

Education Center for Adoptive Parents Online (ECAPO) -Phase I Final Report

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Overview of Project Tasks

The central aim of this Phase I project was to enhance the competence of adoptive parents, and by extension advance the long-term healthy adjustment of adopted children, by creating a parent training program uniquely tailored to meet the needs of adoptive parents. The Education Center for Adoptive Parents Online (ECAPO) is intended to be available to pre- and post- adoptive parents and offer a training approach grounded in theories of development, social cognitive theory and adult instruction. ECAPO targets factors known to mediate the effects of risk factors on adopted children's outcomes. To meet the needs of busy adoptive parents, ECAPO was delivered online using a unique set of skill-building instructional components. An innovative feature of this program is a sophisticated web delivery platform, IRIS Ed Online (IEO).

Phase I included the following tasks: (1) Convene a development team to draft a content outline and align content with instructional delivery; (2) Facilitate two separate focus groups and conduct key informant interviews; (3) Produce Phase I program assets, upload them to the website, and conduct a usability evaluation; and (4) Evaluate the program's effectiveness to demonstrate feasibility for Phase II with respect to knowledge, attitudes/beliefs, behavioral intentions, and self-efficacy in effectively communicating about adoption-related issues within the family system.

Task 1 -Development Team Drafts Content Outline and Aligns Content with Instructional Delivery

The Principal Investigator led a development team in drafting a content outline for Module 1, Developing communication skills about adoption-related issues in the family, a topic identified by experts as particularly critical to adoptive families. The development team consisted of the Principal Investigator, Media Developer, and Instructional Media Designer. Content for this module was developed in consultation with expert content consultant Astrid Dabbeni, of Adoption Mosaic. Recognizing the important role of communication in shaping adoptee adjustment, the team focused on identifying key approaches to promoting honest, sensitive communication about adoption within the family. Such communication balances children's need for information about their background with their developmental capacity for understanding, and acknowledges the adoptive family's uniqueness without placing undue emphasis on what makes it distinctive. A content outline covering these main points was prepared for discussion with focus groups and key informants: (1) Rationale for open communication within the adoptive family and response to parental fears about the effects of communication, (2) How to prepare for open communication, (3) Using natural opportunities to discuss adoption issues, (4) Tools for normalizing adoption, and (5) Age-appropriate skills for communicating with children 0-3 yrs old (In Phase II, we will address communication with additional children in older developmental groups, i.e. 3-7, 8-12, 13-17, and 18-21 years old).

Task 2 -Input From Direct and Indirect Consumers

We originally proposed to conduct two focus groups (one with adoptive parents and one with adult adoptees) and key informant interviews with professionals in the field of adoption. This plan met with reviewer concerns regarding psychological risks to subjects as a result of their participation in the group process. Consequently, the Principal Investigator sought and received approval to modify the focus groups from a group setting to individual interviews as follows:

Adoptive parent interviews

Two Caucasian, non-Hispanic females with college degrees and an average age of 44 were interviewed. While both felt well-prepared to become adoptive parents, they acknowledged being uncomfortable in certain situations and unprepared for questions posed by their adopted children. Challenges were identified around race, age, communication, defiance and attachment issues. These parents found the local adoptive community to be supportive. When asked what they would include in a program for adoptive parents, they mentioned race, attachment, and dealing with problem behavior. The program should be positive and engaging, and should include personal testimonies that show parents' struggles and discuss the complexity of adoption from a variety of perspectives.

Adult adoptee interviews

Our informants were two females who had been adopted from South Korea. Both said that their parents seldom spoke about their adoptions, and when they did it was generally only at the child's initiation. Communication about their birth parents or about their parents' reasons for adopting was difficult. As children, neither informant had close friends who were adoptees. Their recommendations for an adoption program focused on communication (e.g., raising issues before they arise, dealing with children's questions around country of origin and the birth parents), cultural competency, positive parenting, and finding support in the adoptive community.

Adoption professionals

Key informant interviews were conducted with two professional informants (a clinical psychologist and a government adoption agency supervisor) who interact with adoptive families at least twice monthly. They identified the most challenging concerns of adoptive parenting as attachment issues, communication, developmental issues, trauma reactions, medical issues, emotional regulation, and behavioral issues around the transition from foster care. Specific recommendations were made for meeting adoptive parents' and children's needs in developmentally appropriate ways. Informants recommended that training for adoptive parents appeal to women and men, and that it include the following topics: communication, dealing with others' reactions, strengthening attachment with the child, behavior management, working with the Department of Human Services, and the adoption process itself.

Task 3 -Produce Phase I Program Assets, Upload to Website, and Conduct Program Usability Test

Content finalization

The development team incorporated feedback from key informant interviews in developing specific content for the videos, exercises, printables and other related media assets. The decision was made to structure the open communication topic into four modules: Module 1: **Introduction**, Module 2: **About open communication**, Module 3: **Creating opportunities for open communication**, and Module 4: **An overview of approaches for age-appropriate communication with a focus on the birth to three-year-old developmental age range**.

Scripts were developed for each program asset in these four modules. Since the goal of the program was instructional and skill-building, video scripts attempted to balance exposition and explanation with situational modeling vignettes.

Production of assets

Program materials were actualized by a team of experienced media professionals with expertise in graphic art, Flash programming, video directing and editing, sound engineering, lighting, and production coordination. The various online assets (videos, printables, etc.) were produced along separate but coordinated tracts. All visual materials in the program were required to reflect gender balance and racial and ethnic diversity. Video sequences were shot on location using actors and were edited at IRIS Media prior to encoding to Flash Video format and uploading to IEO. The Principal Investigator was responsible for reviewing all program assets and recommending changes to make the presentation accurate and relevant as well as engaging to adoptive families.

Online upload

After program assets were completed, they were uploaded to the IEO website training interface using proprietary content management software. The program was tested and retested by project staff. Minor navigational bugs were identified and corrected.

Usability and pilot testing

Following the upload, the ECAPO program and online evaluation surveys underwent usability tests involving five IRIS staff members not directly related to the program development and five out-of-house beta testers made up of adoptive parents and adoption professionals. These tests were conducted to ensure the program technology was working properly. Minor corrections were made to the interface in response to these usability tests.

Task 4 -Demonstrate Feasibility for Phase II

A two panel, pre- and post-training design was used to assess the feasibility of the ECAPO training program. During this quasi-experimental trial phase, consumer satisfaction ratings were assessed and recommendations for program modification were solicited from program participants. We also examined system log files to assess participant engagement in using the online program (e.g., time of use, program components viewed, number of visits). While the design did not control for potential threats to internal validity (i.e., extraneous factors), it did allow for the evaluation of the online program with respect to change in knowledge, attitudes/beliefs, behavioral intentions, and self-efficacy regarding communication about adoption related issues within the family. Threats to internal validity will be addressed during Phase II by conducting a large-scale randomized controlled trial comparing parents assigned to the ECAPO training program to an alternate treatment control group.

Participants

Participation was limited to adoptive parents (one parent per family) who were adopting for the first time, had adopted a child within the last 24 months, had an adopted child under the age of three, and had an Internet connection and email address. During the month-long recruitment, 129 adoptive parents completed the online eligibility screening and a total of 38 adoptive parents met project eligibility requirements and completed the pre-training (T1) assessment. Only four participants failed to activate their program license after completing the T1, and another four failed to fully complete the intervention program and finish the T2 assessment. Of these, two reported having computer problems, and one who asked to be removed from the study due to lack of time and personal conflicts unrelated to the materials or presentation.

Procedures

We adhered to the following procedures, which we have previously used with success to conduct other online studies (e.g., Colvin & Marquez, 2008; Metzler, Seeley, & Marquez, 2008).

IRIS created a website for the purpose of managing participation in the research study. Recruitment flyers were sent out to adoptive families via Adoption Mosaic's extensive listserv, and to adoption agencies, service providers and project consultants. The flyers invited individuals to access the study website, which provided a brief written explanation of the project and directed interested parents to an online eligibility screening. Screening criteria required participants to be adoptive parents who were adopting for the first time, had adopted a child within the last 24 months, had an adopted child under the age of three, and had email and Internet access. Only one parent per family could participate.

Eligible participants were directed to a secure webpage on IRIS Media's DatStat system, which provided a detailed written description of the study procedures and invited participants to complete an online informed consent. Consenting participants then completed the pre-training assessment (T1) using the same secure website. Following the T1 assessment, participants were cleared to participate in the intervention phase, which provided access to the four modules of the Phase I training program. Participants were allowed two weeks to complete these modules. At the end of two weeks, participants were sent an email asking them to complete the post-training assessment (T2), which included a user satisfaction questionnaire. After three days, another email reminder message was sent to those who had not completed the T2.

Measures

A table of measures and a schedule of their use is provided below. Copies of the instruments used in Phase I are provided in Appendix B: Phase I Instruments.

Measures	T1 Pre Assessment		Intervention	T2 Post Assessment
Demographic Survey	X			
Knowledge Test	X			X
Behavioral Intention to Change	X		Modules 1- 4	X
Self-Efficacy	X			X
Consumer Satisfaction Survey				X
Usability				X
Outcome Measure	Pre-test	Post-test	t p-value Effect Size	
	M SD	M SD		
Knowledge	02 7 11 1	08 0 6 1	2 28 0 020 0 12	

Table 1 -Phase I Measures

Demographic Survey (T1)

Basic demographic variables included participant age, gender, ethnicity, and months since adoption. Participants were 73% female and 27% male, with 3% percent Hispanic, 3% Asian, 3% indicating more than one race, and 94% Caucasian.

Knowledge Test (T1, T2)

The knowledge check was based on the parent training concepts presented in the ECAPO Phase I program.

Behavioral Intention to Change (T1, T2)

A behavioral intention measure (BI) was used to determine intention to use the concepts covered in the training modules. The BI used constructs derived from the Theory of Reasoned Action (Ajzen & Fishbein, 1973) and Theory of Planned Behavior (Ajzen, 1985) that suggest that attitudes/beliefs and behavioral intentions influence behavior. The BI questionnaire used a Likert-type scale to assess the likelihood of applying the concepts taught in parent training sessions.

Self-Efficacy (T1, T2)

Because Bandura's Social Cognitive Theory (Bandura, 1977) suggests a relationship between self-efficacy and outcome behavior, a self-efficacy measure (SE) was employed. Likert-type items were used to document changes in participants' perceptions of their mastery of the skills presented in the program and their self-efficacy to perform them as a function of this training. The SE items included the Nurturance subscale of the Self-Efficacy for Parenting Tasks Index (SEPTI: Coleman & Karraker, 2000), which uses a 6-point Likert scale, along with several additional items that specifically assess communication-related issues within adoptive families. The SEPTI has acceptable internal consistency for subscales and total scale (range = .73 - .91). We generated a pool of 15-20 items for each measure (i.e., knowledge, attitudes, behavioral intentions, and self-efficacy) covering the adoption-related communication training. Item analytic procedures were used to create psychometrically sound scale scores (e.g., principal components analysis, internal consistency analysis, frequency distributions and plots). These curriculum-based measures were developed during the formative phase of the study and piloted during usability testing.

Consumer Satisfaction (T2)

A user satisfaction questionnaire modeled after measures developed for other projects was developed by project staff. Fourteen Likert-type items measured stimulation, comprehension, ownership, and persuasiveness. Open-ended comments were also solicited. For a listing of items, please see Table 3: Consumer Satisfaction below.

Usability (T2)

Data was gathered using a modification of the System Usability Self-Report Scale following recommendations from Tullis and Stetson's (2004) research. We used an 8-item adaptation of Brooke's (1996) widely-used System Usability Scale (SUS) to rate the usability of the website. Structured on a 6-point Likert scale (strongly agree to strongly disagree), questions were designed to solicit overall feedback on the navigation (e.g., It is easy to move from one page to another), visual appeal (e.g., Individual pages were well designed), organization (e.g., The overall organization of the site is easy to understand), and ability to complete tasks using the website interface (e.g., I was able to complete my tasks in a reasonable amount of time).

Data analysis

Prior to analysis, all variables underwent a check for out-of-range values and inter- and intra-measure consistency; frequency distributions and plots were examined for unusual data distributions or data points. The main analysis tested the hypothesis that participants would show significant improvement in their knowledge, attitudes, behavioral intentions, and self-efficacy toward applying the adoptive parent training concepts. A within-subject, repeated measures approach was used to test for change in the measures by comparing the baseline scores obtained at the pre-training assessments to scores obtained during the post-training assessments. Doubly multivariate repeated measures ANOVA and paired t-tests were conducted on the measures assessed at pre- and post-training. Outcome differences were examined with respect to length of adoptive parenting and demographics by including a between-subjects factor into the repeated measures ANOVA models.

To bolster our confidence in the internal validity of the quasi-experimental design, additional ancillary analyses were conducted. First, a dose-response analysis based program system usage log files was conducted to determine whether the amount of program use (e.g., time of use, program components viewed, number of visits) was significantly associated with change in the outcome measures. Residual gain score analyses was conducted using linear regression models to predict post-training test scores in which the pre-training test scores was included as a covariate. Second, we tested the hypothesis that parents who report greater satisfaction with the online training program would have greater improvement in pre- to post-training scores using residual gain score analysis. Finally, treating consumer satisfaction as a process variable, we examined correlations between satisfaction ratings and amount of program use. To the extent that there was sufficient variability in program use and consumer satisfaction, positive associations between these measures and change in pre- to post-training scores provided further support for the acceptability and effectiveness of the program. Based on the two-panel design with a sample size of 38 adoptive parents, with a two-tailed alpha set to .05, we had sufficient power (.87) to detect medium effects ($d = 0.5$) for pre- to post-training change. Analyses involving correlation coefficients would have adequate power to detect medium effects ($r = .42$).

Program efficacy

Table 2 below presents the pre-test and post-test means and standard deviations as well as the paired t -test results and effect sizes for the outcome measures: knowledge, attitudes, behavioral intentions, and self-efficacy. As can be seen, significant effects were obtained on all four outcome measures; a medium effect size was obtained for the knowledge test ($d = .42$), and large effects sizes were obtained for attitudes ($d = .76$), behavioral intentions ($d = .77$), and self-efficacy ($d = 1.05$). It should be noted that significant pre-post improvement was found in spite of the rather high pre-test mean levels on the outcome measures. That is, the participants had high baseline knowledge (M percent correct = 92.7) as well as attitudes, behavioral intentions, and self-efficacy (all pretest Ms > 4.2 on 5-point Likert-type scales).

Table 2 -Pre-Post Descriptive Statistics and Paired t-Test Results on Outcome Measures

Measures	T1 Pre Assessment	Intervention	T2 Post Assessment
Demographic Survey	X		
Knowledge Test	X		X
Behavioral Intention to Change	X	Modules 1- 4	X
Self-Efficacy	X		X

Program utility-usability

Thirty-four participants activated the program license granting access to the intervention. Of these, 29 accessed the site multiple times over the course of the evaluation period. Thirty participants completed the T1 and T2 assessments and all components of the intervention, spending an average of 83 minutes viewing program videos, writing in journals, reviewing knowledge checks and downloading printables. Many participants revisited the site after completing all evaluation activities.

Consumer satisfaction

ECAPO program modules received excellent scores on the Consumer Satisfaction questions (Table 3) and elicited enthusiastic comments from study participants.

Table -Customer Satisfaction

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Measures	T1 Pre Assessment	Intervention	T2 Post Assessment
Demographic Survey	X		
Knowledge Test	X		X
Behavioral Intention to Change	X	Modules 1- 4	X
Self-Efficacy	X		X
Consumer Satisfaction Survey			X
Usability			X

Outcome Measure	Pre-test		Post-test		t p-value Effect Size		
	M	SD	M	SD	t	p-value	Effect Size
Knowledge	92.7	11.1	98.0	6.1	2.28	0.030	0.42
Attitudes	4.4	0.5	4.7	0.4	4.18	<0.001	0.76
Behavioral Intentions	4.5	0.4	4.8	0.2	4.23	<0.001	0.77
Self-efficacy	4.2	0.5	4.6	0.3	5.74	<0.001	1.05

Note: Effect Size is being reported as Choen's d. All tests used 36 degrees of freedom.

Table 3: Customer Satisfaction	Strongly/Mostly Agree	Slightly Agree	Slightly Disagree	Mostly/Strongly Disagree
Overall, I was satisfied with the quality of this training.	93%	7%		
I was satisfied with the quality of the information.	100%			
The training met my expectations.	87%	13%		
I would recommend the training to other parents.	90%	10%		
The training content was well organized.	100%			
It was easy to understand the ideas presented in the program.	100%			
Much of the information was new to me.		17%	27%	57%
Measures	T1 Pre Assessment	Intervention	T2 Post Assessment	
I agree with the ideas presented in the training.	X	97%	3%	
I am likely to use many of the strategies described in the training.	X	93%	7%	X
Demographic Survey				
Knowledge Test				
Behavioral Intention to Change	✓	Modules 1- 4		✓

number of participants commented on the relevance of the program to adoptive parents. Many participants remarked that the training was clear, well-organized and easy to understand. The majority of study

participants commented on the high quality of the video footage and appreciated the realistic nature of the training. A number of them praised the printables. When study participants were asked "How would you have liked the training to be different?" many commented that they wanted greater detail, and many expressed a desire for additional materials. A few

commented that they wished that the training were not geared only to parents of young adopted children ages birth to three. Some sample comments from the open-ended section include the following:

"(The program was) self paced (and the) open communication and age appropriate communication segments were most useful." "It was nice to see the same conversation from the various age groups." "(I liked) the examples? (and the) videos of people acting out potential situations." "(Illustrations of) differences in approaches were very good and helpful."

Lessons Learned and Directions for Phase II

In Phase I, we proposed developing a program for adoptive parents that addressed the need for healthy communication about adoption-related issues within the family. Research indicated that the important factors for healthy communication are:

- ..Importance of assuming a supportive and open style of communication about adoption-related-issues
- ..Using unbiased adoption language
- ..Awareness of stages in children's developmental understanding of adoption
- ..Building knowledge and skills in communicating age-appropriate information
- ..Providing training and skill-building opportunities in essential communication skills

In the first phase of this project we accomplished our two primary goals. First, we demonstrated that we could produce online parent education materials suitable for adoptive parents. The prototype online multimedia program for adoptive parents uses video-driven lessons to model targeted skills, provides practice opportunities through interactive mastery exercises and interactive assessments, offers opportunities for self-reflection through the program's journaling tool, and provides printable resource material. We employed a sound, iterative development process that was informed by expert consultants and by a range of professionals concerned with adoptive parent education.

Second, our feasibility evaluation with a representative group of parents showed that the program has a great potential for being an effective training intervention for adoptive parents. Furthermore, direct and indirect consumers found the materials to be attractive, engaging and appropriate for this population.

Although the Phase I sample showed high pre-test mean levels on the outcome measures, indicating that participants were knowledgeable about many of the overall concepts, they still showed significant pre-post improvement. It is probable that participants' strong baseline knowledge was because our recruitment efforts were centered on the Adoption Mosaic (AM) listserv, whose subscribers include many adoptive parents who have attended past AM adoptive training. It is natural to assume that many of the concepts presented in the training were familiar to the participants from having participated in AM workshops. In Phase II, with greater time and resources at our disposal, we intend to focus our screening in order to recruit new adoptive parents who have not had an opportunity to attend extensive training.

Despite familiarity with adoption issues, participating adoptive parents improved their knowledge about communication across child developmental ages and attitudes regarding attachment and birth parent issues. They also developed skills in talking openly about adoptive family issues with their children and greater self confidence in creating opportunities for such conversations.

We believe these results provide ample justification for continuing with development of the complete curriculum. In Phase II, we plan to expand the curriculum to include six modules with the following themes: (1) Understanding adoption (issues of attachment, identity, race, culture, etc.); (2) Communication within the family about adoption-related issues (expanded to include all developmental ages); (3) Communication with extended family, the outside world, and school about adoption-related issues; (4) Promoting adopted children's resilience in the family context; (5) Remedial parenting in the adoptive context (counteracting risk); and (6) Cultural competence in raising the transracially and/or transculturally adopted child. In order to encourage trainers from state, county, or local community programs to implement the ECAPO program in their outreach, we will include a separate trainer's implementation module that will contain a curriculum guide and will provide access to a content management system that allows training organizations to place their logo on the site, customize content (e.g., add state regulations, provide tip sheets, etc.), and monitor use of the site in order to certify completion and support users' efforts.

The primary goal of Phase II will be to complete the ECAPO program and to evaluate the efficacy of the program with a randomized controlled trial with 256 parents (one per family). Participants will be randomly assigned to either the ECAPO program (treatment) or to an alternate treatment control group with access to informational web sites on basic adoptive parenting skills. Parents in the control condition will be given access to the ECAPO program at the conclusion of the efficacy trial. The design will include three assessment waves over a 12 week period: baseline, interim-training at three weeks, and follow-up at 12 weeks.

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