



Published in final edited form as:

Infant Ment Health J. 2020 May ; 41(3): 356–377. doi:10.1002/imhj.21853.

Parent Engagement in an Original and Culturally Adapted Evidence-based Parenting Program, Legacy for Children™

Marvin So, MPH^{a,b}, Ana L. Almeida Rojo, BS^{a,b}, Lara R. Robinson, PhD, MPH^a, Sophie A. Hartwig, MPH^{a,b}, Akilah R. Heggs Lee, MA^{a,b}, Lana O. Beasley, PhD^{c,d}, Jane F. Silovsky, PhD^d, Amanda S. Morris, PhD^c, Kelly Stiller Titchener, MA^c, Martha Zapata Roblyer, PhD^c

^aChild Development Studies Team, Centers for Disease Control and Prevention, 4770 Buford Highway, Atlanta, GA 30341

^bOak Ridge Institute for Science and Education, 1299 Bethel Valley Rd, Oak Ridge, TN 37830

^cOklahoma State University, 700 N. Greenwood Ave., Main Hall 1110, Tulsa, OK 74106

^dOklahoma University Health Sciences Center, 1100 NE 13th St., Oklahoma City, OK 73117

Abstract

Legacy for Children™ (*Legacy*) is an evidence-based program focused on promoting sensitive, responsive parenting for socioeconomically disadvantaged families. *Legacy* has recently been culturally and linguistically adapted for Spanish-monolingual Latino families and is being piloted in partnership with an early childhood education program. We conducted a mixed methods study to identify barriers and facilitators to engagement, using program monitoring data sources from both participant and group leader perspectives. We conducted qualitative analyses of open-ended data to identify distinct barriers (e.g., employment challenges, health-related challenges and appointments) and facilitators (e.g., other mothers in group, interest in program topics) to engagement that emerged across English and Spanish language curriculum versions; curriculum-specific barriers and facilitators were also documented. We interpret these findings in light of quantitative data on measures of engagement, showing that participants in the Spanish curriculum evidenced comparable levels of parent-group leader relationship quality relative to the English group, and higher levels of parent's group support/connectedness and overall satisfaction. These results offer promising considerations for optimizing families' engagement in parenting programs in the context of early care and education settings.

Corresponding Author: Marvin So, Child Development Studies Team, National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention, 4770 Buford Hwy, MS-E88, Atlanta, GA 30341 (mrmarvinso@gmail.com, Phone: 1-404-498-3822).

Notes: A preliminary version of this analysis was presented at the 2017 Society for Research in Child Development Biennial Meeting. The findings and conclusions in this report are those of the authors, and do not necessarily reflect the official position of the Centers for Disease Control and Prevention.

Conflicts of Interest: The authors have no conflicts of interest to report.

Human Subjects Approval: The information collection protocol was reviewed and approved by the IRB of Oklahoma State University, Protocol HE1484 "Legacy for Children Implementation Study". The study also received a Certificate of Confidentiality, issued by CDC.

Keywords

Legacy for Children™; Cultural adaptation; Mixed methods; Latino; Parenting

1. INTRODUCTION

Many disparities in adult health and socioeconomic status are associated with early childhood experiences (American Academy of Pediatrics [AAP] Council on Community Pediatrics, 2016; Yoshikawa, Aber, & Beardslee, 2012). Experimental research consistently shows that programs that enhance parenting skills can be effective at supporting the mental health and development of children (Morris et al., 2017). Therefore, the potential benefits of parenting interventions are far-reaching, and could offer significant economic savings for society (Duncan, MacGillivray, & Renfrew, 2017). Policymakers and researchers alike have taken interest in the use of evidence-based programs targeting parenting as a public health intervention (Morris et al., 2017; National Academies of Sciences Engineering and Medicine [NASEM], 2016). Early childhood education (ECE) systems, which are widely accessed by families at socioeconomic risk, offer a potential avenue for implementation of evidence-based parenting programs to achieve widespread positive impacts (Morris et al., 2017). However, unaddressed implementation challenges, including how to effectively engage diverse families in programming, could impede these programs' effects from reaching those most in need.

Parent engagement in parenting programs involves both behavioral (e.g., attending sessions) and attitudinal (e.g., perception of treatment) components (Staudt, 2007), and has been deemed critical for replicating the positive outcomes documented in randomized controlled trials (RCTs) in community settings (Ingoldsby, 2010; Lakind & Atkins, 2018; Whittaker & Cowley, 2012). However, studies show that only a fraction of individuals who are initially recruited actually enroll and subsequently attend prevention interventions (Baker, Arnold, & Meagher, 2011; Ofonedu, Belcher, Budhathoki, & Gross, 2017), with some literature indicating it is common for approximately 50% of recruited parents to participate in half or fewer prescribed sessions (Heinrichs, Bertram, Kuschel, & Hahlweg, 2005). Adaptation of program components, delivery formats, fidelity supports, and other characteristics have been explored as a means to bridge this gap. Adaptation research has predominantly focused on whether programs that have been adapted (e.g., modified intervention dosage) perform comparably to their non-adapted original versions with regard to child and family outcomes (McCabe, Yeh, Garland, Lau, & Chavez, 2005; Parra-Cardona et al., 2017). As recommended in previous reviews, literature comparing indicators of engagement across cultural-linguistic groups would facilitate more effective implementation of parenting programs (Barrera, Berkel, & Castro, 2017; Butler & Titus, 2015).

1.1 Adapting evidence-based parenting programs for Latino families

One strand of adaptation research has centered specifically on meeting the unique needs of Hispanic and Latino families (Latino used herein) in the United States (Dumka, Lopez, & Carter, 2002; Parra-Cardona et al., 2012). Growing evidence indicates that sociocultural factors (e.g., *familismo* (strong family ties), collectivism) can moderate parenting practices

among Latino families (Ayón, Williams, Marsiglia, Ayers, & Kiehne, 2015) and their social network resources (Ruiz, Hamann, Mehl, & O'Connor, 2016). These factors are also associated with prosocial behaviors among Latino youth (Davis et al., 2018). With group parenting interventions frequently aiming to enhance caregivers' social support system, attention to how cultural factors are represented and incorporated in these programs is merited. Efforts to adapt and ascertain the feasibility of evidence-based parenting programs can help optimize their fit with the expectations, experiences, and norms of the target population (Beasley et al., 2017; Garcia-Huidobro et al., 2016).

Of note, although immigrant Latino communities do experience disproportionate burden of certain mental health conditions (e.g., internalizing problems), they also demonstrate significant assets including strong family values and cohesion (Niec et al., 2014; Varela et al., 2019). Parenting interventions hold the potential to prevent behavioral health issues by building upon these family characteristics, further corroborating their potential benefit in the path towards health equity. Unfortunately, research indicates that available programs – most of which were developed with non-minority samples – may be challenging for Latino families to participate in compared to other ethnicities, or may fail to address the unique resiliency factors associated with Latino and immigrant-born youth (Davis et al., 2018). For example, English-language proficiency (Garcia & Duckett, 2009) and enrollment in health insurance (Murphey, Guzman, & Torres, 2014) are often less prevalent within Latino communities when compared to non-Hispanic white families, which may in turn present barriers to accessing services such as parenting programs (DeCamp & Bundy, 2012). Further, commonly reported challenges, such as help-seeking stigma, may be heightened if programs are not perceived to be sensitive to cultural differences, respectful to unique life experiences, and accessible (Parra-Cardona et al., 2009). Encouragingly, studies suggest that interventions to enhance parenting skills are both valued and desired by many Latino immigrant parents (Niec et al., 2014; Parra-Cardona et al., 2009).

Meta-analyses have shown that culturally adapted mental health interventions result in equivalent or better outcomes than non-adapted program counterparts (Benish, Quintana, & Wampold, 2011; Hall, Ibaraki, Huang, Marti, & Stice, 2016). Culturally adapted interventions (e.g., social skills training) have also been shown to promote participant engagement, retention, and satisfaction with interventions (Griner & Smith, 2006). Although evidence to support ethnicity as a moderator of treatment outcomes for parenting programs is still emerging (Barker, Cook, & Borrego, 2010; Ortiz & Del Vecchio, 2013), disseminating programs that promote responsive caregiving appears to be important for narrowing mental health disparities experienced by Latino and other minority groups (Dumka et al., 2002; Niec et al., 2014).

1.2 Legacy for Children™

1.2.1 Original curriculum.—Legacy for Children™ (*Legacy*) is a parenting-focused prevention program for socioeconomically disadvantaged families described briefly here and in detail elsewhere (Perou et al., 2012; Robinson et al., 2019). *Legacy* was specifically designed to promote mothers' responsibility and investment in their children; facilitate responsive and sensitive parent-child relationships; support mothers as guides in their child's

behavioral/emotional regulation; enhance maternal sense of community; and foster child verbal and cognitive development. Sessions consist of regular group meetings including mother-only time as well as mother-child time which allows participants to practice concepts in a safe, nurturing environment. Through the group process, participants also connect to a network of mothers with children at similar developmental stages to foster a sustainable community of support. The curriculum is built on the philosophy that there is no one “right” way to parent; in fact, there are many positive parenting strategies that support child development. The *Legacy* program focuses on enhancing the parent-child relationship quality above and beyond any specific parenting behavior. Effectively, mothers are encouraged to feel confident in child-rearing choices and discuss cultural differences in parenting within a safe environment. The developmentally-timed curriculum covers topics ranging from positive parent-child interactions, maternal self-care and stress reduction, to parenting strategies that foster children’s cognitive, language, and social skills (e.g., discipline, literacy promotion, play). Of note, *Legacy* is not a literacy-specific intervention; *Legacy* supports the parent-child relationship and the importance of reading and talking with children in whichever language mothers use at home.

RCTs of the two *Legacy* University of California, Los Angeles [UCLA] and University of Miami curricula demonstrated that program participation was associated with a lower risk of child hyperactive behavior in the Los Angeles cohort, and fewer behavioral concerns and socioemotional problems among children of *Legacy* participants in the Miami cohort (Kaminski et al., 2013). In addition, *Legacy* participant children in the Los Angeles cohort had higher IQ and achievement scores six years post-intervention (Perou et al., 2019). To reach a broader population of children, the Centers for Disease Control and Prevention (CDC) has been collaborating with federal and private partners to ascertain *Legacy’s* feasibility within diverse family-serving systems such as Early Head Start, private ECE, and pediatric primary care (Robinson et al., 2019).

1.2.2 Spanish language adaptation.—Although *Legacy* was originally designed and tested with samples of predominantly non-Hispanic black mothers and English-speaking Latina mothers, recognition of the unique needs of Spanish-monolingual Latino families prompted the CDC to translate and culturally adapt the *Legacy* UCLA curriculum. As the curriculum was originally designed for minority populations and involves non-didactic group discussion allowing for exploration of cultural differences, major adaptations to the curriculum were not expected to be necessary (see the Methods section for a description of the adaptation procedure).

1.3 Focus on parent engagement

Although the importance of engagement in parenting programs has been widely reported (Lakind & Atkins, 2018; NASEM, 2016), variability in measurement of parent engagement limits comparison of findings across studies (Haine-Schlagel & Walsh, 2015). Our conceptual approach defined parent engagement multidimensionally, including behavioral and attitudinal elements (King, Currie, & Petersen, 2014; Staudt, 2007), in alignment with recent research on group-based parenting models (Haine-Schlagel & Walsh, 2015; King et al., 2014).

Studies of parenting interventions have documented associations between dimensions of parent engagement and intervention outcomes (Garvey, Julion, Fogg, Kratovil, & Gross, 2006; Haine-Schlagel & Walsh, 2015; Hukkelberg & Ogden, 2013), with some showing the role of engagement to be even more important for those at-risk (e.g., socially isolated families) (Baker et al., 2011; Ofonedu et al., 2017; Rostad, Moreland, Valle, & Chaffin, 2018). Qualitative investigations from the *Legacy* English RCTs reported similar findings, with mothers describing the group as their primary source of emotional support (Casanueva & Fraser, 2009) and reporting increased confidence in using positive parenting practices following participation (Hartwig, Robinson, Comeau, Claussen, & Perou, 2017). Focus groups identified parent-reported benefits of the *Legacy* program across attendance categories (i.e., engaged regular attenders (those who consistently attended and were actively involved in group discussions and activities), unengaged regular attenders (those who consistently attended but were not actively involved in group discussions and activities), and sporadic attenders (those who inconsistently attended) (Fraser et al., 2009)). Thus, achievement of *Legacy* outcomes may be less dependent on intervention dosage and more explained by the quality of interactions among participants and group leaders. Indeed, *Legacy* English data indicated that parent engagement, specifically concerning parent-child interactions, predicted child behavioral outcomes one year later — above and beyond parent program attendance (Heggs Lee, Crimmins, Robinson, & Barger, 2018). As interventions continue to be adapted for use with broader ranges of populations and settings (e.g., ECE), research has shifted from efficacy trials toward implementation science to understand the factors influencing the uptake, implementation, and sustainability of evidence-based programs (Durlak & DuPre, 2008).

Given this accumulation of research and our interest in improving the accessibility of *Legacy*, an analysis is warranted to (1) determine if barriers and facilitators to engagement are distinct across curricula language versions (i.e., English and Spanish) and (2) explore differences in parent engagement factors between the adapted Spanish versus original English program. This program evaluation is timely, as the Spanish-language adaptation of *Legacy* is currently being piloted and evaluated; developing an understanding of parent engagement across curricula language versions, as well as its drivers and obstacles, could guide tailored improvements for this and similar programs.

2. METHODS

The cultural adaptation of the *Legacy* UCLA curriculum for Spanish-monolingual Latino families (herein *Legacy* Spanish) is currently being implemented and evaluated in partnership with the Association of University Centers on Disability, as well as two universities, a private ECE center (Tulsa Educare), and a faith-based social services agency (Catholic Charities) in Tulsa, Oklahoma. Four cohorts of mothers and babies were recruited for participation in *Legacy*, 34 participants across the two English groups and 32 participants across the two Spanish groups. Qualitative parent engagement data was available on 30 of the mothers from the English groups and 29 of the mothers from the Spanish groups (Figure 1). The *Legacy* approach employs an open-door policy such that participants can attend or miss curriculum sessions without judgment or participation penalty. Although session

attendance can vary over time, the participant's place in the group is always maintained and they are always considered group members.

For the purposes of this study, our primary aim was to identify barriers and facilitators to successful parent engagement in *Legacy* Spanish and *Legacy* English. Our secondary aim was to explore differences in parent engagement between *Legacy* Spanish and *Legacy* English. We focused on qualitative factors that affect the attitudinal and behavioral components of parent engagement and how they differed across *Legacy* curriculum versions. Quantitative data provided descriptive information about the quality of parent-parent (group support/connectedness) and parent-program (parent-group leader relationship and overall satisfaction) factors. Previous literature has underscored the importance of participant interaction with other group members, as well as those administering the intervention, for engaging culturally or linguistically diverse families in group-based programs (Schmidt, Chomycz, Houlding, Kruse, & Franks, 2014; Whittaker & Cowley, 2012).

2.1 Intervention

2.1.1 Legacy Spanish Adaptation.—The translation and adaptation process first involved a review of the English curriculum by content experts – including a bilingual staffperson – to flag phrases, examples, or concepts that might require adaptation. These English examples, books, videos, and songs were replaced with Spanish language, culturally appropriate versions determined to convey the same concepts (e.g., repetition and rhyming). Subsequently, a pilot session that captured common themes from the curriculum and was anticipated to present particular translation challenges was selected for translation; this session was iteratively translated until consensus was achieved across the independent translation team, a second team of bilingual translators, and content experts that the translation reflected the original content. The full curriculum was then translated collaboratively by the second team of bilingual translators and content expert team, then finally reviewed, edited, and approved by the original curriculum developers (see Beasley et al., 2017).

Subsequent to the adaptation process, we conducted a cultural congruency program evaluation with Latino bilingual parenting program providers to understand the acceptability, satisfaction, relevance, importance and cultural congruency (i.e., alignment with the unique needs of Latina mothers) of the translated curriculum. Providers discussed the positive attributes of the curriculum and its relevance for Spanish-monolingual mothers. The evaluation also highlighted the importance of tailored engagement and attendance promotion strategies for this population (e.g., *convivios* or potlucks at the end of a block of sessions, mother-mother socialization opportunities) (Beasley et al., 2017). These data informed further revisions to the Spanish language curriculum and implementation (e.g., inclusion of additional visuals and songs, recruitment through trusted agencies already serving Latino families).

2.1.2 Intervention Implementation.—*Legacy* is being implemented in partnership with Tulsa Educare as a component of their community outreach strategy, consistent with broader strides in the early childhood sector to promote relationship-building with families -

particularly those experiencing adversity (U.S. Department of Health and Human Services and U.S. Department of Education, 2016). Participant selection involved convenience sampling of low-income mothers who were pregnant or had newborns and were interested in attending weekly parenting groups. Recruitment efforts included outreach by local service agencies (i.e., community mental health center), Catholic Charities, child care wait lists, and local medical providers. In addition, we set-up advertisements and booths at organizations and businesses frequented by parents in the community. We conducted separate but similar recruitment activities for English-speaking and Spanish-speaking families. To participate in *Legacy*, mothers had to evidence some type of socioeconomic adversity (e.g., family income below the federal poverty level).

Both the English and Spanish versions of the *Legacy* UCLA curriculum (herein solely referred to as English and Spanish curricula) are implemented in nine blocks of ten consecutive weekly sessions. The sessions are developmentally-timed for participants approximately seven months pregnant until the mother's child is approximately three years-old (Perou et al., 2012). Mothers were enrolled in the program as close as possible to the first curriculum session, prenatally if possible, or shortly after their child's birth if prenatal enrollment was not feasible. The *Legacy* UCLA curriculum alternates each week between a session for mother-only group discussion and a session for the mother and child to practice the curriculum material (Figure 1). Sessions are typically two hours long. Although the curriculum is specifically designed for mothers or primary female caregivers, broader family participation is encouraged through maternal sharing of materials, special events, and community activities.

Legacy group sessions were facilitated by two leaders in each group, with a total of five group leaders. Within each curriculum language version, one group leader facilitated both groups (e.g., two English or two Spanish groups) so there was consistency across the groups within a curriculum version. The *Legacy* Spanish groups were facilitated by two native Spanish-speaking group leaders and a bilingual group leader (Figure 1). The bilingual group leader also facilitated one English group so there was also consistency across curriculum versions. All group leaders and their *Legacy* supervisors attended a 3-day in-person training and participated in bimonthly coaching calls provided by the CDC. On a weekly basis, group leaders completed program monitoring forms and met with onsite supervisors to discuss issues related to program implementation and the group process. Three of the group leaders were staff from the early learning center and two were local university staff. All group leaders had either a Bachelor's or Master's degree in a social science field (e.g., social work).

2.2 Evaluation procedure

We conducted a secondary, mixed methods analysis to understand common and shared parent engagement factors related to implementation of the English and Spanish curricula, using data already being collected as elements of *Legacy's* implementation support system (e.g., fidelity monitoring, quality improvement tools) or program outcome evaluation. This approach was deemed appropriate given the exploratory nature of the study. Data for the qualitative analysis include participants from all four cohorts when the children were 20–24

months of age; the participants had completed five of the nine blocks of curriculum. As part of the larger *Legacy* program outcome evaluation, mothers were compensated \$40 for completing each assessment, and university review board approval was obtained.

2.3 Constructs

2.3.1 Demographics.—At baseline, mothers reported their sex, age, race/ethnicity, education level, language(s) spoken in the home, employment status, household income, and receipt of public assistance. For their children, mothers reported on their child's age, sex, and race/ethnicity.

2.3.2 Parent engagement measures.—We collected several quantitative measures of parent engagement from both parent and group leader perspectives. In order to capitalize on all available data, we used a last observation carried forward approach (Salkind, 2012) – if a respondent had missing data at the present study's assessment timepoint, their last observed score closest in time to the present was used for that measure. The *parent's group support/connectedness* variable was defined as the parent's receipt of group support and the parent's level of connection to the group, and was measured using the Working Alliance Inventory – Short Form (WAI-S). The WAI-S is a questionnaire used in psychotherapy settings to assess therapeutic alliance (i.e., interactive relationship between clients and their therapists) and was developed from an original 36-item instrument (Horvath & Greenberg, 1989). Although *Legacy* is not implemented by therapists, *Legacy* group leaders create a safe, open environment for group discussion and trying out new ideas, and support connections between group members similar to elements found in a psychotherapy group intervention. Further, the WAI-S has been increasingly used in similar group parenting programs to examine relationships between group members (Hukkelberg & Ogden, 2013; Morris et al., 2017). The 12-item instrument has a therapist version that was completed by the group leaders at the end of each block in this investigation. Respondents rated each item using a seven point Likert scale from 1 (Never) to 7 (Always). Although these items can be organized into sub-scales to calculate an overall alliance score, we focused on the individual items for this analysis. 7 items in the WAI-S were averaged to calculate an average group support/connectedness score (Cronbach's $\alpha = 0.88$).

The *parent-group leader relationship* variable was defined as the reported quality of the mother's relationship with the group leader. This construct was measured by parent report in the Parent Satisfaction Survey (PSS) (Perou et al., 2012) and by the group leader in the WAI-S. For example, "how often does the group leader answer your questions about parenting?" is a closed-ended question related to the parent-group leader relationship in the PSS. Parent-group leader items are rated on a Likert scale from 1 (Never) to 4 (Always). The PSS was made available to participants in Spanish or English, and was completed at the end of block five. In order to learn from the distinct perspectives offered by the WAI-S (group leader) and PSS (participants) while avoiding multiple testing, we created composite variables for the parent-group leader relationship in both the WAI-S (11 items, Cronbach's $\alpha = 0.83$) and PSS (6 items, Cronbach's $\alpha = 0.72$), through averaging relevant items in the respective instruments. Finally, the *overall satisfaction with Legacy* variable was rated by

participants in the PSS with a single item, “how satisfied do you feel with *Legacy*?”. The satisfaction item is rated from 1 (Somewhat Satisfied) to 4 (Very Satisfied).

2.3.3 Barriers and facilitating factors for parent engagement.—Information on barriers and facilitating factors for parent engagement were collected through open-ended responses on the parent-reported PSS and the group leader-reported Parent Engagement Form (PEF). Both forms are used as program monitoring tools for quality assurance in implementing the *Legacy* program. The PEF contains open-ended questions pertaining to parents’ participation in group, parents’ perceived benefits, parents’ contributions to group, barriers impacting parents’ participation, and efforts to contact parents (Appendix 1). In a previous study, Heggs Lee and colleagues (2018) used factor analysis to determine that the PEF is composed of four consistent factors (parent-child interaction, group alliance, group participation, and social support). The social support and group alliance subscales were predictive of group attendance, while the parent-child interaction subscale predicted later child behavioral outcomes (Heggs Lee et al., 2018). The PSS was developed as a *Legacy* program monitoring tool based on Patton’s (1990) categorization system (Fraser, Wallace, Dempsey, Reubens, & Hawkins, 2009). To date, the PSS has only been used within the *Legacy* program to assess participant satisfaction. The PSS contains closed- and open-ended questions regarding mothers’ perceptions of the program content, group leader, and other mothers in the group; challenges impeding attendance; confidence in applying parenting skills targeted by *Legacy*; and suggestions for program improvement (Appendix 1) (Perou et al., 2012). For PSSs completed by *Legacy* Spanish participants, open-ended responses were translated into English using recommended cross-cultural qualitative research practices: translation by both a native and non-native Spanish speaker, back translation procedures, and resolution of interpretation discrepancies through discussion between investigators and program implementers (Esposito, 2001).

2.4 Data analysis

2.4.1 Participant characteristics.—We described demographic characteristics and compared across the English and Spanish curriculum versions using Wilcoxon rank-sum tests (for continuous variables) and Kruskal-Wallis tests (for categorical variables). We also used Wilcoxon rank-sum tests to compare mean scores of parent engagement measures (group support/connectedness, parent-group leader relationship, and overall satisfaction) between the English and adapted Spanish versions. A non-parametric test of association was selected because variables were not normally distributed, upon assessment via Shapiro-Wilk tests. We handled missing data using available-case analysis, and conducted a supplemental analysis to understand whether respondents who had missing vs. non-missing data for the PSS differed on select sociodemographic characteristics. All tests were two-tailed and considered statistically significant at p values of less than 0.05. Quantitative analyses were conducted in Stata 14.1© (StataCorp, College Station, TX).

2.4.2 Qualitative data.—Parent and group leader perspectives on barriers and facilitators for parent engagement were coded inductively and deductively, in conjunction with the framework method (Gale, Heath, Cameron, Rashid, & Redwood, 2013; Ritchie & Lewis, 2003), to explore modifiable program barriers and facilitators.

Two investigators (MS and AAR) were the primary analysts for the coding process. MS (a non-native Spanish speaker) and AAR (a native Spanish speaker) are both CDC research staff supporting the implementation support system (e.g., fidelity monitoring) of *Legacy*, although they are not involved in direct program delivery within communities. Given these investigators' relationship to the program and this dataset, several steps were taken to augment validity, including developing codes from current evidence and employing a member check procedure with program implementers (described below).

A priori codes were first derived based on existing literature (Butler & Titus, 2015; Fraser et al., 2009; Lakind & Atkins, 2018; Morawska, Dyah Ramadewi, & Sanders, 2014; Whittaker & Cowley, 2012) and extant fields in the PEF and PSS prior to initiating the formal coding process. These codes served as the basis of a preliminary codebook specifying the hierarchy of codes and affiliated sub-codes. The same two investigators independently coded a randomly selected 20% of data fields; inter-coder reliability was calculated via Cohen's kappa statistic after coding this initial sub-sample. At this first stage, the kappa was 49.6% based on coding comparison queries, indicating a "moderate" degree of agreement (Fleiss, Levin, & Paik, 2004). Investigators discussed discrepancies and made codebook modifications through consensus, before re-coding initial interviews and proceeding to the next phase of coding. After codebook revisions, inter-coder reliability was 70.5% (in the "substantial" range; Fleiss et al., 2004).

The codebook was modified six times to ensure data saturation was achieved (Appendix 2). Both memos generated from the literature (theoretical memos) and memos generated from the data directly (analytic memos) were recorded throughout (Ritchie & Lewis, 2003). Analysts also discussed their assumptions and biases that might affect the coding process to ensure these were addressed, facilitated by a structured vantage point reflection worksheet (available upon request). Once all fields were coded, we used the constant comparative method to capture themes (Bernard, Wutich, & Ryan, 2017).

We then identified recurrent themes of barriers and facilitators within the framework matrix. We ascertained the salience of factors across the Spanish and English curricula and within curriculum using principles of cultural domain analysis. Namely, we (1) examined the degree to which a given code presented in either or both data sources (PEF or PSS) and (2) inspected the frequency with which each code was represented against the number of respondents reporting (Bernard et al., 2017). This enabled us to parse factors into "primary" (factors that emerged with relatively high frequency and converged across group leader and parent report) and "secondary" (factors that emerged with relatively high frequency but surfaced only by one of these reporters) barriers and facilitators. Finally, we shared summarized results with group leaders for both curriculum versions to ascertain the validity of findings using a synthesized "member check" technique (Birt, Scott, Cavers, Campbell, & Walter, 2016).

3. RESULTS

3.1 Participant characteristics

3.1.1 Sociodemographic characteristics.—Baseline demographic data were available on 24 of the *Legacy* English participants and 28 of the *Legacy* Spanish participants. We found some mother and child sociodemographic differences across curriculum versions. A low percentage of participants responded to the question on maternal race (18.7%). With regard to ethnicity, 37.6% of participants in the *Legacy* English curriculum identified as Hispanic or Latino, compared to 100% of mothers in *Legacy* Spanish. Among those participants who responded, individuals in *Legacy* English were approximately split racially between white (46.3%) and black (50.3%). The responding *Legacy* Spanish mothers predominantly identified as white (52.3%) or other (46.2%). *Legacy* Spanish mothers were primarily 1st generation immigrants with the majority from Mexico and a few mothers from Honduras. Additional sociodemographic characteristics are described in Table 1. We did not observe statistically significant differences across curriculum versions by mother and child age, nor by education level.

A supplemental examination of baseline differences on four demographic characteristics between individuals with missing vs. non-missing data for the PSS indicated that individuals with missing responses reported lower rates of full or part-time employment, compared to individuals with non-missing responses (not shown). We did not observe significant differences between these groups regarding proportion that speak primarily English, monthly household income, or maternal age.

3.1.2 Quantitative parent engagement measures.—Parents' group support/connectedness to the group (i.e., the degree of engagement of parents with respect to other parents) assessed by the group leader was high in both English and Spanish curricula, with mean scores of 6.0 (SD: 1.3) and 6.9 (SD: 0.8) on a 7-point scale, respectively. Participants in *Legacy* Spanish demonstrated significantly higher scores for group support/connectedness ($p = 0.011$) than the *Legacy* English participants. No significant differences were identified across curricula for parent-group leader relationship by either the WAI-S ($p = 0.482$) or PSS measure ($p = 0.100$). Finally, parents' report of overall satisfaction with *Legacy* revealed higher levels of satisfaction among *Legacy* Spanish compared to *Legacy* English participants ($p = 0.015$; Table 2).

3.2 Qualitative barriers and facilitators to parent engagement

Barriers and facilitators that were shared across the English and Spanish versions, as well as those salient to each specifically, are described narratively below and presented in Tables 3 and 4.

3.2.1 Barriers shared across curricula.—Mothers and group leaders in both the English and Spanish curricula mentioned *health-related challenges and appointments* as a barrier to engagement. Comments in this theme included medical procedures, appointments with providers, and both specific and non-specific health challenges (e.g., “Kids being sick” [Participant, *Legacy* English]). Health-related challenges were not limited to acute physical

conditions. Group leaders mentioned developmental disabilities among one of the mothers' children and another mother's self-reported depression as barriers.

A second barrier shared by participants in both curricula were *employment challenges*. Mothers and group leaders mentioned a range of issues related to mothers' jobs that inhibited attendance (e.g., "She has attended when work schedule allows" [Group Leader, *Legacy* English]) or hampered engagement when they did come, due to being late, tired, or distracted. Having an unpredictable or erratic work schedule was cited as a barrier to attendance, as were mothers' expressions that they were in the process of seeking employment ("Mom has stated that once baby is older she will look for work" [Group Leader, *Legacy* Spanish]). A handful of participants in the English groups pointed out the scheduling conflicts presented by their job(s), child care, and bringing in their children for the mother-child days; as explained by one parent in an English group:

Not being able to bring my child to Educare AFTER the parenting group meeting does hinder my ability to bring him to the meetings on the mom and child days... This will likely prevent me from attending the group at all within the next block or two.

However, group leaders and mothers both noted that despite job-related barriers, mothers often maintained interest and investment in the program, as evidenced by being responsive and receptive to other components of *Legacy* (e.g., social media, home visits, telephone call reminders).

Although less common, some mothers across both curriculum versions expressed challenges related to the group leaders, particularly their ability to keep the group on topic and complete the entirety of the lesson. We note that although this facet of the group leaders emerged as a secondary barrier for both curricula, *group leader/other staff present* characteristics were also a secondary facilitator for *Legacy* Spanish participants (for additional examples see Table 4c).

3.2.2 Barriers salient to *Legacy* English.—In terms of distinctions between programs, some barriers to engagement emerged as unique to *Legacy* English participants, particularly regarding the geographic *distance to site*—and affiliated time and effort—needed to attend group sessions on a routine basis and the *family responsibilities* that mothers had to handle. Several mothers shared that needing to "support [their] family" made it difficult for them to attend at times. General *stress and life and challenges* were cited as reasons that made it more difficult for mothers to attend and meaningfully engage in groups (for additional examples see Table 3b). Specifically cited challenges included reports of "significant life changes," "personal dilemmas," and "[having] a lot on her mind," although the descriptions left unclear the specific nature of the stressors mothers experienced.

During the member check process, group leaders underscored that transportation access, more specifically, may have been an issue rather than actual distance to site, particularly in this community with limited public transportation. However, group leaders emphasized that mothers were still willing to take on the long distance and time needed to attend. Group

leaders described one mother, without her own car, walking several miles with a young child, each way to attend the weekly groups.

3.2.3 Barriers salient to *Legacy* Spanish.—The barriers unique to *Legacy* Spanish participants concerned specific transportation issues and the needs of mothers' other (non-*Legacy*) children in their care. *Transportation challenges* encompassed reports that mothers frequently lacked personal vehicles and often had to carpool, walk, or take the bus to attend *Legacy*.

The *needs of other children* in the mothers' lives also emerged as a key issue for individuals in the *Legacy* Spanish curriculum. Several respondents talked about how the responsibilities to provide for other children's educational (e.g., school-related meetings) and health (e.g., doctor's appointments) needs could have limited attendance as well as impacted a participant's attention and quality of interaction during meetings. These included both mentions of mothers' own children as well as children of other relatives the mother was responsible for (e.g., nieces, grandchildren). Several individuals raised the number of children as an issue, and the stress involved in "juggling many roles."

Some group leaders also noted that a *lack of knowledge about available services* such as *Legacy* may have been a challenge for parents to feel comfortable enough to initially attend, although they often noted that this hesitance waned over time. Several mothers described *social isolation* as an issue that may have presented barriers for attendance—due to a lack of individuals who could support a given mother's parenting responsibilities or encourage participation in the *Legacy* group. Finally, group leaders also identified mothers' current or anticipated enrollment in English as a Second Language classes as a barrier to engagement in *Legacy* at times (Table 3c).

3.2.4 Facilitating factors shared across curricula.—In both the original and adapted curriculum groups, group leaders and parents often described mothers' *interest in the program topics* as beneficial for engagement. Several respondents indicated "learning about parenting" as what first attracted them to the program—as well as for engagement over time. Regarding a *Legacy* English group participant, one group leader explained,

We have seen a huge shift in this mom. Her original motivation for attending *Legacy* was 'something to do.' Gradually her interest in parenting topics has grown tremendously. Now she attends regularly and stays focused on what she can learn.

Within these expressions of interest, the desire of mothers to improve their parenting skills seemed to be motivating to attend *Legacy*, based on their own experiences being parented (e.g., "she was parented harshly herself" [Group Leader, *Legacy* English]) or with other children (e.g., "she wants to parent differently than she did with her older child [since] she was working all of the time" [Group Leader, *Legacy* Spanish]).

Another prominent facilitator shared across English and Spanish curriculum versions was the presence of *other mothers in the group*. Group leaders and parents both highlighted the role of other mothers in providing multiple dimensions of social support, specifically emotional support (e.g., "I appreciate the friendships and emotional advice" [Participant,

Legacy Spanish]) and opportunities to socialize (e.g., “develop [camaraderie]” [Participant, *Legacy* English]). Notably, the opportunity to socialize was a more common expression for *Legacy* Spanish participants, and was occasionally linked to mothers’ lack of a robust social network (Table 4a). For example, one group leader explained that a mother in *Legacy* “seemed like she needed the social engagement and moral support from the other mothers” after recently having a new baby. Mothers in the group were occasionally described as a challenge, rather than facilitator, to interpersonal dynamics among group members (e.g., “At times they can be overly critical of others and overstep their boundaries” [Group Leader, *Legacy* English]). However, mothers’ perceptions of other’s challenging behaviors did not emerge as a primary barrier.

3.2.5 Facilitating factors salient to *Legacy* English.—Examining factors that emerged distinctly for each curriculum illuminated the role of having *other mothers’ children* participate in *Legacy* as a key facilitator for English group participants. Of note, that *Legacy* provided an opportunity to interact with children at similar developmental stages appeared to be important, evidenced through common mentions of phrases such as being “around other children [their child’s] age” (Participant, *Legacy* English) and “create relationships with children my [baby’s] age” (Participant, *Legacy* English) (for additional examples see Table 4b).

3.2.6 Facilitating factors salient to *Legacy* Spanish.—For *Legacy* Spanish, other program-related characteristics were identified as important for engagement. Specifically, the *curriculum session materials* themselves were influential (e.g., mentions of specific session content such as rule setting and unstructured sessions designed to build sense of community) as were elements of the *program design and delivery*. Regarding the latter, mothers and group leaders described the dedicated time that mothers were afforded to spend time with their baby during mother-child group days as beneficial. Aspects about the group leader were also deemed influential for *Legacy* Spanish, although to a lesser extent compared to other program-related features. These characteristics included “patience,” “understanding,” “compassion,” “encouragement,” helping participants feel comfortable, being adequately prepared, and having high-quality information (“[The group leader] always uses research and studies to back up her knowledge, not just opinion” [Participant, *Legacy* Spanish]) (Table 4c).

4. DISCUSSION

Latino families are increasingly enrolling in ECE settings (Murphey et al., 2014); therefore, integrating evidence-based parenting programs into these settings could be a potential strategy to ameliorate health disparities between Latinos and non-Hispanic whites at the population level. As Latino families demonstrate many cultural and health assets (Ruiz et al., 2016), they may experience unique facilitating factors and barriers affecting their participation in parenting programs. This evaluation contributes to the growing interest in understanding implementation processes in ECE settings (Franks & Schroeder, 2013) and the development of optimal engagement strategies for culturally and ethnically diverse families in early childhood (NASEM, 2016). In turn, findings from this analysis could provide insights to guide engagement strategies for *Legacy* Spanish and similar evidence-

based parenting programs enabling positive developmental impacts to reach more children (Barrera et al., 2017).

The present evaluation adds to the burgeoning evidence on culturally adapted, evidence-based parenting programs through examining engagement in *Legacy* as originally designed and as adapted for Spanish-monolingual Latino families. Qualitative data illuminated factors that impeded engagement in both versions of the program, particularly the inflexibility of schedules and life demands that tend to emerge more frequently for families experiencing poverty. Facilitating factors that were shared by both the English and Spanish curricula largely related to the importance of other mothers in the group (i.e., the “sense of community” goal purposefully targeted by the curriculum) and participant interest in topics covered by *Legacy*. Descriptive quantitative data suggest that both group social support/connectedness and overall satisfaction with the program were higher in the *Legacy* Spanish curriculum than the original English curriculum, whereas the two curricula performed similarly with respect to the quality of the parent-group leader relationship. These results align with studies comparing evidence-based parenting programs adapted for Latino families with the original form of the intervention (e.g., Parent Management Training, the Oregon Model (Parra-Cardona et al., 2017; Parra-Cardona et al., 2012)) and a 2015 review of family participation in mental health services (Haine-Schlagel & Walsh, 2015).

A previous study of early childhood program providers’ perceptions toward the adapted *Legacy* Spanish curriculum (Beasley et al., 2017) accentuated the importance of program characteristics (e.g., social connections, supportive group leader) and actions (e.g., transportation vouchers, appointment reminders) for initial and sustained engagement over time. The findings from our analysis corroborate results from Beasley et al. (e.g., that curriculum session materials were mentioned by participants as a primary facilitator; important characteristics of providers). We also add a novel layer by comparing curricula versions side by side – in contrast to examining *Legacy* Spanish alone – and adding participants’ perspectives to complement group leaders’ perspectives. This comparative approach highlighted that employment and health-related and logistical (e.g., travel to the group) engagement barriers exist regardless of the curriculum type, whereas some challenges may be unique to the curriculum and/or the participants in those groups. For example, obligations to care for non-first degree children resonated as a barrier more so for *Legacy* Spanish-group participants, consistent with a more collectivist value often prioritized in Hispanic culture (Ruiz et al., 2016). These similarities and differences deserve further investigation to elucidate their strength of influence and opportunities to adapt other evidence-based programs.

The qualitative findings also offer context for understanding the descriptive quantitative measures of engagement (Table 2). The higher scores regarding both the degree to which the parent connects and receives social support from the group and overall group satisfaction might be explained by the fact that mothers in the *Legacy* Spanish group were more likely to report experiencing social isolation as a barrier. The opportunity to socialize emerged as a facilitator more often for the *Legacy* Spanish group (although both curriculum groups cited other mothers in the group as being helpful for engagement). Part of this discrepancy may be explained by the differences in composition of the groups – *Legacy* Spanish participants

were primarily first-generation immigrants whereas those in *Legacy* English were not (even those who self-identified as Latina). Research indicates that immigrant generations are more likely to value collectivism and therefore may place a higher value on getting together to socialize as a group (Raeff, Greenfield, & Quiroz, 2000). In addition, language-related barriers, although not explicitly mentioned, could be related to the *Legacy* Spanish mothers' reports of social isolation and lack of familiarity with community resources.

We did not find any differences across groups regarding the quantitative measures of parent-group leader relationship, irrespective of the reporter; and qualitative data also suggested that group leader challenges were not commonly discussed and were similar across curricula. It is possible that the similarity in ratings on parent-group leader relationship may be due in part to the shared group leader across curriculum versions.

The perceived barriers and facilitators to engagement among participants in *Legacy* Spanish indicate some consistency with similar parenting programs adapted for Latino Spanish-speaking communities. Garcia-Huidobro and colleagues' (2016) investigation of a teen-focused parenting intervention (Padres Informados, Jovenes Preparados) found the desire to become a better parent and interactions or sharing with other group participants had positive influences on program attendance. They also identified negative influences, such as socioeconomic conditions, transportation challenges, stressful life circumstances, and program scheduling issues. Of note, certain factors that were found to negatively affect participation in the Garcia-Huidobro study did not emerge as barriers in the present analysis, particularly traditional gender roles that sometimes limited mothers from attending programs if their husband did not consent to or support their participation. This distinction may be due in part to the fact that Padres Informados, Jovenes Preparados involves both male and female caregivers, and thus gender dynamics may have been more noteworthy to those participants. Mendez & Westerberg (2012) uncovered difficulty meeting child care needs for multiple children as a challenge for Latino parents of children enrolled in Head Start programs, echoing our primary barrier regarding the needs of other children (Table 3c). Both the Garcia-Huidobro (2016) and Mendez & Westerberg (2012) studies observed that a salient barrier for Latino parents to participate in group-based interventions was a lack of familiarity with, and perceived need for, parenting programs. Our study may not have revealed such a cultural belief conceivably due to participants' social desirability bias, the timing of the assessment being more than a year after program initiation, or because those programs targeted older children rather than infants. Relatedly, many of the influential factors identified across curricula (e.g., desire to be a better parent) and those more salient to *Legacy* Spanish participants (e.g., social isolation, lack of knowledge about available services) also represent areas explicitly designed to be addressed within the program's mechanisms of change, suggesting that *Legacy* could fulfill a key service need for participants and give further support for higher satisfaction ratings among *Legacy* Spanish participants.

4.1 Strengths, limitations, and future directions

Several strengths of the present study are worth noting. Our mixed methods approach capitalized on both program participants and implementer perspectives, affording us some

degree of triangulation regarding parent engagement and the factors that facilitate or impede engagement within and across the curricula. Further, we applied previous literature on parent engagement barriers and facilitators in developing our qualitative analysis codebook, used two coders to analyze open-ended data (i.e., analyst triangulation), and conducted a member check to optimize the validity of our qualitative and quantitative findings. These study design elements reduce the likelihood that the coders' proximity to the program could have biased findings. Collectively, these actions augment the trustworthiness of findings and lend credence to their consideration as promising strategies to address engagement (Hartwig et al., 2017; Ritchie & Lewis, 2003). Finally, we used a multi-dimensional concept of engagement, which has been noted as a gap in the literature particularly for long-term prevention programs (Ingoldsby, 2010; Moodie & Ramos, 2014).

Despite many strengths, this study is not without limitations. As this was a secondary analysis, we were unable to further probe for the meaning behind responses particularly those that were unclear or generic (e.g., parents were often described as "having a lot going on,"). Similarly, certain *a priori* codes within our codebook (e.g., family persuasion, cultural beliefs) did not emerge as a theme in our analysis despite their presence in the literature; consequently, we cannot draw firm conclusions about whether a construct's absence signifies its lack of influence on parent engagement given the nature of these data. Although secondary data have limitations, they nonetheless provide valuable insights and can utilize information already routinely collected to support program implementation, without additional implementer burden (Hartwig et al., 2017; Mucka et al., 2017).

Relatedly, our descriptive quantitative analysis relied on respondents who possessed valid data for a given measure in order to maximize sample size, consistent with other studies of parenting interventions implemented with at-risk families (Armstrong, Eggins, Reid, Harnett, & Dawe, 2018). However, missing data analysis indicated individuals with non-missing PSS data were not significantly different than individuals with missing PSS data with respect to several factors that could influence engagement (monthly income, primary language, and maternal age). This suggests that the individuals in our analytic sample are comparable to those who participated in *Legacy* but did not complete assessments. In addition, the findings for parent-group leader engagement assessed by both group leader report and parent report were very similar. Also, assessment data and intervention data were uncoupled, such that participants were recruited for assessments with assessment staff separate from the intervention staff. Because of the *Legacy* policy to not replace group members who had missed sessions, responses in the current study could reflect the perspectives of both currently attending group members and those not currently attending.

The timepoint of the assessments in the current study represent the first half of the curriculum, not the entire three years of curriculum. However, existing literature highlights the importance of initial attendance and engagement in parenting interventions (Ingoldsby, 2010). Further, similar parenting programs generally do not last as long as *Legacy*, often spanning 1–2 years for full program completion (Alleyne, Ayoub, Bartlett, Muniz, & Sparrow, 2015). Overall, as previously noted, the member check process was used to further validate findings. Future studies purposefully designed for maximizing internal and external validity could help broach this gap.

Our analysis focused on groups of mothers participating in *Legacy* in a South Central region of the U.S.; thus, findings may not generalize to a larger population of mothers nor to other parenting programs. Future studies might include participants from a broader pool of Latino subgroups, nativities, or levels of acculturation; they might also assess engagement with other types of parenting interventions to explore the extent to which engagement varies by program characteristics. However, we recognize that many parenting interventions share common models for implementation, program objectives (e.g., increasing positive parent-child interactions), and theoretical foundations (Alleyne et al., 2015; Morris et al., 2017); thus results may be insightful to other group-based programs.

The present evaluation sets the stage for future research on parent engagement within culturally adapted parenting programs. We purposefully focused our analysis on modifiable factors (i.e., structural, perceptual, and program-related characteristics), thereby excluding personality-related factors that could have shaped parent engagement. The member check discussions with group leaders revealed that personality conflicts often presented issues for group leaders in engaging mothers, suggesting that personality factors and intragroup dynamics may merit additional study. Further, future investigations might design data collection to align with intervention participation to examine the relationship between engagement measures and attendance.

4.2 Implications for early childhood practice

The U.S. Department of Education and others have called for increasing requirements to develop partnerships with diverse families as part of ECE performance standards in order to optimize children's learning and development (Barrueco, Smith, & Stephens, 2015; U.S. Department of Health and Human Services and U.S. Department of Education, 2016). These calls parallel recent increasing efforts to adapt parenting programs for delivery within ECE settings, in response to community requests (see Dumas, Arriaga, Begle, & Longoria, 2010; Moodie & Ramos, 2014). Thus, culturally responsive programs that connect parents to each other and with ECE providers represent a powerful opportunity to support healthful child development across home and school settings.

Our findings hold implications for ECE providers who are considering, preparing for, or already delivering group-based parenting support services. For instance, the approach of grouping children together of similar ages, utilized in many ECE settings, was a prominent facilitator that we observed for *Legacy* participants, particularly for the English group. Barriers identified here may also be important for early childhood organizations to consider, and potentially rectify, in the initial phases of program implementation (e.g., transportation issues, scheduling conflicts with other activities mothers are participating in such as English as a Second Language classes).

In addition, the competing demands between program participation and family's health and employment needs was a strong theme for participants in both curriculum versions, aligning with research documenting that broader contextual issues, including parental well-being, can impact the school-family relationship (Henrich, 2013). Finally, as described above, some mothers in *Legacy* English described a tension between wanting to have their child participate in mother-child sessions and not being able to return to work due to a lack of

partial-day child care options. Given that both high-quality ECE and parenting support programs are associated with positive child development outcomes for children at socioeconomic risk (AAP, 2016), exploring strategies that allow for the integration of both types of intervention rather than a choice between the two is warranted.

Strategic solutions to complement features of child care settings with evidence-based parenting programs could impart synergistic health and educational benefits to families. For example, ECE education providers could structure the schedule of child care services to match the timing of parenting programs to optimize program attendance; in turn, evidence-based parenting programs offer the chance to address family health issues (e.g., parenting stress) that frequently impede educational systems' outreach efforts to families. We recognize that this level of integration may require agencies to carefully examine their policies around attendance and may involve changes to how parent support resources are prioritized; however, the potential for impacts on child and parent wellbeing could outweigh these challenges (Morris et al., 2017). The co-location of evidence-based parenting programs in ECE could satisfy the basic need for child care, thereby addressing at least one competing priority, as others have argued (Barrueco et al., 2015; Rostad et al., 2018). Our findings that employment and health-related challenges were salient barriers to program participation lends additional support for this approach. Further, we observed that program-related characteristics represented the most salient facilitators to engagement in *Legacy*; thus features of parenting programs could also enhance families' direct involvement with early care settings in a bi-directional manner.

Layered together, the incorporation of ECE and evidence-based parenting support presents a potential opportunity for addressing disparities in developmental outcomes. This may be particularly important for Latino families - although enrollment has increased in recent years, Latinos have lower rates of, and report more barriers to, participation in ECE (Murphey et al., 2014). As *Legacy* was designed to impact developmental outcomes, the program could present an opportunity to address both the parent-child relationship as well as cognitive skills. Research indicates that parents' degree of engagement in learning activities (e.g., non-didactic reading interactions) predicts children's academic performance (McFadden, Tamis-LeMonda, & Cabrera, 2011). Such a mechanism may explain how the *Legacy* English UCLA curriculum evidenced significant effects on children's cognitive development six years post-intervention (Perou et al., 2019).

5. CONCLUSION

Clear strategies on how to engage families optimally in prevention programs to enhance child development remain lacking, particularly for culturally adapted interventions (Butler & Titus, 2015; Ingoldsby, 2010). In this study, we focus on the cultural/language adaptation of the *Legacy* parenting program being piloted with Spanish-monolingual Latina mothers and identify factors that are shared and distinct across curricula versions that influence engagement. In addition, descriptive quantitative data illustrated similar or higher ratings on parent engagement relationship factors for the Spanish curriculum. These results could guide tailored strategies for engaging parents in *Legacy* and similar interventions, allowing the positive effects of such programs to benefit a broader range of communities.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments:

We are grateful to *Legacy* group participants whose thoughtful perspectives served as the foundation for this study. We also owe thanks to Adriane Griffen (Association for University Centers on Disabilities), Irma Esparza and Cecilia Herrera (Oklahoma University Health Sciences Center), Ruth Slocum (Oklahoma State University), and Abby Lehman (Tulsa Educare) for their partnership and dedication to the *Legacy* program.

Funding: This project was supported by the Cooperative Agreement Number 5 U38 OT 000140–03 funded by the Centers for Disease Control and Prevention as a sub award from the Association of University Centers on Disabilities (AUCD) and funding from the George Kaiser Family Foundation. This research was supported in part by an appointment to the Research Participation Program at the Centers for Disease Control and Prevention administered by the Oak Ridge Institute for Science and Education through an interagency agreement between the U.S. Department of Energy and CDC.

References

- American Academy of Pediatrics Council on Community Pediatrics. (2016). Poverty and Child Health in the United States. *Pediatrics*, 137(4), 55–71. 10.1542/peds.2016-0339
- Alleyne K, Ayoub C, Bartlett JD, Muniz J, & Sparrow JD (2015). *Compendium of Parenting Interventions*. Washington, D.C.: National Center on Parent, Family, and Community Engagement, U.S. Department of Health and Human Services Retrieved from <http://www.eclkc.ohs.acf.hhs.gov/hslc/tta-system/family>
- Armstrong E, Eggins E, Reid N, Harnett P, & Dawe S (2018). Parenting interventions for incarcerated parents to improve parenting knowledge and skills, parent well-being, and quality of the parent–child relationship: A systematic review and meta-analysis. *Journal of Experimental Criminology*, 14(3), 279–317. 10.1007/s11292-017-9290-6
- Ayón C, Williams LR, Marsiglia FF, Ayers S, & Kiehne E (2015). A Latent Profile Analysis of Latino Parenting: The Infusion of Cultural Values on Family Conflict. *Families in Society*, 96(3), 203–210. 10.1606/1044-3894.2015.96.25 [PubMed: 26966343]
- Baker CN, Arnold DH, & Meagher S (2011). Enrollment and Attendance in a Parent Training Prevention Program for Conduct Problems. *Prevention Science*, 12(2), 126–138. 10.1007/s11121-010-0187-0 [PubMed: 21052834]
- Barker CH, Cook KL, & Borrego J (2010). Addressing Cultural Variables in Parent Training Programs With Latino Families. *Cognitive and Behavioral Practice*, 17(2), 157–166. 10.1016/j.cbpra.2010.01.002
- Barrera M, Berkel C, & Castro FG (2017). Directions for the Advancement of Culturally Adapted Preventive Interventions: Local Adaptations, Engagement, and Sustainability. *Prevention Science*, 18(6), 640–648. 10.1007/s11121-016-0705-9 [PubMed: 27591993]
- Barrueco S, Smith S, & Stephens SA (2015). *Supporting Parent Engagement in Linguistically Diverse Families to Promote Young Children’s Learning Implications for Early Care and Education Policy*. New York, NY: Child Care & Early Education Research Connections Retrieved from <https://www.researchconnections.org/childcare/resources/30185/pdf>
- Beasley LO, Silovsky JF, Espeleta HC, Robinson LR, Hartwig SA, Morris A, & Esparza I (2017). *Legacy for Children™: A qualitative study of cultural congruency for Spanish-speaking mothers*. *Children and Youth Services Review*. 10.1016/j.childyouth.2017.06.022
- Benish SG, Quintana S, & Wampold BE (2011). Culturally adapted psychotherapy and the legitimacy of myth: A direct-comparison meta-analysis. *Journal of Counseling Psychology*, 58(3), 279–289. 10.1037/a0023626 [PubMed: 21604860]
- Bernard HR, Wutich A, & Ryan GW (Eds.). (2017). *Comparing Attributes of Variables*. In *Analyzing qualitative data: systematic approaches* (2nd ed.).

- Birt L, Scott S, Cavers D, Campbell C, & Walter F (2016). Member Checking: A Tool to Enhance Trustworthiness or Merely a Nod to Validation? *Qualitative Health Research*, 26(13), 1802–1811. 10.1177/1049732316654870 [PubMed: 27340178]
- Butler AM, & Titus C (2015, 12). Systematic Review of Engagement in Culturally Adapted Parent Training for Disruptive Behavior. *Journal of Early Intervention*. 10.1177/1053815115620210
- Casanueva CE, & Fraser JG (2009). *Engagement in Legacy for Children(TM): Two Case Studies*. Research Triangle Park, NC.
- Davis AN, Carlo G, Streit C, Schwartz SJ, Unger JB, Baezconde-Garbanati L, & Szapocznik J (2018). Longitudinal Associations between Maternal Involvement, Cultural Orientations, and Prosocial Behaviors Among Recent Immigrant Latino Adolescents. *Journal of Youth and Adolescence*, 47(2), 460–472. 10.1007/s10964-017-0792-3 [PubMed: 29248991]
- DeCamp LR, & Bundy DG (2012). Generational status, health insurance, and public benefit participation among low-income latino children. *Maternal and Child Health Journal*, 16(3), 735–743. 10.1007/s10995-011-0779-8 [PubMed: 21505783]
- Dumas JE, Arriaga X, Begle AM, & Longoria Z (2010). “When Will Your Program Be Available in Spanish?” Adapting an Early Parenting Intervention for Latino Families. *Cognitive and Behavioral Practice*, 17(2), 176–187. 10.1016/J.CBPRA.2010.01.004 [PubMed: 20607140]
- Dumka LE, Lopez VA, & Carter SJ (2002). Parenting interventions adapted for Latino families: Progress and prospects In Contreras JM, Kerns KA, & Neal-Barnett AM (Eds.), *Latino children and families in the United States: Current research and future directions*. (pp. 203–231). Praeger Publishers.
- Duncan KM, MacGillivray S, & Renfrew MJ (2017). Costs and savings of parenting interventions: results of a systematic review. *Child: Care, Health and Development*, 43(6), 797–811. 10.1111/cch.12473
- Durlak JA, & DuPre EP (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology*, 41(3–4), 327–350. 10.1007/s10464-008-9165-0 [PubMed: 18322790]
- Espinoza N (2001). From Meaning to Meaning: The Influence of Translation Techniques on Non-English Focus Group Research. *Qualitative Health Research*, 11(4), 568–579. 10.1177/104973201129119217 [PubMed: 11521612]
- Fleiss JL, Levin B, & Paik MC (2004). *The Measurement of Interrater Agreement In Statistical Methods for Rates and Proportions* (pp. 598–626). Hoboken, NJ, USA: John Wiley & Sons, Inc 10.1002/0471445428.ch18
- Franks RP, & Schroeder J (2013). Implementation Science: What Do We Know and Where Do We Go From Here? In *Applying implementation science in early childhood programs and systems*.
- Fraser J, Wallace I, Dempsey T, Reubens A, & Hawkins S (2009). *Handbook for the Legacy for Children(TM) Process Evaluation*. Research Triangle Park, NC.
- Fraser J, Wallace I, Ikle L, Lyons J, Reubens A, Sorensen A, & Hawkins S (2009). *Legacy for Children(TM): Focus Group Summary Report*. Research Triangle Park, NC.
- Gale NK, Heath G, Cameron E, Rashid S, & Redwood S (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology*, 13(1), 117 10.1186/1471-2288-13-117 [PubMed: 24047204]
- Garcia-Huidobro D, Allen M, Rosas-Lee M, Maldonado F, Gutierrez L, Svetaz MV, & Wieling E (2016). Understanding Attendance in a Community-Based Parenting Intervention for Immigrant Latino Families. *Health Promotion Practice*, 17(1), 57–69. 10.1177/1524839915582155 [PubMed: 25869496]
- Garcia CM, & Duckett LJ (2009). No te entiendo y tú no me entiendes: language barriers among immigrant Latino adolescents seeking health care. *Journal of Cultural Diversity*, 16(3), 120–126. 10.1016/j.surg.2006.10.010 [PubMed: 19824291]
- Garvey C, Julion W, Fogg L, Kratovil A, & Gross D (2006). Measuring participation in a prevention trial with parents of young children. *Research in Nursing and Health*, 29(3), 212–222. 10.1002/nur.20127 [PubMed: 16676341]

- Griner D, & Smith TB (2006). Culturally adapted mental health intervention: A meta-analytic review. *Psychotherapy: Theory, Research, Practice, Training*, 43(4), 531–548. 10.1037/0033-3204.43.4.531
- Haine-Schlagel R, & Walsh NE (2015). A Review of Parent Participation Engagement in Child and Family Mental Health Treatment. *Clinical Child and Family Psychology Review*. 10.1007/s10567-015-0182-x
- Hall GCN, Ibaraki AY, Huang ER, Marti CN, & Stice E (2016). A Meta-Analysis of Cultural Adaptations of Psychological Interventions. *Behavior Therapy*, 47(6), 993–1014. 10.1016/j.beth.2016.09.005 [PubMed: 27993346]
- Hartwig SA, Robinson LR, Comeau DL, Claussen AH, & Perou R (2017). MATERNAL PERCEPTIONS OF PARENTING FOLLOWING AN EVIDENCE-BASED PARENTING PROGRAM: A QUALITATIVE STUDY OF LEGACY FOR CHILDREN TM. *Infant Mental Health Journal*, 38(4), 499–513. 10.1002/imhj.21657 [PubMed: 28658506]
- Heggs Lee A, Crimmins D, Robinson LR, & Barger B (2018). Measuring Parent Engagement in a Group-based Parent-focused Prevention Program (Legacy for Children TM) to Improve Child Development Outcomes. Georgia State University.
- Heinrichs N, Bertram H, Kuschel A, & Hahlweg K (2005). Parent Recruitment and Retention in a Universal Prevention Program for Child Behavior and Emotional Problems: Barriers to Research and Program Participation. *Prevention Science*, 6(4), 275–286. 10.1007/s11121-005-0006-1 [PubMed: 16075192]
- Henrich CC (2013). Commentary on the Special Issue on Parent Involvement / Engagement in Early Childhood Education. *NHSA Dialog*, 16(1), 253–258. Retrieved from http://scholarworks.gsu.edu/psych_facpub258.
- Horvath AO, & Greenberg LS (1989). Development and Validation of the Working Alliance Inventory. *Journal of Counseling Psychology*, 36(2), 223–233. 10.1037/0022-0167.36.2.223
- Hukkelberg S, & Ogden T (2013). Working alliance and treatment fidelity as predictors of externalising problem behaviours in parent management training. *Journal of Consulting and Clinical Psychology*, 81(6), 1010–1020. [PubMed: 23895086]
- Ingoldsby EM (2010). Review of Interventions to Improve Family Engagement and Retention in Parent and Child Mental Health Programs. *Journal of Child and Family Studies*, 19(5), 629–645. 10.1007/s10826-009-9350-2 [PubMed: 20823946]
- Kaminski JW, Perou R, Visser SN, Scott KG, Beckwith L, Howard J, ... Danielson ML (2013). Behavioral and socioemotional outcomes through age 5 years of the legacy for children public health approach to improving developmental outcomes among children born into poverty. *American Journal of Public Health*, 103(6), 1058–1066. 10.2105/AJPH.2012.300996 [PubMed: 23597356]
- King G, Currie M, & Petersen P (2014). Child and parent engagement in the mental health intervention process: A motivational framework. *Child and Adolescent Mental Health*, 19(1), 2–8. 10.1111/camh.12015
- Lakind D, & Atkins MS (2018). Promoting positive parenting for families in poverty: New directions for improved reach and engagement. *Children and Youth Services Review*. 10.1016/j.childyouth.2018.04.019
- McCabe KM, Yeh M, Garland AF, Lau AS, & Chavez G (2005). The GANA program: a tailoring approach to adapting parent child interaction therapy for mexican americans. *Education & Treatment of Children*, 28(2), 111–129.
- McFadden KE, Tamis-LeMonda CS, & Cabrera NJ (2011). Quality matters: Low-income fathers' engagement in learning activities in early childhood predict children's academic performance in fifth grade. *Family Science*, 2(2), 120–130. 10.1080/19424620.2011.655952
- Mendez JL, & Westerberg D (2012). Implementation of a culturally adapted treatment to reduce barriers for Latino parents. *Cultural Diversity and Ethnic Minority Psychology*, 18(4), 363–372. 10.1037/a0029436 [PubMed: 22866691]
- Moodie S, & Ramos M (2014). Culture Counts: Engaging Black and Latino Parents of Young Children in Family Support Programs. Bethesda, MD: Child Trends Retrieved from <https://www.childtrends.org/wp-content/uploads/2014/10/2014-44BCultureCountsFullReport.pdf>

- Morawska A, Dyah Ramadewi M, & Sanders MR (2014). Using epidemiological survey data to examine factors influencing participation in parent-training programmes. *Journal of Early Childhood Research*, 12(3), 264–278. 10.1177/1476718X14536952
- Morris AS, Robinson LR, Hays-Grudo J, Claussen AH, Hartwig SA, & Treat AE (2017). Targeting parenting in early childhood: A public health approach to improve outcomes for children living in poverty. *Child Development*, 88(2), 388–397. 10.1111/cdev.12743 [PubMed: 28138978]
- Mucka LE, Dayton CJ, Lawler J, Kirk R, Alfafara E, Schuster M. m., ... Muzik M (2017). MIXED-METHODS EVALUATION OF PARTICIPANT RECRUITMENT AND RETENTION IN THE MOM POWER PARENTING INTERVENTION PROGRAM. *Infant Mental Health Journal*, 38(4), 536–550. 10.1002/imhj.21652 [PubMed: 28665536]
- Murphey D, Guzman L, & Torres A (2014). *America's Hispanic Children: Gaining Ground, Looking Forward*. Bethesda, MD: Child Trends Retrieved from <https://www.childtrends.org/wp-content/uploads/2014/09/2014-38AmericaHispanicChildren.pdf>
- National Academies of Sciences Engineering and Medicine. (2016). *Parenting Matters: Supporting Parents of Children Ages 0–8*. (Gadsden VL, Ford M, & Breiner H, Eds.). Washington, D.C.: National Academies Press 10.17226/21868
- Niec LN, Acevedo-polakovich ID, Abbenante-honold E, Christian AS, Barnett ML, & Peer SO (2014). Working Together to Solve Disparities: Latina/o Parents' Contributions to the Adaptation of a Preventive Intervention for Childhood Conduct Problems. *Psychological Services*, 11(4), 410–420. 10.1037/a0036200 [PubMed: 25383995]
- Ofonedu ME, Belcher HME, Budhathoki C, & Gross DA (2017). Understanding Barriers to Initial Treatment Engagement among Underserved Families Seeking Mental Health Services. *Journal of Child and Family Studies*, 26(3), 863–876. 10.1007/s10826-016-0603-6 [PubMed: 28584498]
- Ortiz C, & Del Vecchio T (2013, September). Cultural Diversity: Do We Need a New Wake-Up Call for Parent Training? *Behavior Therapy*. 10.1016/j.beth.2013.03.009
- Parra-Cardona JR, Bybee D, Sullivan CM, Rodríguez MMD, Dates B, Tams L, & Bernal G (2017). Examining the impact of differential cultural adaptation with Latina/o immigrants exposed to adapted parent training interventions. *Journal of Consulting and Clinical Psychology*, 85(1), 58–71. 10.1037/ccp0000160 [PubMed: 28045288]
- Parra-Cardona JR, Domenech-Rodriguez M, Forgatch M, Sullivan C, Bybee D, Holtrop K, ... Bernal G (2012). Culturally Adapting an Evidence-Based Parenting Intervention for Latino Immigrants: The Need to Integrate Fidelity and Cultural Relevance. *Family Process*, 51(1), 56–72. 10.1111/j.1545-5300.2012.01386.x [PubMed: 22428711]
- Parra-Cardona J, Holtrop K, Córdova D, Escobar-Chew AR, Horsford S, Tams L, ... Fitzgerald HE (2009). “Queremos Aprender”: Latino Immigrants' Call to Integrate Cultural Adaptation with Best Practice Knowledge in a Parenting Intervention. *Family Process*, 48(2), 211–231. 10.1111/j.1545-5300.2009.01278.x [PubMed: 19579906]
- Patton MQ (1990). *Qualitative Evaluation and Research Methods* (2nd ed.). Newbury Park, London: Sage.
- Perou R, Elliott MN, Visser SN, Claussen AH, Scott KG, Beckwith LH, ... Smith C (2012). Legacy for Children: A pair of randomized controlled trials of a public health model to improve developmental outcomes among children in poverty. *BMC Public Health*, 12(1), 691 10.1186/1471-2458-12-691 [PubMed: 22917446]
- Perou R, Robinson LR, Danielson ML, Claussen AH, Visser SN, Scott KG, ... Smith DC (2019). The Legacy for Children™ Randomized Control Trial: Effects on Cognition Through Third Grade for Young Children Experiencing Poverty. *Journal of Developmental and Behavioral Pediatrics*. 10.1097/DBP.0000000000000656
- Raeff C, Greenfield PM, & Quiroz B (2000). Conceptualizing interpersonal relationships in the cultural contexts of individualism and collectivism. *New Directions for Child and Adolescent Development*, 2000(87), 59–74. 10.1002/cd.23220008706
- Ritchie J, & Lewis J (2003). *Qualitative research practice: a guide for social science students and researchers*. (Ritchie J, Lewis J, & Nichols C, Eds.). London: Sage.
- Robinson LR, Hartwig SA, Smith DC, Lee AH, Forbes LW, Perou R, ... Fitzmorris D (2019). Supporting early social and emotional relationships through a public health parenting program:

The legacy for children™ intervention. In Building Early Social and Emotional Relationships with Infants and Toddlers: Integrating Research and Practice (pp. 183–211). 10.1007/978-3-030-03110-7_8

- Rostad WL, Moreland AD, Valle LA, & Chaffin MJ (2018). Barriers to Participation in Parenting Programs: The Relationship between Parenting Stress, Perceived Barriers, and Program Completion HHS Public Access. *Journal of Child and Family Studies*, 27(4), 1264–1274. 10.1007/s10826-017-0963-6 [PubMed: 29456438]
- Ruiz JM, Hamann HA, Mehl MR, & O'Connor M-F (2016). The Hispanic health paradox: From epidemiological phenomenon to contribution opportunities for psychological science. *Group Processes & Intergroup Relations*, 19(4), 462–476. 10.1177/1368430216638540
- Salkind N (2012). Last Observation Carried Forward In *Encyclopedia of Research Design*. SAGE Publications, Inc 10.4135/9781412961288.n211
- Schmidt F, Chomycyz S, Houlding C, Kruse A, & Franks J (2014). The Association Between Therapeutic Alliance and Treatment Outcomes in a Group Triple P Intervention. *Journal of Child and Family Studies*, 23(8), 1337–1350. 10.1007/s10826-013-9792-4
- Staudt M (2007). Treatment Engagement with Caregivers of At-risk Children: Gaps in Research and Conceptualization. *Journal of Child and Family Studies*, 16(2), 183–196. 10.1007/s10826-006-9077-2
- U.S. Department of Health and Human Services and U.S. Department of Education. (2016). POLICY STATEMENT ON FAMILY ENGAGEMENT: FROM THE EARLY YEARS TO THE EARLY GRADES. Washington, D.C. Retrieved from <https://www2.ed.gov/about/inits/ed/earlylearning/files/policy-statement-on-family-engagement.pdf>
- Varela RE, Niditch LA, Hensley-Maloney L, Moore KW, Creveling CC, & Jones KM (2019). Culture Specific Influences on Anxiety in Latino Youth. *Child & Youth Care Forum*, 48(1), 1–17. 10.1007/s10566-018-9476-8
- Whittaker KA, & Cowley S (2012). An effective programme is not enough: a review of factors associated with poor attendance and engagement with parenting support programmes. *Children & Society*, 26(2), 138–149. 10.1111/j.1099-0860.2010.00333.x
- Yoshikawa H, Aber JL, & Beardslee WR (2012). The effects of poverty on the mental, emotional, and behavioral health of children and youth: Implications for prevention. *American Psychologist*, 67(4), 272–284. 10.1037/a0028015 [PubMed: 22583341]

Key Implications and Findings

1. The two curriculum versions had several common barriers and facilitators, suggesting that group-based parenting programs may need to attend to families' social circumstances regardless of participants' cultural or linguistic background.
2. Transportation, other children's needs, the program design/delivery, and curriculum session materials were important factors for *Legacy* Spanish participants. This suggests that parenting programs serving Latino families might promote engagement through incorporating enabling services (e.g., transportation vouchers, child care).
3. Greater group social support/connectedness and overall program satisfaction was observed among participants in the Spanish curriculum, supporting the relevance of the program and its utility in promoting social connections for these participants.

Statement of Relevance to the Field of Infant and Early Childhood Mental Health

Evidence-based parenting interventions, such as Legacy for Children™, are increasingly being culturally and linguistically adapted to foster sensitive parenting and child mental health for diverse populations. Early childhood and other organizations adopting these programs could apply learnings from the present study to guide implementation.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Original UCLA Curriculum (English Language)

Cohort 1 17 respondents • Group Leader A • Group Leader B	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	4-6 week break	To next block
	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	4-6 week break	To next block

Adapted UCLA Curriculum (Spanish Language)

Cohort 3 15 respondents • Group Leader C • Group Leader E	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	4-6 week break	To next block
	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	Mother-child	Mother-only	4-6 week break	To next block

Figure 1. Typical ten session block schedule and group leader assignments for four cohorts of participants in the Legacy for Children™ program

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 1.

Baseline participant and child sociodemographic characteristics of participants in the Legacy for Children™ program, by curriculum version (English vs. Spanish adapted)

Variable	Curriculum Version		<i>p</i> -value
	<i>Legacy English</i> (n=24)	<i>Legacy Spanish</i> (n=28)	
	Mean (SD)	Mean (SD)	
<i>Participant Characteristics</i>			
Age (years)	27.3 (4.8)	31.1 (7.9)	0.129
Race			0.018
White/Caucasian	46.3	52.3	
Black/African American	50.3	0.0	
Asian	0.0	1.5	
Other	3.4	46.2	
Ethnicity: Hispanic/Latino	37.6	100.0	0.007
Primary language is English	100.0	0.7	<0.001
# of years lived in the U.S.	25.0 (1.1)	10.5 (4.8)	0.009
Employment Status			<0.001
Full-time	18.9	9.2	
Part-time	18.8	2.3	
Seasonal	3.5	12.2	
Doesn't work	46.8	71.0	
Student	8.9	3.8	
Other	3.1	1.5	
% high school education	76.9	79.7	0.328
Monthly income (\$)	2350.14 (719.10)	1863.63 (1288.42)	0.086
<i>Child Characteristics</i>			
Age (months)	3.3 (0.9)	3.5 (1.2)	0.506
% Female	46.9	35.6	0.042
Race			0.033
White/Caucasian	48.4	91.3	
Black/African American	45.7	4.5	
Asian	0.0	0.0	
Other	5.8	4.1	
Ethnicity: Hispanic/Latino	16.9	100.0	<0.001

^aPercentages were calculated based on all the data reported; however, it is important to note there was missing data for race. The responses for maternal race and child race only represent 18.7% and 83.8% of the total samples respectively, although all participants provided information on Hispanic/Latino ethnicity.

Table 2.

Differences in parent engagement measures in the Legacy for Children™ program, by curriculum version (English versus Spanish adapted)^a

Parent Engagement Measure	Missingness rate ^b	Data Source (Reporter)	Curriculum Version		p-value ^c		
			Legacy English	Legacy Spanish			
			N	Mean (SD)	N	Mean (SD)	
Parent's Group Support/ Connectedness ^d	14%	WAI-S (Group Leader)	30	6.0 (1.3)	29	6.9 (0.8)	0.011
Parent-Group Leader Relationship ^d	22%	WAI-S (Group Leader)	25	5.9 (0.8)	25	6.0 (1.0)	0.482
Parent-Group Leader Relationship ^e	9%	PSS (Parent)	16	2.8 (0.4)	18	3.3 (0.5)	0.100
Overall Satisfaction with Legacy ^f	6%	PSS (Parent)	7	3.0 (0.4)	8	3.8 (0.4)	0.015

Abbreviations: PSS, Parent Satisfaction Survey. WAI-S, Working Alliance Inventory – Short Form.

^aSample sizes differ due to using all available valid responses for a given analysis.

^bMissingness rate calculated based on proportion of participants at the present study's assessment timepoint that had non-valid or missing data for a given measure.

^cBased on two-tailed Wilcoxon rank-sum tests.

^dRange: 1 (*Never*) – 7 (*Always*);

^eRange: 1 (*Never*) – 4 (*Always*);

^fRange: 1 (*Somewhat Satisfied*) – 4 (*Very Satisfied*).

Table 3.

Barriers to parent engagement in the Legacy for Children™ program for the English and Spanish adapted curriculum versions

3a. Barriers shared across curricula		3b. Barriers salient to Legacy English		3c. Barriers salient to Legacy Spanish	
Code	Example Quotes	Code	Example Quotes	Code	Example Quotes
<i>Primary</i>					
Health-related challenges and appointments	• “Because of personal or my children’s health.” ^P	Distance to site	• “This mom lives far from where the group meets.” ^{GL}	Transportation	• “She said on the phone that she wants to come every week when we call, but she lives far from Catholic Charities and struggles to find a ride to group each week.” ^{GL}
	• “Mom has health problems which may [explain] some of her distracted demeanor.” ^{GL}		• “Now the problem is distance.” ^P		• “Transportation is the key barrier for this mom, along with her family responsibilities.” ^{GL}
Employment challenges	• “I am not able to take [my son] to school late for this group. I am also not allowed to return him to school at 1:15 after the class more than twice a month. This keeps me from utilizing the rest of the day for work. On days I bring him to the group I usually have to miss the rest of the day of work.” ^P	General family responsibilities	• “Family responsibilities - possibly in summer.” ^P	Needs of other children	• “She also has 6 children, and her responsibilities with the others may prevent her from coming to group.” ^{GL}
	• “This mom has to work a temporary job during Block 1 which impeded her from attending Legacy group.” ^{GL}		• “She seems willing to learn but has a lot of extended family responsibilities.” ^{GL}		• “This mom has 6 kids in total. Her youngest two are 18 months and 6 months, so she sometimes struggles to keep up with both of their needs. The 18 month old is still wanting to stay close to mom during group time, which can be distracting to other moms and to this mom.” ^{GL}
			• “I have to support my family.” ^P		
<i>Secondary</i>					
N/A	---	Stress or life challenges	• “This parent sometimes seems distracted, like she may have a lot on her mind or very tired... However, when present, she offers very good ideas and lots of resources.” ^{GL}	Lack of knowledge about available services	• “She is relatively new to the Tulsa area and does not seem aware of many of the resources available to her in the Tulsa community.” ^{GL}

3a. Barriers shared across curricula		3b. Barriers salient to <i>Legacy</i> English		3c. Barriers salient to <i>Legacy</i> Spanish	
Code	Example Quotes	Code	Example Quotes	Code	Example Quotes
				Social isolation	<ul style="list-style-type: none"> • “This mom does not seem to have a wide social network/friends in the Tulsa community.”^{GL}
				School/classes	<ul style="list-style-type: none"> • “This mom has recently begun taking English class at Catholic Charities”^{GL}

Notes. “Primary” barriers represent factors that emerged with relatively high frequency and across both group leader and parent perspectives. “Secondary” barriers represent factors that emerged but with less frequency or either group leader or parent perspectives. ^P Parent response, ^{GL} Group leader response

Table 4. Facilitators to parent engagement in the Legacy for Children™ program for the English and Spanish adapted curriculum versions

4a. Facilitators shared across curricula		4b. Facilitators salient to Legacy English		4c. Facilitators salient to Legacy Spanish	
Code	Example Quotes	Code	Example Quotes	Code	Example Quotes
<i>Primary</i>					
Interest in program topics	<ul style="list-style-type: none"> “Although this parent has two older children, she still shows eagerness to learn from the Legacy curriculum each class session, which is reflected through her attendance and punctuality.”^{GL} “Learn new things about raising children.”^P 	Other mothers’ children in group	<ul style="list-style-type: none"> “I was thinking it would be a good way for me and my baby to [learn] more so I and for her to meet [other babies]”^P “The closeness of the babies and their development of social skills are what I wanted for my child.”^P 	Curriculum session materials	<ul style="list-style-type: none"> “Improve the family environment and new habits for our babies.”^P “She seems to enjoy the curriculum but also seems to enjoy the sense of community and friendships she is making with other moms in the group.”^{GL}
Other mothers in group	<ul style="list-style-type: none"> “Spend time/conviviality with other moms and learn more.”^P “This parent frequently talks about how important this group is for her social support network.”^{GL} 			Program design and delivery	<ul style="list-style-type: none"> “This mom once stated in group that she enjoys coming to group because it is a break for her mentally for her responsibilities at home and with her 5 children. She said it gives her time to focus on the baby and spend time with him.”^{GL} “This mom also enjoys the group as a place she can talk with other moms and be heard.”^{GL}
<i>Secondary</i>					
Desire to be a better parent	<ul style="list-style-type: none"> “She has older children and was parented harshly herself and has made ‘conscious’ effort to learn new approaches with this one. She displays much resourcefulness in her endeavor and readily shares with the group.”^{GL} “I feel she will be better adapted to children her age than my other kids that never got that socialization.”^P 	N/A	---	Group leader/ staff present	<ul style="list-style-type: none"> “That [the group leader] makes us feel comfortable and gives us confidence.”^P “Finally! Someone that has studied more on parenting than me!”^P

4a. Facilitators shared across curricula		4b. Facilitators salient to <i>Legacy</i> English		4c. Facilitators salient to <i>Legacy</i> Spanish	
Code	Example Quotes	Code	Example Quotes	Code	Example Quotes
		Other mothers' children in group	<ul style="list-style-type: none"> Her toddler seems to enjoy coming to group too-to play with the other children." P "We have babies of the same age" P 		

Notes. "Primary" facilitators represent factors that emerged with relatively high frequency and across both group leader and parent perspectives. "Secondary" facilitators represent factors that emerged but with less frequency or either group leader or parent perspectives. P Parent response; GL Group leader response