMSEA, Hu & Bentler, 1999; Steiger, 2007; and 90% CI, Browne & Cudeck, 1993; MacCallum, Browne, & Sugawara, 1996; <= 0.05, or <= 0.08 is preferred); Standardized Root Mean Residual (SRMR, , Hu & Bentler, 1998; <= 0.08 is preferred).

Chapter 3.

The Collaborative Problem Solving Adherence & Impact Measure for Educators (CPS-AIM-E)

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3.1 Administration

The CPS-AIM for Educators (CPS-AIM-E) is designed to be intuitive and easy to administer. The CPS-AIM-E can be administered and scored electronically or manually. Electronic administration and scoring is recommended if users have the resources and capacity (e.g., an internal electronic data capture system). This chapter explains manual scoring of the CPS-AIM-E. If conducting electronic administration and/or scoring, administrators are responsible for transferring the items and scoring protocols to their own internal electronic systems.

The CPS-AIM-E can be administered in person or remotely, as well as individually or in a group of educators. If administering remotely, educators will follow the instructions at the top of the form. If administering in person, we recommend saying the following, to ensure that educators fully understand the instructions: "This form has a number of statements about you as well as your feelings about your job and your students. Please focus on your thoughts and feelings in the past week and for each item, circle one number between 1 to 7, corresponding to how much you agree or disagree with each statement: 1 means you strongly disagree and 7 means you strongly agree. Your answers will NOT be used to evaluate your performance or impact your employment, and your answers will only be used when combined with the answers of others."

There is no time limit for taking the CPS-AIM-E, and most educators can complete the form within 12 minutes.

3.2 Scoring & Interpretation

The CPS-AIM-E includes four scales, three of which can be used for all educators, and the last of which is to be used for educators that have been trained in CPS. All items have a Likert-type, 7-point response format, ranging from strongly disagree, disagree, disagree a little, neutral/not sure, agree a little, agree, and strongly agree.

- The Philosophy Scale: Scores on this scale tell you how much educators believe in the 'skill-not-will' mindset. CPS posits that students do well if they can; if students have the skills needed to meet expectations, they will do well. This scale represents how much educators see challenging behavior as caused by lagging skills.
- Perceived Positive Impact: Scores on this scale tell you to what extent educators believe they have a positive impact on students, and their perceived efficacy as an educator.
- Perceived Burnout: Scores on this scale tell you how much burnout, or work-related stress, the educator feels.
- Perceived CPS Competence: CPS teaches educators to identity lagging skills underlying students' misbehavior, to identify triggers and expectations that are overwhelming the students, and to have collaborative conversations with the students to solve their problems. Scores on this scale tell you how much educators feel competent in using various ingredients of CPS in practice. Because items in this scale may be interpreted differently by educators who are trained versus untrained, this scale should only be used for educators who have already been trained in CPS. This scale should not be used to measure change over time from before to after CPS training.

Calculating Scale Scores

The score of each scale is the mean (average) of the circled values of all items constituting the scale. Before calculating the mean, some items need to be re-coded for reversal. When re-coding an item, transform the original values such that 1=7, 2=6, 3=5, 5=3, 6=2, and 7=1. After re-coding the reversed items, to calculate the mean, add up the values of all items constituting a scale, then divide that sum by the number of items constituting the scale. Table 3.1 lists the detailed guide for calculating each scale score of CPS-AIM-E. A separate stand-alone scoring guide for CPS-AIM-E can be found in Appendix B.

Table 3.1 Calculating Scale Scores of CPS-AIM-Educators

Scales	Meaning	# of	Constituting Items					
		Items	Items to re-code	Items to use original				
				values				
Philosophy Adherence to CPS		7	1, 5, 15, 18, 19,	-				
	philosophy		22, 31					
Positive	Perceived positive impact on	9	9, 25	4, 10, 12, 14, 16, 21,				
Impact	students			23				
Burnout	Perceived burnout from work	4	24, 29	3, 13				
*CPS	Perceived competence at CPS	4	-	7, 26, 30, 32				
Competence	skills							

^{*:} This scale is suggested to be administrated with educators who have received CPS training.

Interpreting Scores

Scale scores vary from 1 to 7, with midpoint at 4. Information below describes how to interpret the score of each scale, and how to make sense of the changes if you are using CPS-AIM-E to track educators' changes over time.

- The Philosophy Scale: higher = more consistent with 'skill-not-will' mindset. Scores lower than 4 = educators believe that students behave poorly in order to get something they like or avoid things they do not like. For example, a student walks around in class because she wants attention from others.
 - Scores higher than 4 = educators understand that skills are underlying their students' misbehavior. When students behave poorly, it is because they do not have the skills to meet the demands of a situation. For example, a student walks around in class because she has trouble staying focused and engaged for a long time.
- Perceived Positive Impact: higher = more positive feelings
 Scores lower than 4 = educators believe they do not have positive influence on students, and they have some difficulties interacting with the most challenging students.
 Scores higher than 4 = educators believe they have a positive relationship with students, and can positively impact students' lives. They feel respected by students and believe that students regard them as caring and compassionate teachers.
- Perceived Burnout: higher = more burnout Scores lower than 4 = educators report that they like and feel energized by their job. Scores higher than 4 = educators report burnout and feel exhausted by their work.
- Perceived CPS Competence: higher = higher competence reported by educators Scores lower than 4 = educators are not confident in their CPS skills, such as identifying lagging skills underlying a student's misbehavior, and having conversations with students to solve problems collaboratively.
 - Scores higher than 4 = educators are confident in their CPS skills, and believe that they can use CPS ingredients in practice.

Interpreting Changes over Time

- The Philosophy Scale: At the beginning, educators who have not learned CPS may believe that students behave poorly because of their intention and will (to get what they want or avoid what they dislike). Ideally, when they learn CPS, their mindset would change gradually to be more consistent with 'skill-not-will.' In this case, you would see scores on this scale increase, from below 4 (midpoint) to above 4.
- Perceived Positive Impact: Some educators feel they do not have sufficient impact on students' life, especially those who are most challenging in school. CPS teaches educators to hear the students' perspective and concern, share their concern equally, and collaborate on

solutions that address both concerns, which can help restore a positive relationship, and therefore, lead to more positive impact. In this case, you would see scores on this scale increase over time.

- Perceived Burnout: Educators may experience intensive stress and struggles interacting with challenging students. After learning CPS, educators may feel more knowledgeable and more competent in their role, and therefore, feel less burned out. In this case, you would see scores on this scale decrease over time.
- Perceived CPS Competence: Right after training, educators may feel challenged transforming knowledge learned in CPS training into practice, and they may not feel competent in their CPS skills. There are a lot of nuances and details in practice, such as staying regulated, sharing concerns instead of solutions, testing if a solution is doable, practical, and followed through successfully. With continuous practice and coaching, you hope to see scores on this scale increase over time.

3.3 Psychometric Properties

Psychometric properties of CPS-AIM-E were estimated based on a sample of 301 educators, both with and without exposure to CPS. The internal consistency of the first three scales was acceptable to good, and Cronbach's alpha was 0.81, 0.86 and 0.78, for Philosophy, Perceived Positive Impact, and Perceived Burnout, respectively.

Future studies will evaluate the internal consistency for Perceived CPS Competence scale. Thus, this scale should be used and interpreted with caution. Information on educators' perceived CPS competence should be complemented by information on educators' *observed* CPS competence using CPS integrity measures whenever possible. Future studies should also validate the CPS-AIM-E burnout scale with other measures of teacher stress.

Chapter 4.

The Collaborative Problem Solving Adherence & Impact Measure for Clinical Systems (CPS-AIM-S)

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4.1 Administration

The CPS-AIM for Clinical Systems (CPS-AIM-S) is designed to be intuitive and easy to administer. The CPS-AIM-S can be administered and scored electronically or manually. Electronic administration and scoring is recommended if users have the resources and capacity (e.g., an internal electronic data capture system). This chapter explains manual scoring of the CPS-AIM-S. If conducting electronic administration and/or scoring, administrators are responsible for transferring the items and scoring protocols to their own internal electronic systems.

Relevant staff include licensed or unlicensed clinicians as well behavioral staff, and direct care staff in a residential or outpatient clinical setting. You may also use this measure with supervisors, administrators, and any other staff that have contact with youth, but results should be interpreted with some caution. If staff in your clinical system include educational staff, review the CPS-AIM-S and CPS-AIM-E to see which is more appropriate for your use. The noun used to describe the target population the clinical systems serve is 'youth,' and can be replaced with 'students,' 'patients,' or 'clients.' Please contact Think:Kids for different versions of the CPS-AIM-S.

The CPS-AIM-S can be administered in person or remotely, as well as individually or in a group of staff. If administering remotely, staff will follow the instructions at the top of the form. If administering in person, we recommend saying the following, to ensure that staff fully understand the instructions: "This form has a number of statements about you as well as your feelings about your job and your clients. Please focus on your thoughts and feelings in the past week and for each item, circle one number between 1 to 7, corresponding to how much you agree or disagree with each statement: 1 means you strongly disagree and 7 means you strongly agree. Your answers will NOT be used to evaluate your performance or impact your employment, and your answers will only be used when combined with the answers of others."

There is no time limit for taking the CPS-AIM-S, and most staff can complete the form within 10 minutes.

4.2 Scoring & Interpretation

The CPS-AIM-S includes four scales. All items have a Likert-type, 7-point response format, ranging from strongly disagree, disagree a little, neutral/not sure, agree a little, agree, and strongly agree.

Scales

- The Philosophy Scale: Scores on this scale tell you how much staff believe in the 'skill-not-will' mindset. CPS posits that youth do well if they can; if youth have the skills needed to meet expectations, they will do well. This scale represents how much staff see challenging behavior as caused by lagging skills.
- Perceived Positive Impact: Scores on this scale tell you to what extent staff believe they have a positive impact on youth, and their perceived efficacy working with challenging youth.
- Perceived Burnout: Scores on this scale tell you how much burnout, or work-related stress, the staff feel.
- Perceived CPS Competence: CPS teaches staff to identity lagging skills underlying youth's
 misbehavior, to identify triggers and expectations that are overwhelming the youth, and to
 have collaborative conversations with the youth to solve their problems. Scores on this scale
 tell you how much staff feel competent in using various ingredients of CPS in practice.
 Although this scale is on CPS competence, there are no CPS specific terms used in the items
 constituting the scale. Therefore, the scale can be used by staff with or without CPS training.

Calculating Scale Scores

The score of each scale is the mean (average) of the circled values of all items constituting the scale. Before calculating the mean, some items need to be re-coded for reversal. When re-coding an item, transform the original values such that 1=7, 2=6, 3=5, 5=3, 6=2, and 7=1. After re-coding the reversed items, to calculate the mean, add up the values of all items constituting a scale, then divide that sum by the number of items constituting the scale. Table 4.1 lists the detailed guide for calculating each scale score of CPS-AIM-S. A separate stand-alone scoring guide for CPS-AIM-S can be found in Appendix B.

Table 4.1 Calculating Scale Scores of CPS-AIM-Systems

		# of	Constituting Items					
Scales	Meaning	Items	Items to re-code	Items to use original values				
Philosophy Adherence to CPS philosophy		5	1, 5, 15, 17, 27	-				
Positive Impact	Perceived positive impact on youth/patients	5	14, 22	10, 12, 13				
Burnout	Perceived burnout from work	4	8	3, 6, 32				
CPS Perceived competence at CPS Competence skills		4	-	7, 28, 33, 35				

Note: The final scale contains 18 items, and the numbering of the items ranges from 1 to 36. Some item numbers are missing intentionally to match previous versions.

Interpreting Scores

Scale scores vary from 1 to 7, with midpoint at 4. Information below describes how to interpret the score of each scale, and how to make sense of the changes if you are using CPS-AIM-S to track staff changes over time.

- The Philosophy Scale: higher = more consistent with 'skill-not-will' mindset.

 Scores lower than 4 = staff believe that youth behave poorly in order to get something they like or avoid things they do not like. For example, a youth is threatening to cut herself in order to avoid taking medications.

 Scores higher than 4 = staff understand that skills are underlying youths' misbehavior. When
 - youth behave poorly, it is because they do not have the skills to meet the demands of a situation. For example, a youth feels uncomfortable taking medication, and because of poor emotion regulation, impulse control, and communication skills, she cuts herself instead of communicating her concerns with clinical staff.
- Perceived Positive Impact: higher = more positive feelings
 Scores lower than 4 = staff think they do not have positive influence on youth they are
 working with, and they have some difficulties interacting with the most challenging youth.
 Scores higher than 4 = staff think they have a positive relationship with youth, and can
 positively impact youths' lives. They feel respected by youth and believe that youth regard
 them as caring and compassionate.
- Perceived Burnout: higher = more burnout
 Scores lower than 4 = staff report that they like their job, and their work feels rewarding.
 Scores higher than 4 = staff report burnout and feel maximal stress at work.

Perceived CPS Competence: higher = higher competence reported by staff
 Scores lower than 4 = staff are not confident in their CPS skills, such as identifying lagging skills underlying youths' misbehavior, listening to youths' concerns, and having conversations with youth to solve problems collaboratively.
 Scores higher than 4 = staff are confident in their CPS skills and believe that they can use CPS ingredients in practice.

Interpreting Changes over Time

- The Philosophy Scale: Staff who have not learned CPS may believe that youth behave poorly because of their intention and will (to get what they want or avoid what they dislike). Ideally, when they learn CPS, their mindset would change gradually to be more consistent with 'skill-not-will.' In this case, you would see scores on this scale increase, from below 4 (midpoint) to above 4.
- Perceived Positive Impact: Some staff feel they do not have enough impact on youths' lives, especially those with whom it is most challenging to work. CPS teaches staff to hear the youths' perspective and concern, share their concern equally, and collaborate on solutions that address both concerns, which can help restore a positive relationship, and therefore, lead to more positive impact. In this case, you would see scores on this scale increase over time.
- Perceived Burnout: Staff may experience intensive stress and struggles interacting with challenging youth. After learning CPS, staff may feel more knowledgeable and more competent in their role, and therefore, feel less burned out. In this case, you would see scores on this scale decrease over time.
- Perceived CPS Competence: Before learning CPS, staff may not be aware of the skill deficits
 underlying youth's challenging behavior, and they may not practice problem solving
 collaboratively with the youth. Therefore, they are not competent in skills consistent with
 CPS. After training and practice, they learn about how to stay regulated, share concerns
 instead of solutions, test if a solution is doable, practical, and followed through successfully.
 With continuous practice and coaching, you hope to see scores on this scale increase over
 time.

4.3 Psychometric Properties

Psychometric properties of CPS-AIM-S were evaluated using a sample of 684 staff in various systems of care who completed the CPS-AIM-S twice. Specifically, they have been not trained in CPS at the beginning, and a subset of the sample (n = 166) had received CPS training by the time they filled out the CPS-AIM-S the second time about 5 months later. The internal consistency of each scale was acceptable to good, and the Cronbach's alpha and inter-item correlation for each scale at each time point were summarized in Table 4.2.

Table 4.2 Internal Consistency of the scales of CPS-AIM-Systems

Caalaa	Cronbac	h's Alpha	Inter-item	Correlation	Sample	Means
Scales	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Philosophy	0.62	0.71	0.25	0.33	3.42	3.78
Positive Impact	0.83	0.86	0.49	0.56	5.93	5.81
Burnout	0.73	0.72	0.40	0.39	2.60	2.96
CPS Competence	0.65	0.63	0.31	0.30	5.88	5.86

Measurement invariance of CPS-AIM-Systems scales was evaluated across groups at each time point (n = 518 who received no CPS training at both time 1 and time 2 vs. n = 166 who had received CPS training by time 2); and then evaluated across the time points. Results suggested that all the scales of CPS-AIM-Systems satisfy strong measurement invariance regardless of staff's training. That is, scores of the scales are comparable across staff with and without CPS training. In terms of measurement invariance across time, all scales satisfy configuration invariance – that is, each domain is measured by the same items across time; however, only Perceived Positive Impact and Perceived CPS Competence scales satisfy strong invariance, and scores on these two scales across time are directly comparable (for at least two time points). More data are needed to further assess if Philosophy and Burnout scales are invariance over a longer term and/or more waves of assessments.

Finally, information on staff's perceived CPS competence should be complemented by information on staff's *observed* CPS competence using CPS integrity measures whenever possible. Future studies should evaluate the validity CPS-AIM-S burnout scale against other established measures of staff stress.

APPENDIX A: FORMS

$CPS\text{-}AIM\text{-}P\,(V2)$

SUBJECT ID:	Data
SUBJECT ID.	Date:

Please honestly reflect on the degree to which each of the following statements **CURRENTLY** applies to you and your relationship with your child. Focus on how you have been feeling **IN THE PAST MONTH**.

Strongly		Agree	Neutral/	Disagree		Strongly
Agree	Agree	a Little	Not Sure	a Little	Disagree	Disagree
1	2	3	4	5	6	7

1.	My child and I frequently struggle with each other.	1	2	3	4	5	6	7
2.	My child chooses to act out in order to get out of doing things he/she doesn't like.	1	2	3	4	5	6	7
3.	My child's behavior toward me is unpredictable.	1	2	3	4	5	6	7
4.	Dealing with my child drains my energy.	1	2	3	4	5	6	7
5.	The struggles I have with my child are very intense.	1	2	3	4	5	6	7
6.	I cannot predict my child's meltdowns or tantrums.	1	2	3	4	5	6	7
7.	My child intentionally pushes my buttons or manipulates me.	1	2	3	4	5	6	7
8.	I am at my maximum stress level when I am with my child.	1	2	3	4	5	6	7
9.	I don't understand why my child explodes or implodes.	1	2	3	4	5	6	7
10.	My child could behave better if he/she just worked harder at it.	1	2	3	4	5	6	7
11.	My child behaves in negative ways in order to get attention.	1	2	3	4	5	6	7

Please take a minute and reflect upon your interactions with your child in the last month, especially any challenging incidents. Consider what you expected him/her to do, what your child did instead, and how you reacted.

Please use one or two keywords to describe what you expected your child to do at those moments. List up to five incidents in the last month.

(Example: brush teet	<u>th</u>)							
1;	,	2	_;	3	_;	4	<u>.</u> ;	5

Now, please answer the following questions: When your child did not do what you expected him/her to do, how often did you engage in each of the following strategies during the last month?

		1	2	3	4	5	6	7
	Parenting Response	Not at all	Rarely	Occasion	Half of the	Frequently	Very	Most of
				ally	time		frequently	the time
1	Stuck to my rules and did not change my mind.							
2	Offered my child something nice if s/he did what I expected.							
3	Reminded my child of the consequences if s/he didn't do what I asked.							
4	Was curious about my child's perspective, and asked why s/he had trouble doing what I expected.							
5	Shared with my child why the expectation was important to me.							
6	Came up with a solution with my child that addressed both my needs and hers/his.							
7	Chose not to address the problem at that moment.							
8	Took care of the problem myself at that moment.							
9	Planned to talk with her/him about it another time.							

CPS-AIM-E (V.2.2)

Educator's Name:	Date:	
School:	Role in School:	
Have you received CPS training?	YES NO	
If YES, have you received:		
Introductory CPS Training	YES NO	
Tier One CPS Training?	YES NO	

We would like to better understand your work with students who exhibit challenging behaviors. Please honestly reflect on the degree to which each of the following statements **CURRENTLY** applies to you.

Focus on how you have been feeling IN THE PAST WEEK.

Strongly		Disagree	Neutral/	Agree		Strongly	Not
Disagree	Disagree	a Little	Not Sure	a Little	Agree	Agree	Applicable
1	2	3	4	5	6	7	NA*

*Please answer NA if an item does not apply to you, based on your role or training.

1	Most of my challenging students could behave better if they just worked harder at it.	1	2	3	4	5	6	7	NA
2	I enjoy the time I spend with my students.	1	2	3	4	5	6	7	NA
3	I feel burned out from my job.	1	2	3	4	5	6	7	NA
4	I believe I am having a positive influence on the lives of my most challenging students.	1	2	3	4	5	6	7	NA
5	The reason many students choose to act out is to avoid doing things they don't like to do.	1	2	3	4	5	6	7	NA
6	My work with challenging students often leaves me feeling drained.	1	2	3	4	5	6	7	NA
7	I can usually identify which lagging skills contribute to a student's challenging behaviors.	1	2	3	4	5	6	7	NA
8	To decrease disruptive behavior, I have dropped several expectations for my most difficult students.	1	2	3	4	5	6	7	NA
9	I doubt whether I am able to make a difference in the lives of my most challenging students.	1	2	3	4	5	6	7	NA
10	My work with challenging students often feels rewarding.	1	2	3	4	5	6	7	NA
11	I am often not sure which specific skill struggles are making it difficult for my students to meet adult expectations.	1	2	3	4	5	6	7	NA
12	I am confident in my ability to work with behaviorally challenging students.	1	2	3	4	5	6	7	NA

Strongly		Disagree	Neutral/	Agree		Strongly	Not
Disagree	Disagree	a Little	Not Sure	a Little	Agree	Agree	Applicable
1	2	3	4	5	6	7	NA*

12	I durand pains to words	1	2	2	Ι 4	5	6	7	NA
13	I dread going to work.	1	2	3	4	5	6	7	NA
14	My challenging students believe that I am on their side.	1	2	3	4	5	6	7	NA
15	Many students choose to misbehave because negative attention is better than no attention at all.	1	2	3	4	5	6	7	NA
16	My most challenging students are likely to remember me as a caring and compassionate teacher.	1	2	3	4	5	6	7	NA
17	Students believe that I am strict.	1	2	3	4	5	6	7	NA
18	When students are refusing to do something, I typically try to get them to do it by reminding them of the consequences of their actions.	1	2	3	4	5	6	7	NA
19	My students' behavior problems are often caused by overly permissive parents.	1	2	3	4	5	6	7	NA
20	My students are doing the best they can with the skills they have.	1	2	3	4	5	6	7	NA
21	I believe that my students respect me as a teacher.	1	2	3	4	5	6	7	NA
22	It feels like I am in a power struggle with some of my most challenging students.	1	2	3	4	5	6	7	NA
23	My students and I are usually able to work things out in a way that feels okay to both of us.	1	2	3	4	5	6	7	NA
24	I leave work feeling happy and energized.	1	2	3	4	5	6	7	NA
25	I do not feel I am having much impact on changing my students' behaviors.	1	2	3	4	5	6	7	NA
26	I am confident in my ability to use proactive problem- solving with my students.	1	2	3	4	5	6	7	NA
27	My students' parents are doing the best they can.	1	2	3	4	5	6	7	NA
28	I often find myself trying to solve problems "in the moment" rather than ahead of time.	1	2	3	4	5	6	7	NA
29	I love my job.	1	2	3	4	5	6	7	NA
30	I regularly have conversations with my students where we successfully solve problems that have been occurring.	1	2	3	4	5	6	7	NA
31	Many students engage in negative behaviors because they have learned that those behaviors get them what they want.	1	2	3	4	5	6	7	NA
32	I usually follow up on problem-solving conversations with my students, to see if a solution is working for them.	1	2	3	4	5	6	7	NA
	<u> </u>								

Thank you!

CPS-AIM-S (V3)

Your Full Name:]	Date:	Year of Hire: _	
Job Title/Role:	Organization:		Unit/Program:	
CPS Training Already I	Received (check al	l that apply):		
NoneIntro	ductory Training	(3-7 hrs)		
Tier One (20 hrs)	_Tier Two (20 hr	rs)		

We would like to better understand your work with youth who exhibit challenging behaviors.

Please honestly reflect on the degree to which each of the following statements **CURRENTLY** applies to you and your relationship with your youth and job. Your answers will not be used to evaluate you; they will only be used when combined with the answers of others.

Focus on your thoughts and feelings IN THE PAST WEEK.

Strongly		Disagree	Neutral/	Agree		Strongly	Don't
Disagree	Disagree	A Little	Not Sure	A Little	Agree	Agree	Know
1	2	3	4	5	6	7	DK

1.	Most challenging youth could behave better if they just worked harder at it.	1	2	3	4	5	6	7	DK
3.	I feel burned out from my job.	1	2	3	4	5	6	7	DK
5.	The reason many youths choose to act out is to avoid doing things they don't like to do.	1	2	3	4	5	6	7	DK
6.	My work with challenging youth often leaves me feeling drained.	1	2	3	4	5	6	7	DK
7.	I can usually identify which lagging skills contribute to a youth's challenging behaviors.	1	2	3	4	5	6	7	DK
8.	I am able to separate myself from my work when I am not at work.	1	2	3	4	5	6	7	DK
10.	My work with challenging youth often feels rewarding.	1	2	3	4	5	6	7	DK
12.	I am confident in my ability to work with behaviorally challenging youth.	1	2	3	4	5	6	7	DK

Strongly		Disagree	Neutral/	Agree		Strongly
Disagree	Disagree	A Little	Not Sure	A Little	Agree	Agree
1	2	3	4	5	6	7

Don't Know	
DK	

13.	I believe I am having a positive influence on the lives of the most challenging youth.	1	2	3	4	5	6	7	DK
14.	I doubt whether I am able to make a difference in the lives of my most challenging youth.	1	2	3	4	5	6	7	DK
15.	Many youths choose to misbehave because negative attention is better than no attention at all.	1	2	3	4	5	6	7	DK
17.	When youth are refusing to do something, I typically try to get them to do it by reminding them of the consequences of their actions.	1	2	3	4	5	6	7	DK
22.	I do not feel I am having much impact on changing youths' behaviors.	1	2	3	4	5	6	7	DK
27.	Many youths engage in negative behaviors because they have learned that those behaviors get them what they want.	1	2	3	4	5	6	7	DK
28.	I usually follow up on a problem-solving conversation with youth to see if a solution is working for them.	1	2	3	4	5	6	7	DK
32.	I am at my maximum stress level when I am at work.	1	2	3	4	5	6	7	DK
33.	It can be useful and productive to listen to youths' perspectives regarding their own challenges.	1	2	3	4	5	6	7	DK
35.	Youth and I are usually able to work things out in a way that feels okay to both of us.	1	2	3	4	5	6	7	DK

Thank you!

Note: Some item numbers are missing intentionally to match previous versions.

APPENDIX B: SCORING GUIDES

CPS Adherence and Impact Measure for Parents (CPS-AIM-P) Scoring Guide

This questionnaire assesses factors that change over time when a parent is taught to use the "Collaborative Problem Solving" approach (CPS).

Before beginning, make sure you are using the latest CPS-AIM-P version, marked V2, on which there are 11 items on the main form + 9 items on an additional form for CPS Practice.

The CPS-AIM Parent Version is best represented by three subscales:

Subscale 1: Parent/Child Relationship Quality

Items 1, 4, 5, 8

Higher score means better relationship- you want these scores to increase over time

Cronbach's alpha (internal reliability of the subscale) = 0.83

Subscale 2: Adherence to the CPS Philosophy

Items 2, 7, 10, 11

Higher score means higher adherence – you want these to increase over time

Cronbach's alpha (internal reliability of the subscale) = 0.76

Subscale 3: Ability to Understand/Predict Challenging Behavior

Items 3, 6, 9

Higher score means better ability to predict- you want these to increase over time

Cronbach's alpha (internal reliability of the subscale) = 0.81

Additional form on CPS Practice at Home

In CPS, parents are taught to use three "Plans," or ways to respond to their children's misbehavior. In Plan A, parents insist that the child do what he or she is being asked. In Plan B, parents work collaboratively with their child to solve the problem. In Plan C, parents drop their expectation for a time, to help the child stay calm.

The additional form on parents' practice include 9 Items, and it reflects parents' practices consistent with Plan A, Plan B, and Plan C, respectively. Higher ratings indicate more frequent use of that type of practice.

Plan A: Items 1 to 3; Plan B: items 4 to 6; Plan C: items 7 to 9.

CPS Adherence and Impact Measure for Educators (CPS-AIM-E) Scoring Guide

Version 2.2 of the CPS-AIM-E (previously named as TK-COT-E) is based on a factor analysis of Version 2 of the TK-COT-E.

Before beginning, make sure you are using the latest CPS-AIM-E version, marked V.2.2, on which 1=Strongly Disagree, 7=Strongly Agree.

Subscale 1 (Adherence to CPS Philosophy):

Average of items 1*, 5*, 15*, 18*, 19*,22*, 31*.

After recoding all items in this domain in the reverse order, higher score indicates a philosophy more consistent with CPS.

Subscale 2 (Perception of Positive Impact):

Average of items 4, 9*, 10, 12, 14, 16, 21, 23, 25*.

Higher score indicates a greater perception of positive impact.

Subscale 3 (Burnout):

Average of items 3, 13, 24*, 29*

Higher score indicates more burnout.

Optional Subscale 4 (Perception of CPS Competence):

THIS SUBSCALE SHOULD ONLY BE CALCULATED AFTER PARTICIPANTS HAVE BEEN USING CPS/PLAN B FOR SOME TIME.

Average of items 7, 26, 30, 32

Higher score indicates a greater perception of CPS skill.

Note: When an item is marked with, that means that the participants' answers for that item should be recoded so that 1=7, 2=6, 3=5, 5=3, 6=2, and 7=1.

CPS Adherence and Impact Measure for Systems (CPS-AIM-S)

Scoring Guide

A confirmatory factor analysis indicates that the CPS-AIM-S (previously known as TK-COT-S) is best represented by four subscales.

Before beginning, make sure you are using the latest CPS-AIM-S version, marked V3, on which 1=Strongly Disagree, 7=Strongly Agree.

Subscale 1 (Adherence to CPS Philosophy):

Average of items 1*, 5*, 15*, 17*, 27*

Higher score indicates a philosophy more consistent with CPS.

Subscale 2 (Perception of Positive Impact):

Average of items 10, 12, 13, 14*, 22*

Higher score indicates a greater perception of positive impact.

Subscale 3 (Burnout):

Average of items 3, 6, 8*, 32

Higher score indicates more burnout

Subscale 4 (Perception of CPS Competence):

Average of items 7, 28, 33, 35

Higher score indicates a greater perception of problem solving competence

* Participants' answers for these items should be recoded so that:

1=7, 2=6, 3=5, 5=3, 6=2, and 7=1.

Note: The final scale contains 18 items, and the numbering of the items are the same as V2 (ranging from 1 to 36), with some item numbers missing intentionally, to ease the application and scoring in practice for colleagues transitioning from V2 to V3.