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To cite this article: Thomas Akiva , Annie M. White , Sharon Colvin , Alex DeMand & Lindsay C. Page (2020): Simple Interactions: A randomized controlled trial of relational training for adults who work with young people across settings, Applied Developmental Science, DOI: [10.1080/10888691.2020.1819809](https://doi.org/10.1080/10888691.2020.1819809)

To link to this article: <https://doi.org/10.1080/10888691.2020.1819809>



Published online: 20 Sep 2020.



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Simple Interactions: A randomized controlled trial of relational training for adults who work with young people across settings

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ABSTRACT

Research across multiple fields finds that adult-youth relationships are key influencers of development; however, professional learning about relational practice is limited. This suggests the need for targeted, efficient ways to help adults improve relational practice. We present a randomized controlled trial of Simple Interactions, a strength-based professional development approach during which participants reflect on short videos of themselves interacting with young people using a dialogic protocol. Participating staff expressed high satisfaction with Simple Interactions, rating an average of 4.56 out of 5.00 on a 7-item composite measure. We saw an experimental effect for belief change, with treatment group staff after the workshops rating relational practice as more important than control group staff. We did not see an experimental effect for relational practice, perhaps due to substantial challenges around workshop attendance. The findings are promising for the innovation and suggest more engagement may be necessary to see change in practice.

Children and youth interact with all sorts of adults in their lives. In addition to their parents or caregivers, young people encounter adults with jobs specifically about development and learning such as teachers or afterschool workers. They also encounter other adults for whom engaging with young people is a core part of their job but who have less professional recognition for this aspect of their work such as museum docents, librarians, coaches, and school bus drivers. Young people also encounter adults with broader focused jobs that involve interaction with young people such as doctors, store managers, restaurant servers, and so on. A given child's learning and development is shaped in positive and negative ways by the reciprocal coactions they have with these myriad adults in their life (Osher et al., 2018). However, more practical and research attention is needed to understand and shape the relational practices undergirding these coactions.

Research across multiple related fields has approached adult-child interactions and relationships from various perspectives (e.g., education, youth development, mentoring) and converged on similar conclusions that relationships with important adults are a key influencer of development (Bowers et al., 2015). For example, the presence of positive non-

parental adults, sometimes called natural mentors, in young people's lives has been associated with positive developmental outcomes and decreased problems (DuBois & Silverthorn, 2005; Zimmerman et al., 2002). In another example, relationships are considered a core factor that determines the quality of youth programs (Eccles & Gootman, 2002; Hirsch et al., 2011; Vandell et al., 2015). Osher et al. (2018) present a synthesis of research across fields that considers relationships, rooted within Developmental Systems Theory (e.g., Lerner & Overton, 2008). They argue that "Relationships characterized by sensitivity, attunement, consistency, trustworthiness, cognitive stimulation, and scaffolding enable children to develop secure attachments and mature in progressively complex ways" (p. 2).

Moving from scientific understanding of the importance of interactions and relationship-building to addressing this in practice is an important next step. How do we help adults across settings curate positive interactions, shape interaction-rich environments, and avoid acting in ways that may hurt young people? These questions suggest the need for efficient and effective learning programs in relational practice

that can help adults across settings increase their positive interactions with young people.

Simple Interactions is a professional learning program for adults who work in child & youth settings. The program includes a theoretical approach, a targeted assessment tool, and a professional learning process that targets relational practices for adults who work with children or youth in any setting. As a professional learning intervention, Simple Interactions is vastly shorter than all other research-validated programs—in its shortest form, it takes an average of 4.5 hours per staff versus 30–60 for most other validated interventions (Akiva et al., 2017). The present article describes a randomized controlled trial of Simple Interactions in which we find that participants react very positively to this program and we present causal evidence that participants value relational practice more after completing this short intervention. We conducted our study within child and youth programs. Several factors make this an excellent setting in which to examine this intervention, as we describe below.

Youth programs¹ as contexts for adult-youth relationships

The last few decades have seen an increase in the potential for a connected, ecosystem-focused educational system. Digital technologies are a factor in the move toward connected learning (Ito et al., 2013), but more relevant to the current study are the growth of youth programs and the growth of intermediary educational organizations. Youth programs have steadily become more prevalent in the United States for the last three decades. In just five years, enrollment in afterschool programs increased by 2 million children, bringing the total youth program participation in the United States to about 18% in 2014 (Afterschool Alliance, 2014). Youth programs address extremely varied topic areas, involving children and youth in activities such as arts; STEM (science, technology, engineering, and math); social emotional development; and academic support, and many programs serve the function of providing childcare for younger children. Evidence suggests that the impact of youth programs, regardless of their particular focus, is shaped by the quality of programs, and a key aspect of quality is the interactions that occur between adults and children or youth (Li & Julian, 2012; Pierce et al., 2010; Smith et al., 2014). Alongside the growth of youth programs,

the last two decades have seen a concerted effort to develop intermediary organizations to connect and support youth programs (Browne, 2015). Intermediary organizations, designed to connect youth programs with resources and each other and to help build quality (Browne, 2015), now exist in every major city in the U.S. Statewide advocacy and resource organizations also exist in every state.

The growth of youth programs and intermediary organizations provides routes through which professional development can get to adults who work with young people, without the restrictions associated with the more regulated school systems. That is, before the rise of organized networks, adults who work with youth were unconnected individuals; now it is possible to reach an important segment of these adults. However, youth program staff often have limited access to quality professional development opportunities (Borko, 2004). In a summary of youth work professional development, Balzerman and Roholt (2016) argue that the varied types of youth work settings (e.g., recreation, enrichment, juvenile justice, health services) led to a complicated field with competing purpose of youth spaces (e.g., clinical vs developmental) and as a result, professional development tends to be extremely variable. Besides in-house training, likely the most predominant format are one-shot workshops in which information is given to participants with no follow up or support (Fukkink & Lont, 2007). This is contrast to what Hill (2011) argued in a literature review about youth program professional development as characteristics of high quality: sustained over time, coherent, content-focused, and rooted in a community of learners. In some cases, afterschool programs engage in Quality Improvement Systems that utilize in-depth rating assessments and ongoing coaching to identify and improve upon specific program features (Browne, 2015). Experimental studies show that Quality Improvement Systems can improve observable program quality (Smith et al., 2012).

Professional development and relational practice

As described more in-depth in our pilot study in afterschool (Akiva et al., 2017), the Simple Interactions professional development program is rooted in (a) the contention that relational practice is the active ingredient in youth programs (Li & Julian, 2012), (b) a professional development method that involves collecting and watching short video clips of adults and young people interacting, and (c) a perspective aimed at identifying strengths and increasing

¹We use the following terms interchangeably: afterschool programs, organized activities, out-of-school time programs, out-of-school learning programs, youth programs.

them (comparable to Appreciative Inquiry or Positive Deviance).

The goals of Simple Interactions are based on The Active Ingredient Hypothesis, introduced in Li and Julian (2012), which suggests that the presence of *developmental relationships* determine the effectiveness of settings or interventions with children or youth. This hypothesis is supported by research across multiple fields, including studies of orphanage improvement, formal schooling, mentoring, and home visit programs (Li & Julian, 2012). It is also a key assertion in the Science of Learning and Development Initiative (www.soldalliance.org), as summarized in Osher et al. (2018) and Cantor et al. (2018). Rooted in developmental science, particularly the work of Vygotsky (1978) and Bronfenbrenner (1979), Li and Julian (2012) suggest that developmental relationships are characterized by lasting emotional attachment, reciprocity, progressive complexity, and “a balance of power that gradually shifts from the developed person in favor of the developing person” (p. 157).

Advances in professional development practices in other educational contexts (e.g., formal school) can inform understanding of professional development in out-of-school time. Video-based professional development can be effective for improving teaching practice (Hattie, 2009) and is increasingly accessible and prevalent as digital video technology becomes more affordable and user-friendly. Research shows that when educators watch themselves (as opposed to strangers) on video during professional development, this can increase the success of professional development because video is often more relevant and motivating to educators than other, more traditional professional development approaches (Seidel et al., 2011).

Simple Interactions uses digital video to bring attention to moment-by-moment interactions between adults and children. The approach has primarily been used with adult leaders of elementary or middle school age children; however, in some cases it has been used with high school students. Instead of imposing top-down or “best practice” solutions into adult-youth settings, Simple Interactions involves watching video clips of staff to highlight quality

interactions that already exist. The cohort-based professional development begins prior to the workshops, when Simple Interactions leaders visit youth programs and collect video of adults interacting with children or youth. The leaders then lightly process these videos (e.g., add captions, trim clips) to find clips that are then watched together in a professional development setting. The conversation about these clips is carefully controlled to focus on strengths, using a “I notice” and “I wonder” conversational protocol. The goal of staff and colleagues coming together to discuss and understand positive interactions in a strengths-based and collaborative environment is so they can ultimately multiply these in their everyday practice.

Preliminary research of this approach indicates that Simple Interactions can promote positive changes in staff practice; afterschool staff in a pilot study of 10 programs showed improvement in both their beliefs about the importance of relational practice and the overall quality of interactions they have with children after participating in the intervention (Akiva et al., 2017). However, this study compared pre and post scores without a control group. An experimental design is necessary to understand the true effect of the Simple Interactions approach.

This study

The current study uses experimental and non-experimental methods to investigate the effectiveness of Simple Interactions, a promising and concise professional development program for adults who work with youth across settings. The study is built around a clustered randomized control trial with 157 staff across 26 youth programs. To understand the implementation of the three-session professional development, we posed the three questions shown in Table 1. We organize our study around Kirkpatrick's (1998) model for evaluation of training, which is the dominant model used to assess corporate training. The Kirkpatrick (1998) model, although more commonly used in business settings than in education, provides a logical way to organize evaluation outcomes associated with professional development. It is not so much an evaluation approach as an organizational scheme for outcomes. We used this model in a previous evaluation of Simple

Table 1. Research questions.

Research Question	Level*	Type	Approach
1. Do participants find the Simple Interactions training enjoyable and useful?	Reaction	Non-experimental	Post-training survey
2. Does participation in Simple Interactions increase staff beliefs about the value of relational practice?	Belief	(a) Non-Experimental (b) Experimental	(a) Retrospective pre-post (b) Pre-post survey
3. Does participation in Simple Interactions improve the quality of adult-child interactions in youth programs?	Practice	(a) Experimental (b) Exploratory	Pre-post coded video observation

*Level refers to the Kirkpatrick (1998) multi-level training evaluation framework.

Table 2. Sites in the study by program type and numbers of staff.

Site	T/C	n	Site	T/C	n
Makerspaces			Community-Based		
Neigh. children's makerspace	T	1	Neigh. Program A	T	6
YMCA makerspace	T	5	YUSA A	T	2
Neigh. youth makerspace	C	10	Young Women House	T	3
Extended Day			Neigh. Program B	T	10
Charter afterschool A	T	7	Neigh. Program C	T	4
Charter afterschool B	T	9	City park A	C	4
Suburban afterschool A	T	11	City park B	C	3
YMCA Montessori	T	6	YUSA B	C	3
Public school afterschool A	C	8	Religious		
Youth program afterschool A	C	4	Church group A	T	6
Youth program afterschool B	C	1	Church group B	T	4
Youth program afterschool C	C	6	Church group C	C	4
Charter afterschool C	C	9			
Charter afterschool D	C	19			
Charter afterschool E	C	9			
Nonprofit ed org	C	3			

Notes: T = treatment; C = control.

Interactions (Akiva et al., 2017) and found that it provided a useful and productive way to hierarchically organize desired outcomes for professional development in youth development. Specifically, in the present study we use a modified version for education and youth development, proposed by Bouffard and Little (2004), that does not include fourth level of business-related results. The Bouffard and Little (2004) scheme was also used to evaluate youth worker methods training in Smith (2005). Our research questions align with this model, addressing, in turn, reaction to the professional development (satisfaction with the workshops), belief change associated with attending the workshops (self-efficacy for relational practice and how participants prioritize relationship goals), and behavior change (relational practice).

Methods

Sample for experimental study

Sites

We recruited a total of 26 afterschool programs over the course of five months in a mid-sized Mid-Atlantic city (See Table 2).² We recruited largely from the local out-of-school intermediary network and through professional connections of the research team. To incentivize participation, we offered free professional development to all participants. In the context of the waitlist design, programs were offered professional development during Fall 2015 (treatment sites) or Spring 2016 (control sites). Program directors used an

online application to sign up for Simple Interactions with the option to complete the questions by phone with the assistance of the research team. The application included a variety of questions about readiness to participate in the intervention (e.g., capacity to collect video, time set aside for professional development). A member of the research team also contacted each program director to fully explain the study and answer any questions.

Sites selected to participate were typical of afterschool programs in the region and the country. These included nationally recognized programs, such as YMCA and 21st Century Learning Centers (programs receiving federal funding), extended day programs that meet at schools after the school day, and non-profit or religious-affiliated organizations. Programs offered a variety of activities including academics (e.g., homework help), enrichment activities (e.g., science, technology, engineering, math), free-play, athletics, and snacks or meals. As Simple Interactions had previously primarily been implemented successfully with elementary and middle school aged children (as well as preschool), we recruited programs that served children ages pre-kindergarten through high school, and the intervention was only offered to staff working with children in grades pre-kindergarten through 8th grade. Nearly all programs in the sample (85%; 22 of 26) served a majority of children from families at or below the poverty line as reported by staff. Nearly all programs (81%) served a majority African American children. The number of youth served by each program varied substantially, ranging from 8 to 85.

Participants

The final sample includes 157 staff across 26 afterschool programs, with a range of 1 to 16 staff per

²Prior to site recruitment, we conducted a power analysis using Optimal Design software (Raudenbush, 2011). The design achieved 80 percent power to detect effects between 0.55 to 0.59 standard deviations assuming 30 sites with 4 staff members per site (120 total staff). We based study design assumptions on our previous study which found a large effect size for the intervention (Hedge's g of 1.14; see [Akiva et al., 2017]), and available resources to carry out the present study.

Table 3. Descriptive statistics for experimental sample at participant-level prior to intervention.

	Treatment		Control		Total	
	n	M/ % (SD)	n	M/ % (SD)	n	M/ % (SD)
<i>Staff demographics</i>						
% Female	47	73%	52	79%	116	76%
% African American	65	26%	54	31%	119	29%
% College degree	63	27%	52	35%	115	20%
Average Age	64	33.14 (13.05)	48	30.75 (9.38)	112	32.12 (11.63)
<i>Staff employment characteristics</i>						
% Tenure <1 year at prgm.	62	44%	52	37%	114	40%
% Full-Time (30-40 hours)	62	32%	52	25%	114	29%

program. All staff were paid employees. As indicated in Table 3, the majority of participating staff work part-time (15–29 hours per week). Staff in the sample have limited experience working with children: A majority had worked at the specific program for less than one year and with children at other programs for less than one year. Participants are also majority white and majority female, ranging in age from 18 to 65. The majority reported having some or no college.

Experimental design

Prior to randomization, we conducted initial site visits and collected baseline measures (described below), including an overall program relational practice score, number of staff and children present, and program activities. Baseline measures were aggregated to create a site-level baseline measure. We then paired participating sites according to the site-level baseline measure and randomized within these matched pairs. Three sites dropped out of the study before the start of the intervention, so we conducted additional recruiting and then repeated the randomization process with four sites.

For data collection, a member of the research team visited each site at two time points: prior to intervention (Fall 2015) and after treatment group intervention (Winter 2015–16).³ We also conducted follow-up visits after the control group had access to the intervention (Spring 2016). At each visit, a researcher collected two five-minute video clips of staff interacting with children. The two clips were taken non-consecutively in order to capture diverse interactions. Staff completed surveys prior to intervention (Fall 2015) and after treatment group intervention (Winter 2015–16). Staff completed the survey via an online

link or by paper copy (based on staff preference) and received \$15 for each completed survey.

Simple interactions intervention

The Simple Interactions professional development series included three workshops that took place at participating afterschool programs.⁴ Prior to each workshop, short (1–2 minute) video clips of afterschool staff interacting with children were recorded and edited to highlight positive interactions. Editing included trimming video time and adding captions. The project manager and two-trained research assistants completed a majority of the editing. Responsibility for collecting these clips was gradually passed from research team to program staff at sites that had capacity to do so. To facilitate this process, we gave each site a free video camera and a member of the research team provided on-site training for how to use the camera, video record interactions, upload videos. Staff uploaded videos to an online cloud storage system for the research team to edit in preparation for workshops.

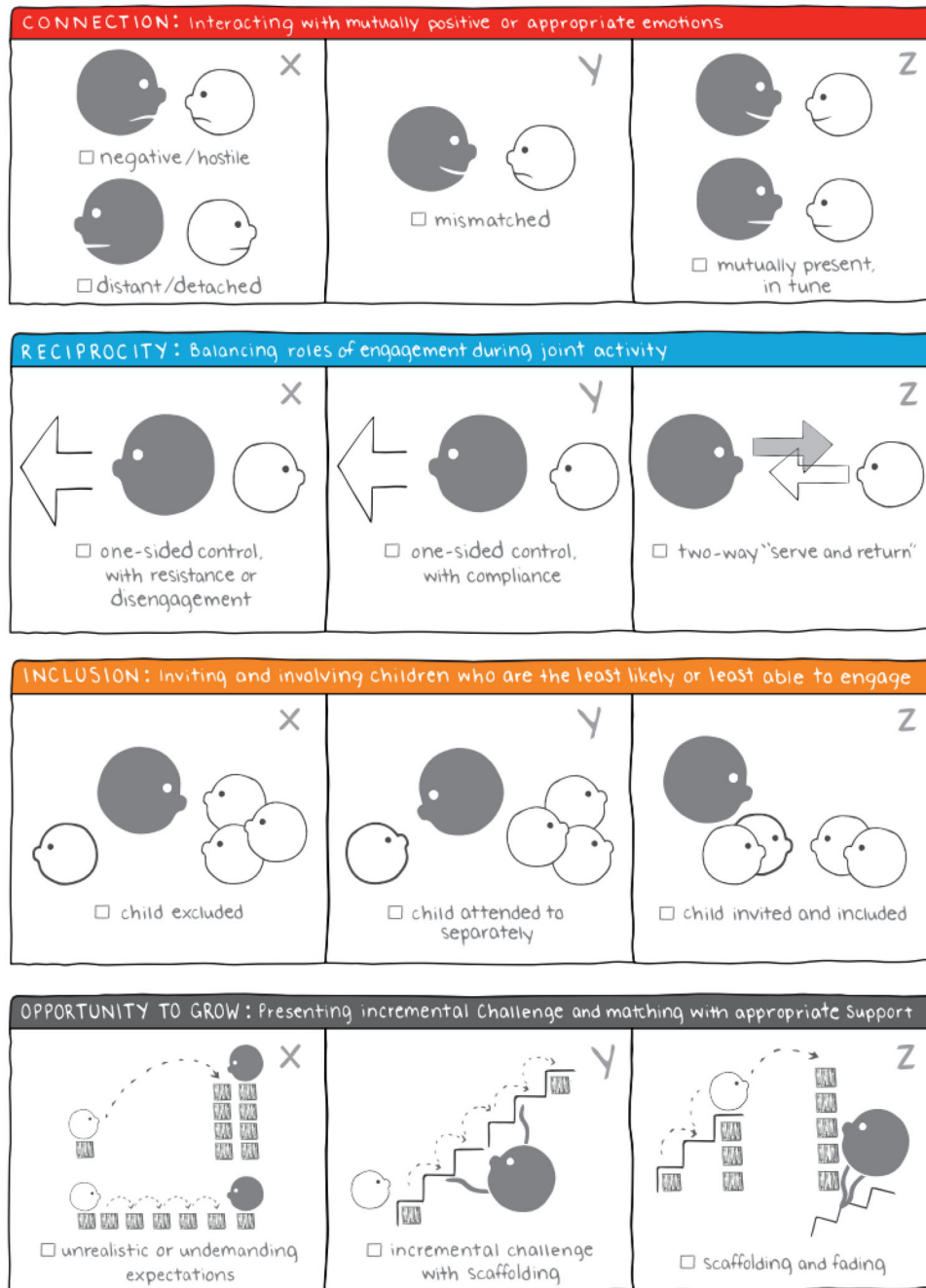
Each Simple Interactions Workshop included three main sections: opening activity, video discussion, and closing activity. The opening activity was related to interactions. For example, the first workshop opened with reflection prompts such as, “How do you know when you’ve had a good interaction with a child or youth?” Next, the groups watched and discussed several short video clips of themselves and their colleagues interacting with children, followed by an open discussion. Facilitators encouraged the staff member(s) appearing in the video to speak first and add background information about the specific interaction. The facilitator then led a discussion of the clip, asking participants to use strengths-based language within a two-part protocol: what did you notice? What do you wonder? Over the course of the first two sessions, facilitators gradually

³Data collection for the first wave of the exploratory sample also occurred before and after the intervention. During data collection visits, a researcher collected two five-minute video clips of staff interacting with children. Staff also completed a survey prior to and after the intervention.

⁴Staff from one program attended workshops at a local funding agency one block from the afterschool program. A facilitator provided transportation to this site.

SIMPLE INTERACTIONS TOOL

An Instrument for Observing Adult-Child Interactions Across Developmental Settings



© Junlei Li, 2014

Figure 1. The simple interactions tool.

introduced the Simple Interactions Tool (SIT; See Figure 1), a one-page, picture-based rubric that serves in workshops as a conversation guide. Finally, each workshop ended with a short closing activity (e.g., tossing a ball and sharing a "take-away" from the workshop).

Program staff in the treatment group that attended all three workshops spent about 4 hours engaged in the intervention. Scheduling was based on site availability and the intervention spanned 3 to 11 weeks.

Fidelity

To ensure fidelity of implementation, facilitators participated in extensive training. Workshop facilitators included 5 hired professionals, the study PI, the project manager, and two doctoral-level graduate students. Facilitators attended three sessions about the intervention, including a SIT coding reliability training session described below. They also attended at least one site visit and observed at least one intervention workshop facilitated by an experienced trainer (i.e., a facilitator from the pilot study) before leading a workshop independently. A research assistant attended each workshop and completed a fidelity form to track the actual events of the workshop. The fidelity form included information about how each section of the intervention (opening, video, closing) was implemented including timing and activities.

Measures

For each measure presented below, where relevant we include the evaluation level that corresponds with research questions in Table 1.

Reaction & self-reported belief change (non-experimental)

Satisfaction composite (level 1: reaction)

At the end of the three Simple Interactions workshops, we asked staff to rate their satisfaction with the professional development, specifically if they would recommend it, how useful they thought it was, and how much they enjoyed it (e.g., “I enjoyed participating in Simple Interactions.”). Staff rated seven items on a five-point Likert scale from strongly disagree to strongly agree. Exploratory factor analysis with these items suggested a single factor with good reliability ($\alpha = 0.82$).

Satisfaction open-ended (level 1: reaction)

At the end of all three workshops we asked participants to write any comments or suggestions about the professional development on their final survey.

Retrospective pre-post self-efficacy for relational practice (level 2: belief)

At the end of the three workshops, we also asked staff in the treatment group to rate their knowledge of positive interactions before and after the intervention. Using a retrospective pre-post method helps reduce response-shift bias (Howard & Dailey, 1979) and may provide a more accurate assessment of knowledge change than standard pre-post. Retrospective pretests

have the potential to produce social desirability bias, though empirical comparisons have found this to be less prevalent than with traditional pre-post (Howard et al., 1981; Pratt et al., 2000). However, as retrospective pretest can, in some cases, lead to overestimation of program effects (Hill & Betz, 2005), it is not our only measure for Research Question 2 (Level 2).

In addition, we did not include both traditional and retrospective pretests for self-efficacy for relational practice because some of the items, specific to the SI Tool, would not have made sense to participants prior to attending the training. We asked participants how much they agree with three items related to self-efficacy of relational practice on a four-point Likert scale from Strongly Disagree to Strongly Agree. A sample item is “I am mindful about my moment-to-moment interactions with youth in our program.” Exploratory factor analysis with these items suggested a single factor with good reliability ($\alpha = 0.81$).

Experimental study variables

Dosage

Participation was variable across and within sessions. Dosage was calculated as a portion of total attendance in the Simple Interactions workshops, based on attendance in each section across the three workshops. Each workshop session included three sections (opening activity, video reflection, and closing activity). Each section was worth one point, so a participant that attended every section of every workshop would have a dosage score of 9. We then converted the 0–9 scale to percentages for ease of interpretation.

Relationship goals (level 2: belief)

This measure was created by the research team for this study. Participants responded to 8 forced-choice items that ask staff to report what they think about more often during their time working at the program: adult-child relationships (e.g., “Developing meaningful relationships with kids”) or another feature of an afterschool program (“Keeping youth physically active”). We added these items to create a single index with a range of 0 to 8.

Relational practice (level 3: practice)

The dependent variable for Research Question 3 is observed ratings of interactions between youth program staff and children. The Simple Interactions Tool, developed by Li (2014), breaks interactions into four domains: connection, reciprocity, progression, and participation (see Figure 1). Each dimension is rated

on a five-point scale. Prior analysis of the SIT indicates that a composite of the four domains can be used for analysis (Akiva et al., 2017). Two coders, that each met acceptable reliability (ICC = 0.80),⁵ rated each video clip blind to condition (Treatment or Control) and blind to time point (Pre or Post). A member of the research team conducted a 20% reliability check after each round of video coding (a total of 9 rounds). After coding was complete, master coders recoded 86 videos (16% of all videos coded) that did not meet acceptable reliability; these new scores were added into the final dataset as a third coder or replaced the scores of an existing but discrepant third coder. In the end, all videos exhibited ICC of above .80.

Tenure

Staff reported the amount of time at which they had been working at the current program. We created a dichotomous variable splitting staff tenure into above and below one-year at their current or any other program. We chose this dichotomous split based on research indicating that educators with more than one year of experience may be more effective (Clotfelter et al., 2004).

Children low-SES

We asked program directors to report the proportion of children that attend their program at that are living at or below the poverty line.

Missingness and balance

Table 4 provides a summary of sample size across data sources and waves. A total of 43 cases are missing post data. Much of the missing data was due to turnover in the field. For example, 10 staff had not yet started working at the program during baseline data collection and 28 staff were not present or left the program by the time of post data collection. We determined that imputation would not be appropriate for our data set for two reasons. First, rates of missingness in outcome data were balanced across the treatment and control groups. Second, we conducted a sensitivity analysis and determined that the outcome

⁵To ensure reliability, a total of 11 raters were trained for 4 hours. During training, raters discussed scoring with master coders (two raters with over one year of experience using the SIT) and then independently coded 10 videos. After the training session, coders rated 10 additional videos. Raters that met an acceptable interrater reliability score, an intraclass correlation (ICC) of 0.80, began coding. We assessed interrater reliability using a one-way mixed, consistency, average-measures ICC (Mcgraw and Wong, 1996). An ICC of 0.80 indicates a high level of consistency across raters (Cicchetti, 1994).

Table 4. Total participants across data collection.

	T	C	Total
Baseline survey	65	54	119
Baseline video	66	65	131
Attended Any Workshops	60	59 ⁺	119
Post survey	58	63	121
Post video	51	63	114
Follow-up survey ⁺	19	35	54
Follow-up video ⁺	23	34	57
Total Participants	74	83	157

⁺Only used in follow up exploratory analyses.

variables were not sensitive to differences in individual participants (eg. tenure, baseline scores).

We assessed balance of baseline covariates by using a standardized difference between the treatment and control groups. We included random effects of sites to account for the hierarchical structure of the data. Missing baseline and outcome data were balanced across treatment and control group. Accounting for missing data, there is good balance across nearly all covariates in the dataset. Unbalanced variables included the percentage of children at or below the poverty line (treatment mean difference = -10.54; SD = 2.97). To account for this imbalance, we include this covariate in our statistical models at the program level.

Analysis plan

We use the Kirkpatrick (1998) model to organize our analyses for this study (See Table 1). For Research Question 1 (*Reaction: Do participants find the Simple Interactions training enjoyable and useful?*), we provide descriptive statistics and open-ended responses from the post-intervention evaluation.

We conducted two separate analyses for Research Question 2 (*Belief: Does participation in Simple Interactions increase staff beliefs about the value of relational practice?*). For Part 2a, we used non-experimental data and conducted t-tests comparing pre to post in retrospective questions. For RQ2b, we used experimental data and tested multilevel models with the dependent variables of relationship goals.

Lack of attendance at workshops was a substantial issue in this study and specifically for RQ2b. Specifically, 16 (22%) of the treatment group attended 0 workshops, 10 (14%) attended one, 20 (27%) attended two, and only 28 (38%) of those in the treatment group actually received the full intervention. Put another way, only 67% (34 staff) of the treatment participants attended any of the Simple Interactions workshops at all. To address this, we conducted a treatment-on-the-treated (TOT) analysis using 2SLS. We created a take up measure to indicate participant attendance. Using the dosage variable which measured

the percentage of the intervention attended, we calculated intervention take up. We first focused on intent-to-treat (ITT) estimates using a random-intercepts multilevel model. The multilevel structure allowed us to account for the lack of independence that may exist among staff nested in programs. Second, we used the IV package in STATA to conduct a TOT analysis, to estimate effects for staff that attended the Simple Interactions intervention using two-stage least squares (2SLS) model. In the first stage, we regressed an endogenous predictor (dosage) on the instrument (assignment to treatment) using OLS regression resulting in predicted values of post-relationship scores. We defined dosage as a percentage of the number of sessions staff in the treatment group attended (ranging from 0% to 100%). In the second stage, we regressed actual post-interaction score on the level of dosage predicted by the first-stage model.

We conducted two analyses for Research Question 3 (*Practice: Does participation in Simple Interactions improve the quality of adult-child interactions in youth programs?*). For Research Question 3a, we conducted experimental analyses by conducting multilevel models with the dependent variables of Relational Practice. In addition, for Research Question 3b, we conducted exploratory analyses into the conditions in which the Simple Interactions might be more or less effective. As our study employed a waitlist design, we used both treatment and control groups from this study; for the control group we used post scores and follow-up scores, which were collected after the control group was offered the workshops. We computed difference scores for our Relational Practice, then conducted a series of t-tests to examine how organizational characteristics might be related to pre-to-post change.

Results

Research question 1 (reaction): do participants find the simple interactions training enjoyable and useful?

Results associated with Research Question 1 (reaction) were roundly positive. As was the case in previous iterations of Simple Interactions (Akiva et al., 2017), staff reported high satisfaction with the intervention, averaging 4.56 out of 5.00 in our satisfaction composite measure. This measure was extremely skewed; In fact, not a single staff in our sample responded that they were not satisfied with the workshops. Ninety-seven percent of staff stated they agreed or strongly agreed that they liked the Simple Interactions professional development and 94% stated they agreed or

strongly agreed that they liked the Simple Interactions tool. Open-ended survey results supported high satisfaction with Simple Interactions. For example, one participant stated, “This was one of the most helpful and practical youth work [professional development] programs I’ve ever been a part of.” Another wrote, “Watching my colleague [on video] helped me to see a caring staff and strong connections that are being made.”

Research question 2 (belief): does participation in simple interactions increase staff beliefs about the value of relational practice?

Research Question 2 addressed learning or changes in staff beliefs and we addressed this both through non-experimental and experimental methods. In RQ2a, we used non-experimental retrospective post-test data (treatment group only) in which participants self-reported their knowledge of positive interactions before and after the intervention. We calculated change over time as a pre-post difference score for each individual and then we conducted a one-sample t-test to test whether these change scores were different from zero. Participants reported a significant positive change in relational practice self-efficacy ($M = 0.79$, $SD = 0.07$) from before the intervention compared to after, ($t(42) = 11.71$, $p < 0.001$).

For Research Question 2b, we use experimental data to investigate the effects of the Simple Interactions intervention on relational beliefs for staff intended to receive treatment. First we used an ITT analysis for the dependent variable of Relationship Goals. In Table 5, the column for Model 1 shows a conditional model with the main effect of treatment on Relationship Goals. The Post Relationship Goals score is associated with 0.43 additional points when the participants are in the Treatment group. This fairly small effect is not significant. Model 2 includes Staff Tenure, Pre-Relationship Goal Scores, and the percentage of children below poverty in the programs. On average, Relationship Goals are 0.52 higher when participants are in the Treatment group, significant at $p < 0.05$. In other words, participants that received the treatment are significantly more (0.36 SD) likely to choose a relationship-based goal than those in the control group. The distribution was that 2 participants increased their relationship goals by 4 (of 7 possible) goals, 21 by one or two goals, 13 remained unchanged and 11 had one or two goals fewer at post.

Table 5. Multilevel models for relationship goals and relational practices (ITT).

	Relationship Goals		Relational Practices	
	Model 1	Model 2	Model 3	Model 4
Intercept	4.44 (0.19)***	2.50 (0.48)**	3.57 (0.05)***	3.46 (0.31)***
Treatment	0.43 (0.27)	0.52 (0.24)*	0.04 (0.08)	0.00 (0.09)
Relationship Goals (pre)		0.52 (0.09)***		
Relational Practices (pre)				0.05 (0.09)
Tenure		−0.13 (0.06)*		−0.01 (0.24)
Children Low-SES+		−0.00 (0.00)		0.00 (0.00)
$\tau_{\beta 0}$	0.06	0.00	0.06	0.00
σ^2	1.43	1.30	1.43	1.30
N ⁶	113	87	99	84

+ Program-level variable.

Table 6. Models for relationship goals and relational practice (TOT using 2SLS).

	Model for Relationship Goals	Model for Relational Practice
	Estimate (St. Error)	Estimate (St. Error)
First Stage	Outcome = dosage	Outcome = dosage
Intercept	−0.13 (0.15)	0.15 (0.22)**
Relationship Goals (pre)	0.21 (0.02)	—
Relational Practice (pre)	—	−0.06 (0.06)
Treatment	0.69*** (0.52)	0.75 (0.54)***
Staff Tenure	−0.01 (0.01)	−0.01 (0.01)
Children Low-SES	−0.00 (0.00)	0.00 (0.00)
R ²	0.64	0.68
N ⁷	105	91
Second Stage	Outcome = Post Relationship Goals	Outcome = Post Relational Practice
Intercept	2.05** (0.68)	3.26** (0.35)
Dosage	0.72** (0.28)	0.21 (0.10)
Staff Tenure	−0.14* (0.06)	−0.00 (0.02)
Children Low-SES	−0.01 (0.01)	0.00 (0.35)
R ²	0.38	0.38
N	87	84

In Table 6, we present two sets of TOT analyses, using the same covariates used in the ITT analysis. Column 2 shows this analysis for Relationship Goals and column 3 shows the model for Relational Practice. In the first stage, assignment to treatment does significantly predict dosage (percentage of workshops they attended) for outcome variables. In the second stage, Dosage also predicts Post Relationship Goals, but not Post Relationship Practice scores, as we would expect, given the ITT results in Table 5. In Table 6 we present the 2SLS with the addition of covariates. Again, in the first stage, assignment to treatment does significantly predict attendance in workshops for both outcome variables. In the second stage, dosage significantly predicts post relationship scores. This finding indicates that participation in the professional development was associated with higher post-relationship goal scores.

⁶The sample sizes vary by model in Table 5 due to missing data. See the section on Missing and Balance for more details.

⁷The sample sizes vary by model in Table 6 due to missing data. See the section on Missing and Balance for more information.

Research question 3 (practice): does participation in simple interactions improve the quality of adult-child interactions in youth programs?

For Research Question 3a, we use experimental data to investigate the effects of the Simple Interactions intervention on Relational Practice for staff intended to receive treatment. First we used an ITT analysis for the dependent variable of Relationship Practice. Model 3 shows a conditional model with the main effect of treatment on Relational Practice and Model 4 adds covariates. In both models, assignment to treatment has a minimal effect on Post Relational Practice score that is not significant. Adding covariates explains an additional 21% of variance but assignment to treatment is still not significant.

Finally, in Research Question 3b, we investigated our experimental findings in an exploratory way to understand why we did not see significant change in Relational Practice. We conducted t-tests to understand how change in Relational Practice might be associated with various program or staff characteristics. Though not statistically significantly different, we saw a trend that suggest full-time staff may improve in relational practice compared to part-time staff. In addition, we investigated numerous other

characteristics that also did not show significant differences: Whether sites set aside time for professional development, staff years of experience at the current and other youth programs, staff education level, staff age, administrative capacity, staff attendance at workshops, and workshop facilitator.

Discussion

In this research study, we used a wait-list cluster randomized controlled design to investigate the Simple Interactions professional development program in a sample of 157 staff across 26 youth programs (13 treatment and 13 control). Our analyses were organized by the Kirkpatrick (1998) multi-level training evaluation framework (Belief, Reaction, and Practice). Consistent with previous research (Akiva et al., 2017), Simple Interactions continues to excel at the Kirkpatrick (1998) level of reaction, with participating staff rating the workshops an average of 4.56 out of 5.0 on a 7-item composite measure for satisfaction. Based on anecdotal data from several years of studying this program, the extremely high satisfaction with Simple Interactions may be due to the strengths-based nature of the conversations and the relevance of viewing video of actual program interactions. At the second Kirkpatrick level, we saw an experimental effect on staff beliefs that relational practice is an important goal of youth program settings. Even with severe attendance problems with the implementation of the intervention (which we will address later), youth program staff in the experimental group valued relational practice more after attending Simple Interactions than before. Regarding Kirkpatrick's Level-3, staff practice improved in the treatment group; however, it also improved in the control group and we did not see an experimental effect on this key variable.

The implementation of the intervention suffered from multiple challenges that shape interpretation of findings and reflect the context of delivering such professional development within the youth program field. Perhaps the most substantial challenge, affecting Kirkpatrick levels 2 and 3, was the extremely low levels of attendance within the treatment group. The 3-session version of Simple Interactions was designed to provide an optimized, minimum level of exposure; however, only 38% of those in the treatment group actually received this exposure. Our study was therefore not able to adequately evaluate the effectiveness of a 3-session program; rather, we evaluated a much lower dosage. This attendance challenge reflects a lack of stability in an under professionalized field. Much has

been written about the need for professionalization in this field (Belton, 2014; Fusco, 2012; Pozzoboni & Kirshner, 2016) and the intervention team ran into numerous associated challenges. Second, given the magnitude of effects that we observe, our experiment was underpowered. Although we nearly met the sample size suggested by our power analysis, this analysis was based on the large effects we saw in our pilot study, which, perhaps were unrealistic to achieve in this larger sample where fewer resources were available to any given site. Third, counter to expectations, the control group significantly improved their relational practice from pre to post, making the effect of the intervention harder to detect. Seasonal effects may help explain this: All the post-intervention data were collected between December and June, giving adult-youth relationships time to develop, regardless of focused Simple Interactions; that is, it is possible that staff got to know the children and the programs better and therefore showed improvement. However, there were no significant correlations between pre and post difference or average post scores and days from intervention start in either treatment or control group.

Given the implementation challenges, we might ask, why did Simple Interactions in this study have any effect at all? The experimental effect for change in beliefs about relationship goals was moderate (.36 SD) with about half of participants in the treatment group increasing the number of relationship goals they endorsed at post. Gains in the relationship goals measure occurred even in cases where staff attended very little of the workshops. We speculate that for some participants, even attending one session of Simple Interactions may be enough to cause a change in how much youth program staff value relational practices. The messages from research and advocates that relationships are a core component of youth programs are out there (e.g., Eccles & Gootman, 2002); attending a small amount of the program may confirm this for some participants. This may even be amplified by staff within a program discussing aspects of the professional development together.

The societal function and purpose of youth programs has been up for debate for over a century (Halpern, 2003). The idea that building relationships is a legitimate goal is in competition with other goals like academic remediation, problem prevention, ministry, or simply keeping kids safe and off the streets (Belton, 2014; Halpern, 2006). The finding that Simple Interactions promoted staff beliefs about the importance of relational practice may reflect that the professional development reinforced notions that staff already had. That is,

attending even a small amount of the professional development sessions strengthened their beliefs about the importance of relational practice, beliefs based in their everyday practice with young people.

This speaks to the nature of conducting research in the youth program field. Staff and leaders in youth programs are often stretched thin and face many “dilemmas of practice” (Larson & Walker, 2010). Programs are limited in resources and capacity that can prevent staff “from running programs in ways they [feel] optimal” (Larson & Walker, 2010, p. 344; Yohalem & Pittman, 2007). This reflects our experience recruiting sites and implementing Simple Interactions. Many programs did not have time or financial resources set aside for staff to attend meetings or professional development. Often staff that attended Simple Interactions workshops did so without pay and outside of their regular working hours. This may explain, in part, why only 67% of staff attended workshops. There is also high turnover in the out-of-school time field. In our sample alone, we recorded 25 staff that left programs during the time of our study including three program supervisors. Additionally, there was not always buy-in from staff prior to the start of the intervention. In some cases, we had more direct contact with program directors prior to starting Simple Interactions and staff were hesitant to participate at first. Though we built many connections with afterschool staff and programs, the nature of the youth program context made this type of randomized control trial difficult.

The limitations of this research have already been described. The small size and mixed implementation of the intervention presented barriers to the investigation. There is a small possibility that there was contamination across treatment and control groups. The number of youth program staff in the mid-sized city is limited and relationships exist among some staff across different programs. In our sample, there were at least five participants that worked at one afterschool program at the time of our first data collection and at a different program in our study at the time of post-intervention data collection. This could be a threat to the study’s internal validity; however, any contamination brought about by these staff moves would likely have the effect of attenuating our treatment effects toward zero. One additional limitation that has not been mentioned yet is the constraints of the experimental method for a dynamic intervention like Simple Interactions. This study was based in the replication logic of scaling (Morel et al., 2019); that is, we systematized the innovation as much as possible in order to test its application with a sufficient sample size. However, an innovation like this, which is deeply rooted in supporting staff to develop their own

working models of facilitation, may be better suited for a scaling logic of adaptation or invention.

The results from the study suggest that (a) Simple Interactions provides a promising and extremely well-liked professional learning approach, that (b) Simple Interactions can promote beliefs about the value of relational practice; and (c) that without full implementation, staff practices are unlikely to change their relational practice. The Simple Interactions approach was designed for adults who work with children or youth across a wide variety of settings, from early childcare, to residential care, to the types of youth programs in this study. Although the characteristics of the youth program field shaped the intervention team’s ability both to conduct the professional development and to conduct the research, the youth program field does have the potential to equip more adults to do better relational practice with young people.

The relationships that staff and children build together in youth programs serve an important role in the lives of children. Throughout the study, we observed strong relationships and countless positive interactions. Although the effects of this research were mixed, we believe there is more to learn. We received positive feedback from staff that participated. For example, many staff stated Simple Interactions was the first time they had a chance to sit down together and reflect on practice. Others appreciated the opportunity to develop a shared language about their work. We hope to explore other methods of analysis to understand the potential effects of the professional development program. The challenges of out-of-school time – limited time, resources, capacity, lack of professionalization – are exactly the reasons we need simple, affordable professional development programs like Simple Interactions.

Data availability statement

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

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