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# Preparing early educators as frontline leaders and change agents with a leadership development initiative

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## Abstract

The present study examined the impact of a leadership development program, *Leading for Change* (LfC) that focused on building the capacity of early educators to lead change as frontline leaders and change agents. Bringing together a relational-entrepreneurial leadership theory lens, the LfC was designed to foster early educators' leadership mindset, knowledge, and skills that could potentially bring a long-lasting impact on many aspects of the early care and education (ECE) field. With a sample of 31 racially and linguistically diverse early educators, the present study compared participants' entrepreneurial mindset, leadership competencies, and capacity to act as change agents and leaders before and after the LfC program. Results showed that participants' perceptions of themselves as leaders were increased after completing the LfC. They also demonstrated more confidence in their own ability to drive positive change where they work and more broadly in the ECE field. Findings from this study suggest that the relational-entrepreneurial leadership approach taps into early educators' insights, passions, and knowledge and equips them to participate in leadership for quality improvement and positive change.

**Keywords:** Leadership development, Early childhood education, Equity, Diversity, Professional development, Quality improvement

## Introduction

Effective leadership is a key driver of organizational performance and improvement. However, until recently, leadership has been a relatively neglected lever for quality improvement in the early care and education (ECE) sector (Douglass 2017; Goffin & Daga, 2017). An emerging body of literature suggests that developing and strengthening effective leadership in ECE can yield positive outcomes by promoting quality teaching and learning experiences for children, supporting and retaining teaching staff, and engaging families as partners (Kirby et al., 2021).

There is growing research and policy interest in promoting leadership from within the ECE workforce as a driver of quality improvement, innovation, and positive change (Kirby et al., 2021; New Venture Fund, 2018). Studies suggest that professionalizing the ECE workforce with a strong leadership development ecosystem, can effectively build a

more sustainable, high quality ECE system (Douglass 2016, 2017; Farnham et al., 2020). According to Douglass (2018), educators who are inspired and energized as leaders and change agents are likely to engage in ongoing professional learning and innovation, which has the potential to improve the quality of programs and services they provide.

Relational and entrepreneurial leadership development may be an effective approach to developing the capacity of frontline educators and administrators to act as change agents (Douglass 2018). Through the lens of a relational leadership perspective, leadership can be exercised not only by a formal leader, such as administrators, but also teachers, staff, and parents. Relational leadership can empower early educators from all levels and positions and facilitate their participation in decision-making and organizational change processes as leaders (Gittell & Douglass 2012). Entrepreneurial leadership is leadership for innovation that seeks out new, better, and more adaptive solutions to complex problems which often do not have predefined solutions available (Leonard, 2013). The entrepreneurial leadership literature highlights that the entrepreneurial leader needs knowledge and skills to identify challenges, create new solutions to improve outcomes, and access to human, social, and financial resources (Smith & Peterson, 2006). Bringing together a relational and entrepreneurial leadership theory lens in early educators' leadership development can be a promising approach for developing the capacity of frontline educators and administrators to act as change agents, innovators, and leaders in the ECE field.

While relational and entrepreneurial leadership have been explored in depth in the health and management fields, they have not been widely studied in ECE contexts yet (Douglass 2017; Borasi & Finnigan, 2010; Kirkley, 2017; Pihie & Bagheri, 2013). In previous studies, Douglass (2017, 2018) examined how early educators developed as leaders in the context of a graduate-level leadership development program, which was grounded in relational and entrepreneurial leadership perspectives. By conducting follow-up interviews with 35 program graduates 1 year after completion of the leadership program, this qualitative study sought to understand key processes and outcomes in the field of ECE leadership development. This study found that developing and supporting the leadership of early educators involves early educators (a) understanding leadership as a highly relational and entrepreneurial process that individuals and groups from all levels can exercise, (b) connecting this newly defined notion of leadership with early educators' own insights, knowledge, and expertise rooted in years of practice, (c) identifying oneself as a leader, (d) defining one's purpose for engaging in leadership, and (e) positioning themselves to take action to lead change. The present study was built on the work of Douglass (2018) and examined whether the relational-entrepreneurial leadership program has impacts on early educators' entrepreneurial mindset, leadership competencies, and capacity to act as change agents and leaders. Having a better understanding of how transformative leadership can be fostered within the ECE workforce at every level can guide ECE professional development and quality improvement interventions.

### **Defining leadership for change**

Leadership is a broad construct with a rich tradition of diverse definitions, conceptualizations, and theoretical foundations. Traditional notions of leadership typically focus on individual leader traits or attributes and a form of leadership that emphasizes

command and control, power, hierarchy, and decisiveness (Fletcher, 2004; Gittell & Douglass 2012). On the other hand, much broader, more inclusive, and nuanced perspectives have emerged in contemporary leadership research. This includes research on relational, collective, and shared leadership (Fletcher, 2004; Gittell, 2016; Uhl-Bien & Ospina, 2012). These forms of leadership offer key insights that can inform the growing study of leadership in ECE (Douglass 2019; Kirby et al., 2021; Wise & Wright, 2012).

The current paper focuses on leadership for change and improvement in the ECE sector. Leading change requires a unique combination of knowledge, skills, and mindsets. It requires technical skills and content knowledge to structure and implement ECE practice and system change. It also requires the entrepreneurial leadership skills and mindsets needed for innovation and transformative and adaptive change (Goffin & Washington, 2007; Heifetz et al., 2009; Kirby et al., 2021). Adaptive changes are those for which a pre-existing, off-the-shelf solution is not readily available (Heifetz et al., 2009). The persistent challenges and barriers to quality improvement in ECE settings are very often adaptive challenges, which tend to require the relational and entrepreneurial leadership capabilities of creativity, innovation, experimentation, collaboration, and relational coordination (Douglass 2017). Scholars define relational leadership as a process of influencing change and improvement through a common vision, connection, and interdependent action (Uhl-Bien, 2006). Unlike traditional top-down, centralized leadership, relational leadership upholds the norms of openness, collaboration, and inclusion (Douglass 2017; Gittell & Douglass 2012). It views the knowledge, ideas, and expertise of individuals at all levels of an organization or system as critical assets to achieve common goals (Ancona & Bresman, 2007). From a relational perspective, anyone may exercise leadership, regardless of job titles or formal positions (Gittell, 2016; Gittell & Douglass 2012).

Previous research suggests that relational leadership is positively associated with increased work engagement, job autonomy, satisfaction, productivity, organizational performance, decreased reports of turnover and emotional exhaustion, and innovative practices (Cummings et al., 2018; Gittell, 2016). Because relational leadership is founded on collaboration, shared power, mutual respect, caring, and inclusivity, it aligns with many ECE pedagogical approaches and values, and thus may offer leadership that reflects and is equipped to advance the values and goals of the profession.

Entrepreneurial leadership is another distinctive approach that may also contribute to early educators' capacity to be effective change agents (Hess, 2006; Leonard, 2013; Smith & Petersen, 2006). This leadership approach seeks out new, better, and more adaptive solutions to complex problems or adaptive challenges which do not have readily available solutions yet (Douglass 2017, 2018). Entrepreneurial leadership entails active engagement in innovation, creativity, opportunity-seeking mindsets, mobilizing resources strategically, testing and developing ideas, and engaging in decision-making and problem-solving processes (Borasi & Finnigan, 2010). Although this form of leadership has primarily been applied in the business context, it has begun to inform innovative solutions and policies in the education sector. Entrepreneurial leadership holds the potential to tap into early educators' insights, passion, and knowledge that may enable them to create innovative solutions to complex problems in the rapidly changing ECE landscape (Hess, 2006; Leonard, 2013; Smith & Petersen, 2006).

It is important to note that early educators hold a wealth of knowledge, expertise, and insights. Indeed, they have privileged access to information about early education practice and contexts that is not available to those outside the field (Douglass 2017). However, such assets have often gone unnoticed and unappreciated by quality improvement and professional development systems and policies. Entrepreneurial and relational leadership perspectives suggest that when the ECE workforce is equipped and empowered as leaders and innovators, deep change and improvement can occur (Douglass 2017; Goffin & Daga, 2017; Kirby et al., 2021).

### **Fostering early educators' leadership development**

Motivated by the promise of fostering early educators' leadership in improving and sustaining many dimensions and aspects of quality in ECE settings, several leadership development models have been introduced in the ECE field. According to a recent review of 57 ECE leadership development programs (Goffin & Daga, 2017), the leadership training programs in the U.S. have become more role-specific and content-specific to meet the needs of early educators. Most of these programs (79%) were found to focus on participants' acquisition of core content knowledge and skills closely related to the ECE context in which leadership is exercised. Also, many of these programs use communities of practice and cohort learning models to provide participants with opportunities for feedback, reflection, and collaborative problem-solving. Goffin and Daga (2017) noted that fostering entrepreneurial habits of mind, systems thinking, and innovative leadership have emerged as new leadership development interests in recent years.

Similarly, a report from New Venture Fund (2018) indicates that leadership programs tend to place emphasis on applied and contextualized learning opportunities and increasing participants' capacity to translate their leadership vision to action. The report also documented that leadership programs provide not only formal training, such as coursework or concentrated workshops, but also a range of person-centric relational supports, such as mentoring, network building, and peer learning. Notably, leadership development has also been viewed as a driving force for ECE quality improvement in global contexts. According to a review of 55 studies from a broad range of countries (Douglass 2019), several elements are likely to increase the effectiveness of leaders and their capacity to lead. These elements include specialized and in-depth content knowledge, actionable knowledge, cooperative learning and mentoring, and relational and collaborative forms of leadership.

Existing research on several leadership development programs suggests that leadership knowledge, skills, and mindsets are potentially modifiable targets for interventions. For example, Taking Charge of Change (TCC) is a 10-month leadership training program for center directors. This program focuses on providing structured settings for collegial support, community building, tools for data-driven program improvement plans, mentorship to bridge theory to practice, and opportunities to apply their learning in the workplace for ECE program directors. Findings from Bloom and colleagues (2013) showed a significant increase in the TCC participants' level of perceived competence in various knowledge and skills. Another example is the Lead Learn Excel leadership program. This program aims to foster instructional leadership of ECE directors by incorporating training, coaching, and peer learning opportunities with educators and facilitating

participants' access to practical tools and resources (Ounce of Prevention Fund, 2015). Positive impacts of these programs on ECE educators' leadership skills provide qualitative insights into how directors' leadership mindset and leadership knowledge and skills can be fostered through leadership development programs.

However, despite growing interest in documenting the impact of leadership development programs, leadership development programs and opportunities are still not widespread in the ECE sector. Furthermore, there is little published research on the impact of ECE leadership programs. Many U.S. states have no reported ECE leadership development programs, and the programs tend to be primarily small-scale local programs (Goffin & Daga, 2017; Kirby et al., 2021; New Venture Fund, 2018). This trend shows that leadership development is a gap and there is a pressing need to understand what kinds of programs and supports are needed to increase access to leadership development opportunities in the ECE sector. Hence, leadership development is an important area of research to build knowledge and inform policy and practices about evidence-based strategies for quality improvement in the ECE field.

#### **The leadership development program: *Leading for Change***

In response to the need for theory-driven and evidence-based leadership development programs for the ECE workforce, *Leading for Change* (LfC) was disseminated and implemented through university-based leadership programs. The LfC was designed specifically for early educators in all roles and positions (e.g., program directors, educators, and family childcare providers) and program types in the mixed delivery system of ECE with its core mission of cultivating racially and linguistically diverse leadership in the ECE field; participants actively work in the field while engaged in the program. The LfC was delivered in a variety of modalities as an in person academic course for undergraduate or graduate credit, a hybrid graduate course, and as a course for continuing education units or professional development credit. The LfC model is a curriculum whose theory of change identifies three principal components that are essential for early educators to increase their capacities as leaders for change. The first one is an entrepreneurial mindset. Early educators with an entrepreneurial mindset are characterized by creative and innovative thinking, problem-solving, and seeking new, better, and more adaptive solutions to complex problems (Douglass 2018). This mindset can be fostered by shifting perceptions of what it means to be a leader. Understanding leadership as a process of influencing or motivating groups of people to work together toward change, to accomplish a goal or solve a problem rather than a job title or formal position can tap into educators' abilities and potential to become leaders in the ECE field (Kirby et al., 2021).

The second element is increased knowledge, skills, and abilities that potentially lead to a greater degree of reflective practices, collaboration, efficacy, and innovative approaches as change agents and frontline leaders. For example, broad and deep knowledge of child development, pedagogical strategies, practices, and the use of relational and entrepreneurial leadership-rooted strategies to mobilize knowledge and facilitate innovation for change and improvement can increase ECE educators' competence as leaders (Kirby et al., 2021; New Venture Fund, 2018). The final piece is taking action to lead change. Taking actions to drive change requires the capacity to mobilize, orchestrate, and deploy resources, supports, and information in a dynamic and adaptive manner (Quinn, 2004).

Collectively, these three components can empower educators to design and implement innovative practices, and lead to transformations and improvement in the organizations and systems in which they are a part.

### **Current study**

The purpose of this study was to examine whether the LfC, centered around (1) cultivating entrepreneurial leadership mindsets, (2) building knowledge about change and innovation, and (3) development of a concrete action plan to lead change, could meaningfully impact the leadership skills of participants. Specifically, we investigated the following three questions:

- (1) Do participants in the LfC experience change in their entrepreneurial mindset at program completion? We hypothesized that participants would become more likely to see themselves as leaders who can drive change in the field.
- (2) Do the participants' perceived levels of leadership competencies differ before and after program completion? We expected that participants would report higher levels of leadership competencies in their capacity and knowledge to take actions as change agents and leaders.
- (3) Do participants demonstrate evidence that they are likely to lead changes in their ECE programs at program conclusion? We hypothesized that participants would apply new skills, knowledge, and mindsets to their practices to lead change by the time they complete the program.

## **Methods**

### **Participants**

The LfC participants were recruited from the field through various methods, including advertising on social media, the large network of early educators and alumni connected to the university, the state universal preschool initiative, and the long waiting list for the program. All participants in the LfC were invited to complete the pre- and post-surveys. In total, 31 early educators from racially and linguistically diverse backgrounds completed the survey. Table 1 describes the characteristics of the participants, including demographics, professional background, and the characteristics of programs they serve. Most participants were female (93.5%), and they ranged in age from 24 to 68 years old ( $M = 41.82$ ,  $SD = 12.94$ ). The racial/ethnic composition of the sample was 37.0% White, 25.9% Black, 7.4% Hispanic/Latinx, 18.5% Asian, and 11.1% other races. 42.9% of participants reported that they speak languages other than English.

The education levels among the participants were diverse, with over half of the participants having earned graduate degrees (51.6%), followed by 32.4% having bachelor's degrees. The remaining participants (16.1%) reported less than bachelor's degree (i.e., having attended some college but no degree, associate degree). 60% of participants had more than 10 years of teaching experiences in ECE settings, followed by 20% between 6 and 10 years, and 20% 5 years or less.

**Table 1** Background characteristics of study participants

| Variables                                | M     | (SD)    |
|--|-------|---------|
| Demographic characteristics              |       |         |
| Female, %                                | 93.5  |         |
| Age                                      | 41.82 | (12.94) |
| Race/ethnicity, %                        |       |         |
| Non-Hispanic White                       | 37.0  |         |
| Non-Hispanic Black                       | 25.9  |         |
| Hispanic/Latino                          | 7.4   |         |
| Asian                                    | 18.5  |         |
| Other races                              | 11.1  |         |
| Speaking non-English languages, %        | 42.9  |         |
| Professional background                  |       |         |
| Education, %                             |       |         |
| Less than Bachelor's degree              | 16.1  |         |
| Bachelor's degree                        | 32.3  |         |
| Higher than Bachelor's degree            | 51.6  |         |
| Years in the EEC field, %                |       |         |
| No more than 5 years                     | 20.0  |         |
| More than 10 years                       | 20.0  |         |
| More than 10 years                       | 60.0  |         |
| Currently working in the EEC field, %    | 81.5  |         |
| Program characteristics                  |       |         |
| Current position, %                      |       |         |
| Director/assistant director              | 54.5  |         |
| Lead teacher                             | 36.4  |         |
| Other positions                          | 9.1   |         |
| Number of children to serve, %           |       |         |
| No more than ten                         | 4.5   |         |
| 11 to 99                                 | 54.5  |         |
| More than 100                            | 40.9  |         |
| Working in QRIS participating program, % | 90.5  |         |
| Level 1                                  | 5.0   |         |
| Level 2                                  | 40.0  |         |
| Level 3                                  | 55.0  |         |
| Level 4                                  | 0.0   |         |

N = 31

In addition, when the leadership program was taking place, 81.5% of participants reported that they were currently working in the ECE field, with over half of them working as director/assistant director/owner (54.5%), and the rest as lead teachers in ECE and primary grades settings (36.4%) and other positions (9.1%), such as assistant teachers. In the settings in which they were employed, 40.9% were serving more than 100 children, and 54.5% were serving 11 to 99 children. 4.5% of participants reported that they were serving no more than 10 children.

#### **Leadership development program (intervention): *Leading for Change***

The participants in this study were enrolled in two cohorts in the *Leading for Change* leadership development program (LfC). The program is offered as 40-h credit-bearing

college courses spread over a 15-week semester. Notably, cultivating racially and linguistically diverse women’s leadership is the core mission and purpose of this leadership program. The LfC focuses on three principal components: increasing knowledge, skills, and abilities, developing an entrepreneurial mindset, and taking action to lead change. All course activities and objectives are aligned to these three components (see Table 2). During the 15-week LfC, participants engage in activities that can increase their knowledge of and critically examine different approaches to current theory, research and practice in leadership and change in the context of early care and education. While participants are building their foundational knowledge about leadership and change, they are supported, through discussions and class activities, in reflecting on their own style and potential as leaders and developing a clear and comprehensive plan of action for making change in the field. Previous studies (Kirby et al., 2021; New Venture Fund, 2018) have established that increasing knowledge of child development, practices, teaching strategies, and use of relational and entrepreneurial leadership paired with strategies to lead change and improvement increases early educators’ competence as leaders. The three components of this course were designed to collectively engage early educators in innovative thinking and practices that support their ability to lead change and transform the ECE field from within.

Participants began the course by reading extensively about leadership, entrepreneurship, and change theories from a variety of disciplines, including management, nursing, healthcare, and education. Discussion groups support participants’ understanding of the

**Table 2** Key learning activities of the LfC program

| Three Pillars                                    | Course learning objectives  | Course activity/assignment   |
|--|---|--|
| Increasing knowledge about change and innovation | Demonstrate an understanding of current theory, research and practice in leadership and change, with emphasis on the context of early childhood education and care<br>Critically examine different approaches to leadership and change, including top-down and bottom-up approaches, as well as new research on relational leadership<br>Critically evaluate research on leadership and change and demonstrate how to apply this research to practice                       | Assigned scholarly readings about leadership, change, and innovation<br>Class discussions during in-person sessions<br>Virtual discussion board posts about individual and group analysis of research and theory |
| Developing an entrepreneurial mindset            | Critically evaluate research on leadership and change and demonstrate how to apply this research to practice<br>Demonstrate an understanding of leadership styles and the ability to assess their own styles, strengths and potential as leaders in various settings  | Course discussions during in-person sessions<br>Virtual discussion board posts<br>Participation in Reflected Best Self Exercise<br>Reflective essay about leadership pathway                                     |
| Moving to action                                 | Demonstrate knowledge of theory, research, and practice related to change and quality improvement in the field of ECE<br>Apply theory and research on leadership and change from other fields to the early care and education context<br>Demonstrate an understanding about how to think strategically, build consensus, create change, effectively collaborate with and mentor others, and have a positive influence on outcomes for children, families and the profession | Development of a Theory of Change for desired change in ECE<br>Capstone project: action plan for implementing change   |



concepts and their application to the context of early childhood education. The cohort model of LfC encourages collaboration and collegiality, further developing participants' relational leadership abilities (Saltiel et al., 2002). Rich discourse in class sessions was facilitated using appreciative inquiry techniques, inviting participants to examine leadership and change through discourse and participatory action. Appreciative inquiry has been shown to be a method for supporting the development of relational leadership (Sim, 2019).

Finally, the course focuses on equipping participants with a set of concrete solutions to enact change in early education. Participants develop an action plan for a change they would like to make in early education, either in their workplace, community, or in the larger system. They begin by examining research about a topic of their choosing to build a basis for why a change needs to occur. Next, they develop a theory of change driven by knowledge, experience, beliefs, and assumptions concerning how and why people change, and what can motivate or support them to do so. Then, they create a plan for how they will implement the change, what type of leadership is needed, and their roles in bringing the plan to fruition. This capstone project is submitted in the form of an academic paper or report and a presentation at a large convening of early educator leaders and stakeholders.

### **Measures**

Participants completed pre- and post-surveys on the first and the last sessions of the LfC. The effects of the LfC were examined using three indicators, including the entrepreneurial mindset, leadership competencies, and initiating change and leadership actions. The first two indicators were collected twice before and after the 15-week program, whereas the last indicator was collected only after completing the LfC. A paper-pencil survey was the primary form of survey; however, for those who missed the class on the survey administration days, online-based surveys were offered via Qualtrics.

To better understand how the program may impact participants' leadership mindset and competencies, we developed a self-reported scale based on the theoretical framework and leadership scales in the field. This was because there was no valid ECE leadership measure that is directly related to our study outcomes. We first identified a pool of 22 items from the available literature (e.g., Iqbal et al., 2016; Maslach & Jackson, 1981; Peterson et al., 2010; Short & Rinehart 1992; Villa & Calvete, 2001). Then, we selected and modified the content based on the items and theoretical construct. Next, the second and third authors (with doctoral degrees in early childhood education and more than 30 years of combined research experience in the topic) independently reviewed those items and made minor revisions. Specific information about the subscales is presented below.

#### ***Entrepreneurial leadership mindset***

Participants' perceptions of themselves as leaders and change agents were assessed using four items adopted from the Stage of Change Scale for Early Education and Care 2.0 (Peterson et al., 2010). The scale has 7 Likert-type items, and it was developed to capture early educators' leadership/entrepreneurial mindset as change agents. After carefully reviewing seven items, the research team selected and modified four items from

the scale related to leadership and entrepreneurial mindset that the LfC program aims to facilitate. Example items include “*When it comes to leading changes in early education and care, I think of myself as a leader*” and “*When it comes to leading changes in early education and care, I am working to lead a change or improvement right now.*” In both pre- and post-surveys, the same set of questions was administered. These items were based on a 4-point Likert-type scale (1 = *strongly disagree* to 4 = *strongly agree*). These ratings were averaged to create a composite indicator of perceived entrepreneurial mindset for each participant; higher scores indicated higher levels of an entrepreneurial mindset. The internal reliability of the items was 0.71.

#### **Leadership competencies**

Eight items were pulled from previously used and validated measures in leadership research (Maslach & Jackson, 1981; Short & Renehart, 1992; Villa & Calvete, 2001). After expert review, the wording of some items was adapted to reflect the context of ECE. These items measured the extent to which early educators felt that they had the ability to mobilize information, resources, and support to get things done in their work settings. Example items include “*I have the ability to influence others,*” “*I have the respect of my colleagues,*” and “*I have gained knowledge about leadership in ECE.*” Response options ranged from 1 (*not at all confident*) to 5 (*extremely confident*). These items were summed to create a composite leadership competency variable for each participant. Higher mean scores denoted higher levels of competencies ( $\alpha = 0.83$ ).

#### **Initiating change/leadership actions**

To examine whether participants demonstrate evidence that they are likely to lead changes in their ECE programs at program conclusion, initiating change and leadership actions in their practice was measured using an open-ended question at the end of the post-survey. We asked: “*Please provide some examples of how your practice has changed in the areas as a result of the LfC, such as working with children and families, interacting with colleagues and supervisors, community engagement, and early education policy work outside of the workplace.*” We decided to administer the initiating change/leadership action measure at post-test as the participants did not have a clear definition before joining the program. We also wanted to capture the changes as a result of the LfC participation.

#### **Data analysis**

The primary goal of this study was to explore the preliminary efficacy of the LfC and understand the characteristics of educators who would engage in leadership work as professionals. To do this, we first conducted descriptive analyses using data collected right before the LfC began. Next, a series of pre- and post-test analyses were conducted using the Wilcoxon signed ranks test. Due to the small sample size and non-normality of score distributions, the use of the paired *t*-test was inappropriate (McDonald, 2014). The LfC data met three assumptions that are required to use the Wilcoxon signed ranks test (McCrum-Gardner, 2008): (a) the dependent variables should be ordinal or continuous, (b) the independent variable should consist of two categorical related groups (i.e., the participants have been measured on two occasions on the same dependent variables),

and (c) the distribution of the differences between the pre- and post-tests scores are symmetrical in shape. The null hypothesis is that the median difference between pairs of observations is zero. Additionally, the effect sizes were calculated using  $r_{\text{equivalent}}$  (Price et al., 2012; Rosenthal & Rubin, 2003).  $r_{\text{equivalent}}$  is an appropriate effect size measure when nonparametric procedures are used, and sample sizes are small (Rosenthal & Rubin, 2003). It is important to note that due to the lack of randomization procedure, small sample size, and not enough statistical power to validate the measurement, the analysis was not intended to validate the causal effects of participating in a leadership program on educators' perceptions and confidence. There was no more than 20% of missing data for any individual variable (ranged from 0 to 19.4%). Analyses included all data available, and the mean of the answered items was calculated to obtain the mean composite scores for each construct.

To address the third research question (i.e., early signs/evidence indicating that participants apply what they learned/leadership mindset in the actions at the conclusion of their LfC experience), and to support the findings of the quantitative analysis, participants' open-ended responses were analyzed using deductive coding methods (Miles et al., 2014), beginning with our main variables of interest: entrepreneurial leadership mindset, leadership competencies, and initiating change/leadership actions. We reviewed the responses to the open response question asking respondents to share examples of how their practice has changed since completing the program. We analyzed these responses using structural coding, which categorized the qualitative data in relationship to our research questions (Saldaña, 2016). Based on team discussion and initial coding, we identified three themes about the types of change participants made as a result of the course (i.e., curriculum improvement, family engagement, and relationship building). Then, another member of the research team reviewed the responses prior to viewing the initial categorizations to test for accuracy and trustworthiness. There were no discrepancies in the identification of codes, and thus we used them to code all the qualitative data. This analytic procedure enabled both the identification of specific themes and allowed for additional themes to emerge. Analyzing the quantitative and qualitative data enabled triangulation of findings (Miles et al., 2014). In the result section, direct quotes are presented as illustrative evidence of the findings.

## Results

### Growth in entrepreneurial mindset

Table 3 presents descriptive statistics for the outcome variables of entrepreneurial mindset at pre- and posttest. We found significant pre-post differences in terms of participants' perception of defining themselves as leaders and change agents before and after the LfC. A Wilcoxon signed ranks test showed that post-test scores were significantly higher than pre-test scores ( $Z = -2.43$ ,  $p = 0.015$ ,  $r = 0.44$ ). Indeed, median composite scores were 2.75 before the LfC and 3.25 after the LfC. Further comparison at the item level showed significant change for the following three items: (1) identify/see as a leader in ECE ( $Z = -2.33$ ,  $p = 0.016$ ,  $r = 0.42$ ), (2) confident to lead change/improvement ( $Z = -2.58$ ,  $p = 0.009$ ,  $r = 0.46$ ), and (3) having professional networks for change ( $Z = -2.67$ ,  $p = 0.008$ ,  $r = 0.48$ ).

**Table 3** Participants’ change of entrepreneurial mindset before and after the leadership initiative

| Variables  | Pre  |        |      | Post |        |      | Z      | p     | r    |
|--|------|--------|------|------|--------|------|--------|-------|------|
|  | M    | (SD)   | P50  | M    | (SD)   | P50  |        |       |      |
| Entrepreneurial mindset  | 2.73 | (0.75) | 2.75 | 3.14 | (0.39) | 3.25 | - 2.43 | 0.015 | 0.44 |
| Think of myself as a leader  | 3.10 | (1.01) | 3.00 | 3.63 | (0.63) | 4.00 | - 2.33 | 0.016 | 0.42 |
| Seek to lead changes in early education and care                   | 2.67 | (1.21) | 3.00 | 3.30 | (0.47) | 3.00 | - 2.58 | 0.009 | 0.46 |
| Working to lead a change or improvement right now                  | 2.55 | (0.51) | 3.00 | 2.52 | (0.51) | 3.00 | - 0.57 | 0.565 | 0.10 |
| Having professional networks that support my leadership for change | 2.61 | (1.05) | 3.00 | 3.11 | (0.85) | 3.00 | - 2.67 | 0.008 | 0.48 |

N= 31. Wilcoxon signed rank test with continuity correction. P50= median score

**Table 4** Participants’ perceived leadership competencies before and after the leadership initiative

| Variables                                   | Pre  |        |      | Post |        |      | Z      | P      | r    |
|---|------|--------|------|------|--------|------|--------|--------|------|
|   | M    | (SD)   | P50  | M    | (SD)   | P50  |        |        |      |
| Leadership competencies                     | 3.70 | (0.72) | 3.56 | 4.38 | (0.46) | 4.44 | - 4.09 | <0.000 | 0.73 |
| Have the ability to influence others        | 4.17 | (0.87) | 4.00 | 4.42 | (0.64) | 4.50 | - 1.77 | 0.077  | 0.32 |
| Confident about my own ideas and capacities | 4.23 | (0.63) | 4.00 | 4.38 | (0.50) | 4.00 | - 1.67 | 0.095  | 0.30 |
| Being treated as a professional             | 4.30 | (0.53) | 4.00 | 4.35 | (0.56) | 4.00 | - 0.51 | 0.608  | 0.09 |
| Have the respect of my colleagues           | 4.37 | (0.56) | 4.00 | 4.69 | (0.55) | 5.00 | - 2.84 | 0.004  | 0.51 |
| Have knowledge about leadership in ECE      | 3.20 | (1.10) | 3.00 | 4.40 | (0.65) | 4.00 | - 4.40 | <0.000 | 0.79 |
| Have knowledge about relational leadership  | 3.10 | (1.32) | 3.00 | 4.16 | (0.69) | 4.00 | - 4.32 | <0.000 | 0.78 |
| Have knowledge about collaborating          | 3.55 | (1.06) | 4.00 | 4.46 | (0.66) | 5.00 | - 4.23 | <0.000 | 0.76 |
| Have knowledge about theory of change       | 3.07 | (1.28) | 3.00 | 4.20 | (0.76) | 4.00 | - 4.40 | <0.000 | 0.79 |
| Have knowledge about implementing change    | 3.20 | (1.16) | 3.00 | 4.35 | (0.75) | 4.50 | - 4.40 | <0.000 | 0.79 |

N= 31. Wilcoxon signed rank test with continuity correction. P50= median score

Participants’ shifting perceptions of identifying as leaders and change agents were also reflected in their written feedback. In responses to the open-ended feedback question, one of the predominant themes was a shift toward a leadership mindset as a result of the course. Participants described themselves as leaders (e.g., “I view myself as a practice leader.”; “I have realized I have a voice.”; “I am a better leader looking for institutional change.”) These statements from multiple participants illustrated how the participants came to be aware of themselves as ECE leaders and change agents.

**Increased leadership competencies**

Participants showed significant increases in leadership competencies as leaders and change agents (Table 4). Results from the Wilcoxon signed ranks test showed significant differences between before and after the LfC and a large effect size at the composite indicator level ( $Z = - 4.09, p < 0.001, r = 0.73$ ). Indeed, the median score before the LfC was 3.56, whereas the median score after the LfC was 4.44. In addition, comparison at the item level revealed that significant change for the following six questions: (1) have the respect of my colleagues ( $Z = - 2.84, p = 0.004, r = 0.51$ ), (2) have gained knowledge about leadership in ECE ( $Z = - 4.40, p < 0.001, r = 0.79$ ), (3) have gained knowledge

about relational leadership ( $Z = -4.32, p < 0.001, r = 0.78$ ), (4) have gained knowledge about collaborating with others ( $Z = -4.23, p < 0.001, r = 0.76$ ), (5) have gained knowledge about how to use theory of change ( $Z = -4.40, p < 0.001, r = 0.79$ ), and (6) have gained knowledge about implementing change ( $Z = -4.40, p < 0.001, r = 0.79$ ).

Participants' written responses also revealed increased knowledge and leadership competencies at the end of the LfC. Several responses included descriptions of what the participants came to learn in the program, such as developing an action plan and communicating with supervisors or stakeholders to carry out a particular course of action successfully. One participant exemplified this by reporting, "I feel more confident in working with families and encouraging them to be more engaged with us." Another participant reported, "I have learned how to advocate outside the workplace by networking in this field and talking to politicians in supporting the work with young children." These quotes demonstrated the shift in participants' confidence with their relational leadership abilities such as cooperation, shared leadership, and networking.

#### Initiating changes in the workplace

Participants' qualitative responses provided evidence that they were likely to lead changes in their ECE programs as a result of the course. Three subthemes emerged about the types of change that the participants were able to make. The first subtheme was related to curriculum or curriculum improvement initiatives that participants implemented. Illustrative quotes include, (a) "We have incorporated quality curriculum planning into our practices by lesson study to strengthen teacher collaboration within our program, which has built trust and respect among teachers and coworkers.," (b) "Due to the shortage of teachers at my site I have reached out to teaching staff to assist with curriculum areas and to support teachers and families. I take more responsibility as a leader in my room than before. I help other teachers that are not in my team with lesson plans and other works.," and (c) "I have been able to identify the needs of my teachers and support, lead, and fight for things to change." These findings suggest that once early educators are empowered to use their leadership to make change, they can apply it to their work in their classrooms and programs.

A second subtheme that emerged was related to family engagement initiatives. Illustrative quotes include, (a) "We identified areas of practice from the *Strengthening Families* data and select one to address our problem of practice." and (b) "I find myself being more engaged with families, getting them to open up and become more trusting, not just with me, but also with teachers." These findings suggest that participants applied what they learned about leading change to their work with families.

The third subtheme was also related to relationship building, or initiatives for meeting children's specific needs. Illustrative quotes include, (a) "Before approaching a child with challenging behaviors I would get so stressed out and frustrated but now I'm calmer and at peace that I want to help the child return to class instead of just take them out without even knowing the root of the problem." and (b) "Most importantly it's about others. Supporting special needs, students who need to develop their social-emotional growth, as well as other classrooms." These responses further support the finding that participants in the LfC were empowered to make change as a result of engagement in the program

and apply their leadership to different areas of their work with colleagues, families, and children.

## Discussion

Effective leadership is a driver of quality improvement. Supporting early educators' capacity to identify as leaders has been viewed to be a promising approach to accelerating improvement (Douglass 2018). Emerging literature suggests that empowering ECE educators to participate in leadership and use their expertise and experience to drive change has the potential to yield fruitful outcomes across many aspects of the ECE field. However, there has been a lack of evidence on which approaches, features, and leadership practices lead to improved outcomes for staff, program quality, and children (Kirby et al., 2021). This study aimed to examine whether a leadership development initiative informed by a relational-entrepreneurial leadership theory lens can help promote educators' perceptions and confidence as ECE leaders and change agents. Overall, our findings confirm that ECE professionals demonstrate higher levels of entrepreneurial mindset and identification of themselves as leaders following their participation in the LfC.

The present study also suggests that the LfC can engage early educators from all levels within organizations and the field, beyond just individuals who hold formal roles as leaders. In the present leadership initiative, participants varied in terms of demographic, professional, and employment backgrounds. To be specific, 54.5% of them were formal leaders with administrative position titles (e.g., program director, assistant director), but the remaining 45.5% included teachers and assistant teachers from various ECE settings (e.g., infant/toddler, preschool, kindergarten-2nd grade teachers). Early educators who are not in formal leadership roles, such as center director, might have been invisible as important change agents from a top-down or traditional leadership development perspective; however, the LfC recognizes that leadership can be exercised by a range of staff at any level who may hold formal or informal leadership roles within an organization or system (Douglass 2017) and is therefore intentionally inclusive of educators. Furthermore, the LfC participants were racially and linguistically diverse—the vast majority were women of color and almost half of them spoke languages other than English. Its diverse composition may suggest that the relational-entrepreneurial leadership approach has the potential to be highly influential in cultivating racially and linguistically diverse leadership in the field of ECE.

We also found that the LfC effectively promoted participants' entrepreneurial mindset. Upon the LfC completion, participants' levels of entrepreneurial mindset have significantly increased, compared to their levels of mindset at the beginning of the program. The literature on leadership development highlights the importance of individuals' professional identity and sense of themselves as leaders. Several empirical findings indicate that it is valuable to foster a leadership mindset in formal leaders and staff who identify as educators or practitioners (Abel, et al., 2017; Douglass 2017, 2018; Wang & Ho, 2018). Notably, according to LfC participants' qualitative responses, many individuals who were not in a formal leadership role (e.g., classroom teacher, assistant teacher, and float-ing teacher) reported that they came to view themselves as leaders and pursue practices to improve the quality of education in various ways in their workplace. This evidence

suggests that the relational-entrepreneurial leadership approach can be an effective way to foster ECE educators' professional identity as leaders, including among those who might have previously identified narrowly as educators or practitioners.

Additionally, our findings showed that improved leadership knowledge in combination with educators' expertise is likely to equip educators to begin engaging in change work for improvement in their work settings. After completing the LfC, our participants reported that they initiated various actions that aimed to promote instructional quality, create a positive workplace and organizational climate, build community partnerships, and establish effective organizational structures in their workplace. According to a research synthesis, teachers' leadership efficacy can enhance teachers' work-related performance, and the increased performance can positively contribute to children's experiences in primary schools (Hitt & Tucker, 2016). Our findings suggest that fostering the ECE workforce leadership may strengthen such mechanisms in ECE settings. Future studies are needed to investigate pathways through which leadership, directly and indirectly, influences positive outcomes for staff, families, and children. It is important to note, though, that some item-level scores did not differ between pre- and post-tests. These insignificant results may be due to a lack of understanding about leadership at program entry resulting in overestimating their capacities prior to the LfC. Meanwhile, qualitative data do suggest positive change in several subareas. It would be important to conduct further research based on this pilot study finding to further evaluate the effectiveness of the LfC.

#### **Limitations and directions for future research**

Although the present study showed some effects of the LfC, several limitations should be noted. First, this study was not a randomized control trial, so the effects of the LfC should be studied further. It would be beneficial for future work to carry out a randomized control trial that includes a comparison group to examine causal links between the leadership program and the outcomes of participants. Second, the instrument used in this study may not have captured a full array of changes that occurred among participants. It is possible that some of the participants experienced positive change in other domains, such as work-life balance and self-management. Further validity evaluation is needed to improve the scale. A more comprehensive measurement of early educators' leadership is needed to better understand the effects of the leadership initiative on early educators' perceptions and experiences. Also, the study relied on self-reports which may have introduced social desirability bias. Participant quotes about their increased knowledge are self-report data only and that the findings needs further study with other measures. Future studies could consider including direct observation and measurement of participants' practices in places they work to determine if the leadership program can alter not only perceptions but also actual practices. Finally, the post-survey was administered right after completing the program, and thus we were limited in our ability to examine whether the effects of the LfC could have long-term implications for early educators' leadership. Conducting a longer-term follow-up would be helpful to understand how educators' leadership can be sustained over time and the long-term benefits of the leadership initiatives for participants and the ECE field.

### **Implications for research and practice**

Early educators in the ECE field hold immense potential to mobilize and orchestrate internal and external resources to lead change for improvement in the ECE field. Our study suggests that leadership programs that emphasize developing relational-entrepreneurial leadership within early educators can be a promising strategy to tap into their insights, passions, and knowledge to yield positive results. When early educators understand that leadership is a process of working toward change and improvement with groups of people, and they have knowledge and expertise to lead change, it can bolster their willingness to take action for transformative change and innovation. It highlights the importance of broadening the view of leadership beyond management functions, to include leadership for change, improvement, and innovation.

There is a great need for more leadership development opportunities and systematic support from policymakers and program administrators, such as policies and funding to support ECE educators' broad participation in leadership development. Our findings indicate that investing in leadership development programs can potentially bring a long-lasting impact on many aspects of the ECE field, including providing quality education and comprehensive services, especially for children and families who otherwise may not have access to high-quality early education experiences.

### **Conclusion**

The ECE field is rapidly changing in response to the professionalization of the field, the urgent need to strengthen equity, and the impact of the pandemic. All of these require resilient, diverse, creative, innovative, collaborative, and capable leadership within the ECE workforce. In the context of this much needed change, relational-entrepreneurial leadership can enable early educators to develop the intellectual and human capital to create adaptive solutions to solve complex issues in the field. The results of this study indicate that three essential elements for effective ECE leadership—entrepreneurial mindset, leadership competencies, and capacity to act as change agents and leaders—can be developed through leadership development programs informed by a relational-entrepreneurial leadership lens. Douglass (2018) suggests that the benefits of “seeding, cultivating, and sustaining” these forms of leadership within the ECE field, are essential for advancing the profession and building a diverse, skilled, and creative workforce that can drive transformative change from within beyond the status quo (p. 389).

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### **Authors' contributions**

YL made substantial contributions to the analysis and interpretation of data and drafted the manuscript. AD made substantial contributions to the conception of the work and a major contributor in writing the manuscript. SZ made substantial contributions to the design of the work and interpretation of data. AWL and AR were involved in literature search and drafting the introduction. All authors read and approved the submitted version and agreed both to be personally accountable for the author's own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature. All authors read and approved the final manuscript.

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### **Availability of data and materials**

The datasets generated and/or analyzed during the current study are not publicly available but are available from the corresponding author on reasonable request.



## Declarations

### Ethics approval and consent to participate

The data collection protocol was approved by the University of Massachusetts Boston institutional review board for the protection of human subjects and participants gave informed consent to participate. The informed consent made it clear that participation was voluntary and would no impact on educators' status in the program.

### Consent for publication

Not applicable.

### Competing interests

The authors declare that they have no competing interests.

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