A Descriptive Evaluation of Home Sweet Home Project in Washington, DC Metropolitan Areas & New Jersey

Final Descriptive Evaluation Report for Korean Community Service Center of Greater Washington

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Structured Abstract: This descriptive study evaluated Healthy marriage programs, *Home Sweet Home Project* (Project hereafter), for Asian immigrants, including the Korean, Chinese, and Vietnamese, who reside in the Washington, DC metropolitan area, Bergen County, New Jersey, or Queens County, New York. Specifically, the Project targeted Asian immigrants whose family may experience challenges in their family relationship due to a range of psychological, social, political, and/or economic hardships.

The Project provided five programs for different target groups, including married couples, individuals in a committed relationship, parents, and entire families. The main programs within the Project were married couple workshop, premarital education, and family camp. Mentoring and parent education programs were additional programs available. All programs were based on the Relationship Enhancement® (RE) Curriculum, and three agencies offered the programs.

Recognizing the limited literature on healthy marriage programs for Asian immigrants in the U.S., this study reports the findings of the process and outcome evaluation of the Project. The process evaluation examined the program fidelity and dosage. It also explored lessons learned relating to program planning and implementation, participant recruitment and evaluation activities. The outcome evaluation investigated whether participants experienced changes in their outcomes after the program and whether any changes experienced were sustained over time.

A total of 1,794 individuals enrolled in the program(s) during the study period, and 176 of them enrolled in more than one program. All of them were included as an analytic sample of the process evaluation, particularly relating to the program dosage. Among these participants, 93 participated in individual interviews or focus groups as part of process evaluation. Additionally, 18 program staff completed individual interviews. For outcome evaluation, 1,206 participants had valid entrance survey responses. Among these individuals, 846 had valid exit survey responses, and 100 participants had valid responses for all three surveys (i.e., entrance and exit surveys, and follow-up surveys).

The findings of the process evaluation illustrated unique challenges Asian immigrants may experience, including the stigma for the receipt of public services and/or programs, and fears around confidentiality. These often prevented participants from attending the program or engaging in evaluation activities. The process evaluation also noted the importance of culturally appropriate healthy marriage programs for this population, including the issues of language and culturally competent staff members.

The results of the outcome evaluation showed that participant scores on the two subscales of the Three Couple Scales, including interpersonal relationship and communication skills, changed significantly from entrance to exit surveys for married couple workshop. Participants' follow-up scores at 6 months after the completion of the program were similar to their scores at exit surveys on these subscales. However, no significant changes were observed for other program components. This may be related to the length of each program component or to the measurement instruments utilized. For example, the instruments utilized for family camp might not have been relevant for the changes participants might have experienced.

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I. INTRODUCTION

A. Introduction and study overview

Current literature consistently reports that healthy marriages are crucial for the well-being of adults, children, and society (Moore et al., 2004; Reardon-Anderson et al., 2005). Strong marital quality has been connected to a wide range of positive outcomes including better physical, mental, and financial well-being of adults and improved physical, emotional, and relational health of children (Amato & Booth, 1991; Amato et al., 1995; Gottman & Katz, 1989; Lillard & Waite, 1995; Robles et al., 2014; Whisman & Bruce, 1999). Furthermore, prior studies showed that the effects of marital conflict on children endure into adulthood: children from high-conflict marriages reported poorer psychological health and marital quality as adults compared to their peers (Amato & Booth, 1991; Amato et al., 1995).

Recognizing the importance of healthy marriages, programs have been developed and implemented in an effort to enhance couple relationships and thereby mitigate the high individual and social costs associated with marital and relationship distress. One of the most common approaches to enhancing couple relationships is a relationship education program. Relationship education programs aim to address couples' issues before they become entrenched and destructive, providing individuals and couples with the knowledge and skills needed to maintain and improve healthy relationships. Specifically, Marriage and Relationship Enrichment (MRE) programs target committed couples, typically those who are engaged or married. They are usually offered on a voluntary basis in communities, churches, and schools. MRE programs primarily focus on improving participants' communication, conflict-resolution, and problem-solving skills in a didactic setting, where they learn and practice skills with instructor guidance (Hawkins et al., 2008).

Numerous studies have demonstrated the effectiveness of MRE programs in improving couples' marital quality and communication skills (Blanchard et al., 2009; Butler, 1999; Carroll & Doherty, 2003; Hawkins et al., 2008; Reardon-Anderson et al., 2005; Rhoades, 2015; Wadsworth & Markman, 2012). In a comprehensive, meta-analytic review of 148 MRE program evaluations, Hawkins and colleagues (2012) found that MRE produces significant impact on couples' relationship quality and communication skills with moderate effect size and that such impact was maintained at three- and six-month follow-ups.

While the large amount of research demonstrates the importance of healthy marriages and the overall effectiveness of MRE, the vast majority of prior studies were conducted with White,

middle-class populations. There is a dearth of literature on marital relationships and their impact within Asian populations in the U.S., and current knowledge on programs serving these communities is limited.

Asian couples in the U.S. face unique stressors to their marital relationships. Asian cultures, influenced by Confucian principles, have traditionally adhered to patriarchal values (Kramer et al., 2002). For couples who immigrate from patriarchal societies, a lack of flexibility to adjust to changing gender roles can cause marital conflict. Specifically, wives' adoption of egalitarian values and increased participation in the workforce, combined with husbands' insecurity due to decreased economic power and social status, are known to influence marital conflict and violence among Asian immigrants in the U.S. including Koreans (Lee, 2005; Min, 2001) and Vietnamese (Kibria, 1990).

Given that husbands' downward social mobility after immigration may be related to heightened marital conflict, greater acculturation may improve marital quality (Park et al., 2000). Studies also found that marital communication was a predominant predictor of marital satisfaction for Korean couples. This is important to note considering that Asian cultures tend to discourage emotional expression, particularly for men (Kramer et al., 2002; Park et al., 2000).

In regard to couples' marital relationships, it is important to recognize that in Asian cultures families tend to be child-centered rather than couple-centered. Children's needs often take precedence over the couple's needs (Li et al., 2015). Shame also plays a significant role in Asian cultures: Asian Americans are less likely than other ethnic groups to disclose family problems and seek behavioral health services due to shame, social stigma, and saving face (Kramer et al., 2002). Shame may discourage Asian families from engaging in healthy marriage programs, because marital and family conflicts are considered private matters, which they may be reluctant to openly discuss (Li et al., 2015; Lu et al., 2013).

While limited, a few studies investigated the effectiveness of MRE programs in minority populations, and reported promising findings (Adler-Baeder et al., 2007; Kerpelman et al., 2010; Quirk et al., 2015). For example, in Quirk et al.'s study (2015), a commonly used MRE, the Prevention and Relationship Enhancement Program (PREP), produced significant relationship gains among a sample of low-income African American and Hispanic couples; furthermore, the study found that the effects were more significant among distressed couples compared to non-distressed couples.

Prior studies also noted the importance of culture in the implementation of MRE programs with minority populations. In their qualitative studies, Perez and his colleagues (2013) found that Latino couples' experiences and their relationship dynamics in an MRE program were significantly influenced by cultural factors such as machismo, a traditional and often stereotypical display of masculinity.

While there are a few studies on MRE programs for African American and Hispanic populations, there are few, if any, studies on MRE with Asian populations in the U.S. The present study attempted to fill a gap in the existing literature, presenting findings from the implementation of

healthy marriage programs, including MRE, in Korean, Chinese, and Vietnamese immigrant communities in the U.S. This report will present the overview of interventions delivered, and describe the methods and results of both process and outcome evaluations. The report will conclude with the discussion of study findings and their implications.

B. Description of the intended intervention

Healthy marriage programs implemented in this study, Home Sweet Home Project (Project hereafter), offered relationship enhancement interventions for Asian immigrants, including the Korean, Chinese, and Vietnamese, who reside in the Washington, DC metropolitan area, Bergen County, New Jersey, or Queens County, New York. The Washington, DC metropolitan area includes Fairfax and Arlington Counties, Virginia, and Montgomery and Prince George's Counties, Maryland. The Project targeted Asian immigrants whose family may experience challenges in their family relationship due to a range of psychological, social, political, and/or economic hardships. The limited English proficiency and cultural barriers as well as the lack of culturally and linguistically competent programs and services often make it difficult for this population to improve their family relationship.

The Project provided multiple programs for different target groups, including married couples, individuals in a committed relationship, parents, and entire families (Table I.1.). The main programs within the Project were married couple workshop, premarital education, and family camp. Mentoring and parent education programs were additional programs available while they were not the main focus of the Project. Married couple workshop and mentoring were for married couples while premarital education was for individuals in a committed relationship. Family camp was for entire families, and parent education was tailored for parents, strengthening their relationship with children. All programs were based on the Relationship Enhancement® (RE) Curriculum, and staff received initial and ongoing training for the successful delivery of the programs (Table I.2.).

Table I.1. Description of intended intervention components and target populations

Component	Curriculum & content	Dosage & schedule	Delivery	Target population
Married couple workshop	Relationship Enhancement®(RE) Curriculum: Teaching 10 skills of communication (Understanding, expression, discussion, coaching, conflict management, problem solving, taking-out, generalization, maintenance, & forgiveness)	• A total of 16 hours with flexible formats (e.g., 2-hour, 8-week sessions, 4-hour, 4-week sessions, and 8-hour 2-day sessions over the weekend)	• Group lessons provided at the three agencies by one or two trained facilitators in every session: 1) Korean Community Service Center of Greater Washington (KCSC) serves the Korean and Chinese in the Washington, DC metropolitan area; 2) Boat People SOS (BPSOS) serves the Vietnamese in the Washington, DC metropolitan area; 3) Family Touch serves the Korean in the states of New Jersey and New York • Group lessons provided at local religious/community organizations by one or two trained facilitators in every session	Married couples (At least one individual from the couple should be Asian immigrant)
Premarital education	Relationship Enhancement®(RE) Curriculum: Teaching 10 skills of communication (Understanding, expression, discussion, coaching, conflict management, problem solving, taking-out, generalization, maintenance, & forgiveness)	A total of 6 hours with flexible formats (e.g., 2-hour, 3-week sessions, 6-hour 1-day session)	Group lessons provided mainly at the three agencies (i.e., KCSC, BPSOS, and Family Touch) by two trained facilitators in every session	Should this Asian immigrant individuals in a committed relationship
Mentoring	• Relationship Enhancement®(RE) Curriculum: 1) Focusing on skills of expression, discussion, conflict management, & problem solving; 2) Applying skills to parenting practice • Helpful information for immigrant families: Offering information on finance management, housing, school systems, and/or parenting	Minimum of 8 hours with flexible formats (e.g., 2-hour 4 sessions occurring on a quarterly basis, 2-hour 4 sessions occurring on a monthly basis)	Group lessons provided by trained mentor couples in every session. The location is flexible and determined by mentor and mentee couples	Married couples (At least one individual from the couple should be Asian immigrant)

Component	Curriculum & content	Dosage & schedule	Delivery	Target population
Family Camp	• Relationship Enhancement®(RE) Curriculum: Teaching 10 skills of communication (Understanding, expression, discussion, coaching, conflict management, problem solving, taking-out, generalization, maintenance, & forgiveness) • Activities/games	A total of 24 hours (three days: e.g., 6 hours on the 1st day, 13 hours on the 2nd day, and 5 hours on the 3rd day)	Group lessons provided by one to four trained facilitators in every session	Asian immigrant families with or without child(ren) of the age of 18
Parent Education	Relationship Enhancement®(RE) Curriculum: 1) Teaching 10 skills of communication (Understanding, expression, discussion, coaching, conflict management, problem solving, taking-out, generalization, maintenance, & forgiveness); 2) Applying skills to parenting practice	A total of 6 hours with flexible formats (e.g., 2-hour, 3-week sessions, 3-hour 2-week sessions)	Group lessons provided at schools or local religious/community organizations by one to three trained facilitators in every session	Asian immigrant parents with child(ren) under the age of 18

Table I.2. Staff training and development to support intervention components

Component	Education & initial training of staff	Ongoing training of staff
Married couple workshop, premarital education, family camp, & parent education	Facilitators are males and/or females with at least a bachelor's degree. They receive initial, 3-day training before delivering programs.	Facilitators receive a half-day, annual refresher training on the intervention's curricula.
Mentoring	Mentors are voluntary couples who receive 2-hour mentor training.	• Mentors are required to attend quarterly supervision meetings with program staff to discuss programmatic issues and troubleshoot potential concerns. • Program staff offers additional support as needed.

II. PROCESS/IMPLEMENTATION STUDY

As the Project was one of the first healthy marriage programs offered for Asian immigrants in the U.S., the process evaluation examined whether programs were delivered as intended and planned with its focus on program fidelity and dosage. It also explored lessons learned from program planning and implementation, participant recruitment, and evaluation activities. Information obtained from the process evaluation provides context in better understanding the results of the outcome evaluation.

This section first presents research questions addressed in the process evaluation, followed by the study methods. The study methodology includes sample selection and description, and methods of data collection, including measures utilized. The section concludes with the presentation of data analytic methods and study findings.

A. Research questions

The process evaluation addressed the following research questions:

For program fidelity:

- Were required components and strategies of the intervention delivered as intended?
- What changes and/or adaptations were made to the intervention?

For program dosage:

- What is the total length of the intervention clients completed on average?

For program context:

- What are important lessons learned from program planning?
- What are important lessons learned from participant recruitment process?
- What are important lessons learned from program delivery?
- What are important lessons learned from evaluation activities?

B. Study design

Both quantitative and qualitative methods were used to investigate research questions presented above. For quantitative methods, data were mainly from Information, Family Outcomes, Reporting, and Management (nFORM) system. nFORM is a management information system that each grantee was required to use for data collection. Information on program operations (e.g., outreach and recruitment activities, enrollment), services (e.g., workshop attendance, referrals), and participant characteristics and outcomes (e.g., entrance and exit surveys) was collected through nFORM. nFORM is web-based, and thus accessible with Internet availability (Mathematica, 2018). However, nFORM was only available in English and Spanish. As a result, nFORM surveys were translated in Korean, Chinese and Vietnamese, and these translated surveys were administered using paper-and-pencil methods.

1. Sample formation

Information on program sessions were utilized to address the research question on program fidelity. In total, 173 session series were offered during the study period, including 78 married couple workshop session series, 15 premarital education session series, 40 mentoring session series, 15 family camps, and 25 parent education session series.

All individuals and couples who enrolled in the program(s) between July 2016 and July 2019 were included as the study sample for the research question on program dosage. Individuals and couples who enrolled in the family camp in August 2019 were added to the study sample since the family camp was only offered once per project year. Participants went through informed consent process at each survey administration. Particularly, participants were assured that their participation in surveys was completely voluntary, and they could skip any questions they would feel uncomfortable answering and/or they could stop the survey at any time. Those who agreed to participate in surveys and who had valid entrance survey responses were included as the sample of the outcome evaluation. nFORM data indicated that 1,794 individuals enrolled in the program(s) during this period, and 176 of them enrolled in more than one program.

For the research questions on program context, a subgroup of program participants were recruited. At entrance surveys, program participants were asked to indicate their willingness and interest in participating in individual interviews or focus groups. Out of 1,794 participants, 639 expressed their willingness and interest. Among these 639 individuals, 93 were randomly selected, and completed individual interviews or focus groups. A gift card worth $30 was offered as an incentive to those who participated in individual interviews or focus groups. In addition, 18 program staffs involved in the Project completed individual interviews. No incentives were provided for program staffs.

Table II.1. Characteristics of participants in implementation/process study

Characteristic	Participants included in program dosage analyses (N=1,794)		Interview/focus group participants (N=93)	
	Frequency	% a	Frequency	% [a]
Age				
24 or younger	21	1.2	0	0.0
25-34	193	10.8	15	16.1
35-44	498	27.8	39	41.9
45-54	457	25.5	9	9.7
55-64	248	13.8	15	16.1
65 or older	347	19.3	15	16.1
Missing	30	1.7	0	0.0
Gender				
Male	735	41.0	36	38.7
Female	1,041	58.0	57	61.3
Missing	18	1.0	0	0.0
Relationship status				
Married or partnered	1511	84.2	85	91.4
Separated	18	1.0	2	2.2

Characteristic	Participants included in program dosage analyses (N=1,794)		Interview/focus group participants (N=93)	
	Frequency	% a	Frequency	% [a]
Divorced	56	3.1	3	3.2
Widowed	51	2.8	3	3.2
Missing	53	3.0	0	0.0
Levels of education				
No degree or diploma earned	101	5.6	0	0.0
High school diploma or GED	155	8.6	12	12.9
Some college without a degree completion	75	4.2	3	3.2
Associate degree or vocational/technical certification	197	11.0	0	0.0
Bachelor's degree	560	31.2	30	32.3
Advanced degree	410	22.9	36	38.7
Missing	296	16.5	12	12.9
Employment status[b]				
Full-time	873	48.7	60	64.5
Part-time	249	13.9	6	6.5
Not working	527	29.4	24	25.8
Missing	7	0.4	3	3.2
Primary spoken language at home				
English	292	16.3	12	12.9
Other	1,434	79.9	81	87.1
Missing	68	3.8	0	0.0
Spoken English proficiency [c]				
Very well	140	9.8	12	14.8
Well	506	35.3	33	40.7
Not well	577	40.2	27	33.3
Not at all	163	11.4	3	3.7
Missing	48	3.3	6	7.4
Agency				
Agency 1			61	65.6
Agency 2			28	30.1
Agency 3			4	4.3

Source: nFORM data

[a] The summed total may not add up to 100% due to rounding

[b] Some participants marked 'no' for all response options, and were thus not counted

[c] This question was asked only to those participants who responded that the primary spoken language at home was not English.

2. Data collection

Multiple data sources were used to pursue research questions on process evaluation (Table II.1.). First, data from program operation documentation and quarterly progress reports were utilized for research questions on program fidelity. Program operation documentation was completed by program staff upon the conclusion of the program. These documents included information on recruitment activities and their effectiveness, program contents delivered, program delivery format and methods, strengths and areas of improvement in relation to program delivery, and any adjustments made. Quarterly progress reports, which each grantee was required to submit, contained information on major activities and accomplishments, significant finding and events, and dissemination activities. From the reports, particular attention was given to any changes and/or adaptations noted in relation to program implementation.

Another data source came from nFORM, and it was utilized to pursue research questions on program fidelity and dosage. For example, nFORM had information on curriculum used, and elements and activities delivered in the sessions, which was examined for program fidelity. In addition, information on the total length of time participants attended the program was reviewed for the research question on program dosage.

To learn about program contexts, individual interviews and focus groups were conducted with program participants shortly after the completion of the program. These interviews and focus groups explored participants' motivation for program participation, their experiences during and after the program, and their feedback on program delivery and contents. In addition, the research team conducted individual interviews with program staff twice, one during the initial implementation phase, and again during the fourth year of the project period. The interviews inquired about the staff' experiences and thoughts about program planning and delivery, participant recruitment, and evaluation activities.

Table II.2. Data used to address process/implementation research questions

Implementation element	Research question	Data source	Timing/frequency of data collection	Party responsible for data collection
Fidelity	Were required components and strategies of the intervention delivered as intended?	• Workshop data within nFORM • Program operation documentation	• During and after each session series	• Program staff
Fidelity	What changes and/or adaptations were made to the intervention?	• Program operation documentation • Quarterly progress report	• After each session series • Every 3 months	• Program staff • Evaluation team
Dosage	What is the total length of the intervention clients completed on average?	Workshop session data, including attendance, within nFORM	During and after each session series	Program staff

Implementation element	Research question	Data source	Timing/frequency of data collection	Party responsible for data collection
Context	• What are important lessons learned from program planning? • What are important lessons learned from participant recruitment process? • What are important lessons learned from program delivery? • • What are important lessons learned from evaluation activities?	• Individual interviews and focus groups with program participants • Individual interviews with program staff	• After programs (focus groups/individual interviews with program participants) • Once every two years (individual interviews with program staffs)	Evaluation team

3. Data preparation and measures

To investigate research questions on process evaluation, nFORM data were exported. Data were screened for any errors, and multiple files were merged when needed. After data cleaning and transformation, descriptive analyses were used as the main data analytic method for quantitative data. For example, to investigate the research question on program dosage, the average percentage of hours participants attended was calculated, utilizing data on the number of hours participants were expected to attend and the number of hours they actually attended.

For qualitative data, individual interviews and focus groups were transcribed verbatim, and translated into English. NVivo was utilized to organize and analyze the data from individual interviews and focus groups. Two to three researchers independently read and coded the transcribed and translated data, and reviewed the emergent themes and subthemes as a group. When disagreement occurred between researchers, discussion continued until consensus was reached.

Table II.3. Measures used to address process/implementation research questions

Implementation element	Research question	Measures
Fidelity	Were required components and strategies of the intervention delivered as intended?	• Total number of sessions delivered or total number of hours delivered • Average session duration, calculated as the average of the recorded session lengths (in hours) • Total number of skills covered in session series, calculated as the average of the total number of skills addressed
Fidelity	What changes and/or adaptations were made to the intervention?	• List of changes and/or adaptations made, including delivery methods and session structure

Implementation element	Research question	Measures
Dosage	What is the total length of the intervention clients completed on average?	• Average number (or percentage) of sessions clients attended or average number (or percentage) of hours clients attended • Percentage of the sample that did not attend all sessions • Percentage of the sample that did not attend sessions at all
Context	• What are important lessons learned from program planning? • What are important lessons learned from participant recruitment process? • What are important lessons learned from program delivery? • What are important lessons learned from evaluation activities?	• Categories/themes/subthemes from interview/focus group data

C. Findings and analysis approach

This section presents the results of the process evaluation, specifically on program fidelity, dosage, and context. Overall, the findings showed variations in how the programs were delivered, including the number of sessions delivered and the number of hours of each session, while all programs addressed 10 skills of communication. The findings illustrated unique challenges Asian immigrants may experience, including the stigma for the receipt of public services and/or programs, and fears around confidentiality. These often prevented participants from attending the program or engaging in evaluation activities. However, once they decided to attend the program, the participants appeared to be fully engaged and committed: almost all participants in this evaluation completed the full dosage of the programs. The importance of culturally appropriate healthy marriage programs for Asian immigrants was also noted, including the issues of language and culturally competent staff members.

1. Program Fidelity

For program fidelity, two research questions were investigated:

- Were required components and strategies of the intervention delivered as intended?
- What changes and/or adaptations were made to the intervention?

a. Key findings

According to nFORM data, 78 married couple workshop session series, 15 premarital education session series, 15 family camps, 40 mentoring session series, and 25 parent education session series were offered during the evaluation period. The expected durations of the programs were: 1) 16 hours for each married couple workshop session series; 2) 6 hours for each premarital education session series; 3) 24 hours for each family camp; 4) 8 hours for each mentoring session

series, and; 5) 6 hours for each parent education session series. Agencies determined the number of sessions delivered for each session series. The analysis of nFORM data indicated that all programs were delivered with at least their expected durations. Sometimes, the actual hours delivered exceeded the expected hours: for example, certain sessions lasted longer than planned with more time spent on activities and discussion. Variations were observed in how the programs were delivered, including the number of sessions and the hour of each session.

For married couple workshop session series, the average number of sessions delivered was 4.9 (SD=3.19), ranging from 2 to 16 sessions. Two, 8-hour sessions, were the most common format of the workshop session series (37.2%), followed by a four-session format (15.4%). The average length of each session was 1.3 hours (SD=2.66) with a range of 1.3 to 9.8 hours.

The mean number of sessions for premarital education session series was 1.8 (SD=.86), ranging from 1 to 3 sessions. The length of each session was 4.7 hours on average (SD=2.34), and it ranged from 2 to 10 hours. Close to half of premarital education session series (46.7%) were delivered as a one-day session that lasted 6 or more hours.

The majority of the camps or camp session series (93.3%) were offered as a two-night format with three sessions. Only one camp (6.7%) involved a one-night stay with two sessions. The average length of each session was 9.2 hours (SD=2.51), ranging from 8 to 15 hours.

The mean number of sessions for mentoring session series was 3.8 (SD=.70), ranging from 1 to 4 sessions. Each session lasted 3.2 hours on average (SD=2.15) with a range of 2 to 8 hours. The most common format used was a four-session format (90.0%) with each session lasting 2 to 4 hours.

For parent education session series, the average number of sessions was 2.3 (SD=.80), ranging from 1 to 4. The mean length of each session was 3.3 hours (SD=1.74), and the session length ranged from 1.5 to 8 hours. Forty-percent of parent education session series was delivered as a two-session format, and another 40% as a three-session format.

According to program operation documentation, all programs addressed 10 skills of communication (i.e., understanding, expression, discussion, coaching, conflict management, problem solving, taking-out, generalization, maintenance, and forgiveness skills) even though the methods and extent that these contents were delivered varied across the programs. For example, the amount of time devoted for learning these 10 skills differed depending on the programs they had participated in because the expected durations were different across the programs (e.g., 16 hours for each married couple workshop session series, 6 hours for each premarital education session series, etc.). In addition, while married couple workshop and premarital education were offered only to couples, all family members participated in family camps. As a result, separate sessions were provided for parents and children, and children's sessions incorporated more hands-on activities.

Throughout the project period, adjustments were made, particularly in how the contents were delivered. One of the most notable adjustments was that more experiential activities and exercises were added so that participants had an opportunity to practice and apply the skills they

had learned. Also, as the facilitators became more experienced, they were able to modify these activities and exercises in response to the unique needs of a given participant group. Another major adjustment was that more time was devoted to the core communication skills such as understanding, expression, and discussion skills. Since the other communication skills built upon the core communication skills, more time was allotted to exercise and apply these core skills, which would facilitate participants' mastery of these skills.

2. Program Dosage

For program dosage, the following research question was investigated:

- What is the total length of the intervention clients completed on average?

a. Key findings

As noted previously, 1,794 individuals enrolled in the program(s) during the evaluation period, and 176 of them enrolled in more than one program. When examining attendance records from nFORM data, these 176 individuals were counted separately for each program they had enrolled in. This resulted in the total number of participants as 1,980 for this research question.

nFORM data showed that the majority of the participants completed the full dosage of the programs: out of 1,980 participants, 1,947 (98.3%) completed all the sessions delivered for a given program. As noted previously, the expected durations of the programs were: 1) 16 hours for each married couple workshop session series; 2) 6 hours for each premarital education session series; 3) 24 hours for each family camp; 4) 8 hours for each mentoring session series, and; 5) 6 hours for each parent education session series. Partial completion was reported for 26 participants (1.3%). Seven participants (0.4%) did not attend any sessions even though they enrolled in the program and completed the entrance survey. All of them were participants of parent education programs. Six of them enrolled in both married couple workshop and parent education programs, but only attended married couple workshop programs.

3. Program Context

For program context, the following research questions were investigated:

- What are important lessons learned from program planning?
- What are important lessons learned from participant recruitment process?
- What are important lessons learned from program delivery?
- What are important lessons learned from evaluation activities?

a. Key findings

The themes were organized for each phase of program implementation: 1) program planning; 2) participant recruitment; 3) program delivery, and; 4) evaluation activities.

Under **program planning**, the themes of a) *limited workforce*, and b) *extra efforts for culturally relevant programs were identified*. From the interviews, challenges were noted in hiring professionals who were bilingual and who were familiar with Korean, Chinese or Vietnamese cultures. The pool of applicants for the positions, particularly those with a degree in related fields to the program (e.g., social work, psychology, and counseling), was limited. It was observed that many of the program staff did not have a background in social service or related fields. One program staff reflected on how she got involved in the program:

> *I got hired right after my interview with the agency since they needed a Chinese coordinator. I don't have any background in this area [relationship education program]. My areas of study were in science and medical fields.*

Interviewees also pointed out efforts to make the program culturally relevant since the curriculum was originally developed for non-Asian populations. Additional time of a few months was required for program planning, which was longer than expected, as the materials were to be translated into native languages for each ethnic group. The format for program delivery also had to be reviewed to make sure that it would be culturally appropriate. One program staff stated:

> *It was challenging since I had to translate everything in Korean [during the facilitator training]. Also, there were many times we had to create program materials in Korean and Chinese, and then translate them into English. It was very time-consuming, and we went through trial-and-error process many times.*

In relation to **participant recruitment**, three themes were emerged: a) stigma *associated with participating in a program offered by a social service agency*; b) *limited knowledge and familiarity with healthy marriage programs*, and; c) *importance of personal and community networks*. Participant recruitment was challenging throughout the project period, and the themes identified from interviews and focus groups offered insights on its reasons. Interviewees, both program participants and staff, consistently noted stigma associated with the receipt of social service programs within Asian communities. Many program participants shared their initial reluctance to participate in the program due to the fear and concern that it might imply that they had problems in their marital relationships. One program staff shared her experience of recruiting one couple:

> *Wife wanted to participate in the program, but husband did not want to participate due to embarrassment. He would tell his wife, "Do you want everyone know that we get into argument a lot?"*

Similarly, one program participant shared his initial reaction when hearing about the program:

> *I was hesitant to participate in the program since if I were to participate in the program, it would look like that we [our couple] have problems in our marriage. I think it would be great if you could send a message that this program is good even for those who have a happy marriage. There is always a room for improvement, right?*

Another challenge noted in relation to participant recruitment was Asian immigrants' limited knowledge and familiarity with healthy marriage programs. Both program participants and staff shared their unfamiliarity with healthy marriage programs. One program staff noted:

> *When I received the facilitator training, I was not sure whether people would be interested in such programs like this since the contents are the things that many of us know. But as I study the materials and practice some of the skills, I find them very useful. Even though the contents are what we already know, we don't have many opportunities to actually practice them.*

One program participant shared similar thoughts, stating, "I did not know what to expect when I signed up for the program. Marital relationship is such a personal issue, and I was not sure what can be taught in the program."

> *While it was challenging, interviewees emphasized the importance of personal and community networks in participant recruitment. Many participants shared that they had participated in the program due to their personal relationship with program staff and/or other participants. One participant noted, "My parents participated in the program, and recommended it to our couple."*

Similarly, another participant stated, "We live in the same neighborhood as one of the program staff. She strongly recommended the program to us, and it was how we got to participate in the program."

The emergent themes under **program delivery** included a) *importance of confidentiality*; b) *facilitators' commitment and flexibility*; c) *ongoing adaptions for cultural relevance*; d) *importance of physical environments*, and; e) *additional resources for program success*. Many program participants expressed their concern about confidentiality, and its importance. At the same time, they shared that the emphasis on confidentiality throughout the program helped them to ease this concern. One participant noted:

> *Throughout the program, we shared what was going on within our family. At first, it was uncomfortable to share such experiences, but we became more comfortable. Also, the facilitators emphasized the importance of confidentiality throughout the program, which helped us to share more.*

Throughout the project period, scheduling was a significant challenge, particularly since both husbands and wives were working in many families. Sometimes, participants had to miss the session. When this happened, facilitators offered make-up sessions so that participants did not get behind. Participants expressed their appreciation for this flexibility and commitment facilitators had shown. One participant noted:

> *We are very thankful for facilitators' commitment and support. We had to miss a few sessions due to work and other conflicts, and the facilitators made sure that we would not fall behind, offering us make-up sessions.*

Since programs were originally developed for non-Asian populations, ongoing efforts were made to monitor and adjust the programs for their cultural relevance. Learning communities across the three agencies delivering the programs were suggested so that they could learn from each other's experiences and resources. The quarterly meetings served as one of the platforms for these learning communities. One staff said:

> *[Because a lot of available case scenarios are for non-Asian populations] We create our own case scenarios tailored for each participant group [which we would use as examples during program sessions]. … It would be great if there is a platform where we [three agencies delivering the programs] can share our resources, including case scenarios.*

The programs also made efforts to create physical environments that were comforting and nurturing, which many participants recognized and acknowledged. For example, they placed a flower in the middle of each table, and they had separate tables for each couple for individual practices. One participant noted:

> *It was nice to have a separate table for each couple, providing us an opportunity to practice what we had learned in the sessions. We rarely have one-on-one time with each other, and it was nice to have a separate time just for ourselves.*

Interviewees noted additional resources as an important factor for the successful delivery of the programs. A resource that was frequently mentioned was child care. Many program participants had young children, and the availability of child care significantly affected their decision to participate in the program as well as their ongoing attendance. Other resources noted were meals and snacks offered, and participant materials such as the curriculum booklet.

Lastly, the following themes were identified under **evaluation activities**: a) *resistance to sharing personal information*; b) *challenges in data collection and entry*; c) *impact of financial incentives*, and; d) *participant and staff members' understanding of the importance of evaluation activities*.

Along with participant recruitment, evaluation activities were an area of challenges throughout the project period. Evaluation activities included entrance and exit surveys, and follow-ups surveys as well as focus groups and individual interviews. Entrance and exit surveys involved questionnaires for both local evaluation and nFORM, and follow-up surveys only had questionnaires for local evaluation. Many participants did not feel comfortable sharing their personal information with the agency and/or federal government. There were instances where some participants decided not to participate in the program due to the heavy evaluation activities. This happened despite the assurance that they could still participate in the program without engaging in evaluation activities. It appeared that participants' resistance came from the amount of information requested and from the fear they experienced as minority groups, particularly as immigrants. Such fear might have been heightened with increasingly strict, recent immigration policies. One program staff stated:

> *The forms are very long, asking a lot of information, and many participants feel uncomfortable with many of the questions presented. There were a few [participants] that refused to complete the forms, too.*

The questionnaires within nFORM were only available in English and Spanish, and this presented unique challenges. Korean, Chinese, and Vietnamese versions of the questionnaires had to be administered using paper-and-pencil methods, and program staff then entered these data into nFORM. This required additional time for data collection and entry.

To encourage evaluation activities, agencies provided incentives, and they noted that it had been quite successful. According to one program staff:

> *With participants' resistance to evaluation activities, we introduced incentive systems. We offer a small incentive upon participants' completion of entrance surveys. We then offer a little larger incentive upon participants' completion of exit surveys.*

It was noted that the participant and staff members' perception affected their engagement in evaluation activities. When program staff recognized the importance of evaluation activities, they more actively encouraged program attendees to participate in evaluation activities. Similarly, participants were more willing to engage in evaluation activities when they understood its significance. One program staff noted:

At first, I did not understand why we had to have such a long form for evaluation activities. While I still think it is too long, I now see the importance of those forms a bit more. So, I explain the importance of evaluation activities more eagerly to participants. Also, it definitely helps when you [local evaluator] explained the importance of evaluation activities.

III. OUTCOMES STUDY

This section presents the results of the outcome evaluation on each program component, including married couple workshop, mentoring, premarital education, family camp, and parent education. The findings showed that participant scores changed significantly between entrance and exit surveys for married couple workshop in the two subscales of the Three Couple Scales, interpersonal relationship and communication skills. These changes participants experienced upon the completion of the program were maintained at 6-month follow-ups. However, no significant changes were observed for other program components.

This section starts with research questions pursued in the outcome evaluation, followed by the study methods. The study methodology involves sample selection and description, and methods of data collection, including measures utilized. The section concludes with the illustration of data analytic methods and study findings.

A. Research questions

The outcome evaluation addressed the following research questions:

For married couple workshop, mentoring, and premarital education:

- Do individuals/couples demonstrate changes in their interpersonal relationship levels upon the completion of the program?
- Do individuals/couples demonstrate changes in their communication skills upon the completion of the program?
- Do individuals/couples demonstrate changes in their conflict resolution skills upon the completion of the program?
- For any changes observed at the end of the program in individuals/couples' relationship, communication, and conflict resolution skills, are these changes sustained over longer periods of time (i.e. at a follow-up of about 6 months)?
- For any changes observed at the end of the program in individuals/couples' relationship, communication, and conflict resolution skills, is the magnitude of these changes different across the three agencies delivering the program?

For family camp:

- What is the perceived level of family cohesion family members experience upon the completion of the program?
- For any changes observed at the end of the program in family members' perceived level of family cohesion, are these changes sustained over longer periods of time (i.e., at a follow-up of about 6 months)?
- For any changes observed at the end of the program in family members' perceived level of family cohesion, is the magnitude of these changes different across the three agencies delivering the program?

For parent education:

- Do parents experience changes in their quality of communication with child(ren) upon the completion of the program?
- Do parents experience changes in their discipline techniques upon the completion of the program?
- For any changes observed at the end of the program in parents' quality of communication with child(ren) and discipline techniques, are these changes sustained over longer periods of time (i.e., at a follow-up of about 6 months)?
- For any changes observed at the end of the program in parents' quality of communication with child(ren) and discipline techniques, is the magnitude of these changes different across the three agencies delivering the program?

B. Study design

Quantitative methods, particularly survey design, were used to investigate presented research questions. Two main sources of data were participants' responses to 1) questionnaires from Information, Family Outcomes, Reporting, and Management (nFORM) system, and 2) questionnaires from local evaluation. As described previously, nFORM is a management information system that each grantee was required to use for data collection. nFORM is web-based, and thus accessible with Internet availability (Mathematica, 2018). Information on participant characteristics and outcomes that were collected through nFORM was utilized for outcome evaluation. Along with nFORM data, participants' responses to questionnaires that were administered as part of local evaluation were examined for outcome evaluation. For married couple workshop, mentoring and premarital education, the Three Couple Scales (Olson, & Larson, 2008) was used. For family camp, the Family Adaptability and Cohesion Evaluation Scale IV (Olson, 2010) was administered. For parent education, the Parent-Child Relationship Inventory (Gerad, 1994) was utilized.

1. Sample formation

All individuals and couples who enrolled in the program(s) between July 2016 and July 2019, were included as the study sample for outcome evaluation. Individuals and couples who enrolled in the family camp in August 2019 were added to the study sample since the family camp was only offered once per project year. Participants went through informed consent process at each survey administration. Participants were assured that their participation in surveys was completely voluntary, and it would not result in any negative consequences, including their participation in the program, if they were to decline to participate in surveys. They were told that they could skip any questions they would feel uncomfortable answering and/or they could stop the survey at any time. Those who agreed to participate in surveys and who had valid scores on survey questionnaires were included as the sample of the outcome evaluation.

As described before, married couple workshop and mentoring were for married couples while premarital education was for single individuals in a committed relationship. Sometimes

exceptions were made, allowing individuals to participate in married couple workshop. Examples of these exceptions were individuals who were divorced, and individuals whose spouse refused to participate. At least one individual from the couple should be of Korean, Chinese, or Vietnamese ethnicity in order to participate in the programs. During the study period, a total of 916 individuals enrolled in married couple workshop: 754 of them registered as a couple, and 162 did as an individual. In total, 187 individuals enrolled in mentoring programs: 184 registered as a couple, and three as an individual. It was recorded that a total of 142 individuals enrolled in premarital education programs.

Family camp was for entire families, and there were no eligibility criteria for family camp other than the one that at least one individual from the family should be of Korean, Chinese, or Vietnamese ethnicity. Only adult members of the family participated in evaluation activities. During this evaluation period, 480 adult individuals enrolled in the camp, and 466 of them registered as a couple. Parent education was tailored for parents with one or more children under the age of 18. The parents of any family type could participate in the program. For two-parent families, one or both parents could participate in the program, but at least one parent should be of Korean, Chinese, or Vietnamese ethnicity. For single-parent families, the parent participants should be of Korean, Chinese, or Vietnamese ethnicity. In total, 255 individuals enrolled in parent education during the study period.

2. Data collection

Data for outcome evaluation were collected using survey design (Table III.1.). Questionnaires for both local evaluation and nFORM were administered during entrance and exit surveys. Entrance surveys were administered on the first session using in-person methods. Sometimes entrance surveys were mailed to participants 1-2 weeks before the first session, and participants were asked to complete them before the first session. When the timespan of the program was 28 days or longer, exit surveys were administered on the last session. When the timespan of the program was shorter than 28 days, exit surveys with a returned envelope were mailed to participants at least 28 days after the first session. While participants completed questionnaires for both local evaluation and nFORM during entrance and exit surveys, only those for local evaluation were administered at follow-ups. Follow-up surveys were completed approximately at 6 months after the completion of the program. Participants with valid email addresses completed the questionnaires online, and the questionnaires with a returned envelope were mailed to those without valid email addresses. Among those who had participated in follow-up surveys, a gift card worth $50 was offered to randomly-selected 20 individuals in each project year.

Table III.1. Sources of data used to address outcomes study research questions

Data source	Timing of data collection	Mode of data collection	Start & end date of data collection
Program participants	• On the first session, or 1-2 weeks before the first session • On the last session, or at least 28 days after the first session • Approximately 6 months after the completion of the program	In-person, mailing or online survey	July 2016 through May 2020

3. Analytic sample, outcomes, and descriptive statistics

Table III.2. provides information on outcomes study analytic sample. It has a column on the total number of individuals included as the analytic samples of the study: this includes individuals who participated as a couple as well as those who did as an individual. Among these participants, the number of those who attended as a couple was separately presented in another column. It is noted that analytic samples only included adult participants. While entire family attended family camp, data were only collected from parent participants.

Analytic samples for outcome evaluation included participants with valid responses to questionnaires. Specifically, participants who responded to at least 80% of the items from a given questionnaire were counted as the analytic samples of the study, and this resulted in increased attrition rates. Sometimes, only one partner from a couple was included as the analytic samples of the study due to this criterion even though she/he participated as a couple. Particularly at the beginning phase of the program implementation, there were a few occasions where incorrect questionnaires were used for a given program. For example, the questionnaire for family camp was used with married couple workshop participants. Participants who completed the incorrect questionnaire were excluded from the analytic samples of the study: the results of data analyses on these participants are presented in Appendix C.3.

For research questions that examined participants' changes upon the completion of the program, analytic samples were those with valid scores on both entry and exit survey questionnaires. For research questions that investigated whether changes observed at the end of the program were sustained over longer periods of time, those who had valid scores on all three questionnaires (i.e., entry and exit surveys, and follow-up surveys) were included as analytic samples.

Efforts were made to minimize further sample attrition. When exit surveys were mailed to participants with a returned envelope because the timespan of the program was shorter than 28 days, follow-up text messages, and phone calls were made to those who had not returned the completed questionnaires. Similarly, follow-up emails and text messages were sent to those participants who had not completed follow-up surveys. Despite these efforts, attrition rates for follow-ups surveys were particularly high. One of the reasons was that about half of the participants opted not to participate in follow-up surveys. Another reason might be that participants no longer felt connected to the programs at 6-month follow-ups since the programs were offered as a one-time occasion. Attempts were made to have reunion sessions where

participants would reconvene and review what they had learned before. However, these reunion sessions had to be canceled mainly due to participants' scheduling conflicts.

It is noted that the analytic sample size for parent education is quite small. The program was newly added in September 2018, and the evaluation period for the program was thus less than a year. In addition, the new questionnaire that was selected for parent education was not yet approved for use by the University Institutional Review Board (IRB) when the program started. As a result, data could not be collected using this new questionnaire. While waiting for the University IRB approval, an alternative questionnaire, the one for family camp, was used for a few months, and participants who completed this questionnaire were excluded from the analytic sample of the parent education program. The results of data analyses on participants that used the questionnaire for family camp are separately presented in Appendix C.3.

Table III.2. Outcomes study analytic sample

	Number of individuals	Number of individuals who participated as a couple
Married couple workshop		
Enrolled in the program	916	754
Completed a baseline survey[a]	709	593
Completed post-program survey	510	463
Attrition rate	44.3%	38.6%
Completed follow-up survey	55	52
Attrition rate (%)	94.0%	93.1%
Premarital education		
Enrolled in the program	142	
Completed a baseline survey[b]	82	
Completed post-program survey	44	
Attrition rate	69.0%	
Completed follow-up survey	3	
Attrition rate (%)	97.9%	
Mentoring		
Enrolled in the program	187	184
Completed a baseline survey[c]	51	51
Completed post-program survey	21	21
Attrition rate	88.8%	88.6%
Completed follow-up survey	0	0
Attrition rate (%)	100.0%	100.0%
Family camp		
Enrolled in the program	480	466
Completed a baseline survey[d]	349	335
Completed post-program survey	268	256
Attrition rate	44.2%	45.1%

	Number of individuals	Number of individuals who participated as a couple
Completed follow-up survey	41	40
Attrition rate (%)	91.5%	91.4%
Parent education		
Enrolled in the program	255	
Completed a baseline survey[e]	15	
Completed post-program survey	3	
Attrition rate (%)	98.8%	
Completed follow-up survey	1	
Attrition rate (%)	99.6%	

Source: nFORM data & local evaluation data

[a] 19 participants used incorrect questionnaires, and were thus excluded

[b] 2 participants used incorrect questionnaires, and were thus excluded

[c] 7 participants used incorrect questionnaires, and were thus excluded

[d] 84 participants used incorrect questionnaires, and were thus excluded

[e] 215 participants used incorrect questionnaires, and were thus excluded.

Different measures were used for each program component (Table III.3.). For married couple workshop, mentoring and premarital education, outcomes of interpersonal relationship levels, communication skills, and conflict resolution skills were measured with the use of the Three Couple Scales (PREPARE & ENRICH; Olson, & Larson, 2008). The Three Couple Scales is comprised of three subscales on satisfaction, communication, and conflict resolution. In addition to the Three Couple Scales (PREPARE & ENRICH), items from Marriage and Relationships Section of nFORM questionnaires were utilized. The results from the two data sources were compared for their consistency.

The analyses on the Three Couple Scales (Appendix C.1.) indicated that the reliability for the subscale of conflict resolution skills was not at an acceptable level with Cronbach's alpha of 0.64. In addition, the results of confirmatory factor analyses showed that factor loadings of the items from the subscale of conflict resolution skills were not statistically significant ($p>0.05$). As a result, the outcomes of conflict resolution skills were excluded from the main analyses of the study.

Twenty items were selected from nFORM questionnaires, and three factors were identified from exploratory factor analyses: 1) relationship quality; 2) unhealthy communication, and 3) healthy communication. The reliability of these three factors were acceptable with Cronbach's alphas of 0.7 or higher (Appendix C.1.).

For family camp, an outcome of family cohesion was measured with the use of the Family Adaptability and Cohesion Evaluation Scale IV (FACES IV; Olson, 2010). Specifically, family cohesion ratio was calculated using participant's scores on subscales, balanced cohesion, disengaged, and enmeshed. The ratio can range between 0 and 10 with higher scores suggesting more balanced family cohesion. Most families will have a score between 0 and 2, and the ratio of 1 implies "an equal amount of balance vs. unbalance" within the family (Olson, 2010, p. 23).

It should be noted that the reliability of the enmeshed subscale was not at an acceptable level with Cronbach's alpha of 0.67 (Appendix C.1.). Because all three subscales of balanced cohesion, disengaged, and enmeshed were needed in the calculation of family cohesion ratio, the subscale of enmeshed was not discarded from the main analyses of the study. While the results of confirmatory factor analyses suggested that the subscale of enmeshed might have decent validity, the findings based on the use of FACES IV should be interpreted with caution.

For parent education, outcomes of communication and discipline techniques were assessed with the use of the Parent-Child Relationship Inventory (PCRI; Gerad, 1994). From the PCRI, subscales on communication and limit setting were adopted for this outcome evaluation. In addition to the PCRI, seven items from Parenting Section of nFORM questionnaires were utilized. Exploratory factor analyses identified two factors, one on relationship quality and the other on discipline techniques. However, only one factor, the one on relationship quality, was included in the main analyses because Cronbach's alpha was 0.61 for the other factor on discipline techniques, which was below the acceptable level (Appendix C.1.). The results from the two data sources were compared for their consistency.

Table III.3. Outcome measures used to answer the outcomes study research questions

Outcome name	Description of the outcome measure	Source of the measure	Timing of measure
Couple Relationship (i.e., interpersonal relationship, communication, & conflict resolution)	• Summed scores on each subscale (i.e., satisfaction, communication, and conflict resolution) of the Three Couple Scales (PREPARE & ENRISH) from each participant: Each subscale has 10 items with summed scores ranging from 10 to 50. • 20 items from C. Marriage and Relationships Section of nFORM questionnaires: These items measure couples' relationship in the areas of relationship quality and communication. Factors were identified from exploratory factor analysis, and summed scores from each participant were calculated for each factor.	• Entry and exit surveys: Questionnaires from both local evaluation and nFORM • Follow-up surveys: Questionnaires from local evaluation	• Entry survey: On the first session, or 1-2 weeks before the first session • Exit survey: On the last session, or at least 28 days after the first session • Follow-up: About 6 months after the completion of the program
Parenting skills (communication & discipline techniques)	• Summed scores on each subscale (i.e., communication & limit setting) of the PCRI: The subscale on communication has 9 items, and the subscale on limit setting has 12 items with the response values for each item ranging from 1 to 4 • 7 items from A. Parenting Section of nFORM questionnaires: These items measure parenting skills in the areas of relationship quality and discipline techniques. Factors were identified from exploratory factor analysis, and summed scores were calculated for each factor.	• Entry and exit surveys: Questionnaires from both local evaluation and nFORM • Follow-up surveys: Questionnaires from local evaluation	• Entry survey: On the first session, or 1-2 weeks before the first session • Exit survey: On the last session, or at least 28 days after the first session • Follow-up: About 6 months after the completion of the program

Outcome name	Description of the outcome measure	Source of the measure	Timing of measure
Family cohesion	• Summed scores on each subscale (i.e., balanced cohesion, disengaged, & enmeshed) of the FACES IV from family members: Each subscale has 7 items with summed scores ranging from 7 to 35	• Entry, exit, and follow-up surveys: Questionnaires from local evaluation	• Entry survey: On the first session, or 1-2 weeks before the first session • Exit survey: On the last session, or at least 28 days after the first session • Follow-up: About 6 months after the completion of the program

Participants' responses and their data entry were checked for any errors before main data analyses. Specifically, it was examined whether there were any responses outside possible score ranges. Data consistency was checked for the variables where the same responses were expected for couples (e.g., marital status, # of children).

Two approaches were utilized to handle the cases with partial responses. First, when the participants had valid responses to 80% or more of the items for each subscale/scale, the mean of the participants' valid responses replaced the missing values. The other approach was to conduct complete-case analysis, excluding those participants with partial responses from analytic samples, regardless of how many items they did not respond to (see Appendix C.2.).

The characteristics of the baseline sample and their scores from entry surveys are presented in Table III.4.1. and Table III.4.2. The units of the analysis were individuals in these results. The entry survey scores were based on the participants' responses to the questionnaires that were used for local evaluation. Since married couple workshop and family camp were main program components of the Project, more detailed description of their entry survey scores is provided in the next few paragraphs.

For married couple workshop, the participants' mean score on interpersonal relationship levels was 31.4 (SD=5.81). About half of the participants (n=355, 50.1%) reported moderate levels of interpersonal relationship with their entry survey scores between 29 and 36. Close to the third of the participants' entry survey scores (n=216, 30.5%) were below 29, indicating low levels of interpersonal relationship. High levels of interpersonal relationship were noted for 19.5% of the participants with their entry survey scores above 36. The participants' entry survey score on communication skills was 30.6 (SD=7.19) on average. A similar percentage of participants reported low and moderate levels of communication skills (36.2% and 34.7%, respectively): the scores below 28 implies low levels of communication skills. High levels of communication skills were observed for 29.1% of the participants with their entry survey scores above 34.

For family camp, the participants' mean family cohesion ratio was 1.6 (SD=.45), ranging from .5 to 3.9. At baseline, approximately 80% of the participants (n=282) had a score between 1 and 2.

Thirteen participants (3.7%) had a score below 1, and 54 participants' score (15.5%) was higher than 2.

Table III.4.1. Characteristics of participants in the outcomes study at baseline[a]

Characteristic	Married couple workshop	Premarital education	Mentoring
Age (%)			
34 or younger	11.8	39.0	2.0
35-44	27.4	17.1	15.7
45-54	20.0	15.9	15.7
55-64	14.4	1.2	11.8
65 or older	20.3	2.4	51.0
Missing	6.1	24.4	3.9
Gender (%)			
Male	41.2	39.0	47.1
Female	52.6	40.2	51.0
Missing	6.2	20.7	2.0
Race/ethnicity (%)			
Asian	88.7	65.9	98.0
Other	6.2	11.0	2.0
Missing	5.1	23.2	0.0
Relationship status (%)			
Married or engaged	88.4	40.2	92.2
Other	4.1	36.6	3.9
Missing	7.5	23.2	3.9
Levels of education (%)			
Less than high school diploma	4.4	1.2	15.7
High school diploma or GED	9.6	3.7	21.6
Associate degree, Vocational/technical certification, or Some college without a degree completion	15.7	19.5	9.8
Bachelor's degree	31.2	19.5	15.7
Advanced degree	21.7	20.7	15.7
Missing	17.5	35.4	21.6
Employment status (%)[b]			
Full-time	44.4	51.2	21.6
Part-time/Temporary	11.8	12.4	13.7
Not working	31.3	7.3	51.0
Missing	5.1	23.2	0.0
Primary spoken language at home (%)			
English	10.4	32.9	13.7
Other	81.0	37.8	84.3
Missing	8.6	29.3	2.0

Characteristic	Married couple workshop	Premarital education	Mentoring
Spoken English proficiency (%)[c]			
Very well	7.5	8.5	0.0
Well	29.2	18.3	5.9
Not well	31.9	7.3	54.9
Not at all	9.6	1.2	23.5
Missing	21.9	64.6	15.7
Interpersonal relationship levels			
Mean (SD)	31.4 (5.81)	34.2 (4.91)	34.1 (5.18)
Range	14-50	23-47	24-46
Communication skills			
Mean (SD)	30.6 (7.19)	34.9 (7.28)	33.4 (7.27)
Range	11-50	20-50	19-48
Sample size	709	82	51

Source: nFORM data & local evaluation data

[a] The summed percentage may not add up to 100% due to rounding

[b] Some participants marked 'no' for all response options, and were thus not counted

[c] This question was asked only to those participants who responded that the primary spoken language at home was not English.

Table III.4.2. Characteristics of participants in the outcomes study at baseline[a]

Characteristic	Family camp	Premarital education
Age (%)		
34 or younger	3.2	0.0
35-44	43.6	46.7
45-54	35.8	40.0
55-64	9.2	0.0
65 or older	3.2	13.3
Missing	5.2	0.0
Gender (%)		
Male	45.6	13.3
Female	50.1	86.7
Missing	4.3	0.0
Race/ethnicity (%)		
Asian	89.4	100.0
Other	6.6	0.0
Missing	4.0	0.0
Relationship status (%)		
Married or engaged	89.7	73.3
Other	4.6	26.7
Missing	5.7	0.0
Levels of education (%)		
Less than high school diploma	1,1	0.0

Characteristic	Family camp	Premarital education
High school diploma or GED	2.9	0.0
Associate degree, Vocational/technical certification, or Some college without a degree completion	13.8	6.7
Bachelor's degree	33.8	33.3
Advanced degree	34.1	13.3
Missing	14.3	46.7
Employment status (%)[b]		
Full-time	62.5	60.0
Part-time/Temporary	14.3	0.0
Not working	15.5	26.7
Missing	4.0	0.0
Primary spoken language at home (%)		
English	25.8	46.7
Other	65.9	53.3
Missing	8.3	0.0
Spoken English proficiency (%)[c]		
Very well	9.7	0.0
Well	27.5	26.7
Not well	22.9	26.7
Not at all	4.9	0.0
Missing	35.0	46.7
Family cohesion ratio		
Mean (SD)	1.6 (.45)	N/A
Range	0.5-3.9	N/A
Communication		
Mean (SD)	N/A	26.1 (2.79)
Range	N/A	20-30
Limit setting		
Mean (SD)	N/A	30.8 (4.47)
Range	N/A	22-39
Sample size	349	15

Source: nFORM data & local evaluation data

[a] The summed percentage may not add up to 100% due to rounding

[b] Some participants marked 'no' for all response options, and were thus not counted

[c] This question was asked only to those participants who responded that the primary spoken language at home was not English.

C. Findings and analysis approach

Overall, the findings of the outcome evaluation showed that participant scores changed significantly from entry to exit surveys for married couple workshop in the two subscales of the Three Couple Scales, interpersonal relationship and communication skills. This suggests that compared to the beginning of the program, participants' interpersonal relationship and

communication skills improved significantly upon the completion of the program. The differences between participants' entry and exit survey scores were statistically significant, and participants' scores at exit surveys indicated that their interpersonal relationship and communication skills were very close to be high-level. The changes participants experienced upon the completion of the program were maintained at 6-month follow-ups.

However, no significant changes were observed for other program components. In addition, the magnitude of changes participants reported for selected outcomes were similar across the three agencies offering the programs. More detailed results for each program component along with data analytic methods and corresponding research questions are presented below.

For research questions that examined participants' changes upon the completion of the program, participants' scores at entry and exit surveys were compared using a paired sample t-test for two-tailed hypotheses. The same analytic approach was utilized for research questions that investigated participants' follow-up data in comparison with their exit survey data. Furthermore, repeated measures ANOVA was utilized to compare participants' scores at entry, exit, and follow-up surveys.

For married couple workshop, analyses were completed separately for those who participated as a couple and those who did as an individual. When participants attended the program as a couple, separate analyses were completed for males and females as in prior studies (e.g., Higginbotham, & Adler-Baeder, 2008) due to the dependence of data. When participants attended the program as an individual, the independence of data was assumed, and all participants were included in the analyses regardless of their gender. For premarital education, while participants were treated as individuals within nFORM, separate analyses were completed for males and females. This was to address any possible dependence of data, particularly considering the eligibility criteria that participants be in a committed relationship. For mentoring and family camp, a very small number of participants did not have partner ID within nFORM: they either had a partner who did not attend the program or were not currently married. Since the number of participants with missing partner ID was very small, their data were combined with those of other participants who had valid partner ID. Since the data of participants with and without valid partner ID were combined, analyses were separately completed by gender, not by partner status or partner ID. It is noted that separate analyses for participants who attended as a couple vs. as an individual, as well as for males and females were not carried out when the analytic sample size was smaller than 30.

For research questions that compare the magnitude of changes across three agencies delivering the programs, repeated measures ANOVA was performed.

A conventional alpha level of 0.05 was utilized to determine the statistical significance of the study findings. However, when needed (e.g., multiple t-tests, post-hoc analyses when the results of repeated measures ANOVA were statically significant), adjustments were made to the alpha level accordingly: the adjusted alpha level was calculated by dividing the conventional alpha level of 0.05 by the number of tests.

For married couple workshop, mentoring, and premarital couple education:

- Do couples demonstrate changes in their interpersonal relationship levels upon the completion of the program?
- Do couples demonstrate changes in their communication skills upon the completion of the program?
- For any changes observed at the end of the program in couples' relationship, and communication skills, are these changes sustained over longer periods of time (i.e. at a follow-up of about 6 months)
- For any changes observed at the end of the program in couples' relationship, and communication skills, is the magnitude of these changes different across the three agencies delivering the program?

a. Key findings

For married couple workshop, participants' levels of interpersonal relationship, and communication skills changed significantly upon the completion of the program, compared to the beginning of the program (Table III.5-1-1.). Their exit survey scores were statistically significantly higher than their entry survey scores in the two subscales of the Three Couple Scales. While the causal relationship cannot be drawn, these results are promising in that participants experienced improvement in their couple relationship, specifically in the areas of interpersonal relationship and communication, after participating in married couple workshop programs. While significant changes were noted for both males and females, male participants' scores were higher at both entry and exit surveys on the subscales of interpersonal relationship and communication skills.

This is overall consistent with the findings based on nFORM data (III.5-1-2.). The results of the nFORM data analyses showed that significant changes were observed between entry and exit surveys in participants' relationship quality and communication. However, the changes from entry to exit surveys were not statistically significant for participants who attended the program as an individual.

Among 510 married couple workshop participants with valid entry and exit survey scores, 274 (53.7%) indicated at entry and exit surveys that they would be interested in participating in the follow-up surveys. Ninety-six individuals participated in the follow-up surveys, and 55 of them had valid scores for all three surveys (i.e., entry, exit, and follow-up surveys). These participants' scores remained stable between exit surveys and follow-ups on the two subscales ($p=0.073$ for interpersonal relationship levels subscale, and 0.826 for communication skills subscale, respectively), suggesting that the changes they had experienced at exit surveys were maintained for 6 months or so.

The results of the repeated measures ANOVA were consistent with those from the paired sample t-tests. The findings of the repeated measures ANOVA were statistically significant ($p<0.01$), and the post-hoc analyses found that participants' entry and exit survey scores were significantly

different ($p<0.01$) while their exit and follow-up survey scores were not in the two subscales of the Three Couple Scales.

The three agencies delivering the programs were compared in participants' changes from entry to exit surveys, using repeated measures ANOVA (Table III.5-1-3.). The three agencies were different in their geographical locations, populations served, and size. One agency serves Korean and Chinese immigrant populations in the Washington, D.C. metropolitan area. This agency has been serving a Korean immigrant population since 1974, and has recently expanded their services to a Chinese immigrant population. Another agency serves a Vietnamese immigrant population in the Washington, D.C. metropolitan area, and is a branch office of the national organization. The other agency serves a Korean immigrant population in the Greater New Jersey and New York areas. This agency is smaller, compared to the other two agencies. In addition, it mainly focuses on services for children, youth, and families while the other two agencies offer a wide range of social services. It was thus explored whether these differences would be associated with program outcomes. The findings indicated that the magnitude of changes from entry to exit surveys was not statistically significantly different across the three agencies in the subscales of interpersonal relationship and communication skills even though participants' entry and exit survey scores differed among the agencies. For example, at entry surveys, participants' mean scores on the subscale of communication skills were 31.2, 31.1, and 33.5 for Agencies 1, 2, and 3. The changes from their entry to exit survey scores were 1.9, 2.6, and 1.9, respectively, for Agencies 1, 2 and 3.

In relation to premarital education, participants' entry and exit survey scores were not statistically significantly different for both gender groups (Table III.5-1-1.). While not statistically significant, it was observed that male participants' scores increased by 2 or more points from entry to exit surveys in communication skills. Only three participants had valid scores for all three surveys (i.e., entry, exit, and follow-up surveys), and no statistical tests were conducted that compared their exit survey scores with follow-up scores. It was observed that the follow-up scores decreased compared to the exit survey scores for these three individuals. The results of repeated measures ANOVA showed that participants in three agencies were similar in the magnitude of changes from entry to exit survey scores in all subscales of the Three Couple Scales (Table III.5-1-3.).

The results of the nFORM data analyses were somewhat consistent with these findings. Statistically significant findings were only observed for male participants in the outcome of healthy communication and for female participants in the domain of unhealthy communication (Table III.5-1-2.).

No statistically significant differences between entry and exit survey scores were reported for mentoring program participants (Table III.5-1-1.). This is consistent with the findings of nFORM data analyses (Table III.5-1-2.). While 5 participants completed a follow-up survey, none of them had valid entry and exit survey scores. As a result, the comparison between exit and follow-up surveys was not conducted. The three agencies were not significantly different in the magnitude of changes from entry to exit survey scores (Table III.5-1-3.).

Table III.5-1-1. Participants' local evaluation outcomes from baseline to follow-up: Mean (SD)

Outcome		Entry survey	Exit survey	Difference between entry & exit surveys	p-value of difference		Exit survey	Follow-up	Difference between exit survey & follow-up [a]
Couple Workshop[b]									
Interpersonal relationship	Couple participants (Male, n=220)	32.3 (5.79)	34.0 (4.71)	1.7 (4.50)	< 0.001	Participants with valid exit and follow-up survey scores (n=55)	34.3 (3.84)	33.1 (5.33)	-1.2 (4.74)
	Couple participants (Female, n=231)	30.8 (6.00)	33.4 (5.24)	2.6 (4.52)	< 0.001	Participants with valid exit and follow-up survey scores (n=55)	34.3 (3.84)	33.1 (5.33)	-1.2 (4.74)
	Individual participants[c] (n=47)	32.6 (5.01)	34.6 (4.97)	1.9 (5.75)	0.025	Participants with valid exit and follow-up survey scores (n=55)	34.3 (3.84)	33.1 (5.33)	-1.2 (4.74)
Communication skills	Couple participants (Male, n=220)	31.1 (6.70)	34.0 (6.36)	1.9 (5.96)	< 0.001	Participants with valid exit and follow-up survey scores (n=55)	33.2 (6.04)	33.0 (6.45)	-0.2 (6.18)
	Couple participants (Female, n=231)	29.8 (7.34)	32.6 (6.91)	2.8 (5.82)	< 0.001	Participants with valid exit and follow-up survey scores (n=55)	33.2 (6.04)	33.0 (6.45)	-0.2 (6.18)
	Individual participants[c] (n=47)	30.4 (6.86)	32.4 (6.53)	1.9 (6.32)	0.044	Participants with valid exit and follow-up survey scores (n=55)	33.2 (6.04)	33.0 (6.45)	-0.2 (6.18)

Outcome		Entry survey	Exit survey	Difference between entry & exit surveys	p-value of difference		Exit survey	Follow-up	Difference between exit survey & follow-up [a]
Premarital education[d]									
Interpersonal relationship	Male (n=18)	37.1 (5.56)	36.8 (6.23)	-0.3 (3.45)	0.733	Participants with valid exit and follow-up survey scores (n=3)	33.2 (3.64)	31.7 (6.66)	-1.5 (3.02)
	Female (n=21)	33.3 (4.34)	35.1 (4.52)	1.8 (4.13)	0.056	Participants with valid exit and follow-up survey scores (n=3)	33.2 (3.64)	31.7 (6.66)	-1.5 (3.02)
Communication skills	Male (n=18)	37.8 (6.14)	39.8 (6.14)	1.9 (3.45)	0.174	Participants with valid exit and follow-up survey scores (n=3)	34.3 (5.86)	33.0 (4.58)	-1.3 (4.62)
	Female (n=21)	36.8 (7.95)	37.3 (7.00)	0.5 (4.55)	0.640	Participants with valid exit and follow-up survey scores (n=3)	34.3 (5.86)	33.0 (4.58)	-1.3 (4.62)
Mentoring									
Interpersonal relationship	n=21	34.1 (4.63)	33.9 (4.33)	-0.2 (6.66)	0.879				
Communication skills	n=21	33.7 (6.61)	34.6 (5.99)	0.8 (9.33)	0.691				

Source: Local evaluation data

[a] No results of paired samples t-test on exit and follow-up surveys were statistically significant, or paired samples t-tests were not conducted due to a small sample size. As a result, p-values were not reported

[b] Information on gender was not available for 12 participants, and they were thus excluded

[c] When participants attended the program as an individual, all of them were included in the analyses regardless of their gender

[d] Information on gender was not available for 5 participants, and they were thus excluded.

Table III.5-1-2. Participants' nFORM outcomes from baseline to exit survey a: Mean (SD)

Outcome		Entry survey	Exit survey
Couple Workshop			
General relationship quality	Couple participants (Male, n=164)	25.0 (5.15)	26.6 (4.50)***
	Couple participants (Female, n=164)	24.4 (5.41)	26.1 (4.86)***
	Individual participants (n=29)	25.6 (4.41)	26.3 (4.58)
Healthy communication	Couple participants (Male, n=168)	18.3 (3.66)	19.5 (3.15)***
	Couple participants (Female, n=168)	17.9 (3.74)	19.4 (3.60)***
	Individual participants (n=31)	19.7 (2.80)	20.0 (2.56)
Unhealthy communication	Couple participants (Male, n=167)	14.8 (4.32)	16.5 (4.33)***
	Couple participants (Female, n=171)	13.9 (4.69)	16.5 (4.35)***
	Individual participants (n=30)	16.3 (n=3.7)	15.7 (3.65)
Premarital education			
General relationship quality	Male (n=12)	30.2 (1.95)	29.8 (3.17)
	Female (n=10)	27.8 (5.59)	28.1 (3.54)
Healthy communication	Male (n=12)	20.3 (2.42)	21.6 (2.75)*
	Female (n=9)	20.7 (3.00)	21.0 (3.54)
Unhealthy communication	Male (n=12)	17.8 (5.31)	19.4 (4.44)
	Female (n=10)	16.9 (3.14)	19.5 (3.63)**
General relationship quality			
General relationship quality	Male (n=2)	26.0 (0.00)	30.0 (2.83)
	Female (n=3)	26.3 (1.15)	27.0 (2.00)
Healthy communication	Male (n=3)	18.7 (.58)	19.3 (2.31)
	Female (n=3)	17.3 (1.53)	21.3 (3.79)
Unhealthy communication	Male (n=2)	17.0 (1.41)	19.0 (1.41)
	Female (n=3)	16.0 (5.29)	18.0 (3.00)

*Significantly different from zero at the .10 level, two-tailed test.

**Significantly different from zero at the .05 level, two-tailed test.

***Significantly different from zero at the .01 level, two-tailed test.

Source: nFORM data

[a] The sample size in this table is different from the sample size reported in Table III.5-1-1. due to missing nFORM data.

Table III.5-1-3. Comparison of three agencies in participants' outcomes a: Mean (SD)

Outcome		Entry survey	Exit survey	Difference between entry and exit survey
Couple Workshop				
Interpersonal relationship	Agency 1 (n=283)	31.2 (5.99)	33.1 (5.68)	1.9 (4.71)
	Agency 2 (n=107)	31.1 (5.68)	33.7 (4.75)	2.6 (4.15)
	Agency 3 (n=120)	33.5 (5.37)	35.4 (4.92)	1.9 (4.81)
Communication skills	Agency 1 (n=283)	31.1 (6.70)	34.0 (6.36)	1.9 (6.01)
	Agency 2 (n=107)	29.8 (7.34)	32.6 (6.91)	2.3 (5.17)
	Agency 3 (n=120)	30.4 (6.86)	32.4 (6.53)	3.1 (6.18)
Premarital education				
Interpersonal relationship	Agency 1 (n=18)	35.1 (6.43)	36.0 (6.05)	0.9 (3.06)
	Agency 2 (n=12)	33.8 (2.38)	34.1 (3.36)	0.3 (3.83)
	Agency 3 (n=14)	35.1 (5.30)	36.1 (5.50)	1.0 (4.86)
Communication skills	Agency 1 (n=18)	36.0 (7.50)	37.3 (8.01)	1.3 (5.00)
	Agency 2 (n=12)	37.8 (6.67)	37.4 (5.42)	-0.4 (2.35)
	Agency 3 (n=14)	36.2 (7.84)	38.3 (7.98)	2.0 (6.26)
Mentoring				
Interpersonal relationship	Agency 2 (n=10)	35.0 (5.69)	35.3 (4.84)	0.4 (5.79)
	Agency 3 (n=11)	33.4 (3.21)	32.7 (3.55)	-0.8 (7.62)
Communication skills	Agency 2 (n=10)	37.4 (3.75)	36.6 (4.99)	-0.8 (4.59)
	Agency 3 (n=11)	30.4 (7.01)	32.7 (6.43)	2.3 (12.26)

[a] No results of ANOVA on agency differences in the magnitude of changes from entry to exit surveys were statistically significant. As a result, p-values were not reported.

For family camp:

- What is the perceived level of family cohesion family members experience upon the completion of the program?
- For any changes observed at the end of the program in family members' perceived level of family cohesion, are these changes sustained over longer periods of time (i.e., at a follow-up of about 6 months)?
- For any changes observed at the end of the program in family members' perceived level of family cohesion, is the magnitude of these changes different across the three agencies delivering the program?

a. Key findings

Entry and exit survey scores were not significantly different for camp participants, and this was true for both gender groups (Table III.5-2.). For example, the family cohesion ratio at entry and exit surveys was 1.7 for both gender groups (p=.123, and .284, respectively for male and female participants). Among those with valid entry and exit survey scores, 41 participants completed the follow-up surveys. The findings showed that their scores at follow-ups were similar to those at exit surveys (p=.444). The results of the repeated measures ANOVA confirmed that the participants' entry, exit, and follow-up survey scores were not significantly different (p=.147).

The results of repeated measures ANOVA showed that the magnitude of changes from entry to exit surveys were similar across the three agencies. Compared to the entry surveys, the participants' exit survey scores increased by 0.1 for Agency 1 while they decreased by 0.2 for Agency 2, and 0.1 for Agency 3.

Table III.5-2. Participants' outcomes from baseline to follow-up II: Mean (SD)

Outcome		Pretest	Posttest	Difference between pre & posttest	p-value of difference		Posttest	Follow-up	Difference between posttest & follow-up [a]
Family camp [b]									
Family cohesion ratio	Male (n=126)	1.7 (0.49)	1.7 (0.54)	0.1 (0.50)	0.123	Participants with valid posttest and follow-up scores (n=41)	1.8 (0.49)	1.9 (0.41)	
	Female (n=131)	1.7 (0.38)	1.7 (0.45)	0.0 (0.41)	0.284	Participants with valid posttest and follow-up scores (n=41)	1.8 (0.49)	1.9 (0.41)	
Parent education[c]									
Communication	n=3	27.0 (1.00)	27.7 (1.53)	0.7 (1.53)	n/a	n=1	26	26	
Limit setting	n=3	32.6 (4.02)	29.4 (8.85)	-3.2 (4.85)	n/a	n=1	34	36	

Source: Local evaluation data

[a] Due to the space limitation, p-values were not reported. Furthermore, no results of paired samples t-test on posttests and follow-ups were statistically significant

[b] Information on gender was not available for 11 participants, and they were thus excluded

[c] Please refer to Analytic sample, outcomes, and descriptive statistics section (pp. 26-27) on the reason for a small analytic sample size.

For parent education:

- Do parents experience changes in their quality of communication with child(ren) upon the completion of the program?
- Do parents experience changes in their discipline techniques upon the completion of the program?
- For any changes observed at the end of the program in parents' quality of communication with child(ren) and discipline techniques, are these changes sustained over longer periods of time (i.e., at a follow-up of about 6 months)?
- For any changes observed at the end of the program in parents' quality of communication with child(ren) and discipline techniques, is the magnitude of these changes different across the three agencies delivering the program?

a. Key findings

Only 3 participants had valid entry and exit survey scores on the two subscales of the PCRI, and it was thus not reasonable to discuss statistical significance for their results. Descriptively, their scores increased slightly on the subscale of communication, while their scores decreased by 3.2 points on the subscale of limit setting (Table III.5-2.). None of these participants had valid entry and exit survey scores from nFORM data related to parenting.

Out of the three participants, only one participant completed a follow-up survey. This participant's score at a follow-up remained the same as the exit survey score on the subscale of communication. The score on the subscale of limit setting increased by 2 points at a follow-up, compared to the exit survey.

With such a small sample size, it was not feasible to pursue the research question that would compare the three time points (i.e., entry, exit, and follow-up surveys), and three agencies.

IV. DISCUSSION AND CONCLUSIONS

The current study is significant in that it is one of the first studies on healthy marriage programs for Asian immigrant populations in the U.S. The lessons learned from this study can help to develop, implement, and improve healthy marriage programs for Asian immigrants, expanding such programs to larger communities.

The study shows promising results in relation to the potential impact of healthy marriage programs for Asian immigrants. At the same time, the findings of the study present many implications for program planning, implementation, and evaluation activities.

The findings of the process evaluation illustrate the stigma present within Asian communities in the U.S, which presents unique challenges in delivering healthy marriage programs for this population. The receipt of public services and/or programs, including healthy marriage programs, is often perceived as acknowledging their issues and/or problems, which accompanies shames for the entire family as well as for family members directly involved. In individual interviews and focus groups, program participants shared that they were initially hesitant to participate in the program since they did not think that they had any serious issues in their marriage. It is thus important for organizations to address this stigma in their program planning and delivery. First, public campaign can increase the awareness of the purpose of preventive services and/or programs like healthy marriage programs so that no stigma is associated with their receipt. The findings that Asian immigrants were not familiar with healthy marriage programs reiterate the importance of public campaign for these programs. In addition, the study found that personal and community connections were one of the most effective recruiting strategies. Public campaign and recruiting efforts can involve former program participants, asking them to share their experiences within their personal and social networks.

While the challenges in participant recruitment were consistently noted, it was observed that the majority of the participants completed the program at its full dosage. This may imply that the participants perceived and experienced the benefits of healthy marriage programs once they started the program. While healthy marriage programs are quite new to Asian communities, this may indirectly suggest the needs for this program within this population. The high retention and completion rates may also indicate staff's ongoing efforts to engage participants in the program. Program participants expressed their appreciation for staff's flexibility and dedication, particularly with make-up sessions, and this is important to note in relation to the successful delivery and implementation of programs.

As this was one of the first healthy marriage programs implemented and evaluated within Asian immigrant communities in the U.S., lessons learned in relation to the planning and delivery of healthy marriage programs for this population can be highlighted from the findings of the process evaluation. It was noted that the majority of the participants primarily used the language of their ethnicity at home, which implies that they would feel more comfortable with the language of their ethnicity than English. As a result, programs were mainly delivered in the language of each ethnic group (i.e., the Korean, Chinese, and Vietnamese), and materials had to

be translated in three different languages. This required additional time and resources for program planning. Furthermore, initial and ongoing efforts were made to adapt the programs for cultural relevance, and this necessitated additional time and resources as well. Future program planning and implementation for racial/ethnic minorities, including immigrant populations, should make sure that enough, additional time be built in.

Since nFORM was only available in English and Spanish, alternative methods of questionnaire administration had to be utilized. Participants mostly completed the questionnaire using paper-and-pencil format. Within nFORM, participants were automatically directed to the next question, based on their response to the previous contingency question. However, paper survey had to list all items of the questionnaire, and participants had to navigate the questionnaire on their own, particularly with contingency questions. The length of the questionnaire often appeared to overwhelm participants. Some participants, especially those who were older, seemed to experience difficulty in completing the questionnaire, particularly with contingency questions, and additional support was provided for them. Furthermore, program staff had to enter these data into the database such as nFORM. This resulted in additional workload for program staff, which should be considered in program planning and implementation.

The findings of the process evaluation illustrated the limited workforce of professionals who are bilingual and who are familiar with both cultures, American and each ethnic group's cultures. It is thus important to make more efforts to expand diverse workforce. The collaboration between immigrant communities and academic institutions can be a good starting place. For example, fundraising efforts can be made to offer scholarships for Asian students majoring in fields related to human services.

While language and workforce were identified as significant factors in developing and delivering culturally appropriate healthy marriage programs, future studies should examine more thoroughly what culturally competent healthy marriage programs may look like for Asian immigrants in the U.S. While the curriculum utilized in the study appeared to be well perceived by program participants and staff, other curriculum may be explored and examined before further expanding the programs. In addition, adjustments and adaptations required should be more thoroughly investigated and documented.

As efforts are made to ensure that healthy marriage programs are culturally relevant for Asian communities, their experiences should be recognized and understood, particularly in relation to trauma and discrimination they experience as immigrants. These experiences often lead to their fears regarding confidentiality, which in turn affects evaluation activities. In this study, it was observed that many participants were reluctant to share their personal, private information, and they would often turn in blank forms or skip many questions on demographic information and/or marital relationship. This resulted in a smaller analytic sample size of participants with valid entry and exit survey scores, compared to the number of participants who enrolled and participated in the program. With the recent stricter immigration policies, this became more prevalent. The use of paper-and-pencil format may have further affected participants' engagement in evaluation activities. Since they could not directly enter their responses into a

web-based nFORM, participants might have had higher levels of concern and fear about confidentiality. While assured that they could still participate in the program without completing any questionnaires, there were participants who declined to join the program. During entry and exit surveys, participants often asked why the federal government would collect a lot of their personal information, and how this information would be utilized. In program development and implementation, it will be very important to address Asian immigrants' fears and concerns about confidentiality. Particularly when programs are offered in a group format, facilitators should thoroughly go over the steps that would ensure confidentiality of participants' information, answering any questions participants may have and addressing their concerns.

The findings of the outcome evaluation showed that overall participant scores improved from entry to exit surveys. However, statistically significant changes were only observed for married couple workshop participants. No statistically significant differences between entry and exit surveys were reported for other program components. The findings illustrated that the changes participants experienced at exit surveys were maintained at follow-ups, but these results should be interpreted with caution due to a small analytic sample size. While participants' improved scores from entry to exit surveys do not indicate the programs' effectiveness, this presents a promising potential of healthy marriage programs within Asian immigrant communities. Future studies should conduct more rigorous evaluations of healthy marriage programs for Asian immigrant populations in order to investigate whether the programs would have the same levels of effectiveness for Asian immigrants as for other populations in the existing literature.

As noted previously, statistically significant changes from entry to exit surveys were only noted for married couple workshop participants. It is hard to compare participant changes across different program components, but it is noteworthy to point out that the duration of the program was the longest for married couple workshops except for family camps. The number of hours required was 16 for married couple workshops, 8 for mentoring, and 6 for premarital education and parent education. While camp was set up to last 24 hours, it involved overnight stays. Considering that the curriculum utilized in the study covered 10 communication skills, there might be the minimum number of hours for the programs to be effective. Or the organizations can focus on one program component in the early stages of program development and implementation, and expand to other program components based on lessons learned from their experiences.

The findings of the process evaluation noted that the most significant adjustment made in program implementation was to increase time for exercises, reducing time for lectures. This was partly due to the perception that more exercises would help participants to maintain and generalize the knowledge and skills they learned at the program. However, as the curriculum taught 10 communication skills over a 16-hour period, this limited the time that could be devoted to experiential activities. Thus, it might be helpful to explore other curricula that would involve more active learning of participants, curricula with not too many skills and lectures. An alternative curriculum may focus on a smaller number of core skills, allowing more time for participants to exercise and apply what they have learned.

In future studies, the measurement instruments utilized in the study may need to be revisited as the results of the study may have been affected by the selected instruments. For example, the instruments used for family camps assessed the levels of family cohesion. However, since the main focus of the camp was on communication, it might have been more appropriate to use instruments that examined levels of family communication rather than levels of cohesion. When further analyses were conducted on camp participants' changes from entry to exit surveys using nFORM items on couple relationship, the results were statistically significant ($p<.01$). Also, the study used the same instrument for married couple workshops and premarital education. As the instrument had items on children, this may not have been as relevant for single individuals in a committed relationship as it was for married couples. Lastly, the cultural relevance of the selected instruments should be examined. For example, in Asian culture, it is not common for unmarried couples to live together or married couples to not live together. As a result, when nFORM asked how much time they lived with their partner, they often got confused about what information the item was asking for: they inquired whether the item asked for the total amount time they were physically at home together or whether the item asked for whether they lived together or not.

The findings of the study should be interpreted with caution, particularly with high attrition rates. Significant differences were often observed between those included in and excluded from analytic samples, further limiting the generalizability of the study findings. Attrition was due to either partial responses or no responses from participants. In the study, participants were included as analytic samples only when they responded to at least 80% of the items from a given questionnaire, and many participants did not meet this inclusion criterion. Program staff and evaluation team should effectively communicate the importance of evaluation with program participants, and encourage them to complete the questionnaires as fully as possible.

In the study, response rates for follow-up surveys were very low. One of the reasons was that about half of the participants opted not to participate in follow-up surveys. As noted earlier, this may be due to their reluctance to participate in evaluation activities. Another reason may be that participants no longer felt connected to the programs at 6-month follow-ups since the programs were offered as a one-time occasion. Attempts were made to have reunion sessions where participants would reconvene and review what they had learned before. However, reunion sessions could not be arranged due to participants' scheduling conflicts. As discussed before, it will be critical for program staff and evaluation team to effectively communicate the importance of evaluation with program participants so that many of them are willing to participate in follow-up surveys. More importantly, booster or reunion sessions that review previously learned materials should be built in as part of programs so that participants can be engaged and connected with the programs for longer periods of time. For example, programs can offer two booster or reunion sessions, one at 3 months and the other at 6 months after the completion of the program. These booster or reunion sessions might further improve program outcomes, reminding participants of program contents and encouraging the application of theses contents. In addition, with participants' ongoing connection to the programs, these booster or reunion sessions might ensure higher response rates for follow-up surveys.

Another limitation of the study was relating to the measurement instruments utilized. In addition to the issues discussed earlier, the reliability of a few measures was questionable in the study. For example, Cronbach's alpha for one of the subscales of the Three Couple Scales, conflict resolution skills, was below 0.7, which is an acceptable level, and was thus excluded from the main analyses of the study. In addition, one of the subscales of the FACES IV, enmeshed, had Cronbach's alpha value below 0.7, but was still included in the main analyses as it was needed to calculate an outcome indicator, family cohesion ratio, for family camp programs. It should be noted that the low reliability of the instruments could compromise the validity of the study findings.

Despite these limitations, this study offered many lessons learned for Asian immigrant communities in developing, implementing, and improving healthy marriage programs. The findings of the study presented unique experiences of Asian immigrants that need to be considered. They also showed promising potential of healthy marriage programs within Asian immigrant communities in the U.S.

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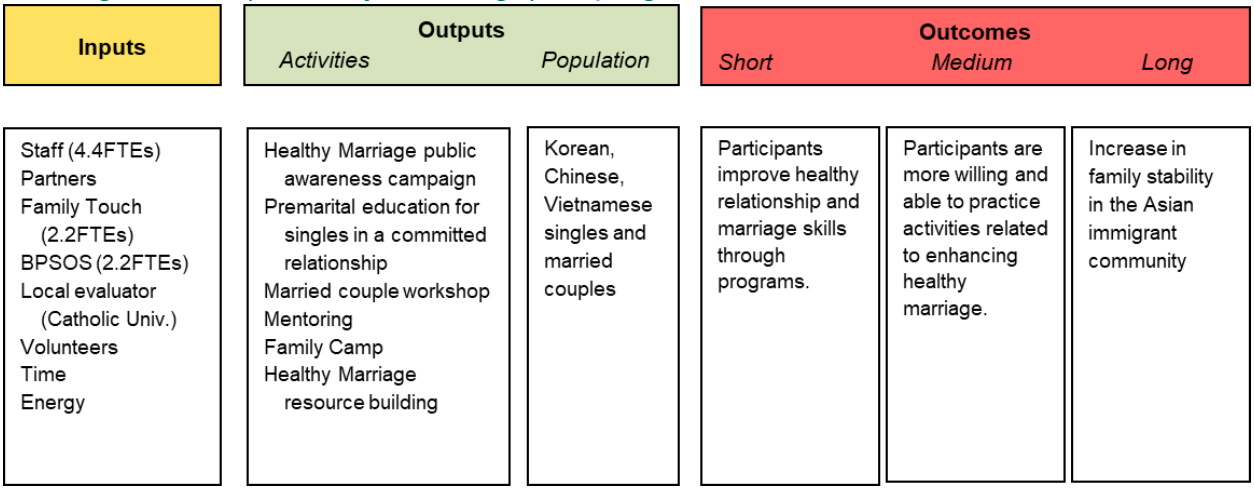
VI. APPENDICES

A. Logic model (or theory of change) for program



B. Attrition analyses and tables

In order to examine whether participants in analytic samples were significantly different from those excluded from analytic samples, bivariate analyses (i.e., Chi-square) were conducted. While the statistical testing was conducted for cases with valid data, the percentage is presented including those with and without missing data (Table B.1-1. through Table B.1-5).

Variations were observed in relation to the similarities and differences between participants included in analytic samples and those excluded from analytic samples. Overall, the characteristics of married couple workshop participants with valid entry and exit survey scores were significantly different from those that did not have valid entry and exit survey scores: statistically significant differences were observed in their age, marital status, levels of educational attainment, employment status, and primary language spoken at home. Those who were enrolled, but not included in analytic samples were likely to be older, have lower levels of educational attainment, and use spoken language other than English at home. They were also less likely to be married and to work full-time. However, no statistically significant differences were reported between participants with and without valid entry, exit, and follow-up surveys. (Table B.1-1.).

The participants included in and excluded from analytic samples were similar for premarital education programs. The only significant difference was observed between participants with and without valid entry and exit survey scores in their marital status. No statistical analyses were conducted for participants with and without entry, exit, and follow-up surveys due to a very small sample size of those with all three survey responses (Table B.1-2.). However, some large differences were noted between those included in and excluded from analytic samples.

For mentoring programs, no participants had valid scores for all three surveys (i.e.,). As a result, comparison was only made between those with and without valid entry and exit survey

responses. No statistically significant differences were found between the two groups except in their primary spoken language at home. The percentage of participants who primarily spoke English at home was higher in the analytic samples (Table B.1-3.).

Family camp participants with valid entry and exit survey responses were significantly different from those without valid entry and exit survey responses in their age, levels of educational attainment, employment status, and spoken English proficiency. For example, participants in analytic samples were likely to be younger, and to have higher levels of educational attainment compared to those excluded from analytic samples. Statistically significant differences were not observed between those with and without valid responses for all three surveys (i.e., entry, exit, and follow-up surveys; Table B.1-4.).

Table B.1-1. Summary statistics of key baseline measures and baseline differences for the analytic sample compared with enrollees who did not complete exit and follow-up surveys: Married couple workshop a

Characteristic	Participants with entry & exit surveys	Participants enrolled but not in analytic sample	p-value of difference	Participants with entry, exit, & follow-up surveys	Participants enrolled but not in analytic sample	p-value of difference
Age (%)			**0.023**			**0.288**
34 or younger	11.2	9.6		18.2	10.0	
35-44	28.4	20.7		30.9	24.6	
45-54	19.4	23.6		14.5	21.7	
55-64	16.7	15.3		18.2	15.9	
65 or older	22.0	29.6		18.2	25.8	
Missing	2.4	1.2		0.0	2.0	
Gender (%)			**0.371**			**0.697**
Male	44.9	43.1		47.3	43.9	
Female	52.5	56.9		52.7	54.6	
Missing	2.5	0.0		0.0	1.5	
Race/ethnicity (%)			**0.400**			**0.397**
Asian	92.0	94.6		96.4	93.5	
Other	6.9	5.4		3.6	6.5	
Missing	1.2	0.0		0.0	0.0	
Relationship status (%)			**< 0.001**			**0.589**
Married or engaged	92.9	85.2		92.7	89.3	
Other	3.5	10.6		5.5	6.7	
Missing	3.5	4.2		1.8	3.9	
Levels of education (%)			**0.003**			**0.056**
Less than high school diploma	4.7	6.9		3.6	5.8	
High school diploma or GED	10.4	10.8		3.6	11.0	
Associate degree, Vocational/technical certification, or Some college with no degree completion	15.9	20.0		18.2	17.7	
Bachelor’s degree	31.6	27.6		25.5	30.1	

Characteristic	Participants with entry & exit surveys	Participants enrolled but not in analytic sample	p-value of difference	Participants with entry, exit, & follow-up surveys	Participants enrolled but not in analytic sample	p-value of difference
Advanced degree	25.5	17.0		36.4	20.8	
Missing	12.0	17.7		12.7	14.6	
Employment status (%) b						
Full-time	48.4	40.9	0.008	49.1	44.8	0.538
Part-time/Temporary	12.4	10.1	0.762	1.3	11.3	0.704
Not working	32.4	35.7	0.486	32.7	33.9	0.916
Missing	2.0	0.0		0.0	0.3	
Primary spoken language at home (%)			**0.039**			**0.463**
English	11.6	7.1		9.3	11.2	
Other	84.1	89.4		86.6	84.2	
Missing	4.3	3.4		4.1	4.6	
Spoken English proficiency (%)[c]			**0.407**			
Very well	9.4	6.6		6.5	8.2	
Well	37.1	33.6		43.5	35.0	
Not well	40.1	41.6		41.3	40.8	
Not at all	11.2	12.9		6.5	12.3	
Missing	2.4	5.2		2.2	3.8	
Sample size	510	406		55	861	

[a] The summed percentage may not add up to 100% due to rounding

[b] Some participants marked ‘no’ for all response options, and were thus not counted

[c] This question was asked only to those participants who responded that the primary spoken language at home was not English.

Table B.1-2. Summary statistics of key baseline measures and baseline differences for the analytic sample compared with enrollees who did not complete exit and follow-up surveys: Premarital Education[a]

Characteristic	Participants with entry & exit surveys	Participants enrolled but not in analytic sample	p-value of difference	Participants with entry, exit, & follow-up surveys [b]	Participants enrolled but not in analytic sample
Age (%)			**0.134**		
34 or younger	45.5	65.3		33.3	69.8
35-44	20.5	16.3		66.7	16.5
45-54	11.4	5.1		0.0	7.2
55-64	0.0	3.1		0.0	2.2
65 or older	0.0	2.0		0.0	1.4
Missing	22.7	8.2		0.0	2.9
Gender (%)			**.996**		
Male	38.6	46.9		33.3	47.5
Female	43.2	53.1		66.7	52.5
Missing	18.2	0.0		0.0	0.0
Race/ethnicity (%)			**0.721**		
Asian	72.7	90.8		100.0	87.1
Other	6.8	9.2		0.0	10.1
Missing	20.5	0.0		0.0	2.9
Relationship status (%)			**0.028**		
Married or engaged	40.9	32.7		66.7	34.5
Other	38.6	67.3		33.3	63.3
Missing	20.5	0.0		0.0	2.2
Levels of education (%)			**0.209**		
Less than high school diploma	0.0	2.0		0.0	1.4
High school diploma or GED	2.3	3.1		0.0	2.9
Associate degree, Vocational/technical certification, or Some college with no degree completion	13.6	10.2		0.0	11.5
Bachelor's degree	25.0	40.8		33.3	36.7

Characteristic	Participants with entry & exit surveys	Participants enrolled but not in analytic sample	p-value of difference	Participants with entry, exit, & follow-up surveys [b]	Participants enrolled but not in analytic sample
Advanced degree	27.3	15.3		66.7	18.0
Missing	31.8	27.6		0.0	29.5
Employment status (%)[c]					
Full-time	56.8	64.3	0.387	100.0	61.9
Part-time/Temporary	13.6	16.3	0.929	0.0	16.5
Not working	6.8	10.2	0.697	0.0	10.1
Missing	20.5	0.0		0.0	4.3
Primary spoken language at home (%)			**0.734**		
English	27.3	34.7		66.7	32.4
Other	43.2	65.3		0.0	59.7
Missing	29.5	0.0		33.3	7.9
Spoken English proficiency (%)[d]			**0.847**		
Very well	21.1	26.6		0.0	25.3
Well	63.2	57.8		0.0	59.0
Not well	5.3	9.4		0.0	8.4
Not at all	0.0	1.6		0.0	1.2
Missing	10.5	4.7		100.0	6.0
Sample size	44	98		3	139

[a] The summed percentage may not add up to 100% due to rounding

[b] Due to a small sample size of those with valid follow-ups, bivariate analyses were not completed to compare those with and without follow-ups. Instead, descriptive statistics for each variable are presented here

[c] Some participants marked ‘no’ for all response options, and were thus not counted

[d] This question was asked only to those participants who responded that the primary spoken language at home was not English.

Table B.1-3. Summary statistics of key baseline measures and baseline differences for the analytic sample compared with enrollees who did not complete exit and follow-up surveys: Mentoring [a, b]

Characteristic	Participants with entry & exit surveys	Participants enrolled but not in analytic sample	p-value of difference
Age (%)			**0.821**
34 or younger	0.0	4.8	
35-44	14.3	14.5	
45-54	19.0	21.7	
55-64	14.3	20.5	
65 or older	47.6	35.5	
Missing	4.8	3.0	
Gender (%)			**0.844**
Male	47.6	44.0	
Female	52.4	53.0	
Missing	0.0	3.0	
Race/ethnicity (%)			**0.304**
Asian	100.0	95.2	
Other	0.0	4.8	
Relationship status (%)			**0.092**
Married or engaged	95.2	86.1	
Other	4.8	7.2	
Missing	0.0	6.6	
Levels of education (%)			**0.192**
Less than high school diploma	4.8	1.4	
High school diploma or GED	28.6	9.6	
Associate degree, Vocational/ technical certification, or Some college with no degree completion	14.3	13.3	
Bachelor's degree	14.3	22.9	
Advanced degree	19.0	19.9	
Missing	19.0	19.9	

Characteristic	Participants with entry & exit surveys	Participants enrolled but not in analytic sample	p-value of difference
Employment status (%)[c]			
Full-time	28.6	40.4	0.297
Part-time/Temporary	19.0	9.0	0.153
Not working	42.9	39.2	0.744
Primary spoken language at home (%)			0.003
English	23.8	5.4	
Other	76.2	91.0	
Missing	0.0	3.6	
Spoken English proficiency (%)[d]			0.270
Very well	0.0	6.0	
Well	6.3	20.5	
Not well	68.8	46.4	
Not at all	25.0	25.2	
Missing	0.0	2.0	
Sample size	21	166	

[a] The summed percentage may not add up to 100% due to rounding

[b] No participants had valid follow-up scores

[c] Some participants marked 'no' for all response options, and were thus not counted

[d] This question was asked only to those participants who responded that the primary spoken language at home was not English.

Table B.1-4. Summary statistics of key baseline measures and baseline differences for the analytic sample compared with enrollees who did not complete exit and follow-up surveys: Family Camp [a]

Characteristic	Participants with entry & exit surveys	Participants enrolled but not in analytic sample	p-value of difference	Participants with entry, exit, & follow-up surveys	Participants enrolled but not in analytic sample	p-value of difference
Age (%)			**0.013**			**0.418**
34 or younger	1.5	2.4		0.0	2.7	
35-44	45.9	36.8		48.8	41.5	
45-54	35.1	37.3		43.9	35.5	
55-64	8.6	15.6		4.9	12.5	
65 or older	3.7	8.0		2.4	6.2	
Missing	5.2	0.0		0.0	1.6	
Gender (%)			**0.382**			**0.081**
Male	46.6	44.8		34.1	47.8	
Female	48.5	55.2		65.9	51.0	
Missing	4.9	0.0		0.0	1.1	
Race/ethnicity (%)			**0.486**			**0.629**
Asian	88.4	96.2		95.1	92.9	
Other	7.1	3.8		4.9	6.8	
Missing	4.5	0.0		0.0	0.2	
Relationship status (%)			**0.268**			**0.858**
Married or engaged	89.9	95.8		97.6	92.5	
Other	4.1	4.2		2.4	5.0	
Missing	5.2	0.0		0.0	2.5	
Levels of education (%)			**0.004**			**0.173**
Less than high school diploma	1.5	0.0		2.4	0.7	
High school diploma or GED	1.9	7.1		0.0	4.6	
Associate degree, Vocational/technical certification, or Some college with no degree completion	14.2	14.6		22.0	13.7	
Bachelor's degree	32.5	38.7		24.4	36.2	
Advanced degree	37.3	27.8		43.9	32.1	

Characteristic	Participants with entry & exit surveys	Participants enrolled but not in analytic sample	p-value of difference	Participants with entry, exit, & follow-up surveys	Participants enrolled but not in analytic sample	p-value of difference
Missing	12.7	11.8		7.3	12.8	
Employment status (%)[b]						
Full-time	63.1	54.2	0.006	65.9	59.7	0.450
Part-time/Temporary	13.8	17.9	0.124	14.6	17.1	0.684
Not working	16.4	16.0	0.830	17.1	17.5	0.935
Missing	4.5	0.0		0.0	0.2	
Primary spoken language at home (%)			**0.449**			**0.851**
English	22.8	27.4		24.4	25.3	
Other	69.0	72.6		73.2	70.6	
Missing	8.2	0.0		2.4	4.1	
Spoken English proficiency (%)[c]			**0.024**			**0.816**
Very well	15.7	8.4		13.3	12.3	
Well	40.5	41.6		33.3	41.6	
Not well	34.6	45.5		46.7	38.7	
Not at all	8.1	3.2		6.7	5.8	
Missing	1.1	1.3		0.0	1.6	
Sample size	268	212		41	439	

[a] The summed percentage may not add up to 100% due to rounding

[b] Some participants marked 'no' for all response options, and were thus not counted

[c] This question was asked only to those participants who responded that the primary spoken language at home was not English.

Table B.1-5. Summary statistics of key baseline measures and baseline differences for the analytic sample compared with enrollees who did not complete exit and follow-up surveys: Parent Education [a, b]

Characteristic	Participants with entry & exit surveys	Participants enrolled but not in analytic sample	Participants with entry, exit, & follow-up surveys	Participants enrolled but not in analytic sample
Age (%)				
34 or younger	0.0	4.8	0.0	4.7
35-44	33.3	27.0	100.0	26.8
45-54	33.3	33.7	0.0	33.9
55-64	0.0	11.1	0.0	11.0
65 or older	33.3	23.0	0.0	23.2
Missing	0.0	0.4	0.0	0.4
Gender (%)				
Male	33.3	12.7	0.0	13.0
Female	66.7	87.3	100.0	87.0
Race/ethnicity (%)				
Asian	100.0	99.2	100.0	99.2.0
Other	0.0	0.8	0.0	0.8
Relationship status (%)				
Married or engaged	66.7	73.8	100.0	73.6
Other	33.3	25.0	0.0	25.2
Missing	0.0	1.2	0.0	1.2
Levels of education (%)				
Less than high school diploma	0.0	12.7	0.0	12.6
High school diploma or GED	0.0	11.9	0.0	11.8
Associate degree, Vocational/technical certification, or Some college with no degree completion	33.3	14.7	100.0	14.6
Bachelor's degree	33.3	25.8	0.0	26.0
Advanced degree	0.0	17.1	0.0	16.9
Missing	33.3	17.9	0.0	18.1
Employment status (%)[c]				
Full-time	0.0	37.3	0.0	37.0

Characteristic	Participants with entry & exit surveys	Participants enrolled but not in analytic sample	Participants with entry, exit, & follow-up surveys	Participants enrolled but not in analytic sample
Part-time/Temporary	0.0	17.9	0.0	17.7
Not working	100.0	40.1	100.0	40.6
Primary spoken language at home (%)				
English	33.3	15.5	100.0	15.4
Other	66.7	83.7	0.0	83.9
Missing	0.0	0.8	0.0	0.8
Spoken English proficiency (%)[d]				
Very well	0.0	9.0	n/a	8.9
Well	50.0	22.7	n/a	23.0
Not well	50.0	52.1	n/a	52.1
Not at all	0.0	11.8	n/a	11.7
Missing	0.0	4.3	n/a	4.2
Sample size	3	252	1	254

[a] The summed percentage may not add up to 100% due to rounding

[b] Due to a small sample size of those with valid exit and follow-up survey responses, bivariate analyses were not completed. Instead, descriptive statistics for each variable are presented here

[c] Some participants marked ‘no’ for all response options, and were thus not counted

[d] This question was asked only to those participants who responded that the primary spoken language at home was not English.

C. Outcomes analyses

1. Analyses on instrument measurement

In this section, the findings on the reliability of the measurement instruments utilized in the local evaluation as well as the results of factor analyses are presented. Since the number of participants were the largest for married couple workshop and family camp, the analyses of the measurement instruments were based on the samples of these two program components who had valid entry survey responses. No analyses were conducted on the Parent-Child Relationship Inventory (PCRI, Gerad, 1994) that were used for parent education programs due to the small number of participants with valid scores.

This section also shows the results of the factor analyses and reliability tests on the nFORM items. All individuals who participated in any of the five program components were included in these analyses since nFORM questionnaires were administered for all of them.

First, the reliability was tested for each subscale of the Three Couple Scales (PREPARE & ENRISH, Olson & Larson, 2008). Cronbach's alphas for the subscales of interpersonal relationship levels, communication skills, and conflict resolution skills were 0.72, 0.84, and 0.64, respectively: the subscale of conflict resolution skills had a Cronbach's alpha below 0.70, which is the acceptable level of reliability. When confirmatory factor analyses were conducted for the Three Couple Scales with the use of structural equation modeling, factor loadings of the items from the subscales of interpersonal relationship levels and communication skills were statistically significant ($p<0.01$). However, factor loadings of the items on the subscale of conflict resolution skills were not statistically significant ($p>0.05$). The results of the reliability test and confirmatory factor analyses suggest that the subscale of conflict resolution skills may not be a good fit for the participants in this study, and it was thus excluded from the main analyses.

Cronbach's alphas were calculated for the subscales of the Family Adaptability and Cohesion Evaluation Scale IV (FACES IV; Olson, 2010), which was used in the evaluation of family camps: they were 0.81, 0.70, and 0.67, respectively, for the subscales of balanced cohesion, disengaged, and enmeshed. While it was close to 0.70, which is the acceptable level of reliability, the subscale of enmeshed had a Cronbach's alpha below 0.70. The results of confirmatory factor analyses, which used structural equation modeling, showed that all items, except for one item from the subscale of enmeshed, had statistically significant factor loadings ($p<0.01$).

The following items were selected from nFORM survey questionnaires to assess participants' couple relationship, and exploratory factor analyses were conducted to identify the constructs these items were to measure. Separate exploratory factor analyses were completed for participants' entry and exit survey responses to check the consistency of the identified factors/constructs between the two:

1. My partner/spouse and I were good at working out our differences.

2. I felt respected even when my partner/spouse and I disagreed.

3. When my partner/spouse and I had a serious disagreement, we worked on it together to find a resolution.

4. When my partner/spouse and I had a serious disagreement, we discussed our disagreements respectfully.

5. During arguments, my partner/spouse and I were good at taking breaks when we needed them.

6. When my partner/spouse and I argued, past hurts got brought up again.

7. My partner/spouse understands that there are times when I do not feel like talking and times when he/she does.

8. My partner/spouse was rude or mean to me when we disagreed.

9. My partner/spouse seemed to view my words or actions more negatively than I meant them to be.

10. Our arguments became very heated.

11. Small issues suddenly became big arguments.

12. My partner/spouse or I stayed mad at one another after an argument.

13. How satisfied are you with the way you and your partner/spouse handle conflict?

14. I trust my partner/spouse completely.

15. My partner/spouse knows and understands me.

16. I can count on my partner/spouse to be there for me.

17. I feel appreciated by my partner/spouse.

18. My partner/spouse expresses love and affection toward me.

19. In the past month, how often did you and your partner talk to each other about the day?

20. In the past month, how often did you and your partner laugh together?

21. In the past month, how often did you and your partner participate together in an activity we both enjoy?

22. How satisfied are you with your current relationship?

Three factors were identified from the exploratory factor analyses, and it was decided that items #13, and #22 would be excluded. These two items did not have significant factor loadings, and they were the only items with three response options: the other items had four response options. It was also noted that the three factors were significantly correlated with each other:

- Factor1 (general relationship quality): items #14, 15, 16, 17, 18, 19, 20, & 21
- Factor2 (unhealthy communication): items #6, 8, 9, 10, 11, & 12
- Factor3 (healthy communication): items #1, 2, 3, 4, 5, & 7

The reliability tests were conducted for each identified factor, and Cronbach's alpha for Factors 1, 2, and 3 was 0.90, 0.90, and 0.86, respectively.

The following items were selected from nFORM survey questionnaires to assess participants' parenting skills, and exploratory factor analyses were completed to identify the constructs these items were to measure. Separate exploratory factor analyses were completed for participants' entry and exit survey responses to check the consistency of the identified factors/constructs between the two:

1. I am happy being with [Child 1].
2. [Child 1] and I are very close to each other.
3. I try to comfort [Child 1] when he/she is upset.
4. I spend time with [Child 1] doing what he/she likes to do.
5. Over the past month, how often did you hit, spank, grab, or use physical punishment with [Child 1]?
6. Over the past month, how often did you yell, shout, or scream at [Child 1] because you were mad at him/her?
7. Over the past month, how often did you talk to [Child 1] about what he/she did wrong?

Two factors were identified from the exploratory factor analyses, and they were not highly correlated with each other (r=.14).

1. Factor1 (general relationship quality): items #1, 2, 3, & 4
2. Factor2 (discipline technique): items #5, 6, & 7

The reliability tests were conducted for each identified factor, and Cronbach's alpha for Factors 1 and 2 was 0.76, and 0.61, respectively. Since the reliability of Factor 2 was below 0.7, which is the acceptable level, it was excluded from further analyses.

2. Complete-case analyses

The results reported in the main section of the report were based on the participants who responded to 80% or more of the items in a given measurement instrument (i.e., main analyses). In this section, their results were compared to those of participants who did not have any missing data on any of the items in a given measurement instrument (i.e., complete-case analysis, Table C.1.). Overall, the results based on the two analytic samples (i.e., main analysis and complete-case analysis) appeared to be similar. For example, for marital couple workshop participants, the difference between the two samples in their entry survey scores were .5 or smaller.

Table C.1. Participants' outcomes with two analytic samples: Mean (SD)

Outcome		Entry survey	Exit survey	Follow-up
Couple workshop				
Sample size	Main analysis	709	510	55
	Complete-case analysis	525	383	51

Outcome		Entry survey	Exit survey	Follow-up
Interpersonal relationship	Main analysis	31.4 (5.81)	33.8 (4.97)	33.1 (5.33)
	Complete-case analysis	31.9 (5.94)	33.6 (4.95)	33.0 (5.51)
Communication skills	Main analysis	30.6 (7.19)	32.7 (6.64)	33.0 (6.45)
	Complete-case analysis	30.8 (7.20)	32.7 (6.72)	33.1 (6.49)
Conflict resolution skills	Main analysis	28.9 (5.66)	30.6 (5.39)	31.6 (5.11)
	Complete-case analysis	29.2 (5.52)	30.7 (5.22)	31.6 (4.96)
Premarital education				
Sample size	Main analysis	82	44	3
	Complete-case analysis	55	28	3
Interpersonal relationship	Main analysis	34.2 (4.91)	35.5 (5.22)	31.7 (6.66)
	Complete-case analysis	34.2 (5.35)	36.1 (5.93)	31.7 (6.66)
Communication skills	Main analysis	34.9 (7.28)	37.6 (7.23)	33.0 (4.58)
	Complete-case analysis	35.3 (7.15)	38.8 (7.98)	33.0 (4.58)
Conflict resolution skills	Main analysis	32.9 (6.62)	36.3 (11.15)	29.3 (4.73)
	Complete-case analysis	33.2 (6.72)	37.6 (13.60)	29.3 (4.73)
Mentoring				
Sample size	Main analysis	51	21	0
	Complete-case analysis	36	17	0
Interpersonal relationship	Main analysis	34.1 (5.18)	33.9 (4.33)	
	Complete-case analysis	34.2 (4.93)	34.0 (4.12)	
Communication skills	Main analysis	33.4 (7.27)	34.6 (5.99)	
	Complete-case analysis	33.5 (7.47)	35.6 (5.12)	
Conflict resolution skills	Main analysis	29.6 (6.49)	30.0 (6.29)	
	Complete-case analysis	30.0 (6.29)	30.3 (4.03)	
Family camp				
Sample size	Main analysis	349	268	41
	Complete-case analysis	299	217	39
Family cohesion ratio	Main analysis	1.6 (.45)	1.7 (.49)	1.9 (.41)
	Complete-case analysis	1.6 (.43)	1.7 (.43)	1.9 (.42)
Parent education				
Sample size	Main analysis	15	3	1
	Complete case analysis	8	2	1
Communication	Main analysis	26.1 (2.79)	27.7 (1.53)	26
	Complete case analysis	27.0 (1.93)	27.0 (1.41)	26
Limit setting	Main analysis	30.8 (4.47)	29.4 (8.85)	36
	Complete case analysis	28.1 (4.05)	34.5 (.71)	36

3. Additional analyses on parent education programs

As noted previously, the instruments for family camp (i.e., FACES IV) had been utilized for parent education until the use of PCRI was approved by the University IRB. In this section, the results of the analyses on parent education participants who completed the FACES are presented.

It is noted that 96 participants erroneously completed the Three Couple Scales, and were thus excluded from this analysis.

A total of 119 parent education participants completed FACES IV. Among them, 111 had valid entry survey scores, meaning that they responded to 80% or more of the survey items. Out of these 111 participants, 47 had valid exit survey scores. Only 3 participants had valid scores for all three surveys (i.e., entry, exit, and follow-up surveys).

The results indicated that the participants' scores changed significantly from entry to exit surveys ($p<0.05$, Table C.2.): their exit survey scores increased by 0.1 point, compared to their entry survey scores. It was observed that this gain was not maintained over a longer period time: their follow-up scores decreased by 0.4 points compared to their exit survey scores. However, it is noted that the exit survey scores for the three individuals who had valid entry, exit, and follow-up survey scores were higher than what was reported for 47 participants who had valid entry and exit survey scores.

Table C.2. Parent education participants' outcomes from baseline to follow-up II: Mean (SD)

Outcome		Entry survey	Exit survey		Exit survey	Follow-up
Family cohesion ratio	n=47	1.6 (.07)	1.7 (.07)*	n=3	2.2 (1.04)	1.8 (.46)

*Significantly different from zero at the .05 level, two-tailed test.

Source: Local evaluation data

D. Data collection instruments

Table D.1. Instruments for married couple workshop, premarital education, and mentoring

		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
1.	I am happy with how we resolve conflicts.					
2.	I can express my true feelings to my spouse/partner.					
3.	To end an argument, I tend to give in too quickly.					
4.	I am concerned about the quality of our communication.					
5.	When we are having a problem, my spouse/partner often refuses to talk about it.					
6.	My spouse/partner and I have very different ideas about the best way to solve our disagreements.					
7.	I feel good about how we have divided household chores.					
8.	My spouse/partner sometimes makes comments that put me down.					
9.	When we discuss problems, my spouse/partner understands my opinions and ideas.					

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
10. I am unhappy with some of my spouse/partner's personality characteristics or personal habits.					
11. I wish my spouse/partner were more willing to share his/her feelings with me.					
12. Even during disagreements, I can share my feelings and ideas with my spouse/partner.					
13. I wish my spouse/partner and I shared more activities that we both found enjoyable.					
14. At times it is hard for me to ask my spouse/partner for what I want.					
15. Sometimes we have serious disputes over unimportant issues.					
16. We have difficulty deciding how to handle our finances.					
17. Sometimes I have trouble believing everything my spouse/partner tells me.					
18. I go out of my way to avoid conflict with my spouse/partner.					
19. Our sexual relationship is satisfying and fulfilling to me.					
20. My spouse/partner is a very good listener.					
21. At times I feel some of our differences never get resolved.					
22. Sometimes my spouse/partner's friends or family interfere with our relationship.					
23. My spouse/partner often doesn't understand how I feel.					
24. When we argue, I usually end up feeling responsible for the problem.					
25. I am satisfied with how we share the responsibilities of raising our children.					
26. I am very satisfied with how my spouse/partner and I talk with each other.					
27. To avoid hurting my spouse/partner's feelings during an argument, I tend to say nothing.					
28. At times my spouse/partner does not take our disagreements seriously.					
29. It is difficult for me to share negative feelings with my spouse/partner.					
30. My spouse/partner and I feel closer because of our spiritual beliefs.					

Table D.2. Instruments for family camp

	Strongly agree	Generally agree	Undecided	Generally disagree	Strongly disagree
1. Family members are involved in each other's lives.					
2. We get along better with people outside our family than inside.					
3. We spend too much time together.					
4. Family members feel very close to each other.					
5. Family members seem to avoid contact with each other when at home.					
6. Family members feel pressured to spend most free time together.					
7. Family members are supportive of each other during difficult times.					
8. Family members know very little about the friends of other family members.					
9. Family members are too dependent on each other.					
10. Family members consult other family members on important decisions.					
11. Family members are on their own when there is a problem to be solved.					
12. Family members have little need for friends outside the family.					
13. Family members like to spend some of their free time with each other.					
14. Our family seldom does things together.					
15. We feel too connected to each other.					
16. Although family members have individual interests, they still participate in family activities.					
17. Family members seldom depend on each other.					
18. We resent family members doing things outside the family.					
19. Our family has a good balance of separateness and closeness.					
20. Family members mainly operate independently.					
21. Family members feel guilty if they want to spend time away from the family.					

Table D.3. Instruments for parent education

	Strongly agree	Agree	Disagree	Strongly disagree
1. My child generally tells me when something is bothering him or her.				
2. I have trouble disciplining my child.				
3. I have a hard time getting through to my child.				
4. If I have to say no to my child, I try to explain why.				
5. My child is more difficult to care for than most children are.				
6. I can tell by my child's face how he or she is feeling.				
7. I sometimes give in to my child to avoid a tantrum.				
8. My child tells me all about his or her friends.				
9. I wish I could set firmer limits with my child.				
10. My child is out of control much of the time.				
11. I feel that I can talk to my child on his or her level.				
12. I wish my child would not interrupt when I'm talking to someone else.				
13. I generally feel good about myself as a parent.				
14. My child would say that I am a good listener.				
15. I often lose my temper with my child.				
16. My child really knows how to make me angry.				
17. When my child has a problem, he or she usually comes to me to talk things over.				
18. I sometimes find it hard to say no to my child.				
19. It's better to reason with children than just to tell them what to do.				
20. I often threaten to punish my child but never do.				
21. Some people would say that my child is a bit spoiled.				