

Early Education and Development



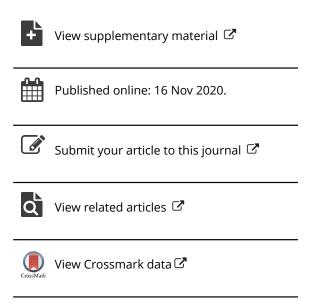
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Implementing a School Readiness Intervention in Community-Based Childcare Centers: Director and Teacher Perceptions

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ABSTRACT

In the U.S., one-third of preschool children attend programs run by childcare centers. Childcare centers are generally isolated and under-resourced businesses, often challenged by high rates of teacher turnover and inconsistent financial support. Correspondingly, childcare centers often struggle to provide high-quality educational experiences for preschool children. This study introduced an evidence-based curriculum (REDI) to improve the educational experiences of preschool children in childcare centers and used a novel professional development (PD) model in which center directors were trained to serve as local coaches. Open-ended interviews with 45 teachers and 31 center directors evaluated the acceptability, feasibility, and effectiveness of the REDI intervention and coaching model. Participants also described their workplace and rated their intentions regarding future program use. Participants described multiple challenges in the workplace but generally positive perceptions of the REDI intervention. Perceptions regarding the feasibility of the coaching model were mixed. Workplace descriptions were associated with intervention experiences which, in turn, predicted intentions for future program use. Findings validate the importance of addressing the unique workplace challenges faced by childcare staff when designing classroom interventions and PD supports. Attending to program acceptability, feasibility, and perceived effectiveness in these settings may be critical to support sustained use.

Many studies have documented the benefits of high-quality early childhood education and its potential to boost child school readiness and promote long-term school success, particularly for children from low-income families (Phillips et al., 2017; Yoshikawa et al., 2013). Unfortunately, not all early childhood programs include the high-quality features that foster school readiness (Whitebook et al., 2014). In the United States, community-based childcare centers consistently lag behind federally-supported Head Start and public school prekindergarten programs on key features of both structural quality (e.g., teacher preparation, PD support, workload, teacher turnover) and process quality (e.g., curriculum and instruction, quality of teacher-student interactions; Bassok et al., 2016; Dowsett et al., 2008; Hillemeier et al., 2013).

Policy-based efforts to improve workforce education and working conditions in childcare centers focus on improving structural quality, but improving the process quality in childcare centers may be critical in order to boost educational benefits for children (Bassok et al., 2016; Justice et al., 2008). A key strategy for improving process quality involves enriching preschool programs with *evidence-based* curricula and teaching practices that have proven effective in fostering child school readiness in rigorous randomized evaluation studies (Phillips et al., 2017; Yoshikawa et al., 2013). These enrichments include skill-specific curricula that provide sequenced, explicit instruction in targeted academic or social-emotional skills, along with PD support for teachers to enhance high-quality implementation

(Jenkins et al., 2017; Nguyen et al., 2018). Unfortunately, initial studies suggest that childcare centers often struggle to implement these kinds of intensive classroom programs, possibly due to a lack of sufficient staff buy-in and organizational support, including low job satisfaction and commitment among teachers and inadequate director support (Baker et al., 2010; Yudron et al., 2016).

This study involved an evidence-based program introduced into childcare center classrooms serving preschool children using an innovative model of PD support in which center directors served as local coaches for their teachers. After a year's experience implementing the Research-based Developmentally Informed (REDI) program, childcare teachers and directors wereinterviewed about their workplace, their intervention experiences, and their intentions regarding future REDI program use. The goal of this study was to understand the acceptability, feasibility, and perceived effectiveness of the REDI program and PD model in childcare settings, and to explore how workplace experiences (e.g., perceptions of program quality, staff relationships, etc.) were associated with variation in intervention evaluations. We also tested the hypothesis that workplace experiences and intervention evaluations would each predict director and teacher enthusiasm for future REDI program use.

Challenges Faced by Childcare Programs

The inconsistencies in quality evident across different kinds of early childhood programs stem from historic fragmentation in regulations and funding streams (Whitebook et al., 2014). In general, public school prekindergarten and Head Start programs are more well-regulated and well-funded than childcare centers, supported by resources that allow them to consistently attain higher quality ratings (Bassok et al., 2016; Burchinal et al., 2008; Hillemeier et al., 2013). Community-based centers enroll about one-third of the children attending preschool (compared to 10% enrolled by Head Start; NCES, 2019). In contrast to Head Start and public school programs, childcare teachers have lower salaries and less formal education (Ackerman et al., 2009; Bassok et al., 2016).

Childcare centers also experience higher turnover rates, likely because teachers move to positions that are more well-funded when they can (Zaslow et al., 2010). Childcare centers also struggle to invest in program quality improvement, given that many are isolated businesses that lack the infrastructure or resources to provide PD support to teachers (Ackerman et al., 2009). These disparities in preschool quality have become more apparent in recent years as early educators have focused increasingly on promoting the child school readiness skills that foster educational success, including language, literacy, numeracy, and social-emotional skills (Markowitz et al., 2018).

Longitudinal studies following children from Head Start and public school prekindergarten into elementary school suggest that preschool curricula and instruction quality play a critical role in fostering growth in the school readiness skills that enable later school success (Phillips et al., 2017; Yoshikawa et al., 2013). Correspondingly, experts suggest that two key factors needed to improve program quality in center-based programs serving preschool children are the provision of improved curricula and PD support (Ackerman & Sansanelli, 2010; Phillips et al., 2017; Weiland et al., 2018). The strongest evidence for longitudinal benefits has emerged for evidence-based preschool programs that include a focus on specific instructional content with detailed lesson plans (Jenkins et al., 2017; Nguyen et al., 2018; Weiland et al., 2018) and coaching that supports teachers in high- quality implementation and teaching practices (Phillips et al., 2017; Yoshikawa et al., 2013).

However, there are challenges to implementing these kinds of evidence-based programs in the context of childcare centers. Most childcare teachers do not have set-aside planning or PD time, so these tasks must be squeezed into their busy work days or completed during personal time (Ackerman et al., 2009). One study of the implementation of a multi-component, curriculum-based enrichment program found wide variability in the extent to which childcare teachers implemented the prescribed lessons (Baker et al., 2010; Voegler et al., 2012). Similarly, when Yudron et al. (2016) attempted to extend the Boston Public Schools (BPS) evidence-based prekindergarten model into 14 communitybased preschool classrooms, they found that these programs struggled to sustain high-quality implementation.

Prior research suggests that successful implementation of evidence-based interventions in childcare centers depends upon a high level of organizational support. For example, Baker et al. (2010) found that teacher participation decreased significantly over the year of their multi- component preschool intervention; predictors of reduced participation included teacher concerns about the intervention, lower job satisfaction and commitment, and perceptions of their centers and directors as less supportive, collegial, and efficient. Based on a review of six large-scale preschool implementation studies, Weiland et al. (2018) concluded that administrative support is critical to success. Directors influence the degree to which classroom teachers invest in, implement, and sustain evidence-based programs (Dickinson & Brady, 2006). In general, numerous reports have cited positive intervention perceptions as a simple, but key, ingredient to participant responsiveness and successful implementation of an intervention (Berkel et al., 2011; Downer et al., 2009; Durlak & DuPre, 2008). These findings suggest that activating the positive support and involvement of center directors may enhance the implementation of an evidence-based classroom intervention. They also point to the importance of understanding director and teacher perceptions of the acceptability, feasibility, and effectiveness of these interventions, which may play a key role in determining sustained use.

The REDI Intervention Implementation in Childcare Centers

Guided by an implementation science framework (Proctor et al., 2011), this study assessed teacher and director perceptions of the acceptability, feasibility, and effectiveness of the REDI program when implemented with a delivery model that was specifically designed to increase center director investment in and organizational support for implementation. REDI is an evidence-based, multi-component curricular enrichment program targeting social-emotional and early literacy skills. The foundation for REDI is a social-emotional curriculum, Preschool PATHS (Domitrovich et al., 2007), which includes scripted lessons targeting social-emotional skills and a daily interactive reading program that uses books linked to the PATHS lessons designed to support oral language skill development. Additional components include a Sound Games program to promote phonological awareness and alphabet center activities to build print awareness. A randomized controlled trial of REDI in Head Start classrooms produced positive effects on teaching quality and child outcomes in both social-emotional and language-literacy domains (Bierman et al., 2008) with sustained child benefits through fifth grade (Welsh et al., 2020).

In order to accommodate the unique features of childcare centers and facilitate high-quality implementation in the present study, several changes were made in the delivery model. To increase flexibility in terms of the personal time teachers had to invest in training for this program, the training program was reduced to two days of face-to-face workshops supplemented by online modules that teachers could review when it was convenient for them. A number of prior studies have suggested that providing online PD resources can effectively supplement in- person or virtual training (Piasta et al., 2012; Powell et al., 2010). In addition, the delivery system used a novel model of PD support that positioned directors as coaches. Directors were provided with a one-day workshop and three online modules demonstrating a phased coaching model (initial goal-setting with teachers; weekly check-ins and bi-weekly observations of REDI lessons; and regular teacher meetings to provide supportive and corrective feedback). Directors were supported by REDI Consultants who visited centers once a month to provide technical assistance and answer questions.

By aiming PD efforts at childcare center directors as well as teachers, the goal was to increase institutional capacity for evidence-based programming and boost administrative "buy in" with the hope that this organizational support would, in turn, buffer teachers against the challenges of their work place, improving their perceptions of the curriculum as well as enhancing implementation quality of the evidence-based program (Assel et al., 2004). Although some argue that a PD coaching relationship should not be confounded with a supervisory relationship (Aguilar, 2013), this is often unavoidable in the childcare center context, where resources are insufficient to support external coaches. In addition, from a conceptual standpoint, increasing director engagement with and support for classroom teachers with this kind of PD model may reduce teacher feelings of workplace isolation, burden, and stress that often emerge among childcare staff (Ackerman et al., 2009). Preliminary results studying implementation of REDI and the modified PD model show positive impacts on several areas of teaching quality (Welsh et al., 2020).

The Current Study

This mixed methods study explored the workplace experiences of childcare center teachers and directors and their evaluations of the acceptability, feasibility, and effectiveness of the REDI program and novel PD model. We used a mixed methods design in which qualitative data collection was embedded within the larger quantitative research trial (Creswell & Plano Clark, 2011). One set of open-ended interview questions was developed to tap teacher and director descriptions of their workplace experiences, including workplace supports and challenges. A second set of questions asked teachers and directors to describe their experiences with the REDI program and the coaching model. Designed to elicit information about program acceptability, feasibility, and effectiveness (Proctor et al., 2011), these questions included what they liked and valued about the program, challenges associated with the program, and their feelings about the program (see interview questions in online supplemental materials). Teachers and directors were interviewed separately. They also completed a quantitative measure rating their degree of enthusiasm about the future use of the REDI program. Understanding how qualitative perceptions contribute to quantitative evaluations is responsive to calls for increased use of mixed methods in intervention research (Aarons et al., 2012), given that triangulating multiple data sources allows for richer interpretation concerning contextual fit (Palinkas et al., 2011).

Based on prior research suggesting that organizational challenges often undermine the implementation of evidence-based programs in childcare centers (Baker et al., 2010; Yudron et al., 2016), we anticipated that director and teacher perceptions of their workplace would influence their evaluations of the acceptability, feasibility, and effectiveness of the REDI program and coaching model. In addition, given that administrative support enhances intervention acceptability (Dickinson & Brady, 2006; Weiland et al., 2018), we anticipated that positive perceptions of the workplace and positive experiences with the REDI program and coaching model would affect director and teacher interest in using the program in the future. These hypotheses were tested by calculating the proportion of interview comments made about different aspects of the workplace and the intervention and examining associations with ratings of participant intentions regarding future REDI program use.

Method

Participants

Participants included 45 teachers (98% female; 91% White; 5% multiracial; 2% Latinx; 2% Black) and their 31 center directors (100% female; 90% White; 7% Black; 3% multiracial) who were recruited as participants for an efficacy trial of the REDI intervention and who worked in centers that were randomized to the intervention group. Four teachers and six directors who were enrolled in the intervention group declined to participate in the interviews associated with this study. Teachers' ages ranged from 22 to 60 years (M = 37 years, SD = 10.81), they had 1 to 24 years of teaching experience (M = 8 years, SD = 6.30), and varied considerably in their education level (27% high school degree, 11% Associate degree, 38% Bachelor's degree, 25% some graduate training or degree). Directors' ages ranged from 25 to 65 years (M = 41 years, SD = 8.73), they had between 1 and 21 years of experience as directors (M = 6, SD = 6.30) and varied in education (23% Associate degree, 26% Bachelor's degree, 52% some graduate training or degree).



Recruitment and Procedures

Childcare centers were recruited from ten Pennsylvanian counties using a three-step process. First, e-mails describing the study were sent to all childcare centers in targeted counties that were listed on the database kept by the Pennsylvania Office of Child Development and Early Learning. Interested programs returned a brief survey that was used to certify eligibility. Inclusion criteria included: 1) at least one classroom that served at least 5 children of prekindergarten age, 2) a full-time director who could serve as a program coach, 3) an organized, regular daily schedule of activities (e.g., not a drop-in center or unstructured day care), and 4) not currently using a formal social-emotional learning curriculum. Eligible programs received a personal visit and full explanation of the program and the study. New centers were recruited for each of three successive cohorts that participated during the academic years beginning in the fall of 2015, 2016, and 2017. Consistent with national data on childcare programs (Sosinsky et al., 2007), programs varied in organizational type, including nonprofit nonreligious (24%), nonprofit faith-based (29%), for-profit independently owned (37%), and forprofit chain (10%). Within county and cohort, centers were randomized to the intervention or to a control group.

All preschool classrooms in the 37 participating centers were invited to participate as long as those classrooms included prekindergarten children. The 45 teachers who were interviewed represented 39 classrooms (33 taught alone, 12 were co-teachers) and were located in 34 centers (29 from centers with one classroom participating, 4 from centers with two classrooms participating, 1 from a center with three classrooms participating). In all cases, teachers and directors were assessed after their first year of program implementation. At the end of the year, directors and teachers were invited to participate in an individual interview describing their experiences with the REDI intervention in their workplace. Participation was voluntary; participants provided informed consent and were compensated 20 USD for their time.

Intervention

The REDI program targets two content areas: social-emotional learning and language/emergent literacy skills. The Preschool PATHS Curriculum (Promoting Alternative Thinking Strategies; Domitrovich et al., 2007) is an evidence-based social-emotional learning program that provides the foundation of REDI. It includes 33 weekly lessons, covering four topical domains including prosocial skills for friendship making, emotional understanding, self- control, and social problem-solving skills. Each week, teachers were asked to teach a PATHS lesson (20 minutes) that introduced the week's social-emotional skill using stories, puppet shows, and role plays, and to follow this lesson with classroom support for the targeted skills.

REDI also included three intervention components designed to boost language development and emergent literacy skills. These included an interactive reading program modeled after the approach of Wasik and colleagues (Wasik et al., 2006) and taught four days per week. Books were selected to link with the PATHS lesson of the week and teachers were provided with suggested questions to help them engage children in active discussion of the story. The goal was to facilitate comprehension of the narrative, review target vocabulary, and encourage memory and extended thought about the story social-emotional themes. REDI also included a Sound Games program (10-minute games, taught twice per week) to boost children's phonological awareness and Alphabet Center activities to build print awareness. Altogether, REDI required a commitment of approximately 2.5 to 3 hours per week.

In addition to the scripted lesson plans, teachers were coached to implement several evidence-based teaching strategies throughout the day to support child skill acquisition. These included strategies focused on positive classroom management, emotion coaching, supporting self-control, and the use of problemsolving dialogue. In addition, teachers were coached to reduce directives when talking with children and use more questions and statements to engage the children actively in conversation and reflection.

To support their implementation of REDI teachers received curricular manuals that provided detailed descriptions of daily lesson plans and all materials needed to implement four program components. Teachers and their directors were provided with two days of face-to-face training workshops - an introductory workshop before the REDI intervention began and a mid- year booster workshop focused on the REDI evidence-based teaching strategies. They were also asked to complete four 2-hour REDI-specific online modules through the Better Kid Care web platform, an outreach service designed to support childcare providers developed and managed by the University's Cooperative Extension. The online modules included reviews and illustrations of REDI lessons and evidence-based teaching strategies that rolled out over the course of the year explaining different phases of the intervention as they emerged in the lesson plans.

As noted, this study used an innovative coaching model that positioned childcare center directors as REDI coaches to encourage and support their teachers' implementation of REDI and use of the REDI teaching strategies. In addition to attending the teacher workshops, directors attended a oneday face-to-face workshop explaining the REDI coaching model before the intervention began and were also asked to complete three 1-hour online modules illustrating the REDI coaching model. Directors were asked to follow a specific protocol when coaching that included: 1) bi-weekly observations in each classroom implementing the program, 2) goal-setting meetings at the start of the year and at a mid-way point in which the director and teacher reviewed a checklist of the REDI teaching strategies, discussed teacher strengths, and planned areas for growth, 3) brief weekly checkins to assure program implementation was proceeding as planned, and 4) bi-weekly meetings to discuss program implementation quality, provide strengths-based feedback, problem-solve, and support the generalized use of the REDI teaching strategies. The training workshop and online modules provided center directors with a specific structure and time-table to follow when coaching, and illustrated specific coaching techniques (e.g., observing, commenting, active listening, reflecting, questioning, and using problem- solving dialogue). Center directors also received monthly visits from REDI project consultants to answer questions and offer support for coaching.

Measures

The primary data source in this study consisted of coded data from the qualitative interviews conducted at the end of the intervention year. To facilitate honest responding, teachers and directors were interviewed privately and confidentially by the first author who was not involved in intervention implementation. They were asked a set of open-ended questions about their childcare workplace and their experiences with the REDI classroom program and coaching model. Interviews lasted approximately 30-60 minutes. The questions were developed a priori according to a conceptual model of program implementation (Proctor et al., 2011) to elicit participant perceptions on both positive and negative features of the workplace, REDI intervention, and coaching models. Then, an emergent coding process was applied, using participant responses to derive codes (Blair, 2015).

Interviews were audiotaped, transcribed, and then coded following the recommendations from Creswell and Plano Clark (2011) and Campbell et al. (2013) that provide guidelines for establishing reliable codes for qualitative interview data using a three-step process. First, the first author clustered quotes into thematic categories (described below) reflecting participant perceptions about the workplace, REDI curriculum, or REDI coaching program, resulting in the initial codebook. Several sentences may have encompassed one perception. Next, a graduate student familiar with the project coded several transcripts for codebook consensus. Discrepancies were discussed and the codebook was clarified. In the third stage, all transcripts were recoded, with 10% independently coded by the second coder. Kappa values ranged from 0.63 (curriculum perceptions) to 0.72 (workplace perceptions), with an overall kappa value of 0.68 for all codes. This level of reliability is considered adequate for exploratory qualitative coding (Krippendorff, 2004; Landis & Koch, 1977), so the codebook was not revised further.



Workplace Perceptions

Participants were asked several questions about their workplace, including how things generally work in the center, how challenges are handled, and what changes they would like to see in the center (full interview protocol is available in online materials). Their responses were grouped into four content codes: 1) workplace collaboration, including statements describing positive relationships among staff, collegiality and collaborative problem-solving efforts in the center, and an appreciation for their role as a teacher or director; 2) program effectiveness, including statements describing the quality of educational experiences provided at the center and the positive reputation of the center in the community; 3) organizational challenges, with statements focused primarily on structural factors and administrative issues that undermined center functioning including financial concerns, lack of experience or professionalism, staffing difficulties, and external constraints (e.g., state inspections, staying within a small teacher-child ratio); and 4) stress, referring to negative climate, burden and overwork. Comments in each of these areas (workplace collaboration, program effectiveness, organizational challenges, and stress) were tabulated and divided by the number of total comments about the workplace to create proportion scores and control for overall verbosity.

Experiences with the REDI Program and Coaching Model

Participants were asked a set of questions about what they liked and disliked about the REDI program and coaching model, whether these experiences had an effect on their teaching or classroom, and how they felt about these intervention experience overall. These questions were designed to elicit perceptions about the feasibility, acceptability, and effectiveness of the intervention and coaching model (Proctor et al., 2011). They were coded into specific content themes which were then grouped to reflect their perceptions of acceptability, feasibility, and effectiveness (specific coding category detail provided in online supplement). For each category, statements were coded as either "positive" or "negative." REDI program acceptability included statements describing participants' satisfaction (positive valence) or dissatisfaction (negative valence) in emergent coding categories describing the intervention content and activities, student engagement, quality of the curriculum, and parent reactions. Program feasibility described factors that increased ease of use (positive valence) or created challenges in using the program or fitting the REDI program into the classroom schedule (negative valence). Program effectiveness involved statements describing student skill acquisition (positive valence) or questioning program benefits for students (negative valence). Again, comments in each area were tabulated and divided by the number of total comments about the REDI program to create proportion scores.

Comments about coaching experiences were coded as reflecting acceptability when participants described things they liked about the model (e.g., satisfaction with increased communication, improved director-teacher relationships; positive valence) or things they disliked about the model, such as discomfort with giving or receiving feedback (negative valence). Comments about the feasibility of the coaching model focused on difficulties finding time to implement coaching or the lack of recommended levels of coaching implementation (negative valence; there were no positive comments about feasibility of the coaching model). Comments reflecting the effectiveness of coaching described skills or insights gained as a function of the experience (positive valence) or a lack of change in practice as a result of coaching (negative valence). Comments in each of these areas were tabulated and divided by the total number of comments about the coaching program to create proportion scores.

In addition, the proportion of negative comments was subtracted from the proportion of positive comments to create total scores reflecting REDI program *acceptability*, *feasibility*, and *effectiveness* and REDI coaching model *acceptability*, *feasibility*, and *effectiveness*.

Intervention Ratings

At the end of their intervention year, teachers and directors were provided with a paper copy (cohort 1) or sent links to an online Qualtrics questionnaire (cohorts 2 and 3) that included two questions about



the future use of the REDI program, including their level of enthusiasm for the use of the REDI program in the future and the degree to which they would recommend the use of the REDI program to others. Each item was rated on a 5-point scale (from not at all to very much) and item scores were averaged to represent future plans.

Plan of Analysis

The first step in the analysis was to summarize teacher and director comments and provide example quotes in each of the three relevant topic areas: 1) workplace experiences; 2) REDI curriculum experiences; and 3) REDI coaching program experiences. Next, correlations were computed to examine associations between the proportion of comments made about different aspects of the workplace and the proportion and valence of comments made about intervention acceptability, feasibility, and effectiveness. These correlations were computed to test the hypothesis that workplace functioning affects staff experiences implementing an evidence-based preschool program and participating in a directorteacher coaching process. A final set of correlations was then computed including the quantitative ratings of future intentions regarding REDI program use. These correlations tested the hypothesis that workplace perceptions and intervention experiences affect future intentions to use a new intervention.

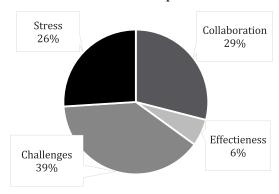
Results

Workplace Perceptions

The distribution of director and teacher comments about the four coded dimensions of workplace functioning (collaboration, effectiveness, challenges, and stress) are illustrated in Figure 1; full descriptive statistics are available online in Table S1. The majority of comments made about the workplace (39% by directors, 35% by teachers) focused on challenges that interfered with their ability to provide high-quality programming. Directors frequently noted financial pressures and staffing issues, including low pay levels for teachers, frequent teacher turnover, and difficulties finding qualified teachers. For example, one director noted that: "a lot of people see childcare as a stepping stone job ... Unfortunately, most childcare centers just can't pay. If you go to the school district and get a teacher's aide position, at better pay, with less education." Another agreed that staffing was a huge challenge: "I was ... incredibly short staffed. Our enrollment almost doubled in our younger age groups and our school age. And hiring quality childcare professionals in this area is not easy." Directors and teachers both voiced concern about the lack of staff professionalism, with a director suggesting: "[Teachers] need to look at themselves as professionals and not babysitters. We're here as professionals so you need to behave that way" and a teacher agreed that more professionalism was needed, with workplace policies: "about our job requirements, about the importance of us being on time, about the importance of us, you know, treating each child the same." In addition to prevalent staff concerns, directors also often identified meeting state regulations as a workplace challenge, discussing the disruptions caused by state inspections: "We spent six weeks combined with our other center, because of waiting for the state to finish inspection here," and by a need to constantly monitor and maintain teacher to child ratios: "We're forever mixing in groups of children to meet ratios throughout the building."

When describing their jobs, both directors and teachers also emphasized high levels of stress (26% of director comments, 26% of teacher comments). Directors voiced concerns about their overly demanding workloads, one noting that she is "[the] bus driver, cook. In the classrooms, filling in for teachers that are on vacation." Another director described her frequent role as substitute teacher: "I would always cover for them, so I was here all the time." Teachers described difficult child behaviors, long working hours ("we're open until midnight"), or working without breaks, for example: "I mean, when you are one teacher and you have to find somebody to give you a bathroom break and there's like nobody, what do you do?"

Director Perceptions



Teacher Perceptions

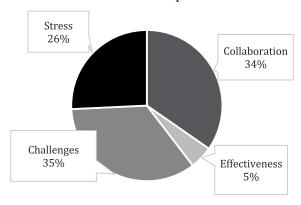


Figure 1. Director and teacher perceptions of their workplace functioning.

Countering these concerns, participants focused many positive comments about the workplace on the interpersonal climate and positive working relationships (29% of director comments, 34% of teacher comments). For example, one teacher noted:

I think as a whole, the group of us, are really supportive of one another. Having (the directors) supportive of us, as employees. We're good about supporting each other, in the classroom, together even if we're only able to yell across the hall to each other.

To a lesser degree, directors and teachers also focused on the effectiveness of programming at their center, representing 6% of directors' and 5% of teachers' comments about the workplace. Directors often highlighted specific practices of effective teachers: "Kudos to Miss [name] in realizing, hey, mealtime is the perfect time to be reading a story," and some teachers mentioned the state system for accreditation when discussing quality, for example, "I'd like to see us get to '3 stars' and ... with our new director, I think she's going to take us there so that's good."

The prevalence of negative remarks by directors and teachers about the childcare workplace were very consistent with the empirical data regarding the challenges faced by childcare centers (e.g., high staff turnover, low pay, under-resourced in areas of manpower and administrative support). Often, issues outside of the center's control (keeping in ratio, financial concerns, turnover of high-quality teachers) seemed to have the effect of demoralizing directors and teachers and reducing their feelings of job satisfaction and job commitment.

REDI Program Experiences

When asked to describe their experiences with the REDI classroom program, teachers and directors were generally very positive with 83% of director comments and 80% of teacher comments having a positive valence (see Figure 2; full descriptive statistics available online, Table S2). Directors and teachers described a high level of program *acceptability* (46% of their comments about the program). They commented on their satisfaction with the program content, benefits to the center and child engagement with the program, especially highlighting the social-emotional aspects of the program. A director shared: "The biggest thing for [the teachers] was the social-emotional and attention span. They said learning the letters and reading, that's the other thing that we'll be working with. But that cooperating thing was the big thing." Another director remarked: "We didn't have a formal social-emotional curriculum or anything. It was more of just kind of talking it through with the kids. So it gave that lesson to things to talk about in a really guided way." Directors also thought that REDI helped with classroom management:

[The teachers] knew the words to say. They knew the actions to do. Instead of just sitting them in a timeout chair and being frustrated and walking away, they could actually know what to do with them. Help solve the problem.

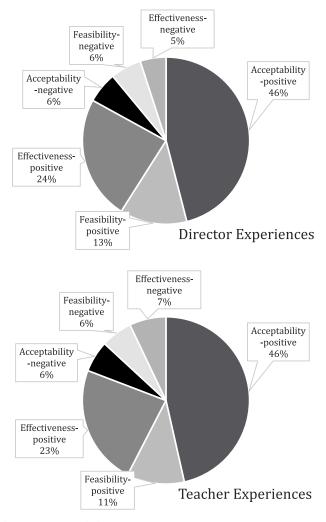


Figure 2. Director and teacher experiences with the REDI program.

Similarly, according to a director: "It helped kids thrive on consistency and schedules and stuff, and because we had the curriculum that she was implementing, it really helped build structure to their day." Teachers often highlighted student engagement, for example:

I think that they really enjoyed it and they were very ... Once we sort of got into a pattern of it they were the ones were going, "Is Twiggle coming today? Is Henrietta coming? Are we doing this? What are we reading? What feeling are we talking about? Are we going to get another feeling for our chart?" They really bought into it, so I thought that was good.

Negative comments about acceptability were more limited for both directors and teachers (6%) and described dissatisfaction with the program content, or that they preferred their usual practice compared to REDI. For example, one teacher stated:

I already have my curriculum kind of planned of what I want to do and then had to plug those things into the existing things. Sometimes I felt like I was compromising what I was able to do in order to get those things in.

Many of the other negative comments about acceptability reflected a wish that REDI was more comprehensive rather than focusing only on social-emotional and literacy skills:

There was not a lot of math, there's no math, no science ... I know we're supposed to add those things in and we certainly did. If you were doing just that curriculum that would not be enough for a classroom for full exposure for a child going to kindergarten.

Directors and teachers focused less often on REDI's feasibility, but generally found the program easy to use, flexible, and easily incorporated into the center's daily programming, representing (13% of director comments, 11% of teacher comments about REDI program experiences). One teacher said: "If I was not going to be here, the script was easy if I had to have somebody else read the story so they would ask appropriate questions and it would be consistent that it was the same style." Negative comments about feasibility were less frequent (6% of program comments), but several participants noted that the program was overwhelming at first, but that it became easier as they got used to it. For example, one director commented:

I think initially some things like sound games and whatnot seemed a little, 'Okay, this is a whole other center, a whole big thing'. Then after a while you realize, 'No, this actually doesn't have to take 60 minutes a day to do this part.'

Similarly, a teacher remarked: "The more I did it I didn't really need the scripts as much anymore. Once you get in the groove of it, it's easy."

Many directors and teachers believed that children made gains in the targeted skills due to REDI, with 24% of director and 23% of teacher comments about the program focused on its effectiveness. For example, one teacher described gains in children's emotion identification and social problem-solving skills: "[REDI] helped the children problem solve with one another versus relying on that teacher to solve everything for them." A director gave an example of how the children adopted strategies for self-control : "The turtle technique was fantastic, it worked so well that we had some children noticing that their peers were upset and they would say 'Do turtle.' It was an easy concept for them to grasp." One director described how REDI's problem- solving skills aided the entire class:

It made a humongous difference in our preschool classroom ... Our room was rough. We had kids that needed [behavior management support] and it worked for them. Now ... our classroom is completely different than what it used to be when we started this program. It worked. It really worked.

Negative comments about effectiveness (5% of director comments, 7% of teacher comments) noted that the content of the REDI activities did not fit well with the developmental level of the students served in the center. Some teachers felt that the content was too easy for the children, while others felt that it was too hard. Most of the negative comments were made about the literacy components, but responses were mixed. Overall, many (but not all) believed that some Sound Games were too difficult



for the children, while Alphabet Center was too easy. Varying responses in this category reflect the difficult nature of differentiating the curriculum and instruction at the preschool level.

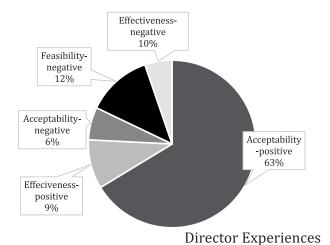
Coaching Model Experiences

Directors' and teachers' comments about the coaching program were mostly positive in nature (directors, 72%; teachers 63%), with acceptability having the most positive responses (see Figure 3; full descriptive statistics online, Table S3). Directors and teachers emphasized the value of the coaching model, for example, a director shared:

I mostly learned that you just have to be there for the teachers. And a lot of times as management, you're pushed to do paperwork, paperwork, enroll, enroll. And this was a reminder and that's what I learned the most. Take a step back and think of it as, "If I was the teacher, what would I want management to do for me?

Another teacher remarked positively about the director's attention and classroom visits:

What I did like about it was that it put her in the classroom ... For her to be able to just walk in and hang out for a while and know what's going on ... I think it gave her a little more insight into what we're doing in the classroom.



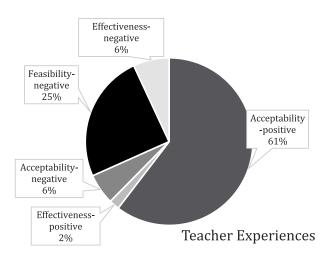


Figure 3. Director and teacher experiences with the REDI coaching model.



Comments about negative coaching acceptability were limited (6%) and focused on feeling uncomfortable with giving or receiving feedback.

Both groups pointed out some challenges associated with coaching feasibility. Some directors found it very difficult to create time for coaching: "The coaching was ... hard. I honestly don't think I supported them much at all as a coach, because it's not just feasibly possible for me to give them that kind of time." As another director put it:

I definitely think in order to do the coaching the way you wanted, you definitely had to make sure you had a consistent staff and floaters and extra staff and things like that, which is not always a luxury that we have here.

Similarly, directors stressed that their multiple roles did not leave time for coaching: "I'm the only one that can drive the bus, so you know, doing van runs every day and then trying to rush in there to get the observation done and just, so it's just really the time factor."

Teachers echoed directors' concerns about the *feasibility* of coaching, although their comments described disappointment with the infrequency with which coaching occurred, or the limited quality of the coaching they received: "There wasn't a lot of coaching, just because she's very busy." Concerns in this area were higher for teachers (25%) than directors (12%).

Director and teacher comments about the effectiveness of coaching were limited (9% director, 2% teacher) and highlighted that coaching improved communication in the center or otherwise positively changed their practice. One teacher remarked:

It just allowed the time to focus. We get so caught up in our day that as much as we try to be proactive, we often in this industry go into a reactive mode ... We were able to think different topics through, and we really sat down, and we were able to talk, and to listen, and to provide and share ideas on how to improve.

Discussing the observation portion of coaching, a director reflected:

Although I think I'm a very hands on person, this just really brought me to the forefront, to say, "You need to take the time to be able to, number 1, observe, and observe in an entire situation, not just a synopsis.

Negative comments about effectiveness described that coaching was not noticeable or did not make a difference in the center: "It's not any different than any other time when I'd ask, 'Okay, so what do I do here.' . . . [The director's] really good about giving feedback if you go to her." About the effectiveness of the coaching content, one teacher noted, "I think some days we felt like we were putting out more fires than actually dialoging about this in particular."

Associations between Workplace Perceptions and Intervention Experiences

Associations between workplace perceptions and intervention experiences are shown in Table 1. Intervention experiences were calculated as the proportion of positive comments minus proportion of negative comments in each category (e.g., acceptability, feasibility, effectiveness). Consistent with the hypothesis that workplace functioning would affect intervention experiences, a number of significant associations emerged. Directors and teachers who focused on positive collaboration at their workplace were likely to express significantly more positive comments about the effectiveness of the REDI program and acceptability of the coaching model (rs ranging from 29 to .44). Teachers who focused on positive workplace collaboration tended to emphasize the coaching model feasibility and effectiveness. Positive comments about the effectiveness of workplace programming showed marginally significant associations with perceptions of curriculum feasibility (directors; r = .31) and coaching acceptability (teachers; r = .26). On the other hand, comments focusing on challenges in the workplace were negatively associated with perceptions of REDI program *feasibility*, significantly for directors (*r* = -.36) and marginally significantly for teachers (r = -.29). Finally, for teachers but not directors, workplace stress was negatively correlated with multiple aspects of intervention experiences, including acceptability of the REDI coaching model and feasibility of the coaching model (r = -.30 - -45).

Table 1. Associations between workplace perceptions and intervention experiences.

	Workplace Perceptions					
Intervention Experiences	Collaboration	Effectiveness	Challenges	Stress		
Directors Experiences with the REDI Program ($N = 31$)						
Acceptability	.08	.18	29	.12		
Feasibility	.23	.31 ⁺	36*	03		
Effectiveness	.44*	.06	30	18		
Directors Experiences with the Coaching Model ($N = 31$)						
Acceptability	.37*	.13	26	18		
Feasibility	.11	02	07	04		
Effectiveness	.06	09	.02	04		
Teachers Experiences with the REDI Program ($N = 45$)						
Acceptability	.18	.19	07	19		
Feasibility	.20	06	29^{+}	.11		
Effectiveness	.17	07	11	03		
Teachers Experiences with the Coaching Model ($N = 45$)						
Acceptability	.29*	.26 ⁺	11	30*		
Feasibility	.26 ⁺	.22	.10	45**		
Effectiveness	.28+	.02	15	14		

⁺ p < .10* p < .05 ** p < .01.

Workplace Perceptions, Intervention Experiences, and Plans for Future REDI Use

Consistent with their generally positive comments about the REDI program and coaching model, directors expressed enthusiasm about using the program again in the future and recommending the program to other centers (M = 4.68 on a 5-point scale, SD = 0.65), as did teachers (M = 4.50, SD = .88). Associations among qualitative workplace and intervention perceptions with quantitative ratings are shown in Table 2. Perceptions of workplace challenges were strongly associated with future plans for REDI by directors (r = -.69) and this relationship was smaller, but still significant, for teachers (r = -.69) -.38). Directors' perceptions of positive workplace collaboration was also associated with higher ratings of future REDI use at a marginally significant level. For directors, perceptions of curriculum acceptability and effectiveness, as well as coaching acceptability were associated with more enthusiastic ratings of future REDI program use (r = .41-.44) whereas for teachers, curriculum acceptability and feasibility were related to ratings of future plans (r = .36-.49). These findings suggest that workplace experiences (particularly the organizational challenges experienced and positive interpersonal relationships at the center) may affect the uptake of evidence-based programs like REDI, along with perceptions of intervention acceptability, feasibility, and effectiveness.

Discussion

Prior research suggests that intensive, evidence-based preschool programs like REDI can improve classroom process quality and boost child skill acquisition but are challenging to implement in childcare settings (Baker et al., 2010; Yudron et al., 2016). This study highlights the value of qualitative interviews with childcare center directors and teachers, who are often underrepresented in preschool intervention research (Phillips et al., 2017), for understanding staff reactions to these kinds of interventions and their associated enthusiasm for future program use. Specifically, the present study illuminated the day-to-day job pressures faced by childcare teachers and directors and their association with intervention experiences. A majority of comments that directors (65%) and teachers (61%) made in response to open-ended questions about the workplace focused on organizational challenges and job-related stressors. Despite these workplace challenges, most of the comments that directors (83%) and teachers (81%) made about the REDI program were positive and validated the acceptability, feasibility, and perceived effectiveness of the classroom intervention. Directors and teachers also had positive experiences with the coaching model, with 72% and 63% of their comments reflecting the

Table 2. Associations between workplace perceptions,	intervention experiences, an	d
future plans.		

	Future Plans for Program Use		
Workplace Perceptions and Intervention Experiences	Director Ratings $(N = 31)$	Teacher Ratings $(N = 45)$	
Workplace Perceptions Workplace Collaboration Program Effectiveness Organizational Challenges Stress	.35+ .25 –.69** .21	.24 .07 –.38* .12	
Curriculum Experiences Acceptability Feasibility	.45*	.36* .49**	
Effectiveness Coaching Experiences	.41*	.18	
Acceptability Feasibility Effectiveness	.44* .28 .03	.16 .25 .09	

⁺ p <.10 * p <.05. ** p <.01.

acceptability and perceived effectiveness of the model. However, concerns about feasibility of directors serving as coaches were also evident.

Important associations emerged between perceptions of the workplace and REDI program experiences. Perceptions of positive center collaboration was associated with more positive experiences with the REDI program and coaching model and enthusiasm for future use, whereas directors and teachers who emphasized organizational challenges and stress in the workplace were likely to question the feasibility of the intervention and coaching model and express less enthusiasm for its future use. Director and teacher responses were aligned concerning relationships among program acceptability and workplace challenges with plans for future use, possibly indicating stronger within-center opinions in these areas. Results of this study have implications for the implementation of evidence-based programming in childcare centers to improve teaching quality, suggesting that attention to workplace functioning and adapted models of PD support may both play critical roles in supporting positive intervention experiences.

Workplace Functioning and Intervention Experiences

Overall, participants' comments about workplace functioning aligned with previous research suggesting that childcare is a demanding and stress-ridden business (Curbow et al., 2001; Zaslow et al., 2010). Participants identified structural features of organizational functioning as factors that undermined the effectiveness of their childcare centers, such as low pay, lack of availability of qualified teachers, staff turnover, and lack of time for professional development. Directors in particular felt overburdened by the lack of infrastructure support and chronic staff turnover that forced them to take on multiple roles in the center, such as substitute teaching, cooking, or bus-driving, in addition to keeping their center running efficiently and in compliance with regulatory oversight (e.g., state inspections). Some regulations such as keeping a small ratio of teachers to children also challenged their ability to provide consistent, high-quality programming because of ongoing shifts in their enrollment and interruptions to daily routines. Teachers' and directors' comments about the workplace showed notable variations across centers, suggesting that these factors influenced workplace functioning more negatively in some centers than in others. Additional research is needed to shed light on the factors that are associated with this variation in childcare workplace functioning.

Prior research on early childhood education programs has distinguished between structural characteristics of programs (e.g., teacher qualifications, wages and benefits, workload, staff turnover) and classroom process quality (e.g., quality of teacher-student interactions, curriculum; Valentino,

2018). Policies generally focus on regulating structural characteristics of childcare, although classroom process quality exerts the strongest influence on child outcomes (Bassok et al., 2016). Researchers have suggested that changing policies to improve structural characteristics of preschool programs may not directly improve child outcomes, but rather exert indirect effects on child outcomes mediated by their association with process quality (Justice et al., 2008). The present findings are consistent with this perspective and suggest that attention to the structural characteristics of childcare programs may be an important factor in facilitating the adoption of evidence-based programs like REDI that can boost classroom process quality and foster child school readiness outcomes.

In particular, childcare staff who emphasized structural challenges in the workplace were also likely to express concerns about the feasibility of the REDI program (directors) or REDI coaching model (teachers) as well as reduced enthusiasm about future program use. The interviews suggest that, in these centers, directors feel short-staffed and teachers feel overworked, making it difficult for them to devote the time needed to implement an intensive classroom program like REDI or hold director-teacher coaching meetings. Further understanding of the factors contributing to variation in level of structural challenges experienced by childcare centers is needed to inform strategies for remediation. All of the centers participating in this study were located in Pennsylvania, and so the variation observed is not associated with state regulations per se, but may be due to variations in the funding streams, regional locations, or managerial supports available to different childcare centers.

Interestingly, workplace challenges were not significantly associated with perceptions of the acceptability or effectiveness of the REDI program and coaching model. Overall, the positive descriptions of the REDI intervention acceptability and effectiveness that emerged in the qualitative interviews suggest that there were few philosophical or pedagogical objections to enriching childcare programs with intensive programming and intentional teaching strategies. It should be noted that childcare staff particularly liked the social-emotional focus of the REDI program which provided a framework that helped them systematically support emotional development and promote social skills in the classroom. They also appreciated the scaffolds that the interactive reading program provided to enrich book-reading and conversations in the classroom. The sound games and alphabet center activities were less-often mentioned as program features that they especially liked.

The degree to which teachers and directors emphasized a collaborative workplace climate (rather than workplace challenges) in their interviews appeared to influence the degree to which they talked about intervention acceptability and effectiveness, which in turn, predicted the degree of director enthusiasm for future program use. Positive interpersonal experiences in the workplace, especially levels of collegiality, cooperative problem-solving, and administrative support may promote the successful implementation of evidence-based programs like REDI in several ways. Implementing a new program involves extra work and feeling supported by others in the workplace may make the investment of time and energy less burdensome and more rewarding. There may also be a more positive emotional climate in centers where staff get along well, contributing to greater enthusiasm for trying something new and greater resilience in overcoming obstacles to program use. In a prior qualitative study, Zinsser and colleagues (Zinsser et al., 2016) found that the leadership style of center directors played a key role in fostering the kind of positive emotional climate that optimized support for staff and enhanced staff resilience in the face of workplace stressors. Alignment between director and teacher responses in these areas also may provide hope for stronger within-center buy-in, which could further assist program adoption and sustainability. Additional research is needed to further clarify the determinants of collaborative work climates for childcare teachers which may, in turn, support efforts to improve teaching quality and openness to new evidence-based programming.

Coaching and Professional Development in Childcare Centers

Research focused on improving the impact of preschool education on child school readiness outcomes has focused on the dual need to improve classroom curricula and programming and to improve the

quality of teacher-student interactions, especially language use and instructional support (Weiland et al., 2018; Yoshikawa et al., 2013). Workshop training and online PD appear insufficient to promote changes in teacher practice, creating a focus on the provision of coaching as a key strategy to improve teaching quality (Powell et al., 2010). The novel coaching model used in this study involved training and supporting directors as local coaches for their teachers. Experts have raised some concerns about using supervisors to provide PD coaching to teachers, worried that the evaluative framework of supervision may impede processes of honest self-reflection and collaborative problem-solving that are central to effective coaching (Aguilar, 2013). However, having directors serve as coaches may have several benefits in the childcare setting, including increasing director understanding of the intervention approach, improving director "buy-in," and increasing director support for teachers, as well as leveraging an existing resource with capacity to sustain the program over time.

In the current model, directors received considerable training and support to provide effective coaching. They attended training workshops with their teachers and completed the online program modules designed for teachers. They also attended a one-day workshop focused on strategies of effective coaching, completed three online modules that described and illustrated a systematic coaching structure and process, and had monthly visits from a REDI consultant to check in about coaching and program implementation. The qualitative interviews revealed that directors and teachers experienced the coaching process very positively, emphasizing the acceptability of the model. Teachers noted that they appreciated the director's involvement and support, including their formal meetings as well as informal classroom visits by the directors. They felt that these experiences promoted directors' understanding of the teacher's day-to-day responsibilities.

On the other hand, teachers often commented on feasibility issues associated with the coaching model. The most common negative comment by teachers was the lack of availability of the director to provide the intended level of coaching. Directors also echoed some concerns about feasibility and many noted "short cuts" they took in implementing the coaching process.

For example, rather than holding scheduled classroom observations and coaching meetings with teachers as recommended, many directors talked about stopping by the classroom periodically or catching the teacher when they could. Comments about feasibility challenges in implementing the REDI coaching model were not significantly related to enthusiasm for future use. This pattern of findings suggest that directors and teachers valued the approach but that centers will likely modify the recommended coaching process. Future research is needed to better understand the parameters of director-provided coaching that are critical to its success in promoting improved teaching practices. Researchers have emphasized the need to build ongoing, system- wide support for PD efforts (Downer et al., 2009) and the importance of including directors in PD, given their heavy influence on the emotional climate in childcare centers (Zinsser et al., 2016). The present study findings indicate a high level of interest among directors and teachers for this kind of involvement, but also identify challenges in terms of finding the time to do so given the context of childcare center workplaces. Together with accumulating research documenting the importance of administrative buy-in for preschool intervention success (Assel et al., 2004), these findings suggest policy and practice changes are needed to empower childcare directors to more effectively monitor the quality of their classroom programs and support the PD and skill development of their staff.

Implications for Practice and Policy Affecting Childcare Preschools

Grounded within an implementation science conceptual framework (Proctor et al., 2011), this qualitative study lends real-world perspectives on processes associated with implementing evidencebased programming in community-based childcare centers intended to improve teaching quality and child outcomes. The majority of research about the "strongest hope" for improving young children's school readiness has been conducted in Head Start or public prekindergarten programs (Weiland et al., 2018; Yoshikawa et al., 2013), which serve only a subset of preschool aged children (Childcare Aware of America, 2017). Given that they enroll approximately one-third of all 4-year-olds attending



preschool (NCES, 2019), childcare preschools warrant additional research focus. The fragmented structure, inconsistent funding, and workforce challenges faced by childcare centers necessitate a thoughtful approach to evidence-based curriculum and PD implementation (Whitebook et al., 2014). This mixed methods study provides unique information about the experiences and attitudes of childcare teachers and directors during the year that a multi-component evidence-based curriculum was implemented, complementing quantitative-only evaluation approaches.

Directors' and teachers' qualitative responses offered a rich understanding of the challenges this kind of program implementation creates in childcare centers and highlighted key features of the workplace that may impede efforts to improve program quality. Unlike Head Start or public school prekindergarten programs that provide infrastructure and associated resources to help manage some of organizational demands, most childcare centers are small and isolated businesses that struggle to stay afloat in a competitive but poorly funded market. Current efforts aimed at policy change focus on supporting the early education workforce by setting more limits on teacher qualifications and wages and attending to parity between publicly-funded prekindergarten programs and childcare preschools (Child Trends, 2019). At the same time, qualitative responses revealed that some structural regulations (e.g., maintaining a small teacher:child ratio) ultimately undermined process quality, as they interrupted teacher instructional time or were a major focus of director job stress. Moreover, a study of Pennsylvania's statewide quality improvement rating system revealed that some regulations were not linked to child outcomes and recommended creating stronger ties from empirical research to the requirements (Sirinides et al., 2015). The current findings suggest an additional policy focus on administrative supports and director training may be important for improving program quality in childcare centers.

Limitations & Future Directions

Several limitations of this study should be noted. First, this study examined qualitative perspectives. The randomized trial from which these data were drawn also included quantitative measures of teaching quality, which documented a positive impact of the REDI program implementation on classroom instructional quality and language use relative to usual practice childcare preschool (Welsh et al., 2020). Future studies will be needed to determine how teacher and director perceptions were related to quantitative measures of teacher change or to child outcomes.

Second, it is possible that the teachers and directors who chose not to complete the interview felt differently than those whose views are represented here, although this study represents a majority (87%) of those in the intervention group. This study used the proportion of comments that participants made in response to questions about the workplace, REDI program, and REDI coaching model as indicators of their program evaluations. Meaningful associations emerged among these perceptions and between these perceptions and participant ratings of interest in future program use, suggesting that the proportion of comments made provided a valid index of their evaluations. However, direct quantitative ratings of the workplace and intervention acceptability, feasibility, and effectiveness would have strengthened the conclusions drawn about participant evaluations.

Finally, although the childcare centers that participated in this study were widely dispersed in Pennsylvania (drawn from 10 counties in different areas of the state), all centers were in the same state. Regulations and supports for childcare centers vary from state to state, making it unclear how well the findings of this study generalized to childcare programs in other areas of the country.

This study represents a preliminary examination of childcare center teachers' and directors' opinions about participating in an evidence-based intervention, extending previous work by addressing factors that contributed to their evaluation of the REDI intervention. Studies highlighting the perspectives of childcare center directors and teachers are important given this population's underrepresentation in research on evidence-based interventions (Weiland et al., 2018). We found that teacher and director perspectives about intervention activities were related to their feelings about the working environment, and their evaluations predicted their enthusiasm for sustaining the



intervention. More research is necessary to validate the relative contribution of workplace factors to intervention success in community-based childcare centers and understand whether there are policy modifications that might take workplace contextual factors into account without reducing education quality.

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Disclosure Statement

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