

**Efficacy of Enhanced First Step to Success Intervention for Tertiary-Level
Students with Disruptive Behavior (R324A150179)
Research Performance Progress Report: NCE**

In May 2015, the University of Louisville, in collaboration with several Kentucky school districts and the Oregon Research Institute, was awarded a four-year, collaborative federal grant to evaluate the efficacy of the revised First Step Next (FSN) early intervention program (Walker, et al., 2015). The purpose of this on-going project is to conduct a comparative efficacy study examining the impact of 1) a school-based intervention (First Step Next; FSN) to support teachers and their students and 2) a home-based intervention (homeBase) to support parents. The study focuses on students with disruptive behavior who require tertiary-level (intensive) support to achieve school success. The specific aims for this study are to (1) examine the magnitude of immediate, pre-post effects for First Step Next-only, homeBase-only, and First Step Next -plus- homeBase interventions; (2) examine the maintenance of gains for the First Step Next-only, homeBase-only, and First Step Next -plus- homeBase interventions; (3) examine mediators and moderators of student-level intervention effects and the relationship among implementation measures and positive change on parent and teacher outcomes; and (4) identify facilitators and barriers to adoption, implementation, and sustainability of First Step Next and homeBase within and across participating schools. This report summarizes our progress 8 months into our 16 month No Cost Extension. Specifically, we provide details regarding our 5th cohort, updated analysis (cohorts 1-4), and our current plan to deal with the COVID-19 national health crisis.

I. Accomplishments

What are the major goals for the NCE (months 1-12)?

1. Randomize 80 child-parent-teacher triads
2. Collect baseline assessments
3. Implement interventions and collect fidelity measures
4. Collect post intervention assessments
5. Prepare data by implementation of data entry, verification, cleaning, and refining procedures
6. Conduct a cost analysis

What was accomplished under these goals?

Indicators, Measures, and Benchmarks

The following description of our screening results include our efforts for the NCE (cohort 5) only.

Child screening

During cohort 5, teachers completed stage 2 screening in 104 classrooms. Overall, year 5 teachers provided screening data for 504 students. Teachers provided stage 2 screening data for five students in 93 of 104 classrooms (89.4%). For the remaining 11 classrooms with fewer than five students screened, six teachers screened four students, and five teachers screened three students. On average 4.85 students ($SD = 0.48$) were screened in each classroom.

Meeting stage 2 criteria

On average, 1.81 students ($SD = 1.4$) met eligibility criteria in each classroom. No students met eligibility criteria in 23 of 104 classrooms (22.1%). For the remaining 81 classrooms, 37 classrooms (266%) had one eligible student, 18 classrooms (17.3%) had two eligible students, 22 classrooms

(21.2%) had three eligible students, 11 (10.6%) had four eligible students, and 3 (2.9%) had five students who met stage 2 eligibility criteria.

Stage 3 screening

In addition to the 23 classrooms without a student who met stage 2 criteria, we were unable to conduct a stage 3 screening for 12 additional classrooms because we could not contact or obtain consent for stage 3 screening from the family (n = 11) or the teacher withdrew from the project (n = 1). The majority of these classrooms had only one eligible student after stage 2 screening (8 of 12; 66.7%). The remaining classrooms had two eligible students (n = 1); three eligible students (n = 2); and four eligible students after stage 2 screening (n = 1).

Meeting stage 3 criteria

During cohort 5, we conducted stage 3 screening in 69 classrooms. In 63 of the 69 classrooms (91.3%), we completed stage 3 screening for one student; in 5 classrooms we completed two stage 3 screenings; and in 1 classroom we completed three stage 3 screenings. For classrooms in which one student was screened at stage 3, we obtained consent 85.7% of the time (54 of 63 classrooms) and for classrooms in which two or more students were screened at stage 3, we obtained consent 100% of the time (6 of 6 classrooms). Overall, 60 classrooms were randomized to condition during cohort 5, increasing the total sample size from 321 to 381.

Randomization

Figure 1 summarizes our final screening results to date (Years 1 through 5). Over the course of the project, we have randomized 381 triads across the four conditions.

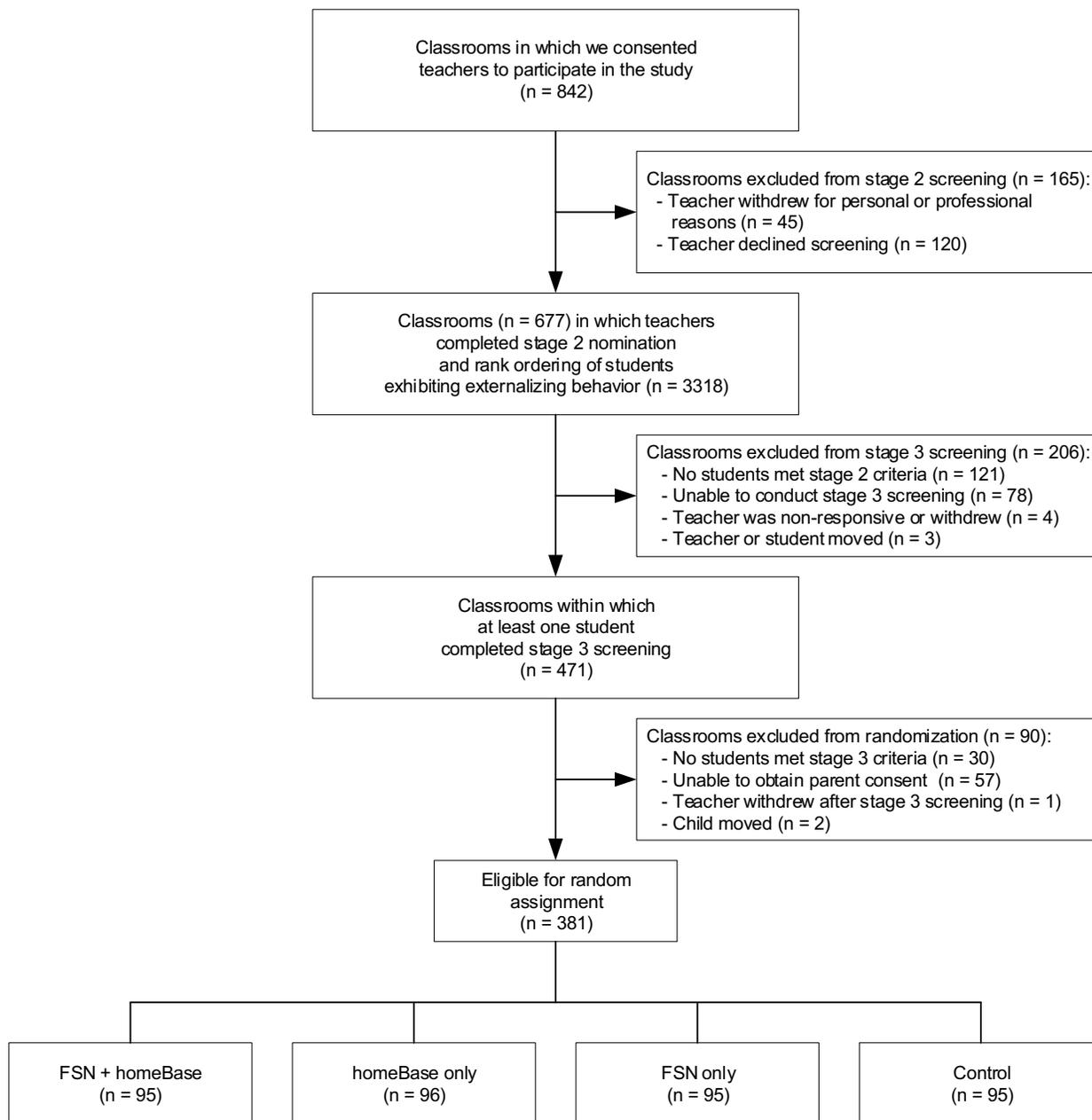


Figure 1. Final Consort Diagram

Demographic characteristics

Tables 1-3 provide the demographic characteristics for participating parents (Table 1), students (Table 2), and teachers (Table 3) through Cohort 4. In addition, we examined these characteristics for equivalency across conditions after randomization, and present these findings within each table. Note that there is a discrepancy in the sample sizes between Figure 1 (which reflects the final sample) and Tables 1-5 (which does not include Cohort 5) given that data collection is still on-going for this cohort.

Our sample of parents is predominantly female (89.1%). Over half of the sample is African American (52.5%) and an additional 42% reported their race as Caucasian. More than two-thirds of parents report being currently employed (69.5%) and just over one-third report incomes below poverty level (35.6%). After randomization, we found no differences on parent demographics across conditions. Students in the current sample have an average age of 6.8 years and are predominantly male (72.3%). Just over half of the participating students are African American (52.3%) and an additional 35.8% are Caucasian. As can be seen in Table 2, we found no differences on student demographics across conditions. Additionally, there are no statistically significant differences between conditions for student screening characteristics. Teachers in the current sample are predominantly Caucasian (85%). Over two-thirds of teachers (71.3%) hold an advanced degree (e.g., Master's degree or higher). These teachers have worked in their respective schools for an average of 6.7 years and have an average of 10.6 years of teaching experience.

Collect baseline assessments

Tables 4 and 5 summarize data on the equivalence of parent (Table 4) and student outcomes (Table 5) at the baseline condition.

Parents self-reported their responses on measures of over-reactivity, laxness, stress, and motivation. These results were also examined for equivalency across conditions. There is one significant baseline difference between conditions. The four groups are not equivalent on parent-reported over-reactivity. Parents randomized to the FSN only condition have higher over-reactivity scores as compared to the other groups. Student baseline assessments were gathered from three respondents: teachers, parents, and study staff who observed the children directly. Teachers reported on student adaptive and maladaptive behaviors, perceptions of conflict, and academic competence of the focus children. Parents reported on pro-social and problem behavior, while study staff observed focus children's academic engagement. For all measures, across all conditions, no significant differences were found at baseline. Additionally, standard scores from parent- and teacher- reported problem behavior and social skills domains on the SSiS and percentage of academic engaged time suggest our screening procedures are successfully recruiting students with substantial social emotional impairment across home and school settings.

Table 1. Baseline equivalence of parent demographic characteristics (C1 – C4).

	Total (n = 321)	Control (n = 80)	FSN + HB (n = 80)	HB only (n = 80)	FSN only (n = 81)	Test statistic	<i>p</i> -value
Demographic characteristic							
Age <i>M</i> (<i>SD</i>)	35.3 (9.4)	35.7 (9.4)	34.7 (9.3)	35.1 (9.5)	35.5 (9.6)	0.17	.916
Percent Female	285 (89.1)	72 (91.1)	70 (87.5)	71 (88.8)	72 (88.9)	0.56	.905
Percent African American	168 (52.5)	38 (48.1)	43 (53.8)	44 (55.0)	43 (53.1)	0.88	.832
Percent Caucasian	134 (41.9)	38 (48.1)	33 (41.3)	32 (40.0)	31 (38.3)	1.82	.611
Percent with BA/BS degree	33 (10.3)	10 (12.7)	6 (7.5)	9 (11.3)	8 (9.9)	1.25	.742
Percent currently employed	223 (69.5)	51 (63.8)	60 (75.0)	55 (68.8)	57 (70.4)	2.44	.487
Percent below poverty level	109 (35.6)	29 (39.7)	22 (29.3)	28 (35.4)	30 (38.0)	2.02	.568

Note. Sample size varies by variable. Reported test statistics are *F* for continuous and χ^2 for dichotomous measures.

Table 2. Baseline equivalence of student demographic and screening characteristics (C1 – C4).

	Total (n = 321)	Control (n = 80)	FSN + HB (n = 80)	HB only (n = 80)	FSN only (n = 81)	Test statistic	<i>p</i> -value
Demographic characteristic							
Age <i>M</i> (<i>SD</i>)	6.8 (1.2)	6.8 (1.3)	6.9 (1.2)	6.6 (1.2)	6.8 (1.3)	0.65	.582
Percent Female	89 (27.7)	19 (23.8)	25 (31.3)	19 (23.8)	26 (32.1)	2.53	.470
Percent African American	168 (52.3)	39 (48.8)	46 (57.5)	39 (48.8)	44 (54.3)	1.81	.613
Percent Caucasian	115 (35.8)	33 (41.3)	26 (32.5)	28 (35.0)	28 (34.6)	1.49	.685
Screening characteristic							
SSBD rank							
Percent ranked 1st	155 (48.3)	35 (43.8)	36 (45.0)	42 (52.5)	42 (51.9)	1.99	.575
Percent ranked 2nd	53 (16.5)	13 (16.3)	16 (20.0)	14 (17.5)	10 (12.3)	1.79	.618
Percent ranked 3 rd	25 (7.8)	10 (12.5)	7 (8.8)	2 (2.5)	6 (7.4)	5.71	.127
SSBD Critical Events Index	8.3 (3.3)	8.6 (3.4)	8.1 (2.8)	7.9 (3.6)	8.4 (3.0)	0.79	.502
CBCL Externalizing Behavior	25.7 (8.8)	26.5 (8.0)	24.9 (9.0)	26.6 (9.5)	24.9 (8.8)	0.94	.421

Note. Reported test statistics are *F* for continuous and χ^2 for dichotomous measures.

Table 3. Baseline equivalence of teacher demographic characteristics (C1-C4).

	Total (n = 321)	Control (n = 80)	FSN + HB (n = 80)	HB only (n = 80)	FSN only (n = 81)	Test statistic	p-value
Demographic characteristic							
Years teaching <i>M(SD)</i>	10.6 (8.5)	11.1 (9.1)	9.7 (8.6)	10.6 (7.6)	11.0 (8.6)	0.48	.699
Years at current school <i>M(SD)</i>	6.7 (6.0)	6.4 (5.6)	7.3 (7.0)	6.7 (5.6)	6.3 (6.0)	0.38	.768
Percent Female	293 (91.6)	76 (95.0)	70 (87.5)	70 (87.5)	77 (95.1)	9.45	.150
Percent African American	37 (11.8)	15 (19.0)	10 (12.7)	6 (7.8)	6 (7.7)	6.42	.093
Percent Caucasian	266 (85.0)	59 (74.7)	68 (86.1)	69 (89.6)	70 (89.7)	9.32	.025
Highest education level							
Percent BS/BA degree	91 (28.4)	26 (32.5)	25 (31.3)	17 (21.5)	23 (28.4)	2.82	.421
Percent MS/MA degree	228 (71.3)	54 (67.5)	54 (67.5)	62 (78.5)	58 (71.6)	3.12	.374

Note. Reported test statistics are *F* for continuous and χ^2 for dichotomous measures.

Table 4. Baseline equivalence of parent outcome measures.

	Total (n = 321)	Control (n = 80)	FSN + HB (n = 80)	HB only (n = 80)	FSN only (n = 81)	<i>F</i>	<i>p</i> -value
Parenting Scale							
Over-reactivity	15.1 (6.0)	15.1 (5.5)	15.5 (6.0)	13.3 (6.0)	16.5 (6.3)	3.59	.014
Laxness	14.5 (5.6)	15.3 (5.2)	14.4 (5.8)	14.1 (5.8)	14.3 (5.7)	0.72	.539
Parenting Stress Scale	36.3 (10.0)	36.7 (9.6)	36.8 (10.9)	34.5 (9.8)	37.0 (9.8)	1.01	.387
Parenting Motivation	45.8 (6.7)	45.3 (6.5)	46.9 (5.8)	45.9 (7.4)	45.0 (6.8)	1.28	.282

Table 5. Baseline equivalence of student outcome measures (C1-C4).

	Total (n = 321)	Control (n = 80)	FSN + HB (n = 80)	HB only (n = 80)	FSN only (n = 81)	Test statistic	<i>p</i> -value
Pro-social behavior							
SSBD-ABI	29.3 (6.7)	29.0 (6.4)	29.9 (5.2)	29.0 (7.8)	29.3 (7.2)	0.24	.868
SSiS-SS-Teacher	73.4 (10.1)	74.0 (9.3)	72.8 (9.3)	73.2 (11.9)	73.7 (10.0)	0.24	.872
SSiS-SS-Parent	79.9 (15.5)	79.6 (13.5)	80.5 (16.3)	80.1 (16.6)	80.0 (15.6)	0.07	.976
Problem behavior							
SSBD-MBI	37.8 (7.0)	38.5 (7.7)	37.7 (6.1)	36.8 (7.2)	38.1 (6.4)	0.88	.452
SSiS-PB-Teacher	135.2 (12.8)	136.0 (12.0)	135.3 (12.5)	133.4 (13.8)	136.2 (13.0)	0.79	.503
SSiS-PB-Parent	129.3 (16.8)	131.8 (14.0)	129.9 (17.6)	128.2 (16.2)	127.4 (18.7)	1.09	.356
Student-Teacher Conflict	38.6 (9.8)	37.5 (9.4)	38.4 (9.6)	38.4 (10.6)	40.1 (9.5)	1.01	.390
Academic							
Academic Competence	86.7 (15.2)	87.1 (16.3)	85.4 (15.3)	86.9 (14.6)	87.6 (15.0)	0.32	.813
Academic Engaged Time	0.55 (0.18)	0.55 (0.17)	0.53 (0.19)	0.58 (0.19)	0.55 (0.16)	1.22	.302

Note. Reported test statistics are *F* for continuous and χ^2 for dichotomous measures.

Training outcomes/Interventionist MI competency

The Motivational Interviewing Training and Assessment System (MITAS; Frey et al., 2017) was used to train research staff to use MI and evaluate their proficiency within the context of our study. Our primary indicators of MI competency are administered before and after the training using the *Written Assessment of Simulated Encounters-School Based Applications* (WASE-SBA) and the *Video Assessment of Simulated Encounters-3-School Based Applications*⁷⁴ (VASE-3).

The WASE-SBA measures a person's ability to generate reflective responses and is scored by rating each response on a 5-point scale, with a rating of 1 indicating weak reflective practice containing MI-non-adherence skills; 3 is indicative of simple reflective practice, and 5 is indicative of complex reflective practice that infers potential parent, teacher, or adolescent behavior change. The scores for each of the six responses can be combined to reflect the overall level or degree of reflective practice across the measure. Results from pre- and post-measurement of our Cohorts 1-3 interventionists' (N = 17) ability to use reflective responses indicates competency across eight of the nine interventionists at post-training. The suggested competency rating for the WASE-SBA is 22.5 points of 30 (80%). Four coaches met WASE cutoff criteria (≥ 22.5) at baseline, 6 met criteria at time 2, and 11 met criteria at time 3. In total, 13 of 17 coaches (76.5%) met WASE cutoff criteria on at least one occasion.

The VASE-3 utilizes three video recorded vignettes with eight opportunities to respond in each vignette (24 items total). Respondents are prompted to generate written responses consistent with the MI skills. The measure contains four subscales: open-ended questions, affirmations, reflections, and summaries. All responses are rated on a 3-point scale with 1 reflecting responses that *Elicits / Reinforces Sustain Talk or Engenders Discord*, 2 reflecting responses that were *neutral*, and 3 reflecting responses that *Elicits / Reinforces Change Talk*. Subscale scores are derived for each skill, as is a total score from the sum of the subscale scores. Results from pre- and post-measurement of our Cohorts 1-3 interventionists' (N = 17) ability to use MI skills indicates that nine of 17 coaches (52.9%) met VASE total score cutoffs (i.e., ≥ 36) on at least one occasion. Thus, conversely, 8 of 17 coaches did not meet VASE total score cutoffs on any occasion. Three of five cohort 1 coaches (60%); one of four cohort 2 coaches (25%); and five of eight cohort 3 coaches (62.5%) met the total score cutoff at least once. These results indicate that achieving competency levels at post-training for the VASE are more difficult, and that these skills may require participation in coaching and performance feedback routines in order to obtain competency levels.

Implement interventions and collect fidelity measures

In this section, we discuss the fidelity data collected to date for the FSN and homeBase interventions.

Table 6. FSN fidelity adherence and quality ratings by condition.

	Combined (n = 148)	FSN+HB (n = 74)	FSN only (n = 74)	Test Statistic	p-value
Coach					
Mean Adherence rating	0.99 (0.04)	0.99 (0.05)	0.99 (0.03)	0.22	.642
Mean Quality rating	4.80 (0.31)	4.82 (0.28)	4.77 (0.33)	1.03	.313
Teacher					
Mean Adherence rating	0.98 (0.08)	0.99 (0.03)	0.96 (0.10)	2.30	.104
Mean Quality rating	4.59 (0.37)	4.66 (0.28)	4.51 (0.43)	6.12	.015

homeBase compliance and fidelity

As an indicator of parent compliance for the homeBase intervention for cohorts 1-4, we report the number of homeBase steps completed by the family. To assess the coach's fidelity of implementation with respect to homeBase, we report the coach's quality of motivational interviewing skills. Across the two groups, 22.5% of participating families did not complete any part of the homeBase intervention. In most of these cases the parent started off communicating with our interventionist, but was never present when a meeting was scheduled, and eventually stopped responding. For 19.4% of cases, the parent completed part of the intervention (i.e., 1 or 2 steps). For 58% of the cases, the interventionist completed all homeBase intervention steps (i.e., ≥ 3 steps). Parent compliance was a challenge in years 1 and 2, and continues to be the case, although results are trending towards higher compliance as our sample size increases. Additionally, it is the consensus of the research team that we have identified families with significantly more challenging risk factors than any other sample recruited for First Step research purposes. We believe this elevated level of risk contributes to the somewhat low compliance results we have obtained to date.

Table 7. Number of homeBase steps by condition.

Number of steps	Total (n = 160)	hB only (n = 80)	FSN + hB (n = 80)
0	36 (22.5)	25 (31.3)	11 (13.8)
1	22 (13.8)	9 (11.3)	13 (16.3)
2	9 (5.6)	4 (5.0)	5 (6.3)
3 or more	93 (58.1)	42 (52.5)	51 (63.8)

There were no statistically significant differences in the number of steps completed for triads in the hB only and FSN+hB conditions ($\chi^2[3] = 6.04, p = .110$); however, a disproportionate number of parents randomized to the hB only condition did not participate in any steps (31% vs. 14%). As well, a higher percentage of parents in the hB+FSN condition completed three or more steps (64%) as compared to parents in the hB only condition (53%). These findings reinforce the concept that home interventions may be more meaningful and impactful when combined with school/classroom focused interventions.

Coach demographics

Across cohorts 1 through 4, 28 professionals participated in the *Motivational Interviewing Training and Assessment System*. Seven were trained for cohort 1 (C1); eight were trained for cohort 2 (C2); 10 were trained for cohort 3 (C3); and three were trained for cohort 4 (C4).

Twenty of 25 participants (80%) went on to work as a homeBase (hB) coach on the project. Below is a breakdown of the number of MITAS participants who became hB coaches:

- C1: 5 of 7 trainees (71%);
- C2: 4 of 8 trainees (50%);
- C3: 8 of 10 trainees (80%);
- C4: 3 of 3 trainees (100%).

Table 8 below compares the demographic variables of participating hB coaches (n = 20) to those who attended the MITAS training but did not participate in the project as hB coaches (n = 8). No significant demographic in-equivalences were identified.

Table 8. Demographic equivalence of MITAS participants and hB coaches.

Variable	Participating hB coach			Test statistic	p-value
	Total (n = 28)	No (n = 8)	Yes (n = 20)		
Age <i>M(SD)</i>	35.1 (11.5)	38.9 (6.9)	33.6 (12.8)	1.10	.283
Female <i>n(%)</i>	23 (82.1)	7 (87.5)	16 (80.0)	0.22	.640
African American <i>n(%)</i>	8 (28.6)	3 (37.5)	5 (25.0)	0.44	.508
Caucasian <i>n(%)</i>	20 (71.4)	5 (62.5)	15 (75.0)	0.44	.508
Master's degree or higher <i>n(%)</i>	19 (67.9)	7 (87.5)	12 (60.0)	1.98	.159
MI Exposure				0.16	.924
Limited exposure	8 (28.6)	2 (25.0)	6 (75.0)		
Read about approach	9 (32.1)	3 (37.5)	6 (30.0)		
Attended training	11 (39.3)	3 (37.5)	8 (40.0)		

homeBase implementation by participating coaches

The 20 participating coaches initiated hB implementation with 113 of 124 families randomized to either the hB only or FSN + hB condition and completed at least one step of homeBase.

Implementation fidelity/quality

The quality of our implementation of the homeBase intervention is assessed by the quality of motivational interviewing. The Motivational Interviewing Treatment Integrity (MITI) code 4.2 (Moyers, Manuel, & Ernst, 2014) was utilized to measure our interventionists' proficiency, or skill using MI during implementation of homeBase. The MITI code allowed the coach to be rated across global domains of relational and technical ability, utilizing a five-point Likert-type scale ranging from 1 to 5. The coder assumes a default score of '3' and moves up or down as indicated by "how well or poorly the clinician meets the description of the dimension being measured" (p. 3). In addition, a frequency count of MI related behaviors is recorded and quantified in order to compare to MITI summary scores and related competency thresholds. These scores facilitate investigation of the skill with which MI is implemented by coaches with families. Moyers et al. established the summary scores and competency thresholds to provide a more complete picture of MI proficiency. The thresholds are listed here:

- Technical Global (Fair: ≥ 3 ; Good: ≥ 4)
- Relational Global (Fair: ≥ 4 ; Good: ≥ 5)

- Percent of Complex Reflections (Fair: $\geq 40\%$; Good: $\geq 50\%$)
- Reflection-to-Question Ratio: (Fair: $\geq 1:1$; Good: $\geq 2:1$)

We continue to contract with Dr. Margaret Sibley of Florida International University to code those steps of the homeBase intervention that require the application of MI during the interaction; these steps include the initial parent interview (step 1), the assessment of parenting practices (step 2), and the feedback session with the parent (step 3). Across the first cohort, steps 2 and 3 were coded; across the second and third, steps 1, 2, and 3 were coded. Dr. Sibley’s team randomly selected start times for each recording between minute 10:00 and five minutes prior to the end of the recording (if the recording is sufficiently long), to account for greetings and pleasantries that are not a direct component of the homeBase intervention.

At least one hB session was audio-recorded and coded for 113 of the 124 participating families (91%). There were no statistically significant differences in the characteristics of those with and without MITI data. A total of 250 hB sessions were coded using the MITI. MITI coding was distributed relatively evenly across hB sessions 1 through 3: 31% for session 1; 36% for session 2; and 32% for session 3. On average, step 1 sessions lasted 59 minutes ($SD = 19$); whereas, step 2 ($M[SD] = 55[33]$) and step 3 ($M[SD] = 47[22]$) sessions were slightly shorter.

Table 9 below summarizes mean summary scores for the entire sample ($n = 250$), and provides details regarding the competency thresholds developed by Moyers et al., (2014) as described above.

Table 9. Mean summary scores.

	Total ($n = 250$) <i>M(SD)</i>	Cohort 1 ($n = 31$) <i>M(SD)</i>	Cohort 2 ($n = 68$) <i>M(SD)</i>	Cohort 3 ($n = 81$) <i>M(SD)</i>	Cohort 4 ($n=70$) <i>M(SD)</i>
Technical global	3.78 (0.47)*	3.84 (0.51)*	3.82 (0.44)*	3.77 (0.47)*	3.74 (0.49)*
Relational global	3.76 (0.75)*	3.73 (0.74)*	3.77 (0.76)*	3.86 (0.78)*	3.64 (0.70)*
Pct. complex reflections	64.20 (23.84)**	63.98 (26.86)**	60.57 (21.81)**	66.61 (25.40)**	65.03 (22.53)**
Reflection-to-Question ratio	1.97 (1.91)*	1.69 (2.16)*	2.18 (2.22)**	1.81 (1.57)*	2.07 (1.85)**

Note: *Basic competence; **Proficient.

In Table 10, MITI proficiency scores are summarized overall and by coach. As well, information on the number and percent of coaches meeting basic and advanced proficiency cutoffs is summarized in Table 11.

Group-level fidelity

The top row in Table 1 summarizes mean scores across all 245 sessions for the four MITI summary scores. Across the 245 sessions, mean scores on the MITI global technical scale were

in the basic fidelity range (e.g., ≥ 3.0). For all but seven sessions (97%), coach use of technical MI skills were above the basic fidelity threshold. On average, scores on the global relational scale were also in the basic fidelity range. For nearly 80% of sessions, global relational scores were above the basic fidelity threshold. For complex reflections and reflections-to-questions summary scores, 87% and 60% of sessions, respectively, exceeded basic fidelity thresholds. For 117 sessions, basic fidelity thresholds were met on all four MITI scores (48%). For 40 sessions, advanced fidelity thresholds were met across all four scores. For three sessions (1%), basic fidelity thresholds were not met for any of the MITI summary scores.

Coach-level fidelity

Mean technical proficiency scores at the coach level ranged from 3.2 to 4.3; whereas mean scores for relational proficiency ranged from 2.7 to 4.4 (see Table 1). Average complex reflections by coach ranged from 33% to 77%. The reflections-to-questions ratio ranged from a low of 0.1 (e.g., one reflection for every 10 questions) to a high of 3.4 (e.g., 3.4 reflections to each question). Across the four summary scores, coaches with more than 10 sessions of MITI data had mean scores comparable to coaches with fewer than 10 sessions of MITI data. With respect to session-level categorical cutoffs (e.g., all sessions above the specified cutoff), coaches with more than 10 sessions of MITI data were less likely to have all of their session above basic or advanced cutoffs as compared to coaches with fewer than 10 sessions of MITI data; though these differences were non-significant across all measures.

Table 2 aggregates the coach-level data reported in Table 1 to examine the number and percentage of coaches meeting basic proficiency and advanced proficiency cutoffs using (a) mean scores and (b) session-level categorical cutoffs. When using mean scores, the percent of coaches meeting basic proficiency ranged from 70% to 100% but, when applying session-level categorical cutoffs, the percent of coaches meeting basic proficiency dropped to a range of 20% to 70% depending on the summary measure. Similar drops occurred with respect to advanced proficiency as reported in the last two columns of Table 2, with advanced proficiency ranging from 0% to 15%. Eleven of 20 coaches (55%) met basic proficiency cutoffs across the four summary scores reported in Table 2. All 20 coaches met basic cutoffs on at least one score. Advanced proficiency cutoffs were more difficult to achieve even when using mean scores. Only two coaches (10%) had mean scores on all four summary measures exceeding advanced proficiency levels (one with 26 sessions of data and one with 15 sessions of data). Based on session-level categorical cutoffs, only two coaches (10%) met basic proficiency cutoffs across all summary scores (one coach with 15 sessions of data and one coach with a single session of data). Fifteen coaches (75%) met basic proficiency cutoffs on at least one summary score using categorical cutoffs and five coaches (25%) met advanced proficiency using the categorical cutoff. No coaches met advanced proficiency across all sessions and all summary measures.

Table 10. *Distribution of MITI proficiency scores, overall and by coach.*

Coach	# of sessions	Technical Proficiency			Relational Proficiency			Complex Reflections			R:Q Ratio		
		Scores <i>M(SD)</i>	Global cutoffs		Scores <i>M(SD)</i>	Global cutoffs		Scores <i>M(SD)</i>	Global cutoffs		Scores <i>M(SD)</i>	Global cutoffs	
			%	%		%	%		%	%			
			above Basic	above Adv.									
All	245	3.8 (0.5)	97	60	3.8 (0.8)	78	59	64.1 (24.0)	87	79	2.0 (1.9)	60	31
1	40	3.8 (0.4)	98	58	3.9 (0.5)	90	75	73.5 (14.8)	100	95	2.40 (2.49)	75	38
6	36	3.8 (0.5)	97	67	3.8 (0.7)	83	56	56.6 (23.1)	81	75	2.01 (1.96)	56	33
19	31	3.5 (0.4)	97	32	3.1 (0.8)	45	23	63.7 (27.8)	87	77	0.99 (0.83)	45	10
3	26	4.1 (0.3)	100	92	4.4 (0.4)	100	92	63.3 (21.4)	92	89	2.06 (2.48)	79	29
11	21	4.1 (0.4)	100	81	3.8 (0.8)	76	52	71.7 (16.6)	100	86	2.15 (1.61)	81	43
14	15	4.0 (0.4)	100	80	4.4 (0.4)	100	100	77.0 (17.9)	100	93	2.96 (2.10)	100	53
7	13	3.2 (0.5)	85	15	3.4 (0.7)	69	39	67.3 (30.7)	77	77	2.01 (1.34)	85	46
8	13	3.8 (0.3)	100	54	3.3 (0.8)	46	39	39.7 (19.9)	54	39	2.37 (1.47)	92	58
10	8	3.6 (0.4)	100	50	3.9 (0.4)	100	63	72.9 (27.5)	88	75	2.09 (1.08)	88	63
17	8	3.8 (0.7)	100	63	3.6 (0.8)	75	63	63.0 (13.3)	88	88	3.36 (2.99)	63	50
2	6	3.3 (0.5)	83	17	2.7 (0.7)	17	0	57.8 (34.4)	83	83	0.79 (0.69)	40	0

Coach	# of sessions	Technical Proficiency			Relational Proficiency			Complex Reflections			R:Q Ratio		
		Scores <i>M(SD)</i>	Global cutoffs		Scores <i>M(SD)</i>	Global cutoffs		Scores <i>M(SD)</i>	Global cutoffs		Scores <i>M(SD)</i>	Global cutoffs	
			% above Basic	% above Adv.									
13	6	3.5 (0.6)	83	50	3.9 (0.8)	83	67	62.0 (20.1)	67	67	0.95 (0.65)	33	17
16	4	3.9 (0.3)	100	75	4.1 (0.6)	100	75	72.8 (23.3)	100	75	1.74 (0.96)	67	33
9	4	4.0 (0.0)	100	100	4.0 (0.4)	100	75	46.0 (25.0)	75	25	1.55 (0.64)	100	33
15	3	3.8 (0.3)	100	67	3.8 (0.3)	100	67	60.0 (20.0)	100	67	2.39 (1.65)	67	67
5	3	3.5 (0.5)	100	33	3.2 (0.6)	67	0	33.3 (57.7)	33	33	0.10 (0.11)	0	0
20	3	3.8 (0.3)	100	67	4.0 (0.0)	100	100	75.9 (28.5)	100	67	0.94 (0.59)	67	0
4	2	4.3 (0.4)	100	100	4.3 (0.4)	100	100	60.0 (14.1)	100	100	0.56 (0.09)	0	0
12	2	3.8 (0.4)	100	50	3.3 (0.4)	50	0	35.0 (15.8)	50	0	1.86 (0.34)	100	50
18	1	3.5 (0.0)	100	0	3.5 (0.0)	100	0	66.7 (0.0)	100	100	1.00 (0.00)	100	0

Table 11. Number and percentage of coaches meeting basic and advanced proficiency cutoffs based on mean summary scores and session-level cutoffs.

	Basic proficiency		Advanced proficiency	
	Mean Cutoff <i>n(%)</i>	Categorical cutoff <i>n(%)</i>	Mean Cutoff <i>n(%)</i>	Categorical cutoff <i>n(%)</i>
Technical proficiency	20 (100.0)	14 (70.0)	5 (25.0)	2 (10.0)
Relational proficiency	14 (70.0)	9 (45.0)	6 (30.0)	3 (15.0)

Complex reflections	17 (85.0)	8 (40.0)	16 (80.0)	2 (10.0)
R:Q ratio	14 (70.0)	4 (20.0)	10 (50.0)	0 (0.0)

In accordance with Moyers, Rowell, Manuel, Ernst, & Houck (2016), we assessed inter-rater reliability via 2-way mixed effects, absolute agreement, average-measures intraclass correlations (ICCs) for global ratings, behavior counts, and summary measures. We also utilized Cichetti & Sparrow's (1981) benchmarks to categorize the quality of the ICC. As reported in Moyers et al. (2016), the benchmarks are as follows: 0.00-0.39 = poor; 0.40-0.59 = fair; 0.60-0.74 = good; 0.75-1.00 = excellent (Cichetti & Sparrow, 1981).

Table 12 below summarizes the ICCs for the 20 reliabilities conducted on C1 and C2 MITI data. For the sake of comparability, we included the ICCs reported in Moyers et al. (2016) for their two best coders based on a sample of 50 reliabilities. For the global items, reliability ranged from .55 to .83. Reliability was excellent for three global items (i.e., Cultivating sustain talk, Partnerships, and Empathy) and fair for one item (i.e., Softening sustain talk). Reliability for the behavior counts ranged from .72 to .97. Reliability was excellent for 8 of 10 behavior counts; good for one (i.e., Emphasize Autonomy) and non-calculable for one due to a lack of variance (i.e., Confront). For the summary scores, ICCs ranged from .62 to .92. Reliability was excellent for four summary scores (i.e., Total MI Non-Adherent, Total MI Adherent, Technical, and Relational) and good for two summary scores (i.e., % Complex Reflection and the ratio of Reflections-to-Questions).

Table 12. ICCs for MITI globals and behavior counts.

	hB ICC (n = 51)	ICC as reported in Moyers et al. (2016)
Globals		
Cultivating change talk	.777 ^a	.862
Softening sustain talk	.553 ^c	.774
Partnership	.804 ^a	.786
Empathy	.831 ^a	.799
Summary measures		
Total MI Non-Adherent	.920 ^a	.741
Total MI Adherent	.777 ^a	.778
Reflection:Question	.703 ^b	.919
Technical	.786 ^a	.844
Relational	.874 ^a	.835
% Complex Reflection	.623 ^b	.534

^a Excellent reliability; ^b Good reliability; ^c Fair reliability

Collect post-intervention assessments

In this section, we have included descriptive statistics from our process measures, and descriptive statistics and effect sizes for our outcome measures.

Process measures

In our Year 03 report, we presented a comprehensive analysis of parent-coach alliance, parent satisfaction, parent-reported barriers to participation, teacher-coach alliance, and teacher satisfaction. Although we have updated our analyses to include cohort 4, we have not included these tables in this report.

Outcome measures

Tables 13 through 15 summarize main effects for FSN, homeBase, and FSN+hB interventions. As can be seen in Table 13, effect sizes for the FSN main effects range from .08 on Teacher-reported Academic Competence to .60 for Teacher-reported social skills. We are seeing consistent effects in the small to medium range across prosocial behavior, problem behavior, and academic indicators, including academic engagement. Consistent with our hypotheses, the effect sizes for teacher-reported outcomes are higher than those for parent-reported outcomes. Main effects from the homeBase intervention range from .01 to .33. Table 15 examines the additive effect of delivering the homeBase intervention with the FSN intervention. The effects range from .05 to .57.

Data entry, verification, cleaning, and refining

To date, we have entered 3318 cases of SSBD stage 2 screening data and 565 cases of stage 3 CBCL screening data using the web-based application, REDCap. These screening data have been exported to SPSS where they have been formatted, cleaned (e.g., identification of out-of-range data points), and scored. We used TeleForm scanning and questionnaire processing software to enter and verify 358 parent baseline packets and 359 teacher baseline packets. We have also scanned and verified 2245 AET observations, 540 CLASS fidelity checklists, 250 MITI fidelity checks, 154 coach progress monitoring logs, 287 teacher progress monitoring logs, and 127 coach hB checklists. For post-intervention we have processed and verified 267 parent post questionnaires, 317 teacher post questionnaires, 198 parent-reported post process packets (e.g., satisfaction and alliance data), 158 teacher-reported post process packets, and 226 coach-reported post process packets. We have processed 180 parent-reported, follow-up packets.

Table 13. First Step Next effects.

	First Step Next (FSN) Effect				Condition effect		Effect size
	Control (n = 80)		FSN (n = 81)		<i>t</i>	<i>p-value</i>	Hedge's <i>g</i>
	Baseline <i>M(SD)</i>	Post <i>M(SD)</i>	Baseline <i>M(SD)</i>	Post <i>M(SD)</i>			
Pro-social behavior							
SSBD-ABI	29.1 (6.4)	30.9 (8.0)	29.3 (7.2)	35.1 (9.3)	3.33	.001	.47
SSiS-SS-Teacher	74.0 (9.3)	76.5 (11.9)	73.7 (10.0)	84.0 (13.1)	4.56	< .001	.60
SSiS-SS-Parent	79.6 (13.5)	83.9 (12.7)	79.6 (15.6)	86.4 (13.3)	2.35	.019	.30
Problem behavior							
SSBD-MBI	38.5 (7.7)	35.7 (8.2)	38.1 (6.8)	31.7 (9.3)	-3.11	.002	.45
SSiS-PB-Teacher	136.0 (12.0)	132.6 (15.0)	136.2 (13.0)	125.0 (16.0)	-3.88	< .001	.51
SSiS-PB-Parent	131.8 (14.0)	126.4 (15.5)	127.4 (18.7)	118.8 (17.4)	-1.93	.053	.25
STRS conflict subscale	37.5 (9.4)	36.0 (10.0)	40.1 (9.5)	35.8 (12.6)	-1.51	.130	.19
Academic measures							
SSiS-AC-Teacher	87.1 (16.3)	87.9 (17.2)	87.6 (15.0)	88.7 (13.8)	1.08	.281	.08
AET	0.55 (0.17)	0.60 (0.17)	0.55 (0.16)	0.67 (0.17)	2.55	.011	.39

Table 14. homeBase effects.

	homeBase (hB) Effect				Condition effect		Effect size
	Control (n = 80)		homeBase (n = 80)		<i>t</i>	<i>p-value</i>	Hedge's <i>g</i>
	Baseline	Post	Baseline	Post			
	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>	<i>M(SD)</i>			
Pro-social behavior							
SSBD-ABI	29.1 (6.4)	30.9 (8.0)	29.1 (7.8)	31.7 (8.6)	0.65	.516	.09
SSiS-SS-Teacher	74.0 (9.3)	76.5 (11.9)	73.2 (11.9)	77.9 (13.7)	1.02	.307	.13
SSiS-SS-Parent	79.6 (13.5)	83.9 (12.7)	80.1 (16.6)	86.3 (18.0)	1.94	.052	.23
Problem behavior							
SSBD-MBI	38.5 (7.7)	35.7 (8.2)	36.8 (7.2)	33.0 (8.3)	-1.60	.110	.24
SSiS-PB-Teacher	136.0 (12.0)	132.6 (15.0)	133.4 (13.8)	126.1 (13.8)	-2.48	.013	.33
SSiS-PB-Parent	131.8 (14.0)	126.4 (15.5)	128.2 (16.2)	124.5 (17.4)	-0.38	.706	.05
STRS conflict subscale	37.5 (9.4)	36.0 (10.0)	38.3 (10.6)	34.9 (11.0)	-1.27	.205	.15
Academic measures							
SSiS-AC-Teacher	87.1 (16.3)	87.9 (17.2)	86.9 (14.6)	87.9 (15.9)	0.20	.839	.01
AET	0.55 (0.17)	0.60 (0.17)	0.58 (0.19)	0.65 (0.19)	0.93	.350	.14

Table 15. FSN + hB effects.

	FSN + hB Effect				Condition effect		Effect size
	Control (n = 80)		FSN + hB (n = 80)		<i>t</i>	<i>p-value</i>	Hedge's <i>g</i>
	Baseline <i>M(SD)</i>	Post <i>M(SD)</i>	Baseline <i>M(SD)</i>	Post <i>M(SD)</i>			
Pro-social behavior							
SSBD-ABI	29.1 (6.4)	30.9 (8.0)	29.9 (5.2)	34.5 (8.5)	2.65	.008	.39
SSiS-SS-Teacher	74.0 (9.3)	76.5 (11.9)	72.8 (9.3)	82.8 (11.7)	4.01	< .001	.57
SSiS-SS-Parent	79.6 (13.5)	83.9 (12.7)	80.5 (16.3)	87.4 (18.0)	1.58	.114	.23
Problem behavior							
SSBD-MBI	38.5 (7.7)	35.7 (8.2)	37.7 (6.1)	31.4 (9.0)	-3.13	.002	.45
SSiS-PB-Teacher	136.0 (12.0)	132.6 (15.0)	135.3 (12.5)	124.4 (15.0)	-4.31	< .001	.54
SSiS-PB-Parent	131.8 (14.0)	126.4 (15.5)	129.9 (17.6)	126.4 (19.0)	0.36	.717	.05
STRS conflict subscale	37.5 (9.4)	36.0 (10.0)	38.4 (9.6)	33.4 (11.1)	-2.38	.017	.31
Academic measures							
SSiS-AC-Teacher	87.1 (16.3)	87.9 (17.2)	85.4 (15.3)	88.2 (17.4)	1.69	.091	.12
AET	0.55 (0.17)	0.60 (0.17)	0.53 (0.19)	0.68 (0.17)	3.38	.001	.50

Conduct a cost analysis

We made substantial progress preparing for our cost analysis and anticipate submitting a manuscript detailing a cost-benefit analysis of the FSN intervention, hB intervention, and the combined condition in summer 2020. For each of the cost analyses components, we used the Ingredients Method. Specifically, we calculated the quantity and unit prices of key ingredients or resources used to carry out the intervention during cohorts 2 and 4, and multiplied together to determine cost. Resources financed directly (e.g., coach labor, supplies) and indirectly (e.g., teacher time, overhead) were included for cost estimates to be comprehensive and reflect the opportunity cost of delivering the interventions. The per child costs to implement the FSN intervention with 87 triads was \$2,522. The per child costs to implement the homeBase intervention with 85 triads was \$755. The per child cost to implement both interventions simultaneously was \$3,277. To calculate benefits, we used both effect sizes and diagnostic changes for each condition. For example, the intervention effect sizes for teacher reported problem were .52, .24, and .47 for FSN versus the control condition, hB versus the control condition, and FSN + hB versus the control condition, respectively. As an example of diagnostic changes, 23.1%, 10.8%, and 38.2% of the student participants moved from a borderline or clinical classification on the Conduct Disorder subscale of the Child Behavior Checklist in the FSN versus the control condition, hB versus the control condition, and FSN + hB versus the control conditions, respectively. We are in the process of combining the cost and benefit results into our manuscript.

What opportunities for training and professional development has the project provided?

For Cohort 5 we utilized 18 interventionists (12 who needed to be trained) and 10 data collectors. Our staff includes a diverse mix of education, ethnicity, relevant experience and general background. Specifically, our part-time staff hold Bachelor's and Master's degrees, and some are current students (masters and doctoral). Staff degrees represent the fields of Social Work, Education and Psychology. The experience category includes those working in community mental health, education, and research contexts. We also have retired teachers serving as interventionists. Roles were sometimes shared between implementing the interventions, consenting parents, completing classroom observations, and collecting other data. This allowed us to utilize the variety of skills our staff possessed to assist with meeting project goals, while it also gave them the opportunity to gain a broader view of the project and new research experience. Interventionists did not serve as data collectors for any cases on which they were also serving as the interventionist.

Five new behavioral coaches were trained to use motivational interviewing strategies with parents and were provided continuous professional development from research staff to improve their skills. Four new behavioral coaches were trained to lead the implementation of the FSN intervention with teachers, students, and parents.

We provided professional development to 31 classroom teachers (27 teachers and 4 assistants/support staff) to implement FSN with fidelity.

Have the results been disseminated to communities of interest?

Our district report has been uploaded with this report. Additionally, we were part of two research symposiums at the School Mental Health conference (Austin, TX) with colleagues Drs. Catherine

Bradshaw, Julie Owens, Elise Pas, and Aaron Thompson. We also presented at Council for Exceptional Children (Portland, OR) with co-investigators Small, Feil, and Lee. This year, several research managers from Louisville presented with our colleagues from other institutions. For several of these professionals, they were able to meet colleagues they have been working with for over a decade. Specifically, Blake Skidmore presented at the School Mental Health Conference and Tara Korfhage, Ally Miller, Kiersten Bills, and Laura Johnson presented at CEC.

We have continued to edit a formal dissemination plan to guide conference and manuscript development. It has been uploaded as an attachment in this report. The following manuscripts have been accepted for publication and have been revised and resubmitted since the last report.

- Frey, A.J, Small, J.W., Lee, J., Crosby, S., Seeley, J.R, Forness, S., & Walker, H.M. (2019). homeBase: Participation, engagement, alliance, and social validity of a motivational parenting intervention. *Children & Schools*, p. doi: 10.1093/cs/cdz016.
- Lee, J., Frey, A.J., Warner, Z, Kelley, A. (2019). *Coaching to Improve Motivation in Early Childhood Practitioners and Parents*. In O. N. Saracho (Ed.) Contemporary perspectives on research on motivation in early childhood education. Charlotte, North Carolina: Information Age Publishing.
- Small, J., Frey, A., Lee, J. Seeley, J.R., Scott, T.M, & Sibley, M.H. (2020). Fidelity of motivational interviewing in school-based intervention and research. Submitted to *Prevention Science*.
- Lee, L., Frey, A., Small, J, & Crosby, S. (2020). Promoting initial skill development. School-based personnel can learn to use motivational interviewing skills. Submitted to *Prevention Science*.

What do you plan to do during the next reporting period to accomplish project goals?

During the last 9 months of our project, we will: (1) finish data collection for Cohort 5 (post assessment and 6-month follow-up); (2) develop and submit manuscripts represented on our dissemination plan; (3) prepare our final report; and (4) thank and share our final results with key stakeholders.

II. Products

See answer to “how have results been disseminated” question above.

III. Participants and Other Collaborating Organizations

What individuals have worked on the project?

Blake Skidmore was added as personnel this year.

Name: Andy Frey

Project role: PI

Nearest month worked: 3

Contribution to the Project: Dr. Frey supervises all of the research managers, oversees the budget and IRB process, and is responsible for school recruitment. As an expert on implementation of First Step Next and homeBase, he coordinates, supervises and records fidelity data on implementation. He also assists with the training of coach interventionists and participating teachers.

Name: John Seeley

Project role: Co-PI

Nearest month worked: 2

Contribution to the Project: Dr. Seeley is our senior methodologist. He participates in weekly team meetings and leads all efforts related to our measurement protocol and the processing and analyzing of project data.

Name: Hill Walker

Project role: Co-I

Nearest month worked: 1

Contribution to the Project: Dr. Walker participates in weekly team meetings and advises our team on matters related to measurement and implementation of the First Step NEXT intervention. He is the principal developer and senior author of First Step Next and is also instrumental in our dissemination efforts.

Name: Jason Small

Project role: Co-I

Nearest month worked: 4

Contribution to the Project: Mr. Small prepares all data collection forms and oversees the data preparation and analysis processes. He serves as the primary liaison between the University of Louisville and the Oregon Research Institute.

Name: Jon Lee

Project role: Co-I

Nearest month worked: 1

Contribution to the Project: Dr. Lee leads our efforts related to motivational interviewing. Specifically, he is our lead interventionist trainer, manages data collection on our interventionists' skills, and works closely with Ms. Miller, Ms. Johnson, and Mr. Skidmore to provide effective professional development.

Name: Ed Feil

Project role: Co-I

Nearest month worked: 1

Contribution to the Project: Dr. Feil leads our cost analysis efforts.

Name: Annemeike Golly

Project role: Co-I

Nearest month worked: 0

Contribution to the Project: Dr. Golly did not participate in the NCE year.

Name: Shantel Crosby

Project role: Co-I

Nearest month worked: 1

Contribution to the Project: Dr. Crosby is new faculty at the Kent School of Social Work at the University of Louisville, and was included to design, facilitate, and analyze our focus group interviews.

Name: Tara Korfhage

Project role: Research manager

Nearest month worked: 10

Contribution to the Project: Ms. Korfhage oversees all part-time employees, manages the collection of teacher packets, parent packets, student observations, and parent-child interaction recordings. She also manages the teacher screening, parent consent, and incentive distribution procedures.

Name: Ally Miller

Project role: Research manager

Nearest month worked: 7

Contribution to the Project: Ms. Miller is an interventionist supervisor for the First Step NEXT and homeBase interventions. She is our primary trainer and support professional for interventionists and teachers, and supervises the fidelity of implementation through weekly team meetings, ongoing professional development, and the collection of fidelity data.

Name: Blake Skidmore

Project role: Research Manager

Nearest month worked: 6

Contribution to the Project: Mr. Skidmore is a lead interventionist and supervisor for the First Step NEXT and homeBase interventions. He trains several interventionists teachers, and supervises the fidelity of implementation through weekly team meetings, ongoing professional development, and the collection of fidelity data.

Name: Kiersten Curry

Project role: Research manager

Nearest month worked: 1

Contribution to the Project: Ms. Curry assists with data collection, teacher training, interventionist supervision, and the collection of fidelity data.

Name: Laura Johnson

Project role: Counselor

Nearest month worked: 2

Contribution to the Project: Ms. Johnson is a lead interventionist.

Name: Kristina Hulegaard

Project role: Research Assistant

Nearest month worked: 3

Contribution to the Project: Ms. Hulegaard is responsible for getting our raw data into relational databases.

What other organizations have been involved as partners?

Dr. Margret Sibley at Florida Atlantic and her team have coded the audio recordings of our homeBase intervention sessions for fidelity using the Motivational Interviewing Treatment Integrity Tool. Finally, Margaret Kuklunski has served as a consultant for our cost analysis.

Have other collaborators or contracts been involved?

Nothing to report.

IV. Impact

This project is helping the fields of education, psychology, and social work understand the relative effectiveness of an empirically supported, teacher and student-focused intervention (First Step Next) and a recently developed home-based parent-focused intervention (homeBase) — alone and in combination—for improving students’ social competency, reducing challenging behaviors, and increasing academically engaged time for students with serious behavior problems.

We are also learning a great deal about the potential of motivational interviewing applied within the context of school-based interventions, particularly with regard to the supports needed for school personnel to practice this approach with adequate skill levels.

What is the impact on other disciplines?

The information we are learning about First Step Next and homeBase reflects knowledge from multiple relevant disciplines, including education, social work, school psychology, and clinical psychology; and to the many roles personnel from these disciplines assume in the education system. homeBase, if it proves to be effective when applied alone, could also impact service delivery in community mental health and maternal child health, where improving parenting practices through home visitation is desirable.

What is the impact on the development of human resources?

Our training procedures for both First Step Next and homeBase are improving the capacity of teachers and specialized instructional support personnel. We anticipate substantial impact in future years when we execute our dissemination plan.

What is the impact on physical, institutional, and information resources that form infrastructure?

Our third-year activities have been very impactful for our infrastructure related to the training and support we provide our homeBase coaches, and our physical and institutional support to do the same. Specifically, we have developed and continue to improve our procedures for sharing secure information quickly that allow approved staff from various locations full access to the recordings, reports, coding tools, and data necessary for carrying out our efforts related to the use of motivational interviewing in this intervention. We believe this system, after it is fully developed and tested, will continue to benefit our work, as well as that of other professionals working in this area across multiple research and applied practice settings.

What is the impact on technology transfer?

Not applicable.

What is the impact on society beyond science and technology?

The primary impact is on the improvement of the quality of life for the teachers, students, and parents who have benefited from the services provided through this grant. Given the relationship between early school success and long term outcomes such as graduation, and employment, impacting families early in their school career has long-term positive effects on society.

What dollar amount of the award's budget is being spent in foreign countries?

None.

V. Changes/Problems

Violation of protocol

None to report

Actual or anticipated problems or delays and actions or plans to resolve them.

As a result of the COVID-19 health crisis, all three of our partnering school districts were shut down on March 16th and remain closed currently until early April. Several of our participating triads were near the end of interventions. For those, we have initiated posttest data collection, although securing classroom observations is not possible. A small number of our triads were in the middle of interventions. For these, we decided to collect post test data immediately for those in the FSN and control conditions. For those in the hB or hB plus FSN conditions, we offered parents an option to complete the hB intervention by phone, and then initiated post test data collection. If school should return this year, and teachers are interested, we will complete the FSN intervention. In Jessamine County Schools, we had just randomized 13 triads. We will finalize our plan when a determination is made regarding the rest of the school year. If students do not return or implementation is not feasible, we plan to eliminate these 13 cases from our sample, and hope to provide some services in the fall for participating teachers and families as an expression of our gratitude.

Changes that have a significant impact on expenditures.

None identified.

Significant changes in the use or care of human subjects, vertebrate animals, and/or biohazards.

None to report.

VI. Special Reporting Requirements

Nothing to report.

VII. Budgetary Information

A	B	C	D	E
SF424 Budget Categories	Total grant funds received since beginning of the grant	Total funds drawn down since the beginning of the grant through 2/29/2020	Anticipated commitments from 3/1/2020–12/31/2020	Carryover into the next grant year (B - C - D)
Key Personnel	187,288.00	161,967.85	25,320.15	0
Other Personnel	1,004,812.00	935,847.88	68,964.12	0
Fringe	253,927.00	233,536.50	19,140.50	1,250
Supplies	236,157.00	213,554.86	20,504.14	2,098
Consortium	1,283,083.00	1,102,275.64	180,807.36	0
Tuition	3,250.00	3,250.00	0	0
Travel	52,360.00	26,181.15	14,000.00	12,178.85
Indirect	476,124.00	433,393.09	38,461.52	4,269.39
TOTAL	3,497,001.00	3,110,006.97	367,197.79	19,796.24

Table 16. Budget Summary