

# Full Report: A Randomized Controlled Trial to Examine the Impact of Cell Phone Technology on Engagement and Retention of Fathers in a Fatherhood Program



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## Executive Summary

The Department of Health and Human Services, Administration for Children and Families (ACF) Healthy Marriage and Responsible Fatherhood (HMRF) grants have resulted in the development of a number of programs serving low-income fathers in the past 10 years. Ongoing research and evaluation suggests that these programs may have a positive impact on fathers' relationship with children. Questions remain, however, about how best to recruit, engage, and retain fathers in these services. The Suffolk County Fatherhood Initiative (SCFI) is an HMRF-funded program (funded by the Office of Family Assistance through the 2015 cohort of grants) that serves low-income fathers and addresses responsible fatherhood, healthy relationships, and economic stability services. SCFI has successfully developed community relationships and recruited fathers into the program but faces challenges similar to other HMRF programs in terms of retention in both program services and the evaluation protocol.



One area of emerging research is the use of cell phone technology for health social service programs. This study explored the use of two interventions: (1) providing cell phones and sending text messages to participants in the SCFI program, with the goal of increasing participants engagement, participation, and retention; and (2) increasing the incentive for research interviews, with the goal of increasing retention in the program and research protocol. Using an experimental design, 212 participants were randomly assigned to one of three groups (1) control group (services as usual); (2) cell phone intervention, including twice-weekly text messages; and (3) increased incentive intervention, receiving extra incentives for engaging in the program and completing research interviews.

There were no (statistically significant) group differences in engagement, participation, or retention between the intervention (cell phone, increased incentive) and control groups. In other words, we did not see any effect of either the texting or increased incentive on our measure of father's engagement, participation, or retention in the program. To explore the impact of the intervention on the broader programmatic outcomes of responsible fatherhood, healthy relationships, and economic stability, we also compared scores between the three groups. Similarly, we did not find any group differences across these outcomes.

This study does not provide sufficient empirical evidence that provision of cell phone and ongoing text-messaging contact was associated with increased engagement, participation, or program retention for fathers. However, we found considerable support of the interventions from fathers in a simultaneous qualitative study.

The texting intervention can easily be replicated with other father-serving programs. Despite the lack of definitive findings in terms of key outcomes, fathers expressed positive views about texting and the research team believes that utilization of modern technology has potential to help fathers stay connected to responsible fatherhood programs. Clients reported that the texts were helpful in encouraging motivation, for reminders about program services and contact information, for potential referrals to job opportunities, and in building connections with their caseworker. Text messaging may provide a useful connection between clients and their caseworkers and may supplement, or substitute the need for, in-person contacts.



## Background

The Department of Health and Human Services, Administration for Children and Families (ACF) **Healthy Marriage and Responsible Fatherhood (HMRF)** grants have resulted in the development of a number of programs serving low-income fathers in the past 10 years. Ongoing research and evaluation suggests that these programs may have a positive impact on fathers' relationship with children (Dion, Zaveri, & Holcomb, 2015; Holmes, Hawkins, Egginton, Robbins, Shafer, 2018) and seem to have the most significant impacts on increasing activities and nurturing behavior between father and child (Avellar, Covington, Moor, Patnaik, & Wu, 2019). Following two decades of fatherhood initiative development at the federal and local levels, current HMRF-funded fatherhood programs are required to focus on three priority areas: building healthy relationships (including marriage promotion and preservation), promoting positive and involved parenting, and activities focused on economic stability including employment readiness, education and training, and job placement (Tollestrup, 2018). Questions remain, however, about how best to recruit, engage, and retain fathers in these services.

The **Suffolk County Fatherhood Initiative (SCFI)** is an HMRF-funded program (funded by the Office of Family Assistance through the 2015 cohort of grants) that serves low-income fathers and addresses responsible fatherhood, healthy relationships, and economic stability services. From 2011 to 2015, SCFI was successful in developing community relationships and recruiting fathers into the program, but faced challenges similar to other HMRF programs in terms of retention in both program services and the evaluation protocol and engagement of fathers in the program. A cross-site evaluation of other HMRF grantees revealed challenges with retention in most programs. Retention in the cross-site group sample of grantees was 21 to 59% in fatherhood groups and in 7 to 64% in employment groups (Dion, Zaveri, & Holcomb, 2015). Another study of dosing in community-based programs found that the amount of service fathers receive varies considerably between programs and program participants and may be influenced by a variety of factors both within and outside of program's control (i.e., mother's influence, father characteristics) (Fagan & Pearson, 2018). Similarly, SCFI achieved only 36% retention at the 12-week "closing" interview and faced challenges keeping fathers engaged in services and the evaluation protocol throughout the program during the 2011–2015 funding period. For these reasons, efforts to improve participant engagement and retention were the focus of the current study conducted with funding from the Fatherhood Research and Practice Network (FRPN) which augmented SCFI's HMRF-funded program and evaluation. SCFI's HMRF funded study includes an ongoing process and outcomes evaluation focusing on the three goals of improving father involvement, healthy relationships, and economic stability. The current FRPN-funded study was primarily focused on a texting intervention to increase participation, engagement, and retention in the program.

### Strategies to Recruit, Engage, and Retain Fathers

Practitioners and researchers have sought to identify the best mechanisms for recruiting, engaging, and retaining fathers in services. Recent studies suggest that factors associated with better engagement and retention at the program level include front-loading more intensive services (including group or individual contact, activities to foster engagement, etc.) to create a "hook" that engages fathers in services (Fagan & Pearson, 2018; Pruett, Cowan, Cowan, & Pruett, 2009), using fathers' preferences for services (sequencing services that align with father's needs and interests to occur first), tailoring services to father's individualized needs, and being flexible with services including offering services at times convenient for fathers (Fagan & Pearson, 2018; Frank, Keown, & Sanders, 2015). Similarly, other parenting programs, such as the Nurse-Family Partnership, have found that tailoring services to families' specific needs and requests (i.e., being immediately responsive to requested assistance including help with concrete needs such as food, clothing, as well as referrals to other client-identified services) increases retention (Ingoldsby, Baca, & McClatchey, 2013). Other studies of retention and engagement specifically with fathers point to individual participant characteristics that may negatively impact retention, including symptoms of depression and



anxiety (Pruett et al., 2009). Further, monetary incentives may increase retention in programs and research protocols, especially with hard-to-reach populations (e.g., Icard et al., 1996; Jones et al., 2000). SCFI has integrated many of these findings in its work, including offering tailored and flexible services (such as transportation, clothing, case management to identify needs, groups offered at different times and days including evenings); requiring participation in fatherhood groups prior to economic stability services; offering cash incentives for completion of services; and identifying and addressing other issues that may impact retention, such as substance abuse and depressive symptoms. Nevertheless, the program has still faced challenges keeping many participants engaged in the program past the first few weeks of services.

## Cell Phone Technology in Research and Practice

One developing area of research is the use of cell phone technology for intervention and research. In 2018, 96% of the U.S. population over the age of 18 was estimated to have a personal mobile phone and over 80% had smartphones (Pew Research Center, 2019). Cell phones have been used in research to collect information directly from research participants (Raento, Oulasvirta, & Eagle, 2009), to collect daily logs of health behaviors (Boulos, Wheeler, Tavares, & Jones, 2011), and to track program participants' geographical location and social networks (Sugie, 2016). Cell phones have also been used in allied health disciplines for sharing health information, engaging patients in self-care, supporting smoking cessation, encouraging positive health behaviors, relaying appointment reminders, and other health-related interventions (Klasnja, 2012). Use of these "patient-centered technologies" has been found to increase engagement in health services and has potential for use in research with other hard-to-reach populations. Few studies have explicitly tested the impact of cell phone technologies on engagement and retention in community-based social services and no research was identified that engaged fathers in services using these approaches.

To date, very few cell phone studies have involved fathers. An exception is Sugie's (2016) work with prisoner re-entry. Working with a population similar to that of this study (low-income, mostly unemployed, male), cell phones were used to monitor social networks and to capture information about employment (Sugie, 2016). In this study, participants were randomly assigned to one of two groups, with one group receiving cell phones with unlimited air and data plans. While similar rates of program participation and employment outcomes were noted between the cell phone (intervention) and interview (control) groups, much can be learned from this study. For one, while the Sugie (2016) researchers anticipated problems with phone loss, misuse, or theft, there were no such problems. Further, men were consistently engaged in interactions with researchers via cell phones and reported positive experiences in the study (Sugie, 2016).

## Setting—Suffolk County Fatherhood Program

The Suffolk County Fatherhood Initiative (SCFI) represents a unique partnership among a traditional domestic violence agency (Retreat, Inc., established 1987), university researchers (Stony Brook University School of Social Welfare), and community partners (e.g., Department of Probation; various housing, substance abuse, and mental health service providers; local high schools; local jails; and the Department of Labor). During SCFI's first four years of program services (2011–2015), the program served over 800 low-income fathers and was successful in establishing connections with community-based providers and building a solid reputation in the counties it serves and in New York State. The program's geographical catchment area is Suffolk County, New York, with a recent expansion into Nassau County in 2018. Suffolk County, located 40 miles from New York City, includes urban, suburban, and rural communities and is home to 1.5 million residents. The population is 85% White and includes some of the wealthiest census tracts in the United States; the median household income is \$88,323. But despite this extreme wealth, it is also one of the most racially and economically segregated counties in the U.S. (Logan, 2001; Logan & Stults, 2011), with pockets of deep poverty exacerbated by its high cost of living, limited public transportation, and scant employment options. The SCFI program serves a racially diverse, low-income population. Between 2011–2015, the program served



800 fathers who were 39% African American, 48% White, 5% American Indian, and 8% mixed race or other, with 19% identifying as Hispanic/Latino. Sixty-seven percent of the program's participants were unemployed, and over 83% were at or below the federal poverty level. The majority (60%) of the program's participants were never-married fathers who were biological parents to a child under age 18 (25% were married, 18% previously married).

The mission of SCFI is to empower men to be responsible fathers by providing evidence-based, skill-building workshops/groups, education, case management, and coaching on healthy relationships, responsible parenting, and economic stability. This program aims to help fathers improve their parenting abilities, confidence, and relationships so they may more meaningfully connect with their partners and children. The majority of the men enrolled in the SCFI program are facing unemployment and/or living below poverty level, and have some type of involvement with the criminal justice system. SCFI engages such men proactively and asks them to participate in a series of catalytic skill building, group and individual activities designed to leverage and activate their strengths.

SCFI is equipped to serve a traditionally hard-to-reach population, as it creates community linkages with local social service providers to establish referrals. SCFI uses three curricula, "On My Shoulders," "Within My Reach," and "Within Our Reach" (Prep, Inc., n.d.). Each group curriculum consists of four-to-five educational sessions, with "On My Shoulders" addressing the domain of responsible fatherhood, while "Within My Reach" and "Within Our Reach" focus on healthy relationships. Each client receives specific domestic violence and child abuse prevention education, and in-depth family support that may include referrals to mental health, substance abuse treatment, primary care, legal assistance, housing, food, clothing, transportation, and additional needed services on a case-by-case, as-needed basis. The extent of concrete assistance (food, transportation, clothing) and referrals to outside assistance (substance abuse, mental health, benefits) depend on the specific, identified needs of each client. On a case-by-case basis, SCFI's economic stability specialist conducts one-on-one coaching with participants to build their financial and career skills, draft résumés, and assist with job searches. Finally, the SCFI Peer Mentoring Program works to establish a sense of community and support between fathers. Each program component is described in more detail below.

**Case management (up to 24 weeks).** Case managers are responsible for key program processes: enrollment, intake, monitoring and referral to services, and assessment of client progress. Case managers formulate a plan with participants to help identify their goals, needs, and resources and to connect them to services. Because the program is administered by a domestic violence service agency, a primary focus of case management services is to increase knowledge of and prevention of domestic violence. Case management usually occurs weekly either in person or by phone. Case managers reach out to participants at least weekly by phone and maintain phone and in-person contact with them throughout their time in the program. Due to the varied work schedules of participants, there is no requirement to meet weekly in-person.

**Responsible fatherhood curriculum-based group intervention (4–5 two-hour sessions).** "On My Shoulders" (OMS), developed by Prep, Inc. (Prep, Inc., n.d.) is a strengths-based curriculum designed to give fathers effective tools for being strong, involved fathers. OMS emphasizes relationship skills and self-awareness, addresses emotions, promotes mindful choices, and encourages participants to value themselves as fathers and as men in the world. OMS focuses on core relationship values, such as commitment, respect, and healthy attachment. In addition, it focuses on workable practical skills that make for effective parenting and effective relationships.

**Healthy relationships curriculum-based group intervention (4–5 two-hour sessions).** "Within Our Reach" (WOR) and "Within My Reach" (WMR), developed by PREP, Inc. ([www.prepinc.com](http://www.prepinc.com)), is a curriculum designed to help couples achieve their goals in relationships, family, and marriage. WOR builds on relationship strengths to encourage safer, more stable relationships and, by extension, better environments for children. WMR attempts to impart the same relationship skills in man-only groups with single men who are either not in a relationship or wish to attend workshops



without their partner. Both group interventions focus on the same skills; the only difference in the groups is that in WOR, couples attend together and in WMR, fathers can attend alone (and can be of any relationship status).

**Economic stability (up to 24 weeks).** The Workforce Development Specialist works with clients individually after completion of one of the curriculum-based group interventions (WOR, WMR, or OMS). Economic stability services are tailored to client's needs and include NYS Non-Custodial Parenting Workshop (focuses on child support responsibilities); referrals to educational programs for GED or English as a Second Language (ESL) classes; referral for job training programs; and collaboration with the Suffolk County Department of Labor for onsite recruitment, job training, and placement. Between 2016 and 2018, SCFI reported 216 out of 842 service contacts (25% of all service contacts) for fathers receiving economic stability and employment-related services. Economic stability services included referrals to employment services (Department of Labor, other county services), résumé development, career planning, job search assistance, clothing, and transportation (gas or bus vouchers).

**Mentoring and other services.** Assistance with transportation, child care, and other needs related to employment (e.g., clothing for interviews) are also provided to participants as needed. A **peer mentoring** component was added to the service array in 2016, and between 2016–2018, 13 fathers were matched during 27 Saturday sessions. The dyads or triads consisted of SCFI clients who had successfully completed the program and fathers just entering the program.

## Project Intervention

For this study, the interventions consisted of (1) providing cell phones (if needed) and sending text messages to participants in the SCFI program, with the goal of increasing participants' engagement, participation, and retention; and (2) increasing the incentive for research interviews, with the goal of increasing retention in the program and research protocol. The cash incentive group is described in the methods section of this report. The cell phone group participants received the text messages twice weekly for 12 weeks via Google Voice. Following the texting protocol (see Appendix 2), two different text types were employed: (1) texts that specifically linked to program curriculum, and (2) texts that provided information about the program. Following their assignment to the text messaging treatment group, participants were sent a welcome text message. Once the participants responded with a confirmation message such as "Yes," "OK," or "Thanks," additional text messages were sent to them for the next 12 weeks. If clients did not respond, research staff contacted their case manager for an updated phone number or contact information. If a new number was not available, research staff continued to attempt to contact the client via text and phone. Participants were considered to be still in the treatment group after random assignment (for the purposes of data analysis) even if they did not respond to text messages. Besides the 12 weeks of substantive messages, holiday messages were sent out on the 4th of July, Thanksgiving, Christmas, and New Year's Day.

During Weeks 1 and 2, participants received text messages with contact information about the SCFI office, program, curriculum, services, and case management services including a phone number to the office. From Week 3 to Week 6, the text messages encouraged participants to keep in touch with their case manager and to utilize the skills that they had learned through the fatherhood program, including those dealing with communication, coping, and building a good relationship with their children and partner. After Week 5, participants received a reminder text message to schedule a 6-week interview to earn a \$50 gift card. In Week 7, the text messages provided contact information for the SCFI Employment Specialist for those who were interested in help with finding a job. Texts with content on domestic violence, child abuse prevention, and child care services were sent during Weeks 8 and 9. For those who needed assistance with preparing résumés and interviews, the Week 10 text message included direct contact information for an employment specialist. During Week 11, participants received a reminder message about the 12-week follow-up interview. Participants were also encouraged to become mentors of fathers who were new to the program.



## Research Questions

The primary research questions for this study were:

1. Is the provision of cell phones and ongoing text messaging contact associated with increased participation, engagement, and program completion rates for fathers?
2. Is the provision of increased monetary incentives at 6 and 12 weeks associated with increased retention in the program and research protocol?
3. Do these retention interventions influence changes in program outcomes (responsible fatherhood, economic stability, healthy relationships)?
4. Do these interventions influence changes in reported fatherhood challenges or the number of program referrals that staff provide to fathers?
5. How do fathers perceive their experience participating in the texting intervention?
6. What are fathers' ideas about how texting can be used by fatherhood programs?

The research team hypothesized that (1) the **cell phone group** would have higher rates of participation, engagement, and retention compared to the control group; and (2) the **increased monetary incentive** group would have higher rates of participation, engagement, and retention compared to the control group.



## Method

### Research Design

This study employed an experimental design using random assignment to three groups (two treatment, one control). A permuted block randomization scheme with block sizes of 3, 6, or 9 was used to allocate eligible participants to three groups. The randomization assignment was created using the "RAND" function in SAS v.9.4 (SAS Institute, Cary, NC). Participants who completed intake and baseline measures were notified of their random selection into one of three groups.

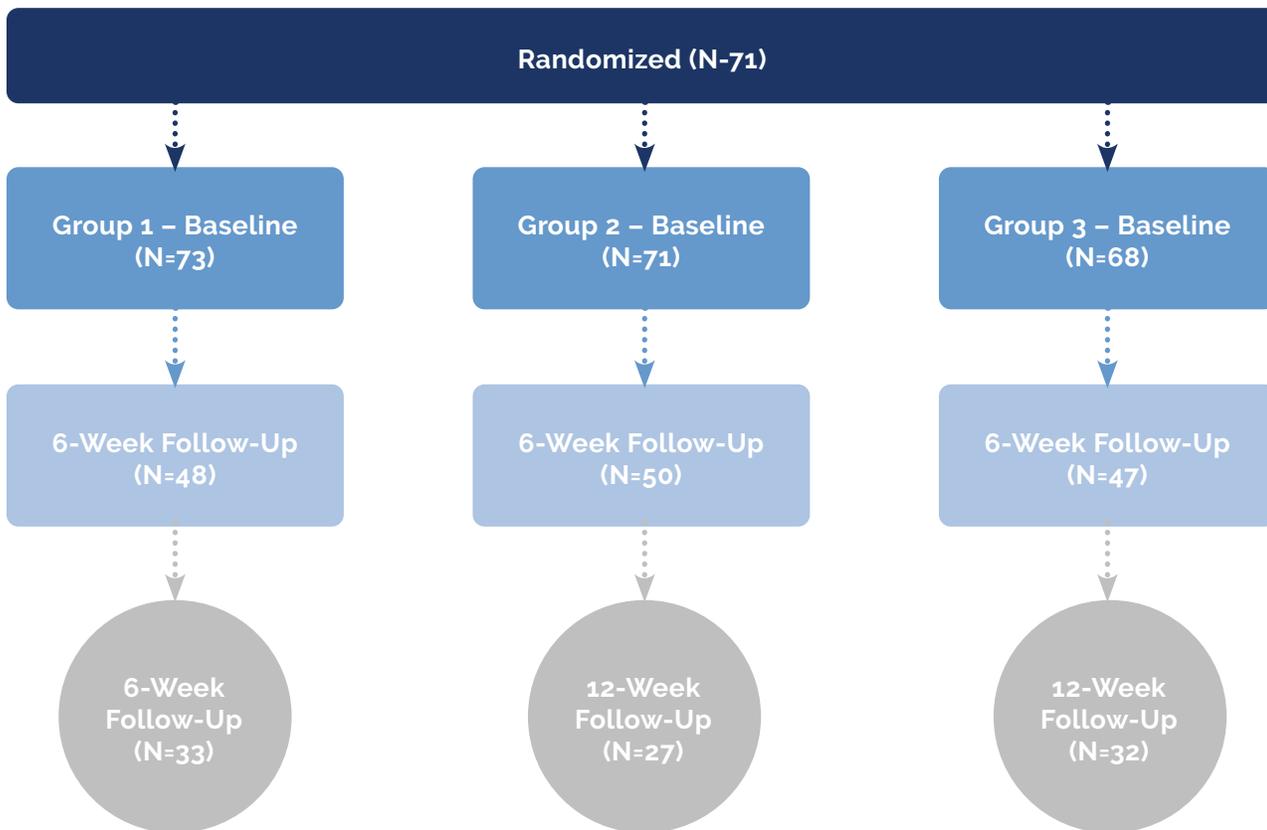


**Group 1—Engagement and retention as usual (control group).** These participants received all SCFI services including case management, curriculum-based group intervention, and economic stability services. They also received regular phone contact by case managers and phone call reminders for evaluation data collection. Finally, they received financial incentives for participation and data collection, which were \$50 for completing a post-program survey (6 weeks after program orientation) and \$25 for participating in a follow-up (12 weeks after program orientation) interview, for a total compensation package of \$75.

**Group 2—Cell phone intervention.** These participants received SCFI services as usual, and were also given the option of receiving a cell phone and/or phone minutes to be replenished upon request. The intervention consisted of a minimum of twice-weekly text messages and phone call reminders at data collection time points (6 and 12 weeks) by the research staff. (Note: case managers continued to provide services as usual, including phone calls and check-ins with their clients to remind them of program services and evaluation data collection activities.) This group also received regular incentives that consisted of \$50 at 6 weeks post-enrollment and \$25 at 12 weeks post-enrollment, for a total compensation package of \$75.

**Group 3—Cash incentive group.** These participants received SCFI services as usual, as well as an additional \$25 gift card at the 6-week interview (total of \$75) and at the 12-week interview (total of \$50). In other words, this group received a total of \$50 more for completing both interviews (\$125, compared to \$75). This group also received the usual reminders about services and research interviews.

**Figure 1. Randomization Flow Chart**



## Procedures

Participants (N = 212) were recruited during the period from October 2016 to September 2018 (24 months) from men who enrolled in the Suffolk County Fatherhood Initiative (SCFI) program. SCFI eligibility included (1) father or father figure to a child under age 18; (2) resident in Suffolk or Nassau County, New York; (3) low-income, unemployed, or under-employed; (4) no recent domestic violence charges; and (5) willing to participate in services for a minimum of 6 weeks. Fathers who were eligible for the SCFI program were also eligible for this study.

Participants in the study were recruited from the pool of fathers who completed intake and attended orientation in the SCFI program. Following the baseline assessment, fathers were invited to participate in the study and undergo informed consent procedures. The Stony Brook University (SBU) Internal Review Board reviewed and approved all study procedures.

## Data Collection

All data collection activities (pre, post, and follow-up computer assisted interviews) were conducted as part of the ACF-funded local evaluation by research assistants supervised by the Principal Investigator (PI) at Stony Brook University. There were two main mechanisms for data collection: (1) ACF's required nFORM system (an online computer assisted interview); and (2) the local evaluation, also being conducted as an online, computer-assisted survey (developed in the Qualtrics platform). The nFORM data collection system included participant characteristics, program participation, and some outcome measures required by ACF. Program staff entered client characteristics and program participation data into nFORM. In addition, with FRPN support, a sample of participants was simultaneously recruited for a qualitative study at the time of the 6-week data collection interview (N = 40) and were queried about their participation in the cell phone study and their receipt of regular text messages or increased compensation.

## Measurement

The primary measures for this study are participation, engagement, and retention. Participation was calculated as number of client contacts and minutes of contacts (each incidence of attendance in a group session, meeting with case-manager, or participation in other program sponsored events counted as one client contact), and program completion (yes/no). Client Engagement was measured by a continuous variable that was developed collaboratively by researchers, program staff, and current and former program clients who participated in a Research Advisory Board (RAB). Using a previously validated measure of engagement for parents receiving child welfare services (Yatchmenoff, 2005), the RAB developed questions that were appropriate for men in a voluntary fathering program. This effort involved significant client input (see Appendix 1 for original and revised measure). The original study of this measure (Yatchmenoff, 2005) suggested four factors of engagement: receptivity, trust, working relationship, and buy-in. In our study, we conducted a confirmatory factor analysis and could not confirm the four factors in our sample; hence, we used the total score for a measure of client engagement ( $\alpha = .97$ ). Retention in the program was measured by completion of at least one of the three program components (a minimum of 4 sessions or 8 hours of the group component) and in the research protocol by completion of the 6- and 12-week research interview (yes/no).

In addition, the research team explored change over time for core program outcomes of (1) responsible fatherhood, (2) healthy relationships, and (3) economic stability. Responsible fatherhood was measured by the Fatherhood Research and Practice Network (FRPN) Father Engagement Scale (Dyer, Kaufman, Cabrera, Fagan, & Pearson, 2015). The items in this measure vary based on age of the child (e.g., infants, adolescents); hence, the mean score was used to create a similar score range for each participant regardless of which version of the measure was used (mean score range: 0–5). The FRPN scale measures fathers' day-to-day engagement with their children across a number of activities. In the SCFI protocol, participants were asked to identify their youngest child and complete the assessment



using that specific child. Reliability for each of the age-based versions of this measure were computed on the entire sample and varied from  $\alpha = .94-.97$  across the four age measures and time points (baseline, 6 weeks, and 12 weeks). Healthy relationship was measured only for participants who reported being in a current relationship. To assess healthy relationship, a single item measure of relationship satisfaction from the Relationship Assessment Scale (RAS) (Hendrick, 1988) was used; mean scores were used for this self-report measure. Finally, economic stability was measured by whether clients achieved a new skill/training, a new job, or new educational achievement during their time in the program, as reported by clients to their case manager or education specialist. See [Table 1](#) for collection points, measures, and related outcomes.

**Table 1. Outcomes, Measures, and Data Collection Time Points**

Outcome	Measured By	When
Participation	Number of contacts and minutes of contacts, and program completion (yes/no)	6 weeks; 12 weeks
Engagement	Researcher-developed measure of client engagement, based on Yatchmenoff (2005)	6 weeks; 12 weeks
Retention	Closing and follow-up interviews conducted	6 weeks; 12 weeks
Father involvement	FPRN father engagement	Entry, 6, and 12 weeks
Healthy relationships	Relationship Assessment Scale	Entry, 6, and 12 weeks
Economic stability	New skills or job, educational achievement	Entry, 6, and 12 weeks

### Analytic Strategy to Assess Effects of Intervention on Outcomes

**Baseline evaluation.** In accordance with the balanced randomization process, the distribution of demographic characteristics was expected to be similar in the three groups. The distributions of personal characteristics (i.e., age, race, and ethnicity) obtained at baseline for each group was compared among the three study groups. For continuous variables, comparisons were made using ANOVA or the non-parametric Kruskal-Wallis test. For categorical variables, comparisons were conducted using the Chi-square test or Fisher’s exact test.

**Primary analyses.** The primary analyses compared three randomized groups for program participation, engagement in the program, completion of intervention, and retention in research protocols, as well as programmatic outcomes related to responsible fatherhood, healthy relationships, and economic stability. Longitudinal analyses of 6-week and 12-week outcome measures were performed to characterize change over time. Generalized linear mixed models (the GENMOD procedure in SAS) were used for binary or ordinal outcomes (e.g. retention: binary; participation: count), and linear mixed models (the MIXED procedure in SAS) were used for continuous outcomes (engagement, other program outcomes). Potential confounding effects of baseline characteristics were adjusted in the mixed models and within-subject correlation over time were also considered. *P*-values less than 0.05 for overall tests and *p*-values less than  $0.05/3=0.017$  for post hoc pairwise comparisons were considered statistically significant.

**Subgroup analyses.** The differences in effects of intervention between subgroups such as ethnicity, age, and employment status were estimated with 95% confidence intervals. Consistency of intervention effects across these subgroups were tested using *F*-tests for treatment by age/ethnicity/employment interactions based on the mixed models. All analyses were performed using SAS v.9.4.

**Handling of missing data and attrition bias.** The entire study group, including research and program staff, made every effort to avoid incomplete data collection and loss of participants to follow-up data collection resulting in subsequent missing data. The research and program staff made up to 10 re-engagement attempts over a period of six months (including phone calls and text messaging) prior to considering a client as dropped from the program.



The number (percentage) of subjects with missing data on the primary outcomes (participation, engagement, retention) and reasons for missed visits or loss to follow-up, if available, were tabulated. Subjects who missed the 12-week visit were compared with those who completed the visits with respect to characteristics at baseline and 6-week visit.

**Fidelity.** Two areas of fidelity were considered: (1) fidelity to the fatherhood intervention itself was measured within the context of the larger ACF-funded local evaluation (including orientation and enrollment within two weeks of contact; at least one case management contact per week; observations of group interventions) and (2) fidelity to the retention intervention, monitored and evaluated in the context of this project. Fidelity for the retention treatment (cell phone group) was measured by:

1. Documentation of cell phone incentive (phone, minutes) or client refusal
2. Number of text messages sent per week (for cell phone group), minimum of two
3. Number of phone calls documented by program staff (for all groups)
4. Documentation of periodic calls by research staff to ensure current phone numbers, every 3 weeks

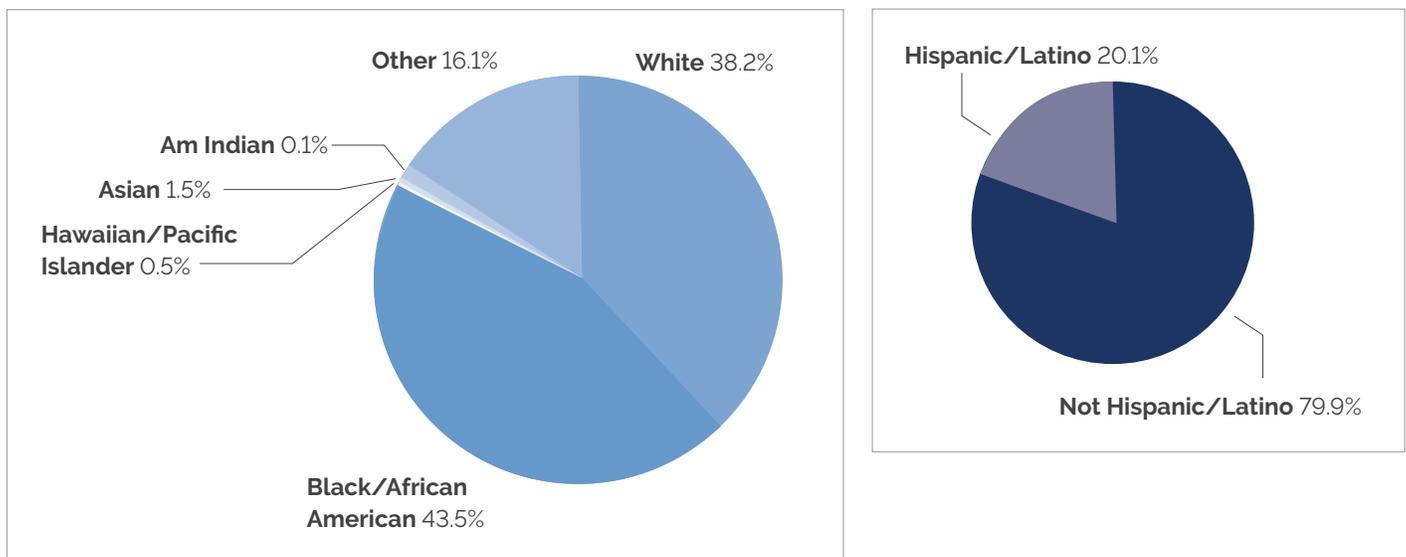
Fidelity to the retention intervention was captured both through program documentation in nFORM (tracking of phone contacts) and tracking of research efforts (text messaging program).

## Results

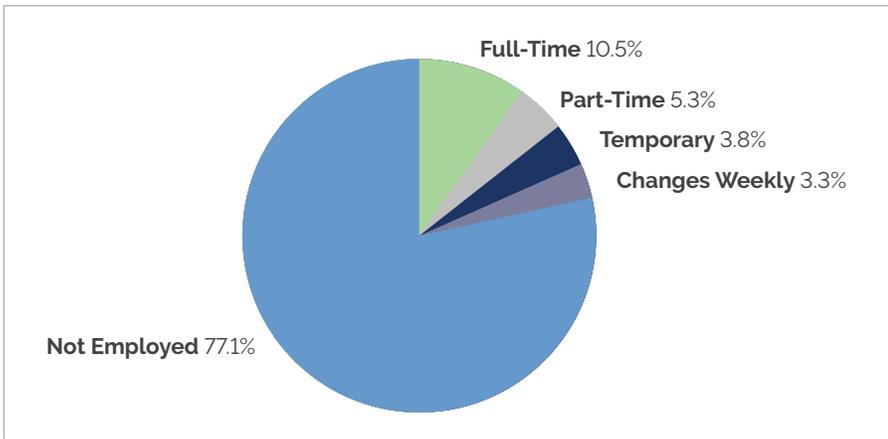
### Sample Demographics

The average age of sample participants was 40.5 years old, with a range of 18 to 75. The average number of children under the age of 24 years (range 0–24; mean age 7.5) per client was 1.84, with a range of 1 to 4 children. African-American participants made up 43.2% of the sample, while 37.8% identified as White and 79.9% as Not Hispanic (see [Figure 2](#) for Race, [Figure 3](#) for employment status, and [Figure 4](#) highest level of education). Group differences at baseline across age, ethnicity, employment status, and education were evaluated (see [Table 2](#)). We note that Group 3 (increased incentive) had a statistically significant higher percentage of participants with a high school diploma than Groups 1 and 2 (29% versus 11% and 17%). It is unlikely that this difference would impact our findings, as we still see similar rates of college education and employment across groups.

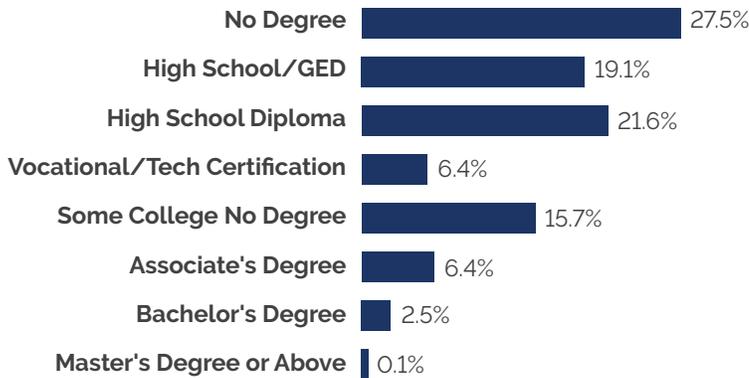
**Figure 2. Race**



**Figure 3. Employment Status**



**Figure 4. Highest Level of Education**



**Table 2. Group differences Across Demographic Characteristics**

		Group 1 (Control)		Group 2 (Cell Phone)		Group 3 (Inc. Incentive)		Group p-value
		N	Percentage	N	Percentage	N	Percentage	
Age	18-20	1	1%	1	1%	0	0%	0.79
	21-24	2	2%	5	7%	3	4%	
	25-34	20	28%	22	31%	21	30%	
	35-44	20	28%	21	30%	17	25%	
	45-54	19	26%	14	20%	20	29%	
	55-64	6	8%	4	5%	7	10%	
	65 and over	3	4%	3	4%	0	0%	
Race	American Indian	0	0%	1	1%	1	1%	0.83
	Asian	1	1%	1	1%	1	1%	
	Black/African-American	34	48%	30	42%	25	37%	
	Native Hawaii/Pacific Islander	0	0%	0	0%	1	1%	
	White	26	37%	24	34%	28	42%	
	Other	9	12%	14	20%	10	15%	
Ethnicity	Hispanic/Latino	13	18%	16	22%	13	19%	0.77
	Not Hispanic/Latino	58	81%	54	77%	55	80%	



		Group 1 (Control)		Group 2 (Cell Phone)		Group 3 (Inc. Incentive)		
		N	Percentage	N	Percentage	N	Percentage	Group p-value
Living Situation	Street	0	0%	0	0%	1	1%	0.25
	Shelter	44	61%	47	68%	49	73%	
	Live rent free	3	4%	4	5%	2	2%	
	Rent	17	23%	7	10%	11	16%	
	Own Home	3	4%	8	11%	2	2%	
	Other	4	5%	3	4%	2	2%	
Highest Degree	No Degree	26	36%	22	32%	8	12%	0.004
	High School/GED	8	11%	12	17%	19	29%	
	Vocation/Technical Diploma	7	9%	3	4%	3	4%	
	Some College No Degree	16	22%	11	16%	5	7%	
	Associates	4	5%	4	5%	5	7%	
	Bachelors	2	2%	2	2%	1	1%	
	Masters and Above	0	0%	1	1%	1	1%	
Employment	Unemployed	56	78%	54	77%	51	75%	0.77
	Temporary	4	5%	1	1%	2	2%	
	Employed (unsure hours)	1	1%	3	4%	2	2%	
	Part-Time	3	4%	6	8%	4	5%	
	Full-Time	7	9%	6	8%	9	13%	

### Participation, Engagement, and Retention

To analyze group differences in participation, engagement, and retention across the three randomly assigned groups, repeated ANOVA, and Chi-square analyses were conducted. [Table 3](#) presents findings from these analyses. Using the total mean score on the measure of engagement, no between-group differences were noted. Across 6 and 12 weeks, the measure of engagement showed similar mean scores, with no between-group differences and no differences over time. Measuring both number of and minutes of contact at 6 and 12 weeks, no differences were found among the three groups. Average contact minutes for clients in the SCFI program Group 1 (control group) was 308.46 minutes at 6 weeks, versus 399.05 minutes for the texting group and 367.54 minutes for the increased incentive group. This indicated slightly fewer minutes of contact (roughly one hour) for control group participants, but the difference did not rise to the level of statistical significance. Mean number of contacts were similar across the three groups at 15, 13, and 15 for each group, respectively, at 6 weeks and 16, 15, and 15 contacts between 6 and 12 weeks. These contacts included case manager, educator (group facilitator), economic stability coordinator, and client-initiated contacts. Because these contacts could have been brief in nature, we also explored minutes of contact across the three groups. Retention in the research protocol at 6 weeks was 66% (control group), 70% (texting group), and 70% (increased incentive group). Once again, these differences were not statistically significant.



**Table 3. Group Comparisons Across Engagement, Participation, and Retention**

	Week	Group 1 (Control) (N=73)		Group 2 (Cell Phone) (N=71)		Group 3 (Incentive) (N=68)		p-value*
		N	Mean   SD	N	Mean   SD	N	Mean   SD	
Engagement Score	6	48	4.42   0.79	50	4.45   0.84	47	4.47   0.79	0.9307
	12	33	4.52   0.69	27	4.52   0.81	32	4.78   0.42	0.2859
Number of Contacts	6	48	15.33   6.27	50	13.80   5.53	47	15.38   5.96	0.3547
	12	33	16.557   6.87	27	15.07   6.45	32	15.41   6.35	0.6176
Minutes of Contact	6	48	399.05   253.89	50	308.46   150.55	47	367.53   152.60	0.0796
	12	33	447.12   286.49	27	351.87   162.28	32	388.31   166.61	0.1807
	Week	N	%	N	%	N	%	p-value†
Retention (Research Protocol)	6	48	65.75	50	70.42	47	69.12	0.8240
	12	33	45.21	27	38.03	32	47.06	0.5216
Completed Program	12	47	66.20	48	68.57	47	69.12	0.9254

\*Engagement Score, Number of Contacts, Minutes of Contact are compared using repeated ANOVA  
 †Proportion of Completion and Current Client Status are compared using chi-square test

**Subgroup Analyses.** To further explore the differences between treatment group membership and demographic characteristics, a series of subgroup analysis were conducted measuring all outcomes (engagement, number of contacts, completion, and retention in research) across participant subgroups pertaining to age, race and ethnicity, employment, education, and living situation. Results from these analyses are presented in Appendix 2. There were no statistically significant findings in the analysis. Because the sample size is limited in many of the subgroups (e.g.  $n < 10$ ), the results are not reliable across some subgroups even though a small number of  $p$ -values indicated a statistical significance. In addition, we did not find any significant difference across treatment groups or within groups for any of our outcomes (engagement, participation, retention, father involvement, healthy relationships, or economic stability).

**Responsible Fatherhood, Healthy Relationships, and Economic Stability**

To explore the impact of the intervention on the broader programmatic outcomes of (self-reported) responsible fatherhood, healthy relationships, and economic stability, a mixed-effect model was used to compare father involvement and healthy relationship scores among three randomized groups at each time point and a Chi-square test was used to examine the differences in the percentage achieving an economic stability outcome among three groups. As previously noted, responsible fatherhood was measured using the FRPN father engagement scale, which assessed self-reported father-child contact for the youngest child. Healthy relationships assessed self-reported relational satisfaction for fathers in a current relationship using the Relationship Assessment Scale. Economic stability was measured by the achievement of a new employment skill or educational achievement, as reported by participants to program staff. For multiple tests,  $p$ -values were adjusted by Bonferroni method. All analysis was performed using SAS v.9.4 (SAS Institute, Cary, NC). Subgroup analyses were conducted across program outcomes (presented in Appendix 3); no significant differences were noted across groups. Results from this analysis are presented in [Table 4](#).



**Table 4. Group Comparisons Across Program Outcomes**

			Control (N = 73)		Cell phone (N = 71)		Incentive (N = 68)	
	Week	N	Mean ± SD	N	Mean ± SD	N	Mean ± SD	p-value <sup>1</sup>
Responsible Fatherhood	0	67	3.36±1.48 3.70	69	3.28±1.40 3.91	64	3.35±1.25 3.67	0.99
	6	49	2.91±1.38 2.91	51	3.34±1.45 3.70	48	3.31±1.18 3.32	0.66
	12	34	3.52±1.33 3.65	27	3.68±1.36 4.30	33	3.33±1.17 3.56	0.99
Healthy Relationships	0	41	3.00±1.83 2.00	41	2.20±1.55 2.00	29	2.14±1.53 2.00	0.12
	6	26	2.96±1.75 3.00	29	2.52±1.86 2.00	20	2.65±2.30 2.00	0.99
	12	18	2.50±1.76 2.00	13	2.00±1.00 2.00	9	1.56±0.73 1.00	0.66
		N	%	N	%	N	%	p-value <sup>2</sup>
Economic Stability	12	13	26.53	16	32	12	25	0.72

<sup>1</sup>Based on F tests of the mixed-effect model.

<sup>2</sup>Based on Chi-Square test.

### Changes in Self-Reported Fatherhood Challenges and Program Referrals

To further explore whether the cell phone and/or incentive interventions affected father's involvement with the program as measured by their self-assessment of the number of challenges they experienced, we calculated the mean number of challenges that fathers in each group noted at three points in time. At baseline, 6, and 12 weeks of service, fathers self-reported their current challenges and were asked to choose as many as applied from 19 challenges (see Appendix 3). While we noted some differences across groups at baseline (with the texting intervention group reporting lower average challenges overall), and changes over time for all three groups, there were no between-group differences over time (see [Table 5](#) for means). The mean number of challenges was compared between groups across three time points. At baseline, Group 1 showed a higher number of challenges than Group 3 ( $p = 0.0004$ ) and Group 2 showed a higher number of challenges than Group 3 ( $p = 0.003$ ), but there was no significant difference between Group 1 and Group 2. At 6 weeks, Group 1 showed a higher number of challenges than Group 3 ( $p = 0.0292$ ) only. There was no statistical significant difference in number of challenges reported at week 12. When comparing the mean number of challenges within each group over time, Group 1 showed a significant decrease from baseline to 12-week ( $p = 0.02$ ), Group 2 showed a significant decrease when comparing baseline with 6-week ( $p = 0.02$ ) and 12-week ( $p = 0.01$ ), but there was no significance from 6-week to 12-week. Group 3 had no significant changes over time. There were no significant differences in change over time between the two groups.



**Table 5. Group Comparison Number of Reported Challenges**

	Control Group		Cell Phone Group		Incentive Group	
	N	Mean ± SD (Min, Max)	N	Mean ± SD (Min, Max)	N	Mean ± SD (Min, Max)
Baseline	68	5.03±2.82 (0.00, 13.00)	69	4.75±2.59 (0.00, 11.00)	65	3.43±2.24 (0.00, 10.00)
6 Week	49	4.43±3.10 (0.00, 12.00)	51	3.65±2.42 (0.00, 10.00)	47	3.23±2.45 (0.00, 10.00)
12 Week	34	3.68±3.45 (0.00, 13.00)	27	3.11±2.62 (0.00, 9.00)	33	3.03±2.66 (0.00, 11.00)

Our final effort to explore whether fathers in the treatment groups had experienced deeper engagement in the program was to examine whether they had received a greater number of referrals for additional services from program staff. Since program staff reported on the number of program referrals provided to clients, it was possible to compare referral activity for fathers in each of the treatment groups. Unfortunately, referral activity was rare in SCFI, with the median number of referrals being only one. We did not find any between-group differences across the treatment and control groups in terms of number of referrals made to outside providers.

### Qualitative Findings

There were two sources of qualitative data in study. 1) At the end of their 6- and 12-week Qualtrics self-report assessment, clients were asked if they had participated in random assignment and they self-reported which group they had been assigned to. Those who were assigned to Group 2 were asked specific questions about their experience with receiving text messages (one open-ended question, self-reported on survey software). 2) The team conducted qualitative interviews with 40 clients, 10 of whom were randomly assigned to Group 2, the cell phone texting intervention, and were asked specific questions about texting and their participation in the texting protocol. We did not inquire about other group assignments, such as the increased incentive, in the qualitative study.

The 27 fathers who provided feedback in the open-ended section of Qualtrics were overwhelmingly positive. Most said simple things like "great" or "I liked it." Other comments included "good communication," "great questions to possibly help others," and "good to hear from the program and tips about what to do." Their comments were short and the questionnaire was self-report, so there was not an opportunity to probe further. However, there were no negative comments noted on the Qualtrics response forms and research or program staff did not receive any verbal complaints or negative comments.

Of the 10 fathers in the cell phone group who were interviewed in the semi-structured qualitative interview, seven expressed positive experiences with text-messaging program, two were neutral, and one was negative. Outside of questions about the texting intervention, the fathers also reported that texting helped them keep in contact with their children, despite strain in their relationships with the mothers of their children. They further reported that texting helped them mitigate the challenge of parenting from a distance. For example, one father said, "[T]he distance is obviously tough, but the fact that he has his own cell phone now, closes the gap between the distance a little bit." Fathers reported that teenage children were generally most receptive to texting. Three fathers who were neutral or negative about texting indicated that they preferred face-to-face contact; one father said he did not like receiving the text messages.



One of the fathers who sat for qualitative interviews encapsulated the benefit of the texting program as a source of additional support:

*"I found it pretty helpful because every time I would be like stressed out because I would talk to my daughter's grandmother, which is the mother's mom, and she would tell me about what her mom is saying about me, I'll get like discouraged and stuff. Then I'll see a text message from here saying like 'don't give up' or---I forgot what else, but it was just like [all] right; it just reminded me that I'm doing a good job."*

This idea was reinforced by another father, who stated, "It made me feel like I was a part of something. People you know, genuinely was concerned, you know? Just reaching out. That was good. That's a good feeling." Another father noted how the content of the text messages encouraged reflection:

*"It's knowledge for the day . . . you could be down and out and then there's certain quotes that get sent to you - certain stuff that shows that you can also see ways to try to look for things - certain quotes that they send is love - it's real words, it's real meanings, it's quotes that you gotta acknowledge and keep in your head. When it comes to resumes or a lil job thing or certain pantries to go to - it's a blessing for all that; it's helpful - very helpful."*

One father suggested that text messages may be a viable resource when utilized to provide referrals:

*"Maybe, if there's upcoming events, that might be. Some fathers would probably be looking for jobs, something like that. Maybe if there's a job fair they could know about. Something like that. Information is power. I know they had a job fair in High Park a couple weeks ago. I knew about it, but I would've got a text about it if I didn't know, that would've been good."*

Another father noted that the content of the text messages helped him with emotional regulation:

*"They kept me informed like there's a new way to do it. Even though they taught me things, I can get angry and all that would go out the window. So they kept me steady, the texts."*

Still another father expressed that face-to-face communication was preferable to texting:

*"Okay, again, everybody have things to do so if you're going to do a class over the phone or text, the time that you would have to spend for the person to understand what you're saying, you don't have that time. That's way, again I'll say, go to the class . . . somebody text you, of course you going to answer, but did it mean anything? Probably not."*

The majority of the participants presented positive feedback on receiving text messages during the 6-week and 12-week interviews stating that they felt that it kept them on track to complete the fatherhood program successfully and become a good father. For example, one of the participants reported that the text message stating "Remember to support your child and their unique personality. Celebrate the small victories," was helpful in that it reminded him to show his love to his child and tell his child that he makes him so proud. In addition, several participants responded that they built a great personal relationship with their case manager and other staff in the program because they knew to whom they should reach out in regard to the assistance that they needed. It is possible that fathers who participated in the qualitative interviews were more engaged in SCFI to begin with and may not represent the larger population of fathers in the program and do not reflect this study's larger findings indicating no benefits of texting for engagement and retention with the program.





## Discussion

### Key Findings

This study does not provide sufficient empirical evidence that provision of cell phone and ongoing text-messaging contact was associated with increased engagement, participation, or program retention for fathers. The research team hypothesized that (1) the **cell phone group** would have higher rates of participation, engagement, and retention compared to the control group; and (2) the **increased monetary incentive** group would have higher rates of retention (only) compared to the control group. These hypotheses were not supported by this study's findings. In addition, we found that there were actually fewer contact minutes between clients and their case managers or other program staff in the cell phone group at the 6-week mark. This may signify that clients who received text messages from the program felt less of a need to contact the program via phone call or in-person. Thus, cell phone contact may replace some other forms of client-program interaction rather than supplementing it. While this study does not provide clear evidence to support this theory, the qualitative feedback suggested that the text messages were encouraging to the fathers and that they felt supported by them. As a result, they were perhaps less inclined to reach out to program staff for this support.

The research team also explored how the interventions influence changes in program outcomes (responsible fatherhood, economic stability, healthy relationships). There was no significant difference in scores of the measures for these variables over time or across groups. Despite the lack of positive findings in these analyses, in qualitative interviews, clients reported satisfaction with the texting intervention and credited texting with encouraging them, providing useful reminders about services, and building connections with their caseworkers.

Across all three treatment groups, there was significant attrition between the baseline and the 6-week follow-up, and then again at the 12-week follow-up. Retention in the protocol was as follows across the three groups: 1) control group: 6-week—65.8%, 12-week—45.2% ; 2) texting group: 6-week—70.4%, 12-week—38%; and 3) increased incentive group: 6-week—69.1%, 12-week—47.1%. Attrition has been an ongoing challenge in the SCFI program. Fathers experiencing poverty, substance use, homelessness, and incarceration often fall out of touch with service programs. The research team was not able to follow up with fathers who were lost to contact due to disconnected numbers and disconnection from the program. Research staff and program staff made up to 10 contact attempts with participants (with active numbers), including calling relatives (mothers, grandmothers, significant others) and inquiring at the residence for those living in staffed facilities (halfway houses, substance abuse treatment programs, family shelters, etc.).



The use of text messaging is challenging when a participant ignores the messages, changes his number, or blocks the program contact number. Some active phone numbers may be transferred to another person (e.g., one participant who replied to a message that he was not the person assisted by the program). Even though the text message verified the participants' names and phone numbers periodically, it can be difficult to follow up with the participants unless they provide their updated contact number or reveal that they no longer want to participate.

### **Implications for Research and Practice**

The research team was not able to locate any studies that used cell phone technology specifically for engaging and retaining fathers in services and believes this is the first study that (a) specifically focused on fathers as a population, (b) included cell phone technology as an intervention, and (c) included engagement and retention as outcomes. This study was novel in being the first such study to examine these outcomes with fathers. We note that the texting intervention was relatively easy to administer and could easily be replicated with other father-serving programs. Despite the lack of quantitative findings in terms of key outcomes, fathers expressed positive views about texting and reported during in-depth qualitative interviews their satisfaction and interest in receiving text messages. Thus, text messaging may have potential as an add-on to existing interventions, reinforcing fathering curriculum, and/or maintaining connections with fathers who are already connected to program. More research is needed to examine the ways in which fathers utilize cell phones and other technologies to engage with their children and with relevant social services. While the purpose of this study was to increase engagement in the program, additional research could include the provision of cell phones to father-child dyads to explore the rates of communication and parental engagement. In addition, while this intervention was conducted primarily by research staff with the text messages coming from the research team, it would be worth evaluating the incorporation of text messaging in regular program services with case managers and class facilitators. Some of the fathers in the qualitative interviews had not received the texting intervention but thought it would be a good idea to receive text messages from their case manager and other program staff to stay in better touch. Text messaging may provide a useful connection between clients and their caseworkers and may supplement, diminish, or replace the need for in-person contacts.



## References

- Avellar, S., Covington, R., Moor, Q., Patnaik, A., Wu, A. (2019). Effects of four responsible fatherhood programs for low-income fathers: Evidence from the Parents and Children Together evaluation. OPRE Report Number 2019-05. Washington, D.C.: Office of Planning, research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
- Boulos, M. N. K., Wheeler, S., Tavares, C., & Jones, R. (2011). How smartphones are changing the face of mobile and participatory healthcare: an overview, with example from eCAALYX. *BioMedical Engineering OnLine*, 10(1), 24–37. doi:10.1186/1475-925X-10-24.
- Dion, M. R., Zaveri, H., & Holcomb, P. (2015). Responsible fatherhood programs in the parents and children together (pact) evaluation. *Family Court Review*, 53(2), 292–303. doi:10.1111/fcre.12140
- Fagan, J., & Pearson, J. (2018). Fathers' dosage in community-based programs for low-income fathers. *Family Process*. Doi: 10.11/famp.12416
- Frank, T., Keown, L., Dittman, C., & Sanders, M. (2015). Using Father Preference Data to Increase Father Engagement in Evidence-Based Parenting Programs. *Journal of Child & Family Studies*, 24(4), 937–947. doi:10.1007/s10826-014-9904-9
- Frank, T., Keown, L. J., & Sanders, M. R. (2015). Enhancing Father Engagement and Interparental Teamwork in an Evidence-Based Parenting Intervention: A Randomized-Controlled Trial of Outcomes and Processes. *Behavior Therapy*, 46(6), 749–763 715p. doi:10.1016/j.beth.2015.05.008
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and Family*, 50, 93–98. doi:http://dx.doi.org/10.2307/352430
- Holmes, E., Hawkins, A., Egginton, B., Robbins, N., & Shafer, K. (2018). *Do responsible fatherhood programs work? A comprehensive meta-analytic study*. Fatherhood Research & Practice Network.
- Icard, L. D., et al. (1996). Designing and evaluating strategies to recruit African Americans for AIDS/HIV interventions: targeting the African-American family. *Ethnicity & Disease*, 6(3–4): 301–310.
- Ingoldsby, E. M., Baca, P., & McClatchey, M. W., Luckey, Dennis W. (2013). Quasi-Experimental Pilot Study of Intervention to Increase Participant Retention and Completed Home Visits in the Nurse-Family Partnership. *Prevention Science*, 14(6), 525–534. doi:http://doi.org/10.1007/s11211-013-0410-x
- Jones, H. E., et al. (2001). The effectiveness of incentives in enhancing treatment attendance and drug abstinence in methadone-maintained pregnant women. *Drug & Alcohol Dependence* 61(3), 297–306.
- Klasnja, P. & Pratt, W. (2012). Healthcare in the pocket: Mapping the pace of mobile-phone interventions. *Journal of Biomedical Information*, 45(1), 184–198.
- Logan, J. R. & Stults, B. J. (2011). The persistence of segregation in the metropolis: New Findings from the 2010 Census. Census Brief prepared for ProjectUS-2010. Retrieved from <http://www.s4.brown.edu/us2010>
- Pew Research Center (2019). Mobile Fact Sheet. Retrieved 8/18/2019 from <https://www.pewinternet.org/fact-sheet/mobile/>
- Prep, Inc. (n.d.) What is PREP? Retrieved 8/16/2019 from: <https://www.prepinc.com/Content/About-Us/What-Is-PREP.htm>
- Pruett, M. K., Cowan, C. P., Cowan, P. A., & Pruet, K. (2009). Lessons Learned from the Supporting Father Involvement Study: A Cross-Cultural Preventive Intervention for Low-Income Families with Young Children. *Journal of Social Service Research*, 35(2), 163–179. doi:10.1080/01488370802678942
- Raento, M., Oulasvirta, A., & Eagle, N. (2009). Smartphones an emerging tool for social scientists. *Sociological methods & research*, 37(3), 426–454.
- Sugie, N. F. (2016). Utilizing Smartphones to Study Disadvantaged and Hard-to-Reach Groups. *Sociological methods & research*. doi:10.1177/0049124115626176
- Tollestrup, J. (2018). *Fatherhood Initiatives: Connecting fathers to their children*. Congressional Research Services.
- U.S. Department of Health and Human Services (DHHS): Health Resources and Services Administration (2014). *Using health text messages to improve consumer health knowledge, behaviors, and outcomes: An environmental scan*. Rockville, MD: U.S. Department of Health and Human Services. Health Resources and Services Administration.
- Yatchmenoff, D. K. (2005). Measuring client engagement from the client's perspective in nonvoluntary child protective services. *Research on Social Work Practice*, 15(2), 84–96.

## Appendix 1: Engagement Measure

	Factor <sup>1</sup>	Item <sup>2</sup>
1	Receptivity	My SCFI worker was attentive to me and my family's needs.
2	Working Relationship	My caseworker and I usually agree about what I should be doing.
3	Receptivity	I could benefit from assistance in meeting some of my children's needs.
4	Mistrust	I can trust SCFI staff to be fair and open minded.
5	Working Relationship	I can talk to my SCFI worker about what is important to me.
6	Buy-in	My SCFI worker is assisting me with some of my needs.
7	Buy-in	SCFI's goals are the same as mine.
8	Mistrust	SCFI wants to help families.
9	Receptivity	SCFI is invested in my family's success.
10	Buy-in	I believe things will be better for my family now that I'm involved with SCFI.
11	Working Relationship	My SCFI worker and I respect each other.
12	Buy-in	I am making changes in my life to make my family stronger.
13	Buy-in	SCFI is helping to strengthen my family.
14	Working Relationship	When I need to talk to my SCFI worker, I can just call and we talk.

<sup>1</sup> For the purposes of this study, a one-factor mean score was used in analyses.

<sup>2</sup> These items were developed by former SCFI clients based on the four-factor model of client engagement developed measure of client engagement in non-voluntary services (Yatchmenoff, 2005).



**Appendix 2: Texting Protocol**

<b>Time Point</b>	<b>Text Type</b>
<b>Week 1</b>	<b><i>[Welcome text, information about the program and services]</i></b>
1.	Hi. This is the Suffolk County Fatherhood Initiative (SCFI). Welcome to the program! You can expect to receive text messages from us for the next 12 weeks. Please respond by texting yes to confirm that you received this message.
2.	Hi this is SCFI. We are looking forward to working together with you for the next several weeks. You can reach our program office at 631-761-8518.
<b>Week 2</b>	<b><i>[Information about the services, content related to fatherhood and relationship curriculum]</i></b>
1.	Hi this is SCFI. Congratulations on completing your first week. Keep up the good work.
2.	Hi! this is SCFI. If you need any assistance or have any questions please contact your Case Manager at 631-761-8518.
<b>Week 3</b>	
1.	Hi! This is SCFI! Communication is about talking and listening. Good communication happens when there is respect between you and your partner or child.
2.	Hi! This is SCFI! How are things going? Have you gotten in touch with your Case Manager this week? You can reach them at 631-761-8518
<b>Week 4</b>	
1.	Hi! This is SCFI! Remember to support your child and their unique personality. Celebrate the small victories.
2.	Did you know that SCFI has a mentoring program? You can find out more by talking to Howard at the SCFI office 631-761-8518.
<b>Week 5</b>	
1.	Hi! This is SCFI. Remember to use coping techniques to decrease stress. A change in your behavior can inspire a change in someone else.
2.	Hi This is SCFI. Your 6-week interview is coming up next week. Please call Ekta at 631-747-1265 to schedule the date. You will receive \$50 for your time.
<b>Week 6</b>	
1.	This is SCFI! The Blocks of Happiness is a guide to assist you in achieving happiness. It is a tool to create a fulfilling life for you and your family.
2.	Hi! This is SCFI. Don't forget we have an interview this week! Call Ekta at 631-747-1265 to set a date. You will receive a \$50 Visa gift card for your time.
<b>Week 7</b>	
1.	Hi! This is SCFI! Did you know that SCFI has an Employment Specialist? Contact Rony at 631-761-8518.
2.	Hi! This is SCFI. If you need assistance or have any questions, please contact your Case Manager at 631-761-8518. Your conversation will be kept confidential.
<b>Week 8</b>	
1.	Hi! This is SCFI. Today is a good day to go out with your kids!
2.	Hi! This is SCFI. You can learn about Domestic Violence and Child Abuse Prevention from your caseworker. For more information, Contact SCFI at 631-761-8518.
<b>Week 9</b>	
1.	Hi! This is SCFI. Please ask your Case Manager for child care options for when you come in to meetings.
2.	Hi. This is SCFI. Hope is free // Do not lose hope!
<b>Week 10</b>	
1.	Hi! Are you looking for a job? Do you need help with your resume? Do you need proper interview attire? SCFI can help! Contact Rony at 631-761-8518.
2.	Hi. This is SCFI. Would you be interested in becoming a mentor to other fathers in our program? You can find out more by talking to Howard at 631-761-8518.
<b>Week 11</b>	<b><i>Information about the services, content related to fatherhood and relationship curriculum, reminders about week 12 interview (x1).</i></b>
1.	Hi. This is SCFI! Remember. You can't control what others do, but you can control what YOU do.
2.	Hi. This is SCFI. Your 12-week interview is coming up next week. Please call Ekta at 631-747-1265 to schedule the date. You will receive \$25 for your time.
<b>Week 12</b>	<b><i>Information about the services, content related to fatherhood and relationship curriculum, reminders about interview. Thank you text and reminder about continuing services. Interview reminder.</i></b>
1.	Did you know that SCFI has a mentoring program? You can find out more by talking to Howard at 631-761-8518.
2.	This is SCFI. Thank you for participating in our text messaging program. Goodbye, but this is only a goodbye from receiving text messages! You can still receive services. Please contact SCFI at any time!



### Appendix 3: Challenges Reported by Fathers

Below is a list of personal challenges that many people experience. Think about the challenges that you have had in the past month and select all that apply:

1. Unemployment
2. Not having a steady place to live (or homeless)
3. Drug or alcohol problem
4. Being accused of being violent to your partner
5. Being accused of neglecting or abusing your child(ren)
6. An overcrowded house
7. Being unable to pay child support
8. Being unable to pay other bills
9. Difficulty controlling your anger
10. Having your child(ren) in foster care
11. Living too far from your child(ren)
12. Working too many hours
13. Not having enough money to buy things for your child(ren)
14. Your child(ren)'s mother having a new partner who does not want me around
15. Having car problems or lack of transportation
16. Trouble with your child(ren)'s mother or her family
17. Immigration problems
18. Not having enough money for food
19. Other problem: \_\_\_\_\_

