COACHING CORPS™

COACHING FOR CHARACTER TRAINING AND SUPPORT PROGRAM (CCTSP)

Final Evaluation Report, June 2020

ACKNOWLEDGEMENTS

This report was made possible by the effort and participation of several people. In particular, we wish to express gratitude to Coaching Corps' program team and training consultants for their excellent stewardship of the project, the coaches for their full participation in the data collection activities and their dedication to their teams, and Coaching Corps' staff for their support and oversight of the evaluation's integration into the program.

It has been a pleasure to work with Coaching Corps' staff and volunteers. We appreciate the work that Coaching Corps does in communities around the country, and we are happy to support those efforts.

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EXECUTIVE SUMMARY

Coaching Corps' mission is to "ensure that all kids reap the benefits of playing sports with a trained, caring coach." To fulfill this mission, the organization actively recruits and develops high-quality coaches to improve the physical, social, and emotional well-being of young people and to help expand the power of sports-based youth development for every child. With a grant from the S. D. Bechtel, Jr. Foundation, Coaching Corps designed an advanced training to teach coaches how to effectively address character development in a youth sports environment. This training focused on four character attributes relevant to sport—Persistence, Optimism, Self-regulation, and Empathy ("POSE")—and on a strategic approach—the *Name It, See It, Coach It, Share It* "Action Steps"—to seamlessly integrate character development into youth coaching. This report presents findings from the trainings conducted with partner agency staff coaches via the CCTSP throughout the 3-year grant period (2017-2019).

The Coaching for Character Training and Support Program (CCTSP)

The CCTSP employed two primary components that provided coaches with skills and information about youth character development, as well as ongoing support throughout the season to implement these new skills. These program components included:

1. **In-person training** – A customized curriculum covered the POSE character attributes and how they present in youth, as well as the Action Steps to enable coaches to seamlessly incorporate character development into a sports context.
2. **Online peer learning and support** – Coaches were able to interact with each other after the training via an online platform. Coaching Corps coach development staff facilitated online discussions and posted resources and information.

As part of the evaluation of the CCTSP, coaches completed a survey at the end of the training session ("training exit") and again 4 months later ("post season").

CCTSP Participants

From 2017 through 2019, Coaching Corps focused its CCTSP in-person training efforts toward reaching the staff coaches at the afterschool program organizations with whom they partner. By December 2019, Coaching Corps had held 71 training events and had trained 2,314 coaches – well over the grant goal of 1,600 coaches trained.

Of the more than 2,300 coaches who were trained, 1,872 had completed a training exit survey and 996 had completed a post season survey. Of these, 874 coaches had coached during the season following the training and had surveys that were able to be "matched" to assess change over time.

Of these coaches:

- 61% were head coaches and 39% were assistant coaches.
- Previous coaching experience varied: 37% had 4 or more years of prior experience coaching youth sports, and 33% had less than 1 year of prior experience.
- Athletes ranged in age from kindergarten to high school: 53% of coaches worked with students in elementary school grades, and 34% worked with students in grades 6 through 8.

Training Satisfaction

- Across all training events, coaches reported being highly satisfied with the in-person training.
- They found the curriculum content relevant and they thought the information was presented clearly. They valued the active training methods and reported that these activities helped them understand the material better.

Knowledge Gained and Retained

- **POSE Character Attributes:** At training exit, coaches correctly identified the POSE attributes, on average, 82% of the time. At post season, coaches correctly identified the attributes 74% of the time. If there was confusion, coaches were most likely to confuse persistence with self-regulation and optimism with empathy.
- ***Name It, See It, Coach It, Share It* Action Steps:** At training exit, coaches correctly identified the Action Steps, on average, 66% of the time. At post season, coaches correctly identified the steps 53% of the time.
- **Four Key Learnings:** Coaches were asked to recall the key lesson related to coaching each of the POSE attributes. Coaches recalled the Key Learnings 72% of the time at training exit and 61% of the time at post season. At post season, specifically, 83% of coaches remember the key lesson for empathy, 64% remembered it for self-regulation, 63% remembered it for optimism, and 42% remembered it for persistence.
- **Knowledge retention:** Post season knowledge tended to be higher among coaches with more experience, who coached basketball or soccer, who coached co-ed teams, and who had high knowledge scores after the training session.

Self-Efficacy: Confidence to Implement New Skills

- On average, coaches reported being confident that they could effectively implement the CCTSP core content and coach in a way that would enhance the POSE attributes in athletes. They rated their self-efficacy highly at training exit and at post season.
- Although the group averages were high, the range of individual scores was wide, indicating that some coaches did not feel confident with their newly learned skills.

Application of CCTSP Content

- On average, coaches reported using the Action Steps and focusing on the development of a character attribute during approximately three quarters of their practice sessions.
- Overall, coaches reported that the Action Steps were relatively easy to implement. However, the range of individual ratings was wide, indicating that some coaches found implementation more challenging.
- While coaches reported implementing the CCTSP often, and felt confident doing so, their limited knowledge of some of the core content raises questions about whether they were able to implement the material with fidelity.

Online Peer Learning and Support Community

- Coaches' interaction with the CCTSP online community varied. About one third of coaches logged in weekly or more often. On the balance, about 40% never logged in.
- Among coaches who did engage with the community, most participated by reading what their peers were posting, but rarely, if ever, posted their own material.

Usefulness of CCTSP Program Components

- Coaches appreciated all of the program components. The components rated as most helpful were the in-person training, the Action Steps, and the POSE Pages.
- Less experienced coaches rated all of the program components as more useful than more experienced coaches did, suggesting that those with less experience benefit from this type of additional instruction and support.

Summary

Coaching Corps continues to contribute to positive youth coaching by offering the CCTSP, a program through which coaches learn how to integrate character development into a youth sports context. Coaches reported learning a lot during the training event and feeling confident in their ability to apply what they learned with their athletes. Knowledge retention of the core content 4 months later was strongest among coaches who coached basketball or soccer, coached co-ed teams, had more experience, and left the training session with a better understanding of the concepts. Most coaches reported applying the content with their athletes often, although given the variability in knowledge retention, it is difficult to know whether coaches are applying the principles with fidelity. Overall, coaches highly appreciated participating in the CCTSP program and found the content useful and relevant for their work with youth.

BACKGROUND

Coaching Corps' mission is to "ensure that all kids reap the benefits of playing sports with a trained, caring coach." To fulfill this mission, the organization actively recruits and develops high-quality coaches to improve the physical, social, and emotional well-being of young people and, in doing so, to help expand the power of sports-based youth development for every child. Coaching Corps maintains a focus on recruiting, training, and placing high-quality coaches into a wide range of afterschool sports-based youth development programs in order to increase capacity to serve more youth through sports, ensure excellence in coaching, and improve the impact of existing community programs. In this way, Coaching Corps works to develop, magnify, and leverage the capacity and impact of afterschool organizations (which Coaching Corps calls "partner agencies") by providing them with a trained workforce of volunteer coaches and by training partner agency staff to use sports as a youth development tool.

Coaching Corps envisions a high-quality coach for every child. High-quality coaching requires the commitment, knowledge, and attributes that enable a coach to use sport as a vehicle to impart social and emotional skills that affect character development and influence life outcomes. Coaching Corps has an established track record of in-depth and comprehensive training to maximize coaches' ability to bring this quality of interaction to their athletes.

THE COACHING FOR CHARACTER PROGRAM

With a grant from the S. D. Bechtel, Jr. Foundation, Coaching Corps intensified its efforts by designing a training to teach coaches how to effectively and intentionally integrate character development into a youth sports environment. The training focused on four character attributes relevant to a sports context: Persistence, Optimism, Self-regulation, and Empathy, and was correspondingly dubbed the "*POSE Pilot Project*." The pilot occurred in 2016 and yielded promising results. The S. D. Bechtel, Jr. Foundation consequently awarded Coaching

POSE Character Attributes:

- **Persistence**
- **Optimism**
- **Self-regulation**
- **Empathy**

Corps an implementation grant to scale up this effort to reach 1,600 coaches over 3 years. Funding began in October 2016, and the broader program is now called the *Coaching for Character Training and Support Program (CCTSP).*

Through the CCTSP, Coaching Corps provides coaches with skills and information about youth character development, as well as ongoing support throughout the season to implement these new skills. The program has involved two core components: in-person training and a virtual peer learning and support community.

Training

CCTSP Action Steps:

1. **Name it**
2. **See it**
3. **Coach it**
4. **Share it**

Using the pilot project results as an empirical foundation, Coaching Corps staff created a shorter curriculum to be able to scale the training more effectively. This curriculum covers the POSE character attributes and how they present in youth sports, and a series of four "Action Steps" as a coaching method to seamlessly incorporate character building into a sports context. The four Action Steps—*Name It, See It, Coach It, Share It*—allow coaches to utilize this framework with athletes in the service of teaching sports skills and character development.

From 2017 to 2019, Coaching Corps focused its training efforts on reaching staff coaches in partner agencies. Through December 2019, Coaching Corps held 71 training events and trained over 2,300 coaches – well above the grant goal of 1,600. These events included:

- ✓ **In-person training for coaches.** Coaches participated in one 2.5-hour in-person training session. Coaches learned about the POSE attributes and how to use the Action Steps to support character and sport skill development among their athletes. The training included a blend of didactic lecture, live demonstrations, and interactive learning.
- ✓ **Reference materials.** Coaching Corps created materials for coaches to reference during the season in support of their implementation of the Action Steps. These resources include the *POSE Pages,* which describe how the four POSE character attributes present in youth, and the *Practice Planner,* which provides a template to structure practice sessions intentionally focused on specific sport and character skills.

Virtual Peer Learning and Support Community

Coaching Corps established an online group for CCTSP-trained coaches to use as a venue for continued peer learning and interaction. To support ongoing learning and application of the skills taught during the training, Coaching Corps program team staff monitor the platform to facilitate group-level conversation and to disseminate information.

- ✓ **Online communication with other coaches.** Coaches are able to post questions or comments to the group and to respond to posts made by their peers.

In 2017 and 2018, Coaching Corps used a private Facebook group for this purpose. In 2019, Coaching Corps rolled out a customized online portal for its coaches. This portal has become the primary venue for the CCTSP virtual peer learning and support community, replacing the Facebook platform.

THIS REPORT

To date, over 2,300 coaches have been trained in the CCTSP curriculum. These coaches were surveyed at the end of their training event and again several months later, at the end of their sport season, to inquire about their participation in the CCTSP and their use of what they had learned. Previous evaluation reports have presented results for each season. This evaluation report presents the results for all coaches trained through December 2019, including the spring and fall seasons in 2017, 2018, and 2019.

EVALUATION METHODS

Coaching Corps hired NPC Research to evaluate the POSE Pilot Project in 2016, and this collaboration has extended to the CCTSP evaluation. The current evaluation uses available data to inform Coaching Corps about CCTSP implementation and outcomes in the service of program improvements over time.

DATA COLLECTION

Coaches who participated in the CCTSP completed surveys twice: at the end of the in-person training ("training exit survey") and again approximately 4 months later. This follow-up point generally coincided with the end of their sports season ("post season survey").

Training Exit Survey. Coaches completed a training exit survey to assess their understanding of the training content (namely the POSE attributes and the Action Steps), their satisfaction with the training format and delivery, their perceptions of the usefulness of the content, and their perceptions of their coaching abilities. Surveys were administered via paper-and-pencil.

Post Season Survey. Coaches completed a post season survey that assessed their retention and application of the training content, perceived usefulness of the different components of the program, and perceptions of their coaching abilities. These surveys were administered online.

DATA AVAILABILITY

Through December 2019, Coaching Corps conducted 71 CCTSP trainings. Across these 71 trainings, 2,314 coaches were trained and, of these, 1,872 had completed a training exit survey and 996 had completed a post season survey. On the post season survey, coaches were asked if they had coached a youth sports team during the current season (i.e., time between the CCTSP training and the survey). This question was necessary to gauge whether coaches had had the opportunity to implement the CCTSP material. If they had not coached during the previous 3 months, they were not able to answer many of the follow-up questions about implementation and they were subsequently omitted from the analysis. Of the 996 coaches with completed post season surveys, 926 had coached during the season. Of these, 874 surveys were able to be matched to the coach's training exit survey[1] (see Table 1).

Post season response rate. The overall post season response rate across all training groups was 53% (996 out of 1,872 coaches), though this rate varied across the individual training groups (see Table A1 in the appendix). The response rate remained fairly steady over time, with about half of the coaches

[1] Some post season surveys were not able to be matched to the training exit survey of the same coach. This issue was most often because the coach had not put their name on the training exit survey or the name was illegible, or the coach had not completed a training exit survey.

completing a post season survey (53% - 59% across seasons). A low response rate (35%) in Spring 2019 was due to the follow-up survey not administered to three training groups. The Fall 2019 response rate bounced back to 54%.

Table 1. Number of Coaches Trained and with Completed Surveys

Number of Coaches who…	Spring 2017[a]	Fall 2017[b]	Spring 2018[c]	Fall 2018[d]	Spring 2019[e]	Fall 2019[f]	Total
Attended Training Event	41	331	314	477	819	332	**2,314**
Completed Training Exit Survey	41	312	241	328	633	317	**1,872**
Completed Post Season Survey[g]	26	169	129	203	246	223	**996**
Had Matched Training Exit and Post Season Surveys[h]	26	145	117	168	232	186	**874**

[a] Spring 2017 trainings included 3 training events conducted from December 2016 to March 2017.
[b] Fall 2017 trainings included 11 training events conducted from July 2017 to December 2017.
[c] Spring 2018 trainings included 12 training events conducted from January 2018 to May 2018.
[d] Fall 2018 trainings included 11 training events conducted from June 2018 to December 2018.
[e] Spring 2019 trainings included 21 training events conducted from January 2019 to May 2019.
[f] Fall 2019 trainings included 24 training events conducted from June 2019 to December 2019.
[g] Includes coaches who responded to the survey but did not coach in the current season and were therefore not able to respond to a majority of the post season survey questions.
[h] Includes coaches who completed both a training exit survey and a post season survey and was limited to those coaches who had coached during the season and could therefore answer all of the post season questions.

ANALYTIC APPROACH

Descriptive Statistics. Throughout this report, descriptive statistics (e.g., frequency counts, means, percentages) are presented to reflect the coach survey data. Some examples include the number of coaches with previous coaching experience, the percentage of coaches who coached high school athletes, and the average self-efficacy (confidence) ratings among coaches.

Statistical Models. Because the CCTSP aimed to change coach knowledge and behavior over the longer-term, statistical models were run to assess what factors impacted coaches' level of knowledge of the training content at post season. A Generalized Linear Mixed Model (GLMM) was constructed to explore whether specific coach characteristics were related to the level of knowledge retained by coaches after the CCTSP training. In particular, the GLMM examined the association between coach knowledge scores at the end of the season and their previous coaching experience; level of confidence (self-efficacy); knowledge gained at training exit; and the gender, age, and type of teams coached.[2]

[2] For the GLMM, a single case in the data was composed of a coach who had completed both a training exit and post season survey, and whose surveys were able to be successfully matched. To remain in the GLMM, coaches had to have answered all the relevant survey items (i.e., a missing data point mean the coach's record was dropped from analysis). This requirement included the knowledge questions, previous coaching experience, self-efficacy, and gender and age of athletes coached. Of the 874 coaches with matched training exit and post season surveys, 690 had all of the relevant data and were included in the formulation of these statistical models.

SURVEY RESULTS

PRIOR COACHING EXPERIENCE

At the time of the CCTSP training, coaches varied in their level of prior coaching experience. As shown in Table 2, 37% had 4 or more years of experience, 30% had between 1 and 3 years of experience, and a third had less than 1 year (33%). Head coaches composed 61% of those trained, while assistant coaches accounted for 39%.

Table 2. Prior Experience and Current Role of Coaches

	No. (%) of Coaches
Years of Experience at Training Time	
Less than 1 year	457 (33%)
1 to 3 years	414 (30%)
4 or more years	512 (37%)
Coach Role During	
Head Coach	552 (61%)
Assistant Coach	350 (39%)

Note: Percentage is out of those responding to the question.
Sample sizes = 1,383 for years of experience and 902 for coach role.

As shown in Table 3, about half (53%) of coaches worked with athletes in kindergarten through grade 5. One-third (34%) coached athletes in grades 6 through 8. Notably fewer coaches, just 13%, worked with athletes in high school.

The majority of respondents coached co-ed teams (56%), while 22% coached boys' teams, and 22% coached girls' teams. The majority (63%) of trainees coached either basketball (33%) or soccer (30%). Baseball (20%), football (10%), and volleyball (9%) were also well represented[3] in the sample.

[3] Coaches often worked with more than one team so the total for all sports sums to more than 100 percent.

Table 3. Teams Coached: Age, Gender, and Sport

Attributes of Athletes Coached	No. (%) of Coaches
Athlete Grade Level	
Kindergarten through grade 5	616 (53%)
Grade 6 through grade 8	396 (34%)
Grade 9 through grade 12	145 (13%)
Gender of Team	
Male	218 (22%)
Female	225 (22%)
Co-ed	559 (56%)
Sport	
Basketball	335 (33%)
Soccer	304 (30%)
Baseball	199 (20%)
Football	96 (10%)
Volleyball	92 (9%)
Softball	47 (5%)
Track and Field	32 (3%)
Tennis	27 (3%)
Cheer	22 (2%)
Dance	20 (2%)
Dodgeball	15 (1%)
Ultimate Frisbee	11 (1%)

Note: Percentages sum to more than 100% because coaches could select more than one response.
Sample size = 1,003

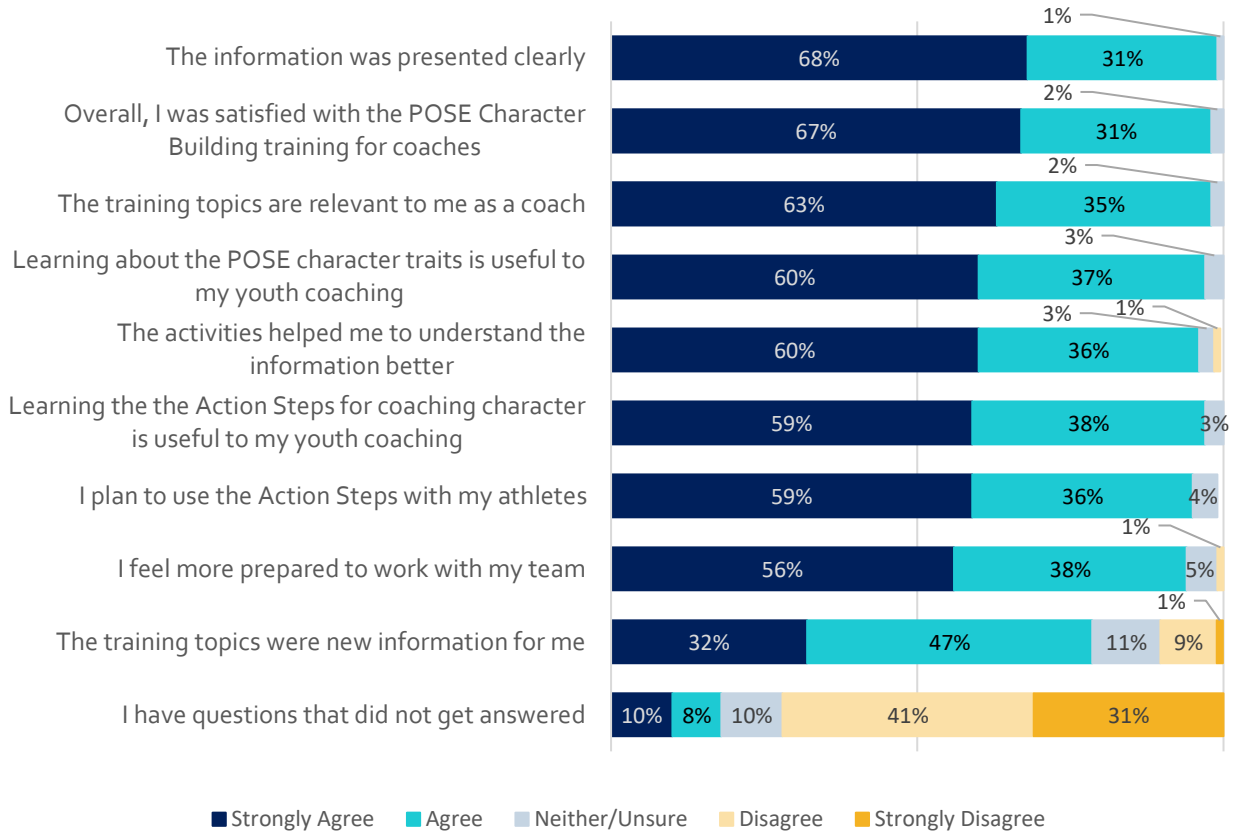
CCTSP IN-PERSON TRAINING

Satisfaction with Training

At training exit, coaches rated their satisfaction with various aspects of the training event on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). Figure A shows the percentages of coaches agreeing with each item, and Table 4 details the average scores for each item.

Coaches reported a high level of satisfaction with the CCTSP training. Nearly all of them (98%) agreed or strongly agreed that the training was relevant for youth coaches, and their average overall satisfaction rating was 4.64 (out of 5). Nearly all items had an average rating of 4.49 or higher. Moreover, 79% of coaches agreed that the curriculum content was new information for them, indicating that they are an appropriate audience for this type of training.

Figure A. Coaches' Satisfaction with Training



Note: Sample sizes for each question ranged from 1,843 to 1,853 respondents.

Table 4. Average Scores of Coaches' Satisfaction with Training

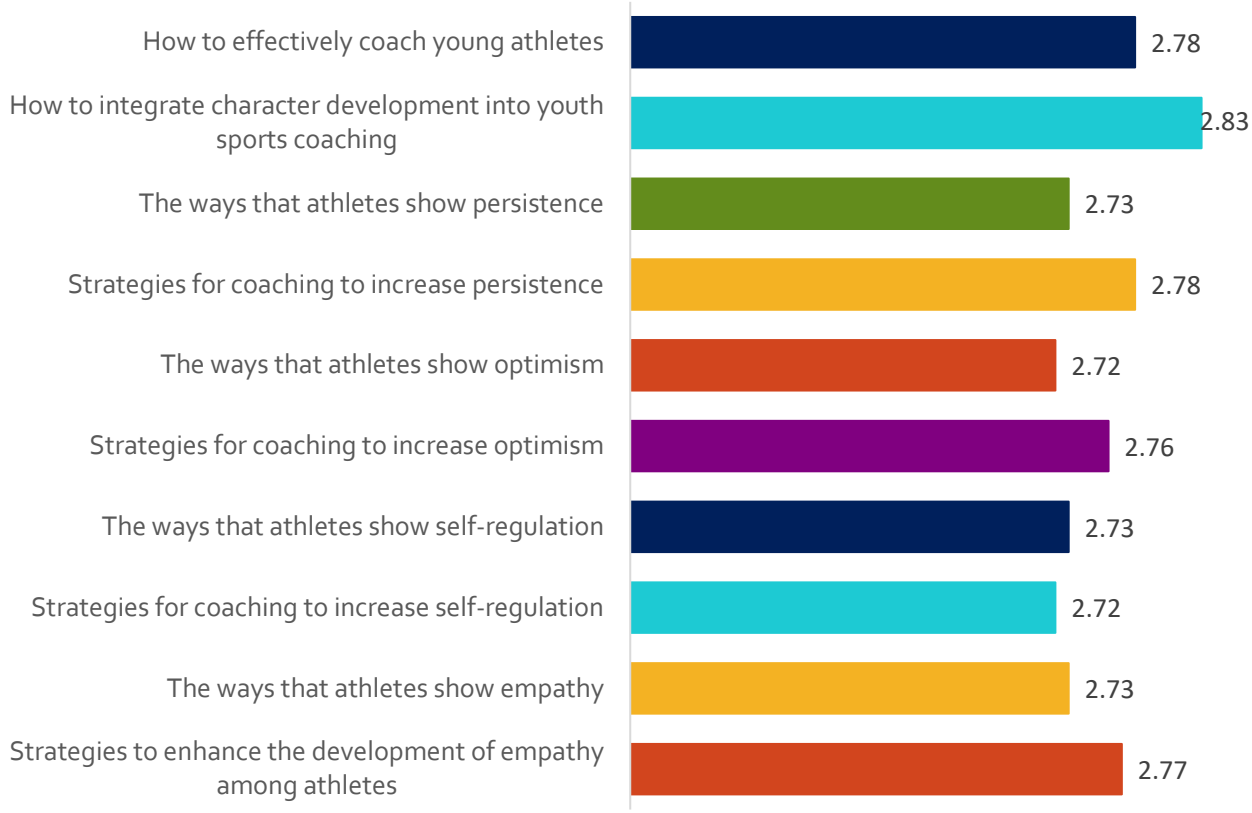
How much do you agree with each statement below?	Average Rating
The information was presented clearly	4.66
Overall, I was satisfied with the POSE Character Building training for coaches	4.64
The training topics are relevant to me as a coach	4.61
Learning about the POSE character traits is useful to my youth coaching	4.56
Learning the Action Steps for coaching character is useful to my youth coaching	4.56
The activities helped me to understand the information better	4.55
I plan to use the Action Steps with my athletes	4.54
I feel more prepared to work with my team	4.49
The training topics were new information for me	4.00
I have questions that did not get answered	2.24

Note: N ranges from 1843 to 1853; Mean = average ratings across all coaches.

Amount Learned During Training

Coaches also rated how much they learned about the core topics—in particular, each of the four POSE attributes and the Action Steps (Name It, See It, Coach It, Share It)—during the training. For each topic, they answered on a 3-point Likert scale (1 = *I didn't learn anything new, 2 = I learned a little, and* 3 = *I learned a lot*). As shown in Figure B, coaches reported learning a lot about how to integrate character development (mean score = 2.83), as well as how to effectively coach young athletes (mean score = 2.78). Similarly, coaches reported learning a lot about the various strategies for coaching, as well as seeing how athletes demonstrate the various POSE attributes (mean scores ranging from 2.72 to 2.78).

Figure B. Amount Learned During Training (Mean Scores)



Note: Sample sizes ranged from 1,800 to 1,807. Respondents were asked to rate how much they learned on a 3-point Likert scale with choices including: 1 (I didn't learn anything new), 2 (I learned a little), and 3 (I learned a lot).

VIRTUAL PEER LEARNING AND SUPPORT COMMUNITY

On the post season survey, coaches were asked about their experiences with the virtual peer learning community. In 2017 and 2018, this component was a private Facebook group. In 2019, it transitioned to Coaching Corps' Online Community portal. As shown in Table 5, coaches' level of engagement with the virtual community did not differ greatly across the two platforms. However, Coaching Corps' Online Community portal fared slightly better than the Facebook group in soliciting some engagement from coaches: Among coaches with access to the Online Community, 63% logged in at least once per month, whereas among coaches with access to the Facebook group, 55% logged in at least once per month. However, across both platforms, a minority of coaches (11% for the Online Community portal, 13% for Facebook) logged into the platform more than once per week. Notably, across both platforms, a sizeable proportion of coaches never joined the group or checked the forum (38%, 44%).

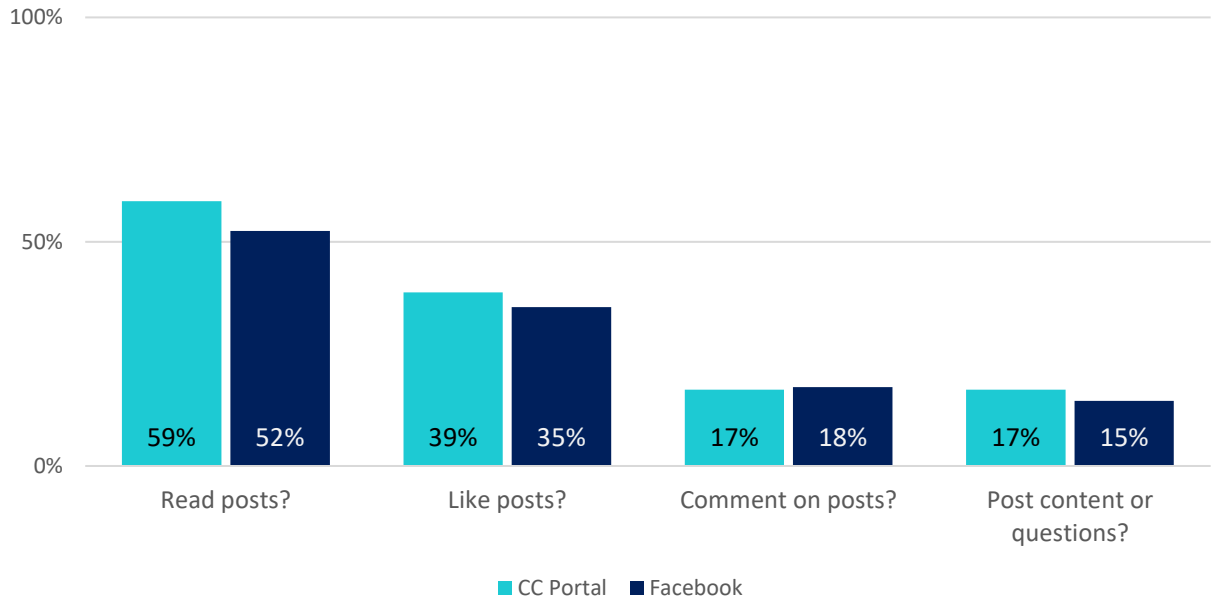
Table 5. Engagement in the Virtual Support Community

How often did you log into the:	CC Online Community	Facebook Group
Every day	14 (2%)	13 (3%)
2–3 times each week	53 (9%)	40 (10%)
Once per week	108 (17%)	75 (19%)
1–2 times per month	217 (35%)	92 (23%)
Never	235 (38%)	175 (44%)

Sample sizes = 397 for Facebook; 627 for the Online Community

Coaches were asked how they engaged with the virtual community, specifically how often they read posts, liked posts, commented on posts, or posted content and questions. Figure C depicts the percentage of coaches who reported doing these activities *sometimes*, *often*, or *always*. Proportions are shown separately for the coaches who were part of the Facebook group (dark blue bars) and those who were part of the Coaching Corps online portal (light blue bars). While the differences between the two platforms are small, a greater percentage of coaches reported some level of interaction with the Coaching Corps online portal than with the Facebook group. This pattern was true for reading posts (59% vs. 52%), liking posts (39% vs. 35%), and posting content (17% vs. 15%).

Figure C. Percentage of Coaches who Reported Engaging with Online Forum "Sometimes," "Often," or "Always"



Note: Sample sizes ranged from 599 to 608.

KNOWLEDGE OF CCTSP CORE CONTENT

Coaches' understanding of the core CCTSP training content was assessed using multiple choice questions with athlete scenarios. Coaches were asked these questions at training exit to see how much of the information they correctly understood during the training, and they were asked again post season to assess the extent to which they retained this knowledge over time. Specifically, the surveys measured coaches' knowledge of:

1. The four POSE attributes and how they present in youth
2. The four Action Steps and how they are applied to youth sports scenarios
3. The four Key Learnings that describe how to effectively coach each of the POSE attributes.

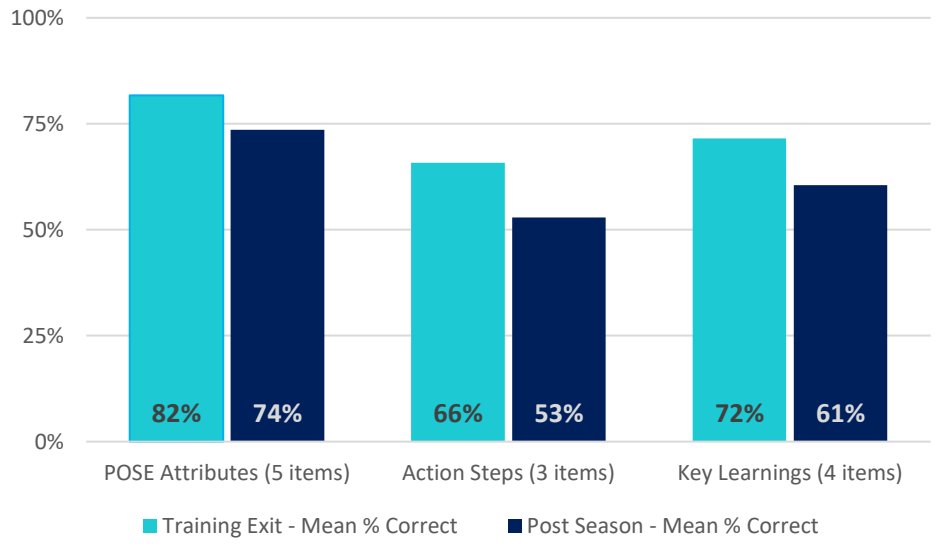
Figure D shows the average knowledge scores among coaches (i.e., average percent of items answered correctly) by question type.

Average Knowledge Scores Over Time

POSE Attributes. Most coaches correctly identified the four POSE attributes. At training exit, coaches' average score across these items was 82% correct. Post season, coaches' average score across these items decreased to 74% correct (Figure D), indicating some knowledge decrement over time. This decrease was a statistically significant change.[4]

Action Steps. At training exit, coaches' average score across the Action Step questions was 66% correct. At post season, the average score decreased to 53% correct (Figure D), which was a statistically significant change.[5] Notably, coaches' understanding of the Action Steps declined more than their knowledge of the POSE attributes or the Key Learnings did.

Figure D. Average Percentage Correct at Training Exit and Post Season



Note: Figure percentages are based on all available data including approximately 1,872 training exit survey responses and 996 post season survey responses. Matched-pairs t-tests were based on only those coaches with matched pre and post surveys (sample size = approximately 895).

Key Learnings. The survey also included four questions that asked coaches to recall the Key Learnings from the training. In particular, coaches had to name the most effective method to coach each of the POSE attributes by completing the sentences below.

- Coaching persistence involves helping athletes shift their _____. (*strategy*)
- Coaching optimism involves helping athletes shift their _____. (*thinking*)
- Coaching self-regulation involves helping athletes shift their _____. (*behavior*)
- What is the most effective way to teach empathy? _____ (*modeling it*)

[4] T-test was statistically significant, [t=5.590 with 689 degrees of freedom. $p < 0.001$].
[5] T-test was statistically significant, [t = 8.010 with 687 degrees of freedom. $p < 0.001$].

Consistent with the other knowledge categories, Key Learning mean scores dropped from 72% correct at training exit to 61% percent over the course of the season. Similar to the other categories, this decrement was a statistically significant change.[6]

Knowledge Attainment & Retention by Season

As shown in Table 6, coaches' performance (the average number of correct responses) was fairly consistent across seasons. Spring 2017 scores appear higher than those of later seasons, but this result is likely due to the smaller sample size (41 training exit, 26 post season respondents) increasing the variability in the mean number of items correct. All of the subsequent seasons had approximately 240 or more respondents, which makes for more stable estimates, and the average number of correct responses remained fairly similar across these time periods. For the POSE Attributes, on average, coaches answered about 4 out of 5 questions correct at training exit and about 3.5 questions correct at post season. For the Action Steps, on average, coaches answered about 2 out of 3 questions correct at training exit and about 1.5 questions correct at post season. For the Key Learnings, on average, coaches answered about 3 out of 4 questions correct at training exit and about 2.5 questions correct at post season.

There is a notable increase in the average number of correct responses for the Key Learning questions between Spring 2018 (2.10 training exit, 1.95 post season) and Fall 2018 (3.37 training exit, 2.32 post season). This increase is likely due to revisions to the survey (described below), which have been sustained and the average scores have been consistent since then.

When compared to coaches trained in Spring 2019, those trained in Fall 2019 had slightly lower average scores at training exit across the POSE Attributes questions (average 4.13 vs 3.97), the Action Steps questions (average 2.00 vs 1.77), and the Key Learning questions (average 3.18 vs 3.12). However, this difference was not found on the post season surveys, where the average scores were very similar (POSE Attributes: 3.65 vs 3.69; Action Steps: 1.65 vs 1.59; Key Learnings: 2.59 vs 2.62).

[6] T-test was statistically significant, [$t = 7.54$ with 680 degrees of freedom. $p < 0.001$].

Table 6. Average Number of Correct Responses by Season

	Spring 2017	Fall 2017	Spring 2018	Fall 2018	Spring 2019	Fall 2019
POSE Attributes (5 questions)						
Training Exit						
Number of coaches	41	280	239	314	627	317
Average number correct	4.20	4.24	3.98	4.00	4.13	3.97
Post Season						
Number of coaches	26	138	98	185	237	208
Average number correct	4.36	3.72	3.99	3.41	3.65	3.69
Action Steps (3 questions)						
Training Exit						
Number of coaches	41	298	239	323	626	315
Average number correct	2.4	2.02	1.97	2.00	2.00	1.77
Post Season						
Number of coaches	26	135	95	185	237	208
Average number correct	2.4	1.47	1.5	1.52	1.65	1.59
Key Learnings (4 questions)						
Training Exit						
Number of coaches	28	298	296	179	626	313
Average number correct	2.3	2.4	2.1	3.37[a]	3.18	3.12
Post Season						
Number of coaches	[b]	132	96	183	237	205
Average number correct		2.25	1.95	2.32[a]	2.59	2.62

[a] During this season, the response options for the Key Learning survey questions were revised and these revisions were sustained for future seasons.
[b] These questions were not asked during the post-season survey for Spring 2017.

Incorrect Answer Analysis

Identifying the pattern of incorrect responses—how often which wrong answers were chosen—can often be informative. This type of analysis highlights potential topic areas where trainees experience confusion, which can help inform curriculum refinements. Incorrect answer analyses were conducted for each of the knowledge question groups.

POSE Attributes. Table 7 shows the percentages of coaches who correctly identified each POSE attribute at training exit and the percentage who did so at post season, as well as percentages of coaches who endorsed each of the incorrect responses. At training exit, three quarters of coaches or more (74% to 92%) answered these questions correctly. At post season, fewer coaches—but still the majority (62% to 85%)—answered these items correctly. When coaches

answered incorrectly, the confusion tended to follow a pattern. Self-regulation and persistence were most often confused with each other. Optimism and empathy tended to be most often confused with each other, although this result was more prominent for the empathy item than for the optimism item.

Table 7. Endorsed Responses for the POSE Attributes

Question	Answer Options	Training Exit	Post Season
Although anxious to start playing, Anna waits for the whistle to blow before she starts running.	Persistence	6%	13%
	Optimism	6%	10%
	Self-regulation	**86%**	**73%**
	Empathy	1%	2%
	Don't Know	1%	2%
During basketball/soccer practice, athletes are told to dribble the ball around several obstacles before shooting a basket on the other end of the court. Darryl rushes toward the basket and bounces the ball off of his foot and out of bounds. On his next turn, he decides to just focus on dribbling, even if he has to go slower.	**Persistence**	**74%**	**62%**
	Optimism	5%	8%
	Self-regulation	20%	27%
	Empathy	0%	2%
	Don't Know	1%	1%
In a race activity, Mia finishes last. As she walks to the back of the line, you overhear her say to herself, "It's OK. I can do better next time."	Persistence	8%	10%
	Optimism	**79%**	**69%**
	Self-regulation	7%	9%
	Empathy	6%	10%
	Don't Know	1%	2%
At the end of a tie game, a player from the opposing team shoots the ball just before the whistle blows and misses. Victor walks over to the player and pats him on the back and says, "Good try."	Persistence	2%	3%
	Optimism	16%	11%
	Self-regulation	4%	4%
	Empathy	**78%**	**79%**
	Don't Know	1%	3%
When the referee stops the game to address Marta's aggressive behavior, Marta listens to the referee and then tries to calm herself down when the game restarts.	Persistence	2%	4%
	Optimism	3%	5%
	Self-regulation	**92%**	**85%**
	Empathy	3%	4%
	Don't Know	1%	3%

Note: Correct responses shown in bold. Training Exit sample size = 1853; Post Season sample size = 910.

Action Steps. Table 8 shows the percentages of coaches who endorsed each answer option for the questions pertaining to the Action Steps. At training exit, 75% of coaches correctly identified the Name It step, and 65% currently identified the Share It step. Fewer coaches (57%) correctly identified the Coach It step; many coaches confused Coach It with See It. At post season, the correct answers for each of these three questions were chosen just over half the time (51% to 55%), indicating that roughly 1 out of every 2 coaches misidentified these steps at post season. The rates of correct responses for these items were notably lower than the rates for the POSE Attribute questions (shown above) on the same survey. At post season, coaches most often confused the Coach It step with another step.

Table 8. Endorsed Responses for Action Steps

Question	Answer Options	Training Exit	Post Season
The coach sets up cones and a basket for an activity, then turns to the athletes and states the overall purposes and goal of the activity.	**Name it**	**75%**	**55%**
	See it	6%	10%
	Coach it	14%	26%
	Share it	5%	7%
	Don't know	0%	2%
At the end of practice, the coach reviews the challenges that Timmy encountered and asks what he did to surmount them.	Name it	6%	14%
	See it	16%	20%
	Coach it	13%	12%
	Share it	**65%**	**51%**
	Don't know	0%	3%
During an activity in which Bethany is struggling, the coach asks Bethany which parts of her strategy are working and helps her identify some other tactics to try.	Name it	7%	14%
	See it	23%	20%
	Coach it	**57%**	**52%**
	Share it	12%	12%
	Don't know	1%	3%

Note: Correct answers shown in bold. Training Exit sample size = 1846; Post Season sample size = 907.

Key Learnings. The Key Learnings survey questions were revised partway through the grant period (Fall 2018 season), based on analysis of survey data. Two revisions were implemented: one involved the question format and the other involved the response options.

1. On the initial training exit survey, Key Learnings questions were fill-in-the-blank, and on the post season survey, they were multiple choice. In Fall 2018, the training exit survey was revised to include multiple choice questions.
2. In Fall 2018, the response option of “mindset” was replaced with “communication” (see Table 10).

The revised survey led to an increase in correct answers for all four items. As a result, the revised survey items were considered to better indicate coach knowledge. Table 9 shows the responses endorsed for each of the Key Learnings questions on the revised survey. (Note that these results only include coaches trained in Fall 2018, Spring 2019, and Fall 2019).

At training exit, at least 70% of coaches (71% to 91%) correctly identified the Key Learnings. At post season, there was variability among the items: 83% remembered that the most effective way to coach empathy is to model it; 63% remembered that the most effective way to coach optimism is to help athletes shift their thinking; 64% remembered that the most effective way to coach self-regulation is to help athletes shift their behavior; and 42% remembered that the most effective way to coach persistence is to help athletes shift their strategy. The Key Learning for persistence saw the largest decline, from 71% of coaches correctly identifying it at training exit, but just 42% doing so at post season.

Table 9. Endorsed Responses for the Key Learnings

Question	Answer Options	Training Exit	Post Season
Coaching persistence involves helping athletes shift their…	Behavior	8%	15%
	Communication	2%	8%
	Thinking	9%	14%
	Strategy	**71%**	**42%**
	Focus	10%	21%
Coaching optimism involves helping athletes shift their…	Behavior	8%	13%
	Communication	4%	10%
	Thinking	**79%**	**63%**
	Strategy	5%	8%
	Focus	4%	7%
Coaching self-regulation involves helping athletes shift their…	**Behavior**	**80%**	**64%**
	Communication	2%	5%
	Thinking	6%	11%
	Strategy	6%	9%
	Focus	6%	10%
What is the most effective way to teach empathy?	Explain it very clearly	7%	10%
	Discipline athletes who are mean to their teammates	1%	5%
	Let your athletes see you cry	1%	2%
	Model it	**91%**	**83%**

Note: Results are from the revised survey items used in Fall 2018, Spring 2019, and Fall 2019.
Training exit sample sizes ranged from 798 to 812 responses; post season from 625 to 626. Correct answers are in bold.

SELF-EFFICACY OVER TIME

Self-efficacy pertains to one's confidence that one can successfully perform a task right now[7] and this concept has been used to study aptitude and proficiency across a wide variety of skills. At training exit and again at post season, coaches rated their self-efficacy to implement what they had learned during the training.

These survey questions were revised in Fall 2018. Initially (version 1), the respondents were asked to assign a numerical value between 1 (*not at all confident*) and 100 (*extremely confident*) to reflect their self-efficacy. Subsequently, the survey (version 2) was revised to ask coaches to choose a response on a 5-point scale from 1 (*sure I cannot*) to 5 (*completely sure I can*). Table 10 shows the results from both versions.

At training exit, coaches reported high self-efficacy for implementing the Action Steps and coaching athletes to support the development of the POSE attributes. As seen in Table 10, coaches left the training feeling confident about their new skills (overall average of 83% or 4.4 out of 5) and reported similar results at post season (overall average of 82% or 4.3 out of 5). Overall, the average self-ratings remained relatively unchanged from training exit to post season across the specific items, and also remained consistent across the different versions of the survey.

Table 10. Self-Efficacy for Building Character in Youth Athletes

How confident are you that, right now, you can…	Survey Version 1			Survey Version 2		
	Training Exit	Post-Season	% change	Training Exit	Post-Season	% change
Effectively coach a youth sports team?	84%	85%	1%	4.36	4.34	0%
Implement the Action Steps with your athletes?	83%	78%	-6%	4.38	4.25	-3%
Coach athletes in a way that will enhance their ***persistence***?	87%	83%	-5%	4.51	4.35	-3%
Coach athletes in a way that will increase their ***optimism***?	87%	84%	-3%	4.50	4.40	-2%
Coach athletes in a way that will increase ***self-regulation***?	85%	81%	-5%	4.39	4.29	-2%
Coach athletes in a way that will enhance their ***empathy***?	86%	84%	-2%	4.47	4.43	-1%
Total Mean	85%	82%	-4%	4.44	4.34	-2%

Note: Survey version 1 for training exit and post-season asked respondents to rate their confidence from a 1 to 100 scale with 100 being the most confident. Survey version 2 for training exit and post-season asked respondents to rate their confidence on a 5-point Likert Scale from 1 (Sure I cannot) to 5 (Completely Sure I Can). Training Exit version 1 *N* = 665. Training Exit version 2 *N* = 787. Post-Season version 1 *N* = 293. Post-Season version 2 *N* = 593.

[7] Self-efficacy scale items constructed according to guidance from: Bandura, A. (2006). Guide for constructing self-efficacy scales. *Self-Efficacy Beliefs of Adolescents,* pp. 307–337. Information Age Publishing.

REFLECTIONS ON COACHING SKILLS AND EXPERIENCES DURING THE SEASON

How Often Coaches Applied the CCTSP Content

On the post season survey, coaches estimated the proportion of their practices in which they implemented the Action Steps and the proportion in which they focused on a particular character attribute. As shown in Table 11 (top row), overall, coaches estimated that they implemented the Action Steps in 73% of their practice sessions and focused on a character attribute in 76% of their practices. It is important to note, however, that the range of responses was wide. For example, some coaches estimated that they used the Action Steps in every practice, while some never used it. Also shown in Table 11, the frequency of implementation did not vary across coaches with different years of experience, suggesting that the content was useable for coaches with all levels of experience.

Table 11. Implementation of the Action Steps and Focus on POSE Attributes

In what percentage of practices did you…	Implement the Action Steps	Focus on a Character Attribute
All Coaches	73%	76%
Coach Experience		
Less than 1 year	72%	76%
1 to 3 years	75%	76%
4 or more years	71%	76%

Note: Sample size = 914 post season respondents

Ease of Applying the CCTSP Content

At the end of the season, coaches rated how easy or difficult it was for them to implement the Action Steps during the season with their athletes. Their responses were rated on a 6-point Likert scale from 1 (*very difficult)* to 6 (*very easy*). Their average ratings are shown in Table 12.

Overall, coaches reported that the Action Steps were moderately easy to implement, as the average ratings were toward the positive end of the 6-point scale (4.64 to 4.79). This result

suggests that most coaches felt that the tasks were within the range of what they could do. Despite the high average ratings, individual coaches' ratings ranged widely (from 1 to 6), indicating that while some coaches found implementing the steps easy, others experienced difficulty.

Table 12. Ease of Applying the CCTSP Content

During the season, how easy/difficult was it for you to…	Post Season Mean Score
Integrate the Actions Steps into your coaching, generally?	4.62
Apply the ***Name It*** step with your athletes?	4.65
See [It] how the traits presented in your athletes?	4.69
Apply the ***Coach It*** step with your athletes?	4.67
Apply the ***Share It*** step with your athletes?	4.64
Use the Action Steps to enhance athlete ***persistence***?	4.64
Use the Action Steps to enhance athlete ***optimism***?	4.65
Use the Action Steps to enhance ***self-regulation***?	4.65
Model ***empathy*** for your athletes?	4.79
Integrate character building into effectively coaching sports skills?	4.76

Note: Sample size = 917 post season. Response scale ranged from 1 (very difficult) to 6 (very easy).

USEFULNESS OF CCTSP PROGRAM COMPONENTS

On the post season survey, coaches were asked about the usefulness of each of the CCTSP components. Specifically, they were asked, "*As you were learning how to incorporate character development into your coaching this season, how helpful did you find each of the program activities/tools?"* They rated their responses on a 4-point scale (1 = *not helpful* to 4 = *very helpful*). Average ratings indicated that the majority of coaches found all of the program components useful, although as some were seen as more useful than others (see Table 13).

On average, coaches rated the in-person training (3.78), the Action Steps (3.69), and the POSE Pages (3.69) as the most helpful program components. The Practice Planner (3.52), support from Coaching Corps staff (3.50), the tips posted in the online community (3.45), and communicating with the other POSE coaches (3.44) were also rated as helpful. The virtual learning community was rated the lowest (3.35), but the average for this item was still high, indicating that coaches found it useful, just less so than the other program components.

Table 13. Perceived Helpfulness of Program Components

As you were learning how to incorporate character development into your coaching season, how helpful did you find each of the activities/tools below?	Mean Score
The in-person training	3.78
The Action Steps	3.69
The POSE Pages	3.69
The Practice Planner	3.52
Support from Coaching Corps staff	3.50
The tips posted in the online Coaching for Character community	3.45
Communicating with the other POSE coaches.	3.44
The online Coaching for Character community	3.35

Note: Response scale ranged from 1 (not helpful at all) to 4 (very helpful). Sample size ranged from 738 to 926.

As found with data from previous seasons, analyses showed that newer coaches tended to find the CCTSP program components more useful than more experienced coaches did. As shown in Table 14, coaches with less than 1 year of experience ranked each program component higher in usefulness than did coaches with 4 or more years of experience.

Table 14. Perceived Helpfulness of Program Components by Coach Experience

As you were learning how to incorporate character development into your coaching season, how helpful did you find each of the activities/tools below?	Experience Level		
	Less than 1 year	1 to 3 years	4 or more years
The in-person training	3.83	3.83	3.67
The Action Steps	3.73	3.72	3.61
The POSE Pages	3.74	3.71	3.60
Support from Coaching Corps staff	3.53	3.54	3.46
The Practice Planner	3.54	3.53	3.41
Communicating with the other POSE coaches.	3.51	3.46	3.29
The tips posted in the online Coaching for Character community	3.49	3.42	3.44
The online Coaching for Character community	3.40	3.33	3.25

Note: Response scale ranged from 1 (not helpful at all) to 4 (very helpful). Sample sizes ranged from 220 to 278 for less than 1 year of experience, from 193 to 259 for 1 to 3 years of experience, and from 188 to 236 for 4 or more years of experience.

COACH CHARACTERISTICS AND CCTSP KNOWLEDGE

GLMM OVERVIEW

As described earlier in this report, there was wide variability in knowledge scores across coaches. After the training, some coaches demonstrated strong understanding of the CCTSP concepts and others showed less understanding. After the season, this variability widened and many coaches showed a decrement in knowledge over time. To better understand what factors influenced coach knowledge uptake—that is, why some coaches learned and retained information more successfully than others did—a generalized linear mixed model (GLMM) was run to examine the potential role of several coach characteristics.

Specifically, a GLMM was constructed to examine the effects on post season knowledge scores of previous coaching experience, level of confidence, sport coached, age of athletes coached, and gender of athletes coached. The use of a statistical model allows one to observe how post season knowledge scores vary while testing one factor and holding other factors at a fixed level. For example, we can examine how coach experience affected post season knowledge scores, while controlling for the effects of coach confidence, sport coached, and athlete age and gender. The model used data from 690 coaches who had matched training exit and post season surveys without any missing data points (i.e., coaches who answered all the survey questions under examination).

Variables Used in the GLMM

Outcome: Post Season Knowledge Score. The outcome being predicted by the GLMM was the total number of correct answers to the knowledge questions on the post season survey. There were 12 total questions across three topics: POSE attributes (5 questions), Action Steps (3 questions), and Key Learnings (4 questions). The mean scores presented in the following analyses represent the number of correct answers to these 12 questions.

Coach Characteristics. The GLMM investigated five variables for their association with (or prediction of) post season knowledge. These variables included: (1) experience level of the coach, (2) sport coached (soccer or basketball versus another sport); (3) gender(s) of the teams coached; (4) age of the athletes coached (high school students versus younger students); and (5) confidence to implement the CCTSP material, as reported by the coach on the post season

survey (overall self-efficacy score).[8] Since two different scales were used for self-efficacy scores (0 to 100 in early versions, and a 5-point Likert scale in later versions), all of these numbers were standardized[9] so comparisons could be made across survey versions. Additionally, the model took into account the number of knowledge questions the coach correctly identified at training exit. Table 15 shows a summary of the levels for each of these variables in the model.

Table 15. Coach Characteristics Variables Used in the GLMM

Characteristics	Levels
Coach Experience	Less than 1 year of experience
	1 to 3 years of experience
	4 or more years of experience
Sport Coached	Coached soccer or basketball
	Coached another sport (not soccer or basketball)
Gender of Athletes	Coached co-ed teams
	Coached boys' teams or girls' teams only
Grade Level of Athletes	Coached high school athletes
	Coached elementary or middle school athletes
Self-Efficacy Level	Standardized average of the six self-efficacy questions; continuous scale
Knowledge Score at Training Exit	Number of correct answers on training exit survey; continuous scale from 0 to 12

[8] Additional variables, such as level of engagement in the CCTSP online community, were also tested in the model. These variables were not significant and were therefore dropped in order to create a parsimonious model that focused on the biggest contributors to the variance of post season knowledge scores.

[9] Standardized refers to transforming the scores to have a mean of 0 and a standard deviation of 1.

GLMM RESULTS

A "Typical" Coach at the CCTSP Training

The GLMM used these data to describe a "typical" coach who attended the CCTSP—that is, the profile most common among the 690 coaches with complete data. Results are shown in Table 16; characteristics of a typical coach are shown in bold font. The GLMM showed that a typical CCTSP coach had less than 1 year of experience, coached either soccer or basketball, coached co-ed teams, and coached elementary or middle school students. Further, the typical coach was thought to have average scores for knowledge at training exit and for self-efficacy. The mean number of correct knowledge questions at training exit was 8.14 (out of 12).

Table 16. Profile of a "Typical" CCTSP Trained Coach

Characteristics	Levels	No. (%) of Coaches
Coach Experience	**Less than 1 year of experience**	**250 (36%)**
	1 to 3 years of experience	215 (31%)
	4 or more years of experience	225 (33%)
Sport Coached	**Coached soccer or basketball**	**396 (57%)**
	Coached another sport (not soccer or basketball)	294 (43%)
Gender of Athletes	Coached boys' teams or girls' teams only	244 (35%)
	Coached co-ed teams	**446 (65%)**
Grade Level of Athletes	**Coached elementary or middle school athletes**	**588 (85%)**
	Coached high school students	102 (15%)

Influence of Coach Characteristics on Post Season Knowledge

Next, the GLMM examined the extent to which post season knowledge varied for a typical coach with each level of each characteristic. The influence of each characteristic in the model was explored using the typical coach profile as a baseline for comparison. To do this, coach characteristics, besides the one characteristic being evaluated, are held constant at: less than 1 year of experience, coached basketball or soccer, coached co-ed teams, coached elementary or middle school students, and less than the median confidence score. In this way, the model is able to estimate the impact of each independent characteristic on post season knowledge for a typical coach.

GLMM results indicated that some characteristics had a statistically significant effect on post season knowledge, and other characteristics did not. In the overall model, post season

knowledge scores were related to sport coached, gender of athletes coached, and knowledge scores at training exit. The strongest relationship was between training exit knowledge scores and post season knowledge scores—that is, coaches who scored highly after the training also scored highly at post season. The standardized self-efficacy scores showed no significant effect on post season knowledge—that is, coaches' confidence in their ability to implement what they had learned was not related to how much knowledge they had at post season. The results for each characteristic are summarized below, and the full test of model effects and parameter estimates are presented in the appendix (Tables A2 and A3).[10]

Sport coached. Basketball and soccer were the most common sports among the CCTSP coaches, and this characteristic was related to post season knowledge scores. *Those who coached basketball or soccer correctly answered, on average, 0.35 of a question more than did coaches of other sports, with all other variables held constant*. The average post season knowledge score among basketball or soccer coaches was 8.15 questions correct, while those who coached other sports averaged 7.75 questions correct. This difference was statistically significant.[11]

Gender of athletes coached. Coaches of co-ed teams had, on average, higher post season knowledge scores than did coaches of girls' or boys' single gender teams. *Those who coached co-ed teams correctly answered, on average, 0.62 of a question more than their counterparts, with all other variables held constant.* The average post season knowledge score among coaches of co-ed teams was 8.15 questions correct, while those who coached girls' or boys' teams averaged 7.53 questions correct. This difference was statistically significant.[12]

Coach experience. Under the conditions set forth in the model, *a coach with 4 or more years of experience answered more post season knowledge questions correctly, approximately 0.39 of a question more on average, than did coaches with 1 to 3 years of experience, while holding all other variables constant.* Table 17 shows that, on average, typical coaches with more than 4 years of experience answered 8.26 questions correctly, as compared to 7.87 correct questions among coaches with 1 to 3 years of experience, and 8.15 correct answers for coaches with less than 1 year of experience. The difference between experienced coaches (4+ years) and those with 1 to 3 years of experience was not statistically significant.

Grade level of athletes coached. Age of athletes had little effect on mean scores, with less than one-tenth of a question difference between the two groups (8.23 for high school students, vs. 8.15 for non-high school students). This difference was not statistically significant.

[10] The distribution of residuals and their apparent normality satisfied the assumptions of the model.
[11] $p = 0.046$
[12] $p = 0.002$

Summary of GLMM analysis. Results of the GLMM show that post season retention of the CCTSP content was higher among coaches whose knowledge scores at training exit were higher, those who coached basketball or soccer, and those who coached a co-ed team (not a single gender team). Coaches' level of experience may also impact scores, as those with more than 4 years of prior experience appear to retain more information than those with 1 to 3 years of experience, although this result did not reach statistical significance. Overall, the strongest indicator of post season knowledge scores was the level of knowledge at training exit[13]—that is, coaches who understood the material better at the end of the training were more likely to remember it accurately at season's end.

Although some of these characteristics had a measurable and significant impact on post season knowledge scores, it is important to note that all scores predicted by the model fell within a fairly narrow range, between 7.53 and 8.26 questions correct on average. This result indicates that, despite their statistical significance, the effect sizes of these characteristics were relatively small in magnitude. That is, while these coach characteristics certainly factor into retention of knowledge over time, none of them individually accounts for a major difference in scores.

It is also worth noting that the GLMM results have shown considerable consistency over the last several seasons, even as the sample of coaches has grown. This pattern lends credibility and weight to the findings. Although the associations may seem subtle, they appear to be pervasive.

Table 17. Mean Post Season Knowledge Scores Predicted by Variables

Levels	Average Post Season Knowledge Score[a]
Coach Experience	
Less than 1 year of experience	8.15
1 to 3 years of experience	7.87
4 or more years of experience	8.26
Sport Coached	
Coached soccer or basketball	8.15
Coached another sport (not soccer or basketball)	7.75
Gender Coached	
Coached boys' teams or girls' teams only	7.53
Coached co-ed teams	8.15
Grade Level of Athletes Coached	
Coached elementary or middle school athletes	8.15
Coached high school students	8.23

Note: Training exit score held constant at 7.9 questions correct and standardized self-efficacy held constant at -0.008. Characteristics, beside the one in question, are held constant at: less than 1 year of experience, coached basketball or soccer, coached co-ed teams, and coached K to 8 athletes.
[a] Average number of knowledge questions correctly answered at post season, out of a total of 12.

[13] $p < 0.001$

SUMMARY AND RECOMMENDATIONS

Coaching Corps has scaled its Coaching for Character Training and Support Program (CCTSP) to reach hundreds of coaches per year. The CCTSP involves a 2.5-hour in-person training, ancillary supportive resource materials, and a virtual peer learning community. The goal of the program is to train coaches to effectively integrate character development into their coaching strategy and provide them with ongoing information and peer support to further their skills.

SUMMARY OF FINDINGS

With the current grant from the S. D. Bechtel, Jr. Foundation, Coaching Corps focused on training coaches staffed in their partner agencies. From 2017 through the end of 2019, Coaching Corps conducted 71 training events and trained 2,314 coaches on this advanced curriculum—far exceeding the grant objective of training 1,600 coaches.

Coaches were invited to complete a survey at training exit to report on their experience with the training and a post season follow-up survey about their retention of the training content and application of it with their teams. As of December 2019, 1,872 coaches had completed a training exit survey and 996 (53%) had completed a post season survey 4 months later. Of these, 874 coaches had both surveys completed that could be matched and had coached during the season (i.e., had the opportunity to use what they had learned).

Participating Coaches

More than half (61%) of those trained were head coaches, though many had relatively limited previous experience. Just over one third (37%) of coaches had 4 or more years of previous experience, while nearly two thirds (63%) had 3 or fewer years of experience. Notably, 33% of trained coaches had less than 1 year of prior coaching experience. More than half (56%) of the coaches worked with co-ed teams, and most (53%) coached athletes in elementary school grades. The majority of coaches worked with soccer or basketball teams.

Satisfaction with Training

Coaches reported being highly satisfied with the in-person training. They found the curriculum content relevant to them and they thought the information was presented clearly. They valued the active training methods and reported that these activities were effective at helping them understand the material better. Nearly all coaches (95%) reported that they planned to use the Action Steps with their athletes, and 94% reported feeling more prepared to work with their teams after the training. A large proportion (79%) of coaches reported that the CCTSP content was new information for them, suggesting that Coaching Corps is reaching an appropriate audience with this training program. Moreover, coaches reported learning a lot about how to integrate character development into their coaching practices, in particular about the POSE attributes, how they present in youth, and how to coach in a way to support their development.

Engagement with the Online Peer Learning Community

After the training, coaches were invited to join and participate in an online forum with other CCTSP-trained coaches. In 2017 and 2018, this forum was a private Facebook group that Coaching Corps established and managed for the CCTSP. In early 2019, this online community transitioned to Coaching Corps' online coach portal. About 60% of the coaches reported engaging with the online forum, and about 40% did not. Of those who engaged, most reported logging into the group between once per week and once per month. A minority of coaches (about 12%) reported checking in more than twice per week. When coaches did engage with the online community, their participation was limited. About half of them reported reading posts by others, and about one third reported "liking" others' posts. However, few coaches (about 17%) posted their own material. In general, coaches tended to engage with the community passively by scanning or reading posts but not directly interacting with their peers.

The level of engagement did not vary substantially between the Facebook group and Coaching Corps' online coach portal. However, there did appear to be a modest improvement in participation when the group transitioned to Coaching Corps' portal.

Knowledge Gained and Retained

Coaches' knowledge of the training content was tested at the end of the training and again 4 months later, at the end of the season. At training exit, most coaches showed an understanding of the core concepts. That is, coaches correctly identified the four POSE attributes 82% of the time at training exit. At post season, coaches identified the attributes correctly 74% of the time, suggesting a modest decrement in their knowledge over time. Incorrect answer analysis

showed that coaches were most likely to confuse self-regulation and persistence and to confuse optimism and empathy. With regard to knowledge of the Action Steps, coaches identified these items correctly 66% of the time at training exit and 53% of the time at post season, showing similar decrement over time. Overall, at the end of the season, coaches could correctly identify the POSE attributes three quarters of the time, whereas they could correctly identify the Action Steps about half of the time.

With regard to the four Key Learnings from the training curriculum (that is, the best method to coach each POSE attribute), coaches identified these learnings correctly 72% of the time at training exit and 61% of the time post season. Coaches' retention varied widely across the four learnings. Post season survey data showed that 83% of coaches remembered that the best way to coach empathy is to model it, 64% remembered that coaching self-regulation involves helping athletes shift their behavior, 63% remembered that coaching optimism involves helping athletes shift their thinking, and only 42% remembered that coaching persistence involves helping athletes shift their strategy.

Across all three of the primary content areas, despite most coaches leaving the training event with a decent grasp of the curriculum content, many appear to lose some of that knowledge over the course of subsequent 4 months.

Coach characteristics impacting post season knowledge. Given the variability in coaches' knowledge gain and retention, a General Linear Mixed Model (GLMM) was developed to explore the impact of certain coach characteristics on their post season knowledge. This model helped to address questions such as, *Does prior experience impact the level of knowledge retained by coaches?* The GLMM investigated the potential influence of coach experience, coach confidence, sport coached, and gender and age of athletes coached. The resulting model revealed that those who coached basketball or soccer and those who coached co-ed teams tended to retain more information at post season, compared to coaches who worked with other sports and single gender teams. Coach experience may also impact knowledge retention, in that coaches with more than 4 years of experience tended to retain more information than did those with less experience, although this result did not reach statistical significance. These results comport with earlier findings that suggested that experienced coaches could more easily digest the training content, because they already had a handle on the tactics of youth coaching. Further, focus groups with coaches done earlier in the project revealed that those who did not coach basketball or soccer felt an added difficulty relating the material to their sport.

Unsurprisingly, the strongest predictor of coaches' post season knowledge was their training exit knowledge: Specifically, coaches with high knowledge scores at the end of the training tended to have high scores at the end of the season. This finding underscores the importance of ensuring that all training participants are adequately grasping the curriculum content during the training session. It also highlights the potential importance of the online learning community to support those learners who leave the training without sufficient understanding of the content.

Application of CCTSP Content

Most coaches left the training event feeling prepared to integrate character development into their work with their teams and confident about their ability to use the Action Steps with their athletes. Their average self-rated self-efficacy scores were high at training exit and remained so at post season. This result was reflected in their reported use of the training material. On average, coaches reported implementing the Action Steps and focusing on a particular character attribute in about three quarters of their practice sessions throughout the season. This reported level of utilization was true for coaches regardless of their level of experience or post season knowledge.

Coaches were asked about how easy it was to apply the content and to coach in a way that supports the POSE attributes among athletes, and, overall, they reported that these tasks were relatively easy to do. However, the range of individual responses was wide, indicating that some coaches felt it was easy and others found it difficult. This finding may present an opportunity for Coaching Corps as they consider the format of future training events. If trainers place emphasis on activities that will ensure coaches leave feeling comfortable with the material and confident about using it—as opposed to, for example, just intellectually understanding the concepts—the likelihood of coaches implementing the material may grow.

Importantly, the available data on implementation are all self-report. While self-report data provide interesting insight, they may not reflect the skill application as intended by Coaching Corps. Although coaches report using the Action Steps and focusing on character attributes, it is difficult to ascertain exactly what is being done, particularly given the limited retention of some core concepts. Put succinctly, if coaches cannot correctly identify the Action Steps in multiple choice questions, it is difficult to know, when coaches report frequent use of the steps, whether they are performing them as intended by the curriculum. Observing coaches during practices and games, and collecting standardized data regarding their performance, would be the most valid and reliable way to assess the extent to which coaches are able to implement the CCTSP content with fidelity. Coaching Corps has plans to undertake this method of data collection and related performance feedback.

Usefulness of CCTSP Participation

Coaches' ratings of the usefulness of the CCTSP program components were overwhelmingly positive. The program components seen as the most useful were the in-person training, the Action Steps, and the POSE Pages that described each character attribute. The Practice Planner and support from Coaching Corps staff were also seen as useful. In general, coaches with less previous experience reported the CCTSP components as more useful, compared to more experienced coaches. This result makes sense, as newer coaches would likely benefit more directly from this level of instruction.

Conclusion

Coaching Corps continues to contribute to positive youth coaching by offering the CCTSP, a program through which coaches learn about the POSE character attributes and the Action Steps, as a seamless way to integrate character development into a youth sports context. Coaches reported learning a lot during the training event and feeling confident in their ability to apply what they learned. Knowledge retention 4 months later was strongest for descriptions of the POSE attributes and weaker for the more operational material regarding the Action Steps and the four Key Learnings regarding how to most effectively coach each attribute. Because of this finding, although most coaches reported applying the CCTSP content with their athletes, it is difficult to know whether coaches are applying the principles with fidelity. Knowledge retention was also stronger among coaches who coached soccer or basketball, who coached co-ed teams, and those with high knowledge scores at the end of the training session. Post-training engagement with the online peer learning community was mixed and generally passive, which may provide an opportunity for Coaching Corps to retool this method of interaction in order to reinforce the training concepts as coaches work with athletes during the season to support continued learning and longer-term retention. Overall, coaches highly appreciated participating in the CCTSP program and found the content useful and relevant to them as they work with youth.

RECOMMENDATIONS

- Continue to provide in-person training sessions, as the coaches really appreciate the learning experience.
- Review how persistence is covered during the training session and ensure that coaches understand this attribute and the most effective way to coach it. (It received the lowest post season score for Key Learning content.)
- Use the training exit knowledge test results to identify coaches with weaker understanding of the curriculum content and reach out to them during the season with additional information to support their knowledge gain.
- Use the virtual peer learning community as a means to reinforce the training content to bolster coaches' retention of information and application of skills in practice. Consider regularly posting visuals from the training session, videos to demonstrate how to apply the content to real life scenarios, and tips and ideas for practice sessions. Incorporate specific reminders and illustrations of the Action Steps and Key Learnings.
- Consider reaching out to coaches via email, text messages, or periodic video conference calls to provide refresher training information. Because a sizable proportion of coaches did not access the virtual community, enlisting other ways to provide them with community and resources may prove useful.
- Ensure that the virtual peer learning community involves enough structure to keep coaches engaged. Consider having Coaching Corps staff post questions on a regular basis to spur coach interaction and discussion. Use video content.
- Continue to monitor trainers for their fidelity to the curriculum. Because there are multiple trainers providing the curriculum, tracking the consistency with which they deliver the key messages is important. Provide technical assistance to any trainer whose fidelity ratings fall below what is deemed acceptable. (Coaching Corps staff is developing a standardized assessment tool for this purpose.)
- Consider observing coaches during practices and games to collect information about their implementation of the curriculum content.

APPENDIX TABLES

Table A1. Number of Coaches Trained and with Completed Surveys by Season

Season	Training Event	Training Event Date	# Training Exit Survey	# Post Season Survey	% Post Season Survey
Spring 2017	Palo Alto	12/6/2016	12	0	0%
	Los Angeles	3/4/2017	18	15	83%
	San Francisco	3/5/2017	11	11	100%
	Total		***41***	***26***	***63%***
Fall 2017	Los Angeles Rec & Parks	10/25/2017	18	9	50%
	Street Soccer USA	11/4/2017	20	10	50%
	Los Angeles After School All Stars	11/17/2017	33	22	67%
	Huntington	11/18/2017	25	11	44%
	Suisun City Parks & Rec	11/21/2017	20	13	65%
	Los Angeles After School All Stars	12/1/2017	23	15	65%
	AC Portland	12/1/2017	13	4	31%
	Baltimore	12/2/2017	15	8	53%
	Long Beach	12/9/2017	56	18	32%
	Norwalk La Mirada	12/16/2017	56	33	59%
	Chico	12/17/2017	33	23	70%
	Total		***312***	***166***	***53%***
Spring 2018	Boston Scores	1/8/2018	11	3	27%
	BCYF	1/30/2018	33	4	12%
	After School All Stars	2/9/2018	12	12	100%
	BGC Silicon Valley	2/23/2018	28	20	71%
	JT Dorsey Foundation	3/10/2018	16	11	69%
	After School All Stars 2[a]	3/22/2018	22	2	9%
	City of Daly City	3/24/2018	23	13	57%
	Jackie Robinson YMCA	4/7/2018	13	7	54%
	Family League	4/10/2018	8	3	38%
	STS Academy	4/18/2018	10	7	70%
	EXPO Center	5/19/2018	42	25	60%
	Sunrise Recreation & Park District	5/31/2018	23	21	91%
	Total		***241***	***128***	***53%***
Fall 2018	JR Giants	6/2/2018	27	19	70%
	OMIE Beacon and YMCA	6/5/2018	17	15	88%
	City of Orlando	7/14/2018	29	17	59%
	After School All Stars	8/24/2018	38	21	55%
	BCYF	10/25/2018	18	6	33%
	Living Classrooms/CC	10/27/2018	9	6	67%

Fall 2018	Montgomery County	11/17/2018	62	22	35%
	San Lorenzo Community Center Park	12/4/2018	37	19	51%
	City of Daly City	12/8/2018	45	35	78%
	A Place Called Home	12/11/2018	8	6	75%
	Jewish Community Center of San Francisco	12/15/2018	38	27	71%
	Total		***328***	***193***	***59%***
Spring 2019	Mt Pleasant Elementary School	1/7/2019	25	15	60%
	Think Together Bay Area	2/20/2019	75	48	55%
	City of San Jose	3/2/2019	30	13	43%
	GPLA	3/13/2019	63	3	5%
	GPLA AM	3/14/2019	31	0	0%
	GPLA PM	3/14/2019	13	5	38%
	STS Academy / BACR	3/18/2019	30	24	80%
	Street Soccer USA Sacramento	3/23/2019	11	5	45%
	Eagle Rock Recreation Center	3/23/2019	21	12	57%
	GPLA	3/27/2019	80	0	0%
	YMCA	3/30/2019	6	0	0%
	MLB	4/3/2019	16	10	63%
	San Francisco Recreation and Park	4/18/2019	17	8	47%
	BGC Metro LA	4/18/2019	35	14	40%
	Rancho Cordova PAL - Jr Giants	4/26/2019	11	9	82%
	EXPO Center	5/4/2019	46	16	35%
	Under Armour Warehouse	5/8/2019	34	2	6%
	Levi's and Oakland Parks & Rec.	5/8/2019	50	11	22%
	YMCA of San Diego	5/10/2019	3	2	67%
	Stanford	5/11/2019	8	4	50%
	City of Modesto Jr. Giants	5/18/2019	28	18	64%
	Total		***633***	***219***	***35%***
Fall 2019	Daly City Rec. and Park and Jr Giants	6/1/2019	17	13	76%
	City of San Jose	6/1/2019	15	8	53%
	Junior Giants (East Bay)	6/22/2019	38	28	74%
	After School All-Stars Bay Area	8/8/2019	17	6	35%
	Oakland Parks and Recreation	8/29/2019	33	17	52%
	A Place Called Home	10/16/2019	10	0	0%
	SF Rec & Park	10/29/2019	28	0	0%
	East Bay YMCA	11/11/2019	48	36	75%
	Richmond PAL	11/21/2019	16	15	94%
	UC Berkeley	11/22/2019	21	11	52%
	Equitas Charter School	12/2/2019	37	18	49%
	Reseda Rec	12/13/2019	13	4	31%
	SF JCC	12/14/2019	24	14	58%
	Total		***317***	***170***	***54%***

Note: 53 training exit surveys could not be connected to a site. [a]For the After School All Stars 2 training group, nearly all coaches did not write their names on the training exit surveys, so their post season surveys were completed but not able to be matched.

Table A2. Test of Model Effects for the GLMM

Coach Characteristic	Wald Chi-Square	Degrees of Freedom	*p*-value	Significant?
(Intercept)	186.564	1	< 0.000	Yes at $\alpha < 0.05$
Training Exit Knowledge Score	89.183	1	< 0.000	Yes at $\alpha < 0.05$
Standardized Average Self-Efficacy	0.641	1	0.423	No
Experience	2.688	2	0.261	No
Sport Coached	3.990	1	0.046	Yes at $\alpha < 0.05$
Gender Coached	9.206	1	0.002	Yes at $\alpha < 0.05$
Grade Levels Coached	0.081	1	0.777	No

Table A3. Parameter Estimates for the GLMM

Variable	Estimate	Std. Error	95% Wald Conf. Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.[c]
(Intercept)	4.155	.3989	3.373	4.936	108.482	1	.000
Training Exit Knowledge Score	.366	.0387	.290	.442	89.183	1	**.000**
Standardized Average Self-Efficacy	.079	.0984	-.114	.272	.641	1	.423
Experience: More than 4 years	.101	.2471	-.383	.586	.169	1	.681
Experience: 1 to 3 years	-.287	.2449	-.767	.193	1.373	1	.241
Experience: Less than 1 year	0	.	.	.	.	.	.
Sport Coached: Soccer or Basketball	.401	.2006	.008	.794	3.990	1	**.046**
Sport Coached: Not Soccer or Basketball	0	.	.	.	.	.	.
Gender Coached: Coed Teams	.626	.2063	.222	1.030	9.206	1	**.002**
Gender Coached: Boys' or girls' teams	0	.	.	.	.	.	.
Grade Levels Coached: High School	.080	.2806	-.470	.630	.081	1	.777
Grade Levels Coached: Elementary and Middle School	0	.	.	.	.	.	.
(Scale)	6.620[b]	0.3564	5.957	7.356			

Note: Outcome is post season knowledge score.

[a] Set to zero because this parameter is redundant. [b] Maximum likelihood estimate. [c] Bold font indicates statistical significance.