Research Report

Parenting Through Divorce: Low-Cost, Innovative Training

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Program Name: *Two Families Now: Effective Parenting during Separation and Divorce*

A. Phase II Project Overview and Objectives

Specific Aims

Divorce is a serious public health problem, disrupting family functioning and generating many stressors for children and parents. Experts estimate that over 50% of marriages will end in divorce. There is clear evidence that divorce negatively affects children's short- and long-term adjustment, including maladaptive outcomes in academic achievement, conduct, psychological adjustment, self-esteem, and social relations. The onus is on parents to buffer their children from these effects, yet the emotional, economic and situational stressors precipitated by divorce leave many parents overwhelmed, isolated, and ill-prepared for these new parenting responsibilities. There is clear evidence that parenting education can improve parenting, even when parents are stressed; and parenting quality plays a pivotal role in influencing outcomes for children. Given the prevalence of divorce and negative consequences on children, mothers and fathers need support and parenting education to mitigate the effects of divorce on the millions of American children affected each year.

Divorcing parents who want, or are mandated by the court, to participate in parent education are usually limited to 1-2 hour large group trainings that may or may not meet their needs. Unfortunately, these programs often lack a clear conceptual framework, fail to address parent isolation, and their brief format does not provide the type of training known to instill positive and lasting changes. Programs for divorcing parents need to address these deficiencies, as well as program timing and cost. In addition, given the tremendous demands placed on divorcing parents, programs must be engaging and accessible. Toward this end, there is a need for conceptually sound, skill-based, multimedia resource materials that allow for ongoing access to training. Furthermore, there is a need for flexibly designed programs that accommodate psychologically and economically stressed parents' needs by providing inexpensive, accessible, and engaging training.

The central aim of this project was to create a low-cost parent-training program uniquely

tailored to meet the needs of mothers and fathers during the divorce transition. The program had a developmental focus and targeted factors known to moderate the effects of risk factors on children's outcomes: stress reduction, interparental conflict, and parenting practices. An innovative feature of this program was the sophisticated web delivery platform (IRISed.com) to deliver: (a) video-driven lessons that model targeted skills, (b) mastery exercises, (c) interactive assessments, (d) a journaling tool for self-reflection, (f) printable resource materials, and (g) *ed*CLIPS --email prompts that re-engaged parents in training after completion of the program. Lessons were user-driven and provided systematic opportunities for practice, reinforcement, self-assessment and refinement of skills. Training was delivered in small accessible doses: parents could experience the training in their own homes, at a time that was convenient for them. Providing this program at low cost and increasing accessibility will enable the program to reach more users, and support parents' long-term maintenance of skills and knowledge.

Project Background: Phase I

In Phase I, we achieved our primary aims. With the help of an expert key informant panel, our consultants, and parent focus groups, we developed a 3-module online skill-based parent training program and an expert-moderated web community. We established feasibility by testing the efficacy of the program with a sample of mothers and fathers and a professional review panel, and we obtained significant effects in the predicted direction for our targeted outcome measures. Moreover, we received enthusiastic feedback from parents and professionals about the program and web community.

B. Objectives

The primary goals of Phase II were to continue the development of instructional materials and to conduct an experimental randomized trial of the theory-based intervention among randomized trial with 100 separating/divorcing parents. Participants were randomly assigned to either the *Two Families Now* (TFN) program (Treatment) or a web-based information-only condition (Control).

The Phase II tasks included:

1. Create program objectives, program outline, and the instructional design for delivery;
2. Conduct social validity assessments and develop, review and refine content.
3. Produce the web site and components, and conduct a usability test of the program.
4. Conduct an experimental randomized trial of the theory-based intervention with 100 divorcing parents.

By the end of Phase II we completed and evaluated the online program which contained eight media-led lessons that included engaging, realistic vignettes; skill-building exercises and printables, an implementer's guide for group delivery; and links to additional resources on the World Wide Web. The content targeted factors known to buffer the effects of divorce on children.

C. Phase II: Significance

Divorces in the U.S. nearly tripled between 1962 and 1982, when the number reached a record 1,213,000. A small decline in the rate of divorce has occurred since the early 1980s, but the rates are still high: nearly one-half of all married couples will eventually divorce (U.S. Bureau of the

Census, 1995). Over one million children in the United States will experience parental divorce annually (Winslow, Wolchik, & Sander, 2004).

Effects of Divorce on Children. The stresses associated with divorce add extra burdens to the tasks of growing up (Garrity, 1997). These effects vary by age. Infants, toddlers and preschool-aged children lack the cognitive sophistication to understand the meaning of divorce, and due to their relative egocentrism, they are more inclined to blame themselves. Elementary-aged children have greater cognitive maturity and may experience identity confusion, fears about the future, sadness, depression, struggles in school, and anger with parents. Adolescents are more peer-oriented and tend to be less impacted by divorce, but anger toward one or both parents is common (Amato, 1994). Although there is great diversity in children's post-divorce adjustment, the negative effects can be significant and persistent (Amato, 2000). In the immediate months after parental separation, children grapple with changes in their life situation and in relationships within the family. Many children experience anger, sadness, confusion, anxiety, somatic symptoms, and behavior problems (Hetherington, 2003). Children face the risk of a loss of important relationships: close friends, extended family members, and particularly, nonresident parents (Kelly & Emery, 2003). In a meta-analysis of 92 studies, Amato and Keith (1991a) concluded that divorce is related to maladaptive outcomes in children's academic achievement, conduct, psychological adjustment, and social relations.

Some children show enduring difficulties. Approximately 20-25% of children of divorce show serious mental health or life adjustment problems (Hetherington, Bridges, & Isabella, 1998). Epidemiological data suggest that children from divorced families have elevated rates of unintentional injuries and other physical health vulnerabilities compared to children living with both biological parents (Troxel & Matthews, 2004). Relationships with peers, parents and siblings are negatively affected by parental divorce, including increased negativity, conflict, aggression, and coercion (Hetherington, 2003). Compared to non-divorced families, children from divorced families show a two-to-three-fold increase in risk for psychological and behavioral problems including school dropout, early sexual activity, unemployment, substance abuse, delinquency and involvement with deviant peers (Hetherington, 2003). This maladjustment can persist into adulthood. Forty-one percent of children of divorce accessed mental health services between the ages of 18-22, compared with 22% of their peers from 2-parent families (Zill, Morrison, & Coiro, 1993). At age 23, children of divorce are 39% more likely to experience clinical levels of mental health problems relative to their peers from two-parent families (Chase-Lansdale, Cherlin, & Kiernan, 1995); by age 35, 85% of children of divorce are at risk. Young adults from divorced families also show lower educational and socioeconomic achievement and more problems with intimate relationships. Their divorce rate is higher and their reports of general well-being and life satisfaction are lower (Hetherington, 2003). Children of divorce also have a shorter life span relative to their peers (Schwartz et al., 1995). Alarmed by the host of negative outcomes for children associated with divorce, researchers have focused their attention on the processes contributing to children's maladjustment.

Divorce and Stress. The divorce-stress-adjustment perspective (Amato, 2000) views divorce as a process that begins while the couple is living together and ends long after the legal divorce ends. This process initiates a multitude of stressful events, increasing the risk of negative emotional, behavioral and health outcomes for parents and children. The effects vary, depending on the

presence of moderating and buffering factors. Changes in interparent and parent-child interactions, parent availability, stability, routine, material circumstances, and living arrangements are all related to divorce. For many families, these changes are associated with substantial stress (Pedro-Carroll, 2001; Tein et al., 2000). Lavee, McCubbin, and Olson (2001) define family stressors as life events affecting the family unit that potentially change in the family functioning. Changes in family functioning during divorce are empirically linked with reduced parental monitoring and interaction with children, increased television viewing, and disruption in routines (Guidubaldi et al., 1986) and leave children more vulnerable to problems in development (Linker, Stolberg, & Green, 1999). To preserve homeostasis, families must create a new order, and redefine and restructure family members' roles, boundaries, and relationships (Nichols & Schwartz, 1995). When the demands of adapting exceed a child's resources and coping skills, problems in adjustment can occur (Felner, Terre, & Rowlison, 1988). This problem is particularly relevant for elementary-aged children, as they are faced with mastering the psychosocial task related to competence in school and family life. The disruption of parenting practices related to divorce can compromise a child's ability to master this task successfully (Amato, 1994; Amato, 2000). In the following section, a framework illustrating the effect of divorce stress on children's outcomes is described. In this model, the stresses associated with divorce impact how divorcing parents interact with each other (interparental conflict) and influences their parenting practices. Interparental conflict and diminished parenting capacities, in turn, contribute to children's maladjustment.

Conflict in the Co-parenting Relationship. Of the many factors affecting children's adjustment, interparental conflict is the most influential (Linker, Stolberg, & Green, 1999; Amato, 2000; Arditti & Bickley, 1996; Johnston, 1994). Changes related to the separation can seriously compromise the co-parenting relationship (Hetherington, 2003). While many parents struggle to maintain a cooperative co-parenting relationship during the divorce process, evidence suggests that fighting between parents often increases (Amato & Keith, 1991). About 50% of all divorcing parents admit to frequent and intense interparental conflict (Kelly, 1988) and 10-25% of divorced families remain highly conflicted long after separation (Maccoby & Mnookin, 1992). Persistent conflict between parents is a major stressor for children (Hetherington, 2003; Amato, 2000; Lutzke, Wolchik, & Braver, 1996); children rate interparental conflict as the most stressful divorce-related event (Sandler et al., 1988). Children exposed to high rates of interparental conflict show more behavioral problems, and emotional maladjustment than children in families experiencing lower levels of conflict (Hetherington, 1999), and they are two to four times more likely to have high levels of mental and physical health issues compared to national norms (Johnston & Campbell, 1988). Conflict compromises parents' capacity to cooperate in the care and guidance of their children (Johnston, 1994). Because co-parental relationships are pivotal to family functioning, it is imperative that parents take steps to minimize interparental conflict. Although one of the most consistent mediators of the effects of conflict on children is the quality of parenting (Goodman, Bonds, Sandler, & Braver, 2004), high-quality parenting does not completely mitigate damage done by interparental conflict. In one study of 332 divorcing parents, parental acceptance and quality of communication did not offset the impact of interparental conflict on children's development. This strongly suggests that divorcing parents need education on the effects of conflict and explicit teaching of skills to manage conflict (Lutzke et al., 1996).

Effects of Divorce on Mothers and Fathers. Faced with a multitude of life changes during divorce, mothers and fathers can feel burdened with tasks, worry about their adequacy as parents, and experience psychological distress (Hetherington, 2003). Potential stressors include increased parental responsibilities, losing contact with children, continuing interparental conflict, loss of a social support system (friends, relatives, neighbors), economic strain, and moving (Amato, 2001). According to the results of a meta-analysis based on 81,000 adults in 37 studies, divorced individuals, compared to non-divorced individuals, have problems with psychological well-being (depression, life satisfaction), family well-being, socioeconomic well-being, and physical health (Amato & Keith, 1991b). Not only are divorced parents more prone to negative emotions, but alcoholism, drug abuse, and psychosomatic complaints are also more frequent compared with married parents (Kelly & Emery, 2003). There is evidence that parents are most amenable to changing negative parenting practices earlier in the divorce process rather than later. Given the number of transitions occurring in the first year of divorce, parents' need for intervention and support during this time is particularly important (Geasler & Blaisure, 1998). As described below, parenting practices are pivotal to children's adjustment in the divorce process.

Parenting Mediates Child Outcomes. Kelly and Emery (2003) assert that divorce's negative impact on children's adjustment is mediated through problems in parenting. Daily stressors for divorced parents can accumulate and compromise their parenting. Healthy child adjustment depends in part on the parents' ability to use resources in their environment to manage these stressors (Simons & Johnson, 1996). Parenting in the first year following divorce is marked by increased irritability and coercion, diminished communication, affection, consistency, control, and supervision (Hetherington, 2003; Forehand, Thomas, Wierson, & Brody, 1990; Hetherington, Cox, & Cox, 1979); and a decrease in positive parent-child interactions (Forehand, Thomas, Wierson, & Brody, 1990). Compared with mothers in intact families, single mothers use more harsh discipline (Hetherington, 2003) are more critical of their children, use more commands when interacting with their children (Webster-Stratton, 1989) and tend to show less affection (Hetherington, 2003). Inconsistent discipline and harsh parenting can precipitate coercion in the parent-child relationship, a significant contributor to the development of children's antisocial behavior (Dishion, French & Patterson, 1995). Parenting even influences children's physical health. Troxel and Matthews (2004) suggest that the negative effects of divorce on children's health are largely mediated by parenting. Elementary-aged children are particularly affected: diminished parenting during divorce places them at risk for impaired social, emotional, and academic adjustment (Kelly & Emery, 2003).

While disruptions in family functioning are a significant risk factor in children's development, healthy family functioning is a major protective factor (Kelly & Emery, 2003). Parents who parent authoritatively, who are responsive to their children's needs, and who maintain consistent and reasonable control, provide a buffer to the stress of divorce (Hetherington, 2003; Kelly & Emery, 2003; Lengua et al., 2000; Wyman et al., 1999). Amato (2000, p. 1272) asserts: "Protective factors are like shock absorbers and weaken the links between divorce-related events and people's experience of stress, and hence the extent to which divorce is followed by negative emotional, behavioral, or health outcomes."

Mothers and Fathers both Play Important Roles. Mothers and fathers both play important roles in supporting children's healthy development: each parent can serve as a source of guidance,

supervision, emotional support, and practical assistance (Amato & Rezac, 1994). Hetherington (2003) identified loss or intermittent contact with one parent as a significant risk factor for children's adjustment. Although the figure varies, approximately 84-90% of fathers will become the non-primary parent in divorce situations (Amato, 2001). Contact with non-custodial parents is typically limited in the short-term following divorce and becomes increasingly limited as time progresses (Braver & Griffin, 2000). Twenty-five percent of children have weekly visits with their non-custodial parents; 20% of children have no contact with their non-custodial parents or see them only a few times each year (Amato, 2001). A meta-analysis by Amato & Keith (1991) suggested that children's close relationship with their fathers is linked to healthy development. In a study of single parent intact families, children's perceptions of the degree of intimacy they have with their fathers explained more variance in their emotional, social and academic functioning than any other dyadic relationship (Guttman & Rosenberg, 2003). In a longitudinal study of 341 children of divorce, a good relationship with the custodial parent predicted fewer child behavior problems, better communication skills, better grades, and higher overall ratings of adjustment (Guidubaldi et al., 1986). Active involvement from *both parents* can have benefits for children and the residential parent, though the residential parent tends to resist this involvement (Braver & Griffin, 2000). Training for parents should include material that mobilizes both *mothers and fathers* in supporting their children through the divorce process.

Promise and Deficiencies of Parent Divorce Education. There is a burgeoning demand for parent divorce-education. In 1996, 541 counties in the US had adopted post-divorce parenting programs; by 1998, that number had nearly tripled to over 1516 counties (Geasler & Blaisure, 1998). One promising venue for parent education is the family court system. Cookston et al., (2002) conducted a survey of a nationally representative sample of family courts; 60% indicated an interest in adopting an evidence-based parenting program for parents. Mediators also see parent education as important: a nationwide survey of mediators indicated parents who have attended parent divorce classes negotiate in a more cooperative fashion and use better communication skills. Just over two-thirds of the mediators surveyed believed parent divorce-education should be mandatory for all divorcing couples with children (Arbuthnot & Kramer, 1998).

Although parent divorce-education is in demand, many existing programs have serious deficiencies. The primary problems with current divorce parent education programs include lack of a theoretical framework, reliance on passive teaching strategies, inattention to timing, program inaccessibility, and inappropriate content. Few programs are based on a clear understanding of the processes affecting families of divorce (Geasler & Blaisure, 1998). A clear theoretical framework guides program design by informing the choices of subject matter and method of teaching and provides a theoretical basis for testing the processes by which the program has effects (Geasler & Blaisure, 1998; Grych & Fincham, 1992). Current programs also do not take the needs of adult learners into account. Although research clearly indicates that adult education is greatly strengthened with the inclusion of active skill-building strategies (Pedro-Carroll, 2001; Geasler & Blaisure, 1998), 65% of divorce-education programs rely on passive instructional strategies (Braver et al., 1996; Geasler & Blaisure, 1998). Timing is another important consideration. In a study of the influence of divorce-education on the rates of relitigation, only 12.5% of parents who attended a program within 3 weeks of the "initial court hearing" relitigated within 2 years, compared with 60% of parents who attended a program four or more weeks after their "initial hearing date"

(Arbuthnot & Gordon, 1995; Arbuthnot, Kramer & Gordon, 1997). This suggests that factors related to interparental conflict are more amenable to change earlier in the divorce process than later (Geasler & Blaisure, 1998). Program duration is also important. More intensive parent training programs produce larger effects than do less intensive programs (Kumpfer, 1999). In a 1996 survey of over 100 divorce-education programs, Braver et al. found that nearly 60% of programs take place in one session. Parents who participate in these single-session workshops tend to show gains in knowledge acquisition but not in the application of what they know (Braver et al., 1996).

The Importance of Accessibility. Even the most efficacious program will have no effect if families cannot access the intervention (Dumka et al., 1995). Low parental accessibility can take many forms. Scheduling conflicts, lack of financial resources, transportation, childcare arrangements, and low engagement can affect accessibility (Spoth & Redmond, 2000). Parents' perception that access to treatment is demanding interferes with effective change (Kazdin & Wassell, 1999). This is particularly relevant to group-based programs: although group programs may be more economical than self-instructional programs, substantial barriers to accessibility limit their value. Low participation by parents in parenting groups stands as the most formidable barrier to effective implementation of parenting group programs (Dumka et al., 1997; Spoth & Redmond, 2000). Low recruitment and retention rates are common (Dumka et al; Spoth & Redmond, 2000). Barriers to attendance include schedule conflicts, difficulties with timing, transportation, logistics, or child care, fatigue, and insufficient motivation to get out (Dumka et al., 1997); these practical barriers are the primary reason for families' refusal to participate in parenting interventions (Spoth & Redmond, 2000). Rural families or those with conflicting work schedules face special challenges in attending groups. With many mothers employed and with families' schedules growing increasingly hectic, the difficulties inherent in attending groups can loom large and prevent widespread participation in group-based parenting programs. This is especially problematic for parents who are adjusting to a marital separation. Even proven prevention programs have limited value if parents they target cannot participate in them (Dumka et al., 1995). Alternate forms of reaching parents with scientifically valid parenting information are needed (Sanders & Turner, 2002).

Stress and related pressures can also be a barrier to parents' active engagement (Hipke et al., 2002). Parents who can't relate to the material or who feel emotionally overwhelmed are less likely to engage in a program. The difficulties associated with attending group-based parenting programs can actually increase parents' experience of stress (Dumka et al., 1995), so flexible, easily accessible interventions are essential in order to meet the needs of already stressed divorcing families. Given that stress and related pressures can be a barrier to parents' active engagement (Hipke et al., 2002), efforts to promote child resilience by improving parenting skills are much more likely to be utilized if a program addresses parents' sense of efficacy and stress management (Hipke et al., 2002), factors known to mediate parenting quality. Finally, programs are more accessible when the program is delivered in a style and manner consistent with their belief systems (Spoth & Redmond, 2000). Input from both mothers and fathers should be included in program development (Haines et al., 2003) and parents benefit most when they are able to access training easily.

Existing Programs. As mentioned earlier, Braver et al. (1996) found that nearly 60% of programs take place in one 1-2 hour session. These brief parent informational programs are the most widely

available to parents, though there is little evidence for their efficacy (Wolchik et al., 2005). Parents who participate in these workshops may show some gains in knowledge acquisition but not in the application of what they know (Sanford et al., 1996; Wolchik et al., 2005). An additional limitation to these programs is that they are only available in a group format, thus limiting accessibility for many parents as noted above.

One commercially available group-based program, *Children in the Middle (CIM),* has been formally evaluated. *Children in the Middle* is a parent education program aimed at helping parents keep their children out of the middle of conflicts. In a 6-month follow-up evaluation study of the video-based 4-hour program, Arbuthnot and Gordon (1996) found that parents attending the divorce-education class reported that they were able to learn new coparenting skills that were maintained over time. Kramer and colleagues (1998) compared the class with an information-oriented class and found that both groups became more adept in identifying when to keep children out of the middle of conflict compared to a no-treatment control group. The skill-based group reported the most gain in improving their communication skills. *Children in the Middle* program seems to be effective in reducing interparental conflict; but because reducing parental conflict is its central aim, it does not include substantive content related to stress management and parenting practices known to buffer children from the stress of divorce. The program is brief and also costly: a set of materials costs $229. The creator of Children in the Middle and the PI had many conversations regarding the TFN program and CIM. Because CIM is a brief program focusing only on interparental conflict and TFN is a longer program, focusing on parental stress and parenting practices in addition to interparental conflict, we view these programs as complementary but not in competition with each other. Dr. Gordon served as a consultant for Phase II.

Two conceptually sound programs have been developed and evaluated: *New Beginnings,* and *Parenting through Change.* Unfortunately, neither of these programs are available outside of the academic setting in which they were developed. Despite the fact that most parents cannot access the programs, it is helpful to consider program outcomes since positive outcomes suggest that parent divorce education programs can lead to positive changes in the key variables that affect children's adjustment.

The *New Beginnings Program* is a preventive intervention, targeting factors in the parent-child relationship linked to children's maladjustment. The program includes 11 group sessions and 2 individual sessions. In a beginning evaluation of the program, significant effects were found for child mental health problems, parenting, mother-child relationship quality, effective discipline and negative events (Wolchik et al., 1993). A six-year follow-up saw a 50% reduction in children's mental health problems and showed significantly fewer externalizing problems, less drug and alcohol use and sexual promiscuity compared to controls (Wolchik et al., 2000). The program does show promise, but it does not affect interparental conflict, includes little material on stress management, limits participation to custodial mothers, and is not available to the general public.

Parenting Through Change (Forgatch & DeGarmo, 1999) is a 14-session group intervention for mothers only based on a developmental model of coercion as causally linked to antisocial behavior. Results indicated a significant reduction in coercive parenting, maintenance of positive involvement, and children's improved reading achievement at a one-year follow up compared with controls. Mothers participating in this program showed improvements in the parent-child relationship. Although the program contains some material related to resolving interparental

conflict, it was not the focus; thus, no effects were found in this area and no direct intervention effects were found on children's adjustment.

Although the programs described above show promise in different areas, they face significant limitations in meeting the needs of the broad population of divorcing parents. *Children in the Middle* is costly and its effects are limited to interparental conflict. *New Beginnings* and *Parenting Through Change* have no commercial visibility. Individuals in need cannot access these programs because they are not available outside the academic settings in which they are offered.

Conclusion and Implications. In summary, stress reduction, interparental conflict, and parenting practices have strong empirical support as effective targets in parent divorce-education. Parent training programs that are accessible, offered earlier in the divorce process, and encourage expanded and extended interaction are more likely to lead to lasting changes in parents' knowledge, attitudes and skills. Alternatives to traditional group-based parent-training are needed. Because divorce introduces added financial and time-related stress for most parents, programs that allow for flexible participation (such as online access) and at a low cost are more accessible. Input from both mothers and fathers during program development are needed to create a program that is effective for both sexes. Inclusion of program material to foster stress reduction/coping strategies and social support will increase the likelihood that parents will be able to translate what they learn into lasting behavioral changes. Careful instructional design will give parents' opportunities for success and bolster their self-efficacy, increasing the probability that they will continue to garner support and education to buffer their children from the effects of divorce.

Conceptual Underpinnings. TFN is specifically designed to strengthen and sustain family processes associated with healthy adjustment in children from divorced families. Grounded in a theoretical base, the program will be a "resilience resource" to bolster parental factors known to moderate the effects of risk factors on child outcomes (Dawson-McClure et al., 2004). Given that most parents experiencing divorce have very little spare time, the lessons are brief: parents participating in the self-instructional program can break the session into smaller "mini-lessons." The total program has 4-6 hours of interactivity.



Innovative Online Delivery Platform

The TFN program is delivered on IRISed.com. This training format encourages active, self-directed adult participation, individual problem solving, and expert feedback, characteristics of effective instruction that lead to greater skill acquisition than is possible from a lecture presentation or even a demonstration (Joyce & Showers, 1995). The feasibility of this approach was tested in Phase I. The instructional design for IRISed is delivered across modules; parents access and interact with a number of structured learning components. Below is a brief description of the instructional path implicit in each module and associated components.

(a) Video-driven lessons model effective and ineffective responses to issues related to divorce. Parents portrayed in these short model-based video sequences have a range of racial and ethnic

diversity. One or two targeted skills are modeled in each sequence. A motivational component increases parents' awareness of negative divorce-related effects on themselves and their children. Player features include closed captioning, text graphics, pause and rewind functions, and volume.

(b) Interactive assessments include self-assessments and "errorless knowledge checks," which give users the opportunity to test their knowledge, and receive immediate feedback. Assessment features include random question rotation; "save and complete later" function; questions accompanied by pictures/Flash video; multiple choice, yes/no and text field answer options; and percent-complete visual display.

(c) Interactive mastery exercises guide the parent in practicing newly learned skills, first by using a hypothetical situation, and then by customizing what they have learned to their own situation. The interactive mastery exercises use Macromedia Flash and a Flash Component Application Programming Interface (API) to send personalized results such as individual action plans and graphical user profiles to the IRISed site database.

(d) Journaling tool prompts parents to set achievable goals and monitor their progress. Journal activities are stored as part of the user's profile and can be printed. The system will track the user's journal entries by date and time of completion.

Other standard features of IRISed include printable resource materials, including tip sheets underlining key principles, and/or charts that allow users to track progress, a glossary of terms gives simple definitions to technical terms such as *stress, custody, co-parenting*, etc., and *ed*CLIPS, automated emails that reconnect the user to the material over an extended time after they have completed the instructional program.

Theoretical Framework. The program was specifically designed to strengthen and sustain family processes associated with healthy adjustment in children who experience divorce. The basis for the approach derives from social cognitive theory, developmental theory, and principles of adult learning. In the following section, we briefly describe how these models relate to the program content and format.

Promoting Self-Regulation for Behavior Change. In Bandura's social cognitive theory, self-efficacy, intention and goal-setting play a guiding role in the self-regulation of behavior (Bandura, 1986). Bandura (1977) postulated that enhanced self-efficacy influences behavior by increasing the attempts to perform a task, the level of persistence despite encountering difficulties, and the degree of success of performing the task. There is evidence that improving parenting skills may increase efficacy in parenting (Haine et al., 2000). Mobilizing parents with increased self-efficacy may increase their motivation to engage in parenting practices associated with children's healthy adjustment, despite encountering barriers like confusing information, lack of services, and limited options (Coleman & Karraker, 2000). The program will help build parent's efficacy by providing targeted, iterative skill-based training, giving the opportunity to master one skill before taking on new challenges. These successes increase parents' expectation of successful outcomes and build motivation for sustained engagement to deal with the more challenging tasks (Dumka et al., 1996). Opportunities for goal-setting and follow-through are a regular part of the program. Vicarious reinforcement is another important component: parents who observe other parents successfully dealing with issues related to divorce will feel more confident in their abilities to successfully deal with the issues themselves. Finally, observational learning (i.e., acquiring behavior patterns and

cognitive skills by observing the performance of others) (Bandura, 1986) is an important element of social cognitive theory. Video, a central feature of the program, promotes observational learning. Video is frequently used in therapeutic and educational settings and is recognized as an effective teaching aid. Bandura's (1977) classic studies demonstrated the power of learning from visual models. In a meta-analysis of interactive videodisc instruction, Fletcher (1989) found that interactive video instruction is an excellent and effective format with respect to both knowledge and performance measures; participants learn more quickly and it is less costly than conventional instruction. The efficacy of video as a method of promoting behavior change, including greater rates of social participation and improved interpersonal skills, has been established (Gordon, 2000; Fletcher, 1989; Harwood & Weissberg, 1987; Olson & Bruner, 1974). Self-efficacy, outcome expectations, intention and goal setting, vicarious reinforcement, and observational learning are important components of social cognitive theory and guided development of the content for this project.

Developmental Focus. The program has a developmental focus, addressing children's developmental needs across ages. Although the program is accessible to parents with children of all ages, it may be particularly beneficial for elementary-aged children, who are most vulnerable due to parents' stress and disruptions in parenting practices (Kelly & Emory, 2003).

Self-instruction. With self-instructional programs, new information can be presented in a simple, compelling manner, and there is evidence for its effectiveness as a training (Brown, Yando, & Rainforth, 2000; Webster-Stratton, Hollinsworth, & Kolpacoff, 1989; Gordon, 2000). Evaluation studies of parent-focused programs using self-instructional materials indicate that this format can have positive effects on parents' knowledge, behavior, and attitudes that, in turn, influence child outcomes. In one study of a self-instructional program, high- and low-risk new moms who received an eight-hour self-instructional video and book course showed significant gains in parenting knowledge, compared to a non-intervention control group. The moms were more proactive in obtaining infant medical care, and their children experienced significantly fewer illnesses in the first year (Brown et al., 2000). Controlled evaluations of *Parenting Wisely (*PW), an online self-administered, video-based parenting program for parents of school-aged and adolescent children, have shown improvements in knowledge, family stress, parenting skills and reductions in child behavior problems within a wide variety of families, including those with low incomes (Gordon, 2000; Lagges & Gordon, 1999).

Benefits of Social support. A key feature of this educational experience is to provide parents with information and tools to develop a healthy support system. Social support is an important protective factor for parents, buffering the effects of stressful events on their interactions with their children, parenting behaviors, and life satisfaction (Andresen & Telleen, 1992; Cohen & Wills, 1985; Crnic et al., 1983; Crockenberg, 1988) and has been shown to improve parenting behaviors, even among parents enduring high amounts of stress (Burchinal, Follmer & Bryant, 1996). Parents who have reported higher levels of social support report more positive feelings about parenting (Crnic & Greenberg, 1986), and have displayed more responsive and sensitive parenting behaviors (Cutrona, 1984).

Maintenance of Behavior Change. To achieve a high public health impact, behavior change interventions must include methods for sustaining short-term gains in behavior change (Klesges, et

al., 2005). Desired changes are more likely to be sustained if the program is easy to use and requires minimal time and other investments on the part of the participant. Specific recommendations for strengthening maintenance include built-in mechanisms for social support and a means for continuing contact with the participant through the phone, mail, and/or Internet after the primary training has ended. To further maximize the potential for lasting behavior change, *TFN* included an automated email prompting system to support the long-term maintenance of skills and knowledge. With *ed*CLIPS staff can set up a maintenance schedule for review and/or re-access to the program so that participants can refresh their knowledge and skills. For two months after initial completion of the program (until the follow-up assessment), parents received an *ed*CLIP that re-engaged them with the program website for material review. *ed*CLIPS meet the needs of adult learners by: (1) delivering frequent, routine, engaging content that users can access at their convenience, and (2) inclusion of multimedia material that addresses multiple learning modalities thus enhancing comprehension and retention of information and skills. Ongoing contact with the online program via *ed*CLIPS will maximize the potential for sustaining gains.

Engaging the Adult Learner. The format and instructional framework draw on what research tells us about the needs of adult learners. Instruction for adults is most effective when it is learner-centered, viewing adults as mutual partners in the learning process and drawing from their wealth of knowledge and experience (Merriam & Cafferella, 1999). Adult learners 1) assimilate new ideas with what they already know, 2) see the relevance of what they are learning, 3) gain knowledge and skills that are practically useful, 4) need to be self-directed, 5) feel intrinsically ready and motivated to learn the material, 6) experience a repetition of facts, skills, and attitudes in diverse, engaging and interesting ways, and 7) engage in *praxis*, or action with reflection (Imel, 1994; Merriam & Cafferella, 1999; Vella, 2000; Amidon, 2001). We went to great lengths to design a program that truly meets the needs of adult learners. The materials in *TFN* are designed to immediately engage the learner, motivating them to learn. Each module contains a motivational component. In the Phase I program parents took the *Holmes-Rahe Life Stress Inventory* (1967) to assess the effects of their current stress on their health; a short illustrated feature "Like a Tiny Seed" was included to motivate parents to protect their children from the divorce stresses, and child testimonials gave parents a view through a child's eyes.

Short model-based video sequences are included to help parents personalize the skills they learn. Mothers and fathers in the realistic situational vignettes model effective and ineffective responses to the daily stresses inherent in the divorce process. Some of the materials are directive, but the training format encourages active, self-directed adult participation and individual problem solving. Learning is sequential and continuous: easy tasks are mastered before advancing to more complex tasks; important facts and skills are covered repetitively in a variety of engaging and interesting ways. In the course of a lesson, an engaging presenter guides parents in a series of interactive learning activities designed to help parents develop hands-on skills that are immediately and practically useful.

The opportunity to increase awareness about self-processes related to learning is known to positively influence skill acquisition (Langan-Fox, Armstrong, Balvin, & Anglim, 2002). The journaling method contains opportunities for self-reflection; parents are prompted to think about their current situation and to lay out a specific plan for setting achievable goals and monitoring their progress within this context.

As noted earlier, the program is intended to strengthen and sustain family processes associated with healthy adjustment in children from divorced families, including stress reduction/mobilizing support, effective conflict resolution, and positive parenting practices which mediate children's adjustment.

D. Project Development

Complete Program (Phases I and II). At the end of Phase II, the finished program contained the following:

- Online curriculum a four-module curriculum containing streaming video vignettes that teach core content with engaging, realistic vignettes; skill-building exercises, a series of 9 podcasts, program assessments, and associated printable information.
- Facilitator's Guide for group implementation. The Guide contains resources and tools to enhance a program implementer's ability to deliver and maintain the program with parents in various settings.

Content includes material identified as important intervention targets, including a focus on buffering the impact of stress and interparental conflict on the family system and individuals within the family via training in stress reduction, managing interparental conflict, developmental information, and effective parenting.

Work Plan Overview

The central aim of this project was to create an online parent-training program uniquely tailored to meet the needs of mothers and fathers during the divorce transition. Grounded in evidence that parenting mediates children's divorce-related outcomes, the program targets factors known to moderate the effects of risk factors on children's outcomes, including: parental stress, interparental conflict, and parenting practices.

Four evaluative stages guided development of the complete Phase II program: (1) Develop and evaluate content validity of program objectives, program outline, instructional delivery plan, and drafts of program assets, including a consolidation of feedback received from parents and professionals in Phase I, (2) Gain input on social validity from direct and indirect consumers (parents, children and professionals), (3) Produce and conduct usability tests of program assets, and (4) Conduct an experimental randomized trial of the theory-based intervention with 100 divorcing parents.

AIM 1: Create program objectives, program outline, and the instructional design for delivery.

Results from the Phase I evaluation (parents and professionals) were reviewed to guide development in Phase II. An in-house development team (Principal Investigator, Project Director, Instructional Media Designer, and other web, graphics and print specialists) determined learning objectives for the program, drafted an outline of program content, and created a design for program delivery. This effort had the ultimate goal of achieving an engaging learning experience that imparts knowledge, motivation, and skill acquisition using compelling storylines, modeling situations, right way/wrong way lessons, and interactive learning exercises (quizzes, branching

situational vignettes, etc.). The team prepared the content outline and visual display of the design for presentation to key informants, and project consultants (see following Aim #2).

AIM 2: Conduct social validity assessments with direct and indirect consumers and develop, review and refine content for eight 30-minute instructional modules materials.

To inform program development and gain information about the social validity of the program, four separate formative focus groups were held. Focus groups included: a) 11 divorcing/divorced moms, b) 10 divorcing/divorced dads, and c) 10 boys aged 14-18 who have experienced divorce, and d) 2 girls aged 14-18 who have experienced divorce.

Methods adhered to guidelines developed by Krueger (1994): determine the questioning route, carefully recruit participants, use a skillful moderator, analyze the focus group sessions, and report the results. We assessed social validity in this formative stage by asking questions that assessed program relevance, acceptability, feasibility, sustainability, and ease of integration for both mothers and fathers. Each parent focus group met for 1.5 hours; the child focus groups met for 60 minutes. The Principal Investigator, an experienced moderator, facilitated the mothers' group as well as the teen boys' group. IRIS Educational Media staff, who are also skilled moderators, facilitated the other two groups. The number of participants was based on recommendations from research on focus groups (Krueger, 1993; Morgan, 1996) and on our own experience. After the focus groups convened, we analyzed their responses by observing levels of familiarity between participants, examining patterns in the participant responses and sorting the content into content themes and sub-themes that indicate a point of view held by participants with common characteristics. We provided descriptive information on the themes or clusters of information and interpreted the information by examining how responses related to what we know from the research literature. We paid special attention to those areas in which there is substantial agreement across groups and types of participants (Krueger, 1988).

Parent Focus Groups

We solicited feedback from our target population: parents. As in Phase I, parents in the midst of divorce and parents who had some distance from the immediate divorce process, were included. The parents' groups consisted of 21 parents (11 moms, 10 dads). The average age of mothers was 41 and the average age of fathers was 39. Participants included one Asian, one person who identified as multiracial and the rest were Caucasian. The average length of marriage was 11 years and there were two participants who had never been married but who had lived with their co-parent for an average of 10 years. 29% were currently separated while the remaining participants' divorces had been finalized. 67% reported moderate to high conflict with their co-parent. Levels of conflict did not differ by sex. The mothers' average income was in the $30 – 39,999 range and the fathers' income was in the $40 – 49,999 range. All participants had access to the internet at least once a week.

Mothers and fathers offered unique perspectives that helped us make the material more accessible to both sexes. While the core curriculum teaches those parenting principles with strong empirical support for their effectiveness, the input we got from parents helped us choose from among those empirically supported methods that mattered most to mothers and fathers and framed the content in ways that were useful and that interested them. Program feedback gained from the Phase I evaluation informed our questions about the Phase II program. Participants were

also encouraged to engage in an open-ended discussion and shared relevant anecdotes that were later incorporated into the script as teaching vignettes.

Parents were asked questions about stress, self-care, support, resources and advice for those going through divorce. Many parents said that they try to keep their feelings to themselves and not show their children what they are going through.

How parents reacted to stress differed between the men's and women's groups. Dads had a tendency to not think about self-care when confronted with stress while moms did. Dads preferred to think of "stress reduction" rather than self-care. Stress reduction for dads included work, exercise, watching TV, hanging out with their kids and making new friends - but not starting a new romantic relationship. Moms talked about the stress that has come from the change in their financial situation and how they worked through that – some moms donated plasma or walked dogs (even though they don't like dogs) in order to make it through to the other side of the financial crisis. Support systems included family, friends, strangers (the anonymity of the situation made it easier to talk), church, former mothers-in-law, internet forums, and counselors and/or support groups. The internet was identified as one of the most valuable resources for a variety of reasons – it can be scary to join a support group, it's easy to access the internet, joining a group would require finding child care and that is sometimes difficult, work schedules make it difficult to access classes/groups, and being able to access the internet while wearing your pjs is good when you are exhausted. Other resources included family and friends, church groups and counselors. Parenting classes and books were also mentioned as resources for information.

When asked what advice parents would give to other parents going through the divorce process, the overwhelming response from the parents was, "you will make it through."
Letting go of control was another topic discussed. The importance of letting go of control over what the co-parent is or isn't doing with the children is a major step in the divorce process. Parents said that once they realized that what their co-parent was sending in their children's lunches wasn't going to kill them, they were able to let it go. And, once they realized that their children may be learning valuable lessons at their other parent's house, they were able to let go of the need to control.

Finally, parents were asked about images and metaphors related to the divorce process that resonated with them. "Keep the campfire burning (we're still a family)", take a deep breath and stay on the subject", "do what's best for the children", and "I can't win if it means my children lose" were some things the parents would say to themselves when confronted with difficult issues. The image of the never-ending stairs was one of the more powerful images identified (being a parent *and* a co-parent never ends).

Child Focus Group

During the Phase I evaluation, parents were particularly affected by the children's testimonials included in the program. We gained a lot of information in our interviews with children, and realized that they are important "experts" themselves who have much to tell about the divorce process and its effects. 12 teenagers who had experienced divorce participated (mean age = 15). One participant was Asian, one multiracial, one Hispanic and the rest were Caucasian. One-quarter of the teens live with their mom only, one-third live "mostly with mom", and another one-third live equally with mom and dad. One-half reported that their parents' level of conflict was moderate to high.

As with the parent focus groups, children informed us about issues around divorce, typical situations, and varying mood states so that we were able to adequately represent the child's point of view in the divorce process and helped us create realistic, informative and engaging video and instructional material. Children received $50 each for their participation.

Teens were asked questions about stress, self-care, support, resources and advice for those experiencing divorce. The majority of teens said that though their parents try to hide their feelings from their children, they know and they try to avoid the situation by going to their rooms or putting their music on loudly. They just try to stay away from their parents. When asked what advice teens would give to parents going through the divorce process, they stressed how important it is for the parents not to involve them in the fights or use them as confidants in the process. They did not want to hear one parent complain about the other or be interrogated about the other parent.

Key informant interviews with representative professionals working with divorcing families

In Phase I, the PI developed relationships with key individuals in the field who agreed to participate in Phase II. Our aim was to create a curriculum that meets the needs of divorcing parents, equips them to support and nurture their children's healthy development, fits easily into professional systems serving divorcing parents, and can be disseminated widely. Interviews with key informants were instrumental to development by providing formative evaluations of program content and delivery design. Moreover, their input helped us shape a program that works efficiently within and can be disseminated through organizational structures such as the court system. The experts shared their perception of what parents need most, the needs of children, the barriers to parents gaining access to training, the motivational and practical factors related to parental engagement and issues related to program implementation and dissemination (please see letters of support). Key informants worked up to eight hours each at $75 per hour.

Phase II Key Informant Panel:

Name	**Title**	**Organization**	**Consulted on**
Peter Salem	Executive Director	Association of Family and Conciliation Courts	Content; issues related to systematic fit
Keith Crnic	Researcher/Clinical Psychologist	Arizona State University Department of Psychology	Content; nature of stress/influence on child-family functioning, child adjustment
Cyndee Haines	Family Law Attorney	Behrends, Swingdoff, Haines & Critchlow	Systemic fit; issues related to parent/attorney relationship
Don Gordon, PhD	Executive Director	Center for Divorce Education	Content; review
Joan Kelly, PhD	Clinical Psychologist	Northern California Mediation Center	Content; review
Karen Blaisure	Professor	Western Michigan University Department of Family and Consumer Sciences	Systemic fit; implementation in court settings
Donna Austin	Program Manager	Lane County Family Mediation	Content; relevant topics and accuracy; recruitment ally

Process for development and review

The development team included the Principal Investigator, the Co-Investigator and the Instructional Media Designer, the Technology Coordinator, the Flash Animator, and other key technical staff. The PI, Co-I and Instructional Media Designer worked together to identify the key concepts to cover in the program.

The following material was developed: (a) scripts and foundational material for video presentations (Instructional Media Designer, Instructional Media Designer), (b) interactive exercises, self-assessments, and other web applications (Instructional Media Designer, Flash Animator, Technology Coordinator), and (c) downloadable print materials and other text messages (Instructional Print Developer). A Graphic Designer developed a graphic template that unified the look and feel of the various online components.

The topics identified for inclusion in Phase II included the three major areas identified in our formative research. These topics were decided upon based on our background research, consultation with project key informants, consultants and information gained from the focus groups.

1. Reducing stress and building a strong support network
    - Background information on stress (including the effect of parental stress on children's physical and mental health)
    - Tools for "interrupting the stress cycle"
    - Guidance in building a strong social network
    - Self care
    - New beginnings
2. Reducing coparent conflict
    - Styles of coparenting
    - Appreciating the role of the coparent
    - Strengthening the coparent relationship
    - Understanding coparenting styles
3. Strengthening key parenting skills known to buffer impact of divorce on children

    These key skills include:
    - Warmth, monitoring and structure
    - Building routines into your day
    - Nurturing the parent/child relationship
    - Effective listening and problem-solving
    - Teaching moments
    - How to monitor effectively across development
    - Handling transitions effectively

Development of the material followed an iterative process. Scripts were written, feedback was given and scripts were re-written. This process continued until script content was satisfactory to everyone on the team. At this point, scripts were sent to the consultants, Drs. Joan Kelly and Donald Gordon for feedback. Consultant feedback was incorporated into a final draft of the scripts which were handed over to the production department.

Graphics/animation. The development team created a cartoon family with a mom, dad, girl and boy (the "Stress Family") to describe the family interactions that would be difficult to capture with live actors. Twelve short animations were created and inserted into the video modules. Characters in the Stress Family have a multi-ethnic look and a humorous quality, and are ideal for showing how people can make mistakes because of stress and how parents can rectify mistakes when they become more aware of how stress effects them and the damage stress can do to all family members.

Printable development. Each of the 20 video modules is supported by an illustrated content summary that outlines the key points of each lesson. The full-color printables are hosted online where trainers or parents can access and use them repeatedly. Photos from the videos are included to engage the user.

AIM 3: Produce the TFN web site and components and conduct usability evaluation.

Production. Once final drafts of the instructional materials, assessments and designs were created and approved, we produced the individual program assets (video, interactive web materials, text) and uploaded them into the (IRISed) web delivery program for usability testing. Staff involved in this process were the Producer/Director, Graphic Designer, Technology Coordinator (responsible for web applications), Motion Graphics/Flash Animator, Instructional Print Designer, Video Editor, Audio Designer, Production Coordinator and Production Assistants.

All visual materials relied on actors and models recruited from an ethnically and racially diverse professional talent pool in Eugene and Portland. Vignettes, visual sequences and photographs were filmed in naturalistic settings. Professional high-quality digital equipment was used. Digital post-production took place at IRIS Educational Media's professional studio using state-of-the-art video and audio equipment. Text materials and graphics were designed and produced using up-to-date graphic design and publishing software.

Once online assets were finalized, a variety of application development tools were used to create an online environment where program materials are stored on a server so they can be accessed by remote users regardless of users' computer operating systems.

Usability test. Some members of the professional panel expressed concern about the need for more explicit guidance for parents' navigation of the website. Although 93% of parents in Phase I indicated that the site organization was easy to understand, we understood that those who weren't comfortable navigating the website might have been part of the sample that dropped out early in the study. With this in mind, we incorporated suggestions from the expert key informant panel and conducted a usability test after program prototypes were completed.

Virzi (1990; 1992) demonstrated that five participants uncover approximately 80% of all usability problems. We conducted a usability test with seven parents judged to be representative of our targeted market who gave us information regarding navigation of the online program. We gathered their impressions of the technology and the program, and their suggestions for ways to improve the program. Participants were paid $75 and were given a questionnaire created specifically to uncover any technical issues encountered by users while interacting with the website. Following recommendations from Tullis and Stetson (2004), a 10-item adaptation of Brooke's (1996) widely-used System Usability Scale (SUS) was used.

In addition to producing and usability testing, a DVD with the programs was produced for consumers who are interested in the program but either don't have access to an Internet

connection, or wish to use the program for group presentation. The process for creating DVD masters involved authoring the material with specialized DVD hardware and software. DVD consumers have access to a specific IRIS Media web address where interactive exercise and downloadable print materials are available.

AIM 4: Evaluate efficacy of the TFN program in a randomized-controlled trial with 100 separating/ divorcing parents.

Participants

Eighty-one females and 18 males participated in the study. Our participant group had the following racial breakdown: one Native American, two Asians, four African-Americans, five people who were more than one race, 85 Caucasians and two of unknown race. Participants were compensated $50 per assessment (pre, post, follow-up) for a total of $150.

Measures

Demographics. Demographic information such as gender, age, racial and ethnic identity, employment, income, date of separation, date of divorce filing, and number of children in the family was collected.

Parent Outcomes. For primary outcomes, we included measures that tapped into the three major constructs the curriculum was designed to affect: Interparental conflict, parent stress, and family functioning. We also included measures of parent knowledge, sense of efficacy in using the strategies learned and behavioral intentions to use them. Finally, we included measures of consumer satisfaction and objective measures of program use. The measures are briefly described below.

Interparental Conflict. One of the measures used in Phase I to assess interparental conflict was used again in Phase II, except that with full coverage of interparental conflict in Phase II, the full *Acrimony Scale* (Emery, 1982b), a 4-point measure of co-parenting conflict that yields a single acrimony score was used.

Parenting Stress Index. (Short form; Abidin, 1990). The PSI is a well-validated 36-item scale measuring parents' stress across 3 factors: salient child characteristics, parent distress, and parent-child dysfunctional interaction (P-CDI). Scale alphas for the factors range from .80-.87.

Family Functioning: The questionnaire had two sections. Items for this section were developed from published measures, adapting relevant items to meet the needs of the evaluation - the problem solving, affective responsiveness and general functioning subscales from the Family Assessment Device (Kabacoff, Miller, Bishop, Epstein, and Keitner, 1990) were used.

Social Support: Parents' desire for, availability of, and satisfaction with their social support was assessed with the Social Support for Parenting Scale, adapted from Barrera et al. (1981) and Telleen (1985).This 17-item measure assessed moral support, childrearing advice, and support for hassles. Parents indicated to what extent in the past month they have desired support, received support, and been satisfied with support received.

Knowledge, efficacy and Behavioral Intentions: Video Assessment Test. Three video vignettes (Video Assessment Test; VAT) were included as a quasi-behavioral measure to assess parents' ability to apply their knowledge and take appropriate action across a range of simulated

real-life situations. The knowledge items were derived from the interactive mastery exercises and the self-assessments. The behavioral intention items used a Likert-type scale to assess the likelihood of applying the concepts taught in parent training sessions. The self-efficacy items used a 5-point Likert scale (very confident to not at all confident) to assess the participants confidence in using the techniques taught in the training.

TFN program log files. For measuring website usage among Treatment participants, system log files were maintained. However beginning on June 24th, 2010, we ran into significant performance issues on our website, IRISed.com, due to an overload of our servers by one of our clients. This means that this data was not collected for TFN users after June 24th and data collected before this date was incomplete.

Child Prosocial Behavior. Child prosocial behavior was measured using the prosocial competency scale from Goodman's (1997) Strengths and Difficulties Questionnaire.

Social Validity. These data were collected at the post-assessment with treatment participants. User satisfaction measures were developed by project staff, modeled after measures we developed for other projects. Twenty Likert-type items measured 1) stimulation, 2) comprehension, 3) acceptability, 4) ownership, and 5) persuasiveness. Open-ended questions solicited responses not covered in the structured items.

Psychosocial process factors. A secondary aim of this study was to better understand the process of parent behavior change in order to allow further refinement of the parenting program and to add to the knowledge base in the research literature. We assessed changes in psychosocial constructs related to change and adoption of behaviors. Behavioral intentions items were designed to specifically measure the key behaviors identified in the program.

Procedures

After screening in to the study, participants were randomly assigned to one of two groups – the Intervention group and the Control or "services as usual" group. Participants were informed of the group they were assigned to and invited to read the online informed consent. After agreeing to participate in the study, participants then completed the demographics questionnaire.

The following procedures were followed in the study: IRIS created a study website that managed participation in the research study and created and sent out recruitment flyers to our recruitment allies – lawyers, mediators' offices, the Association of Family and Conciliation Courts, our consultants, and local counseling offices. We put flyers at family resource centers and at local parenting group offices. We consulted and contracted with a local public relations firm, the Ulum Group, to create a sequence of press releases and distribute them through Vocus, a public relations software application that reaches over 30,000 journalists and bloggers. With reports generated through Vocus, direct contact was made with writers who opened the press release. The goal was to have articles published in print and web dailies and weeklies, and parenting publications. Using this strategy, we received press in the three newspapers in Oregon (Eugene, Bend and Ashland) and in one online newspaper Connecticut.

1. In addition to posting on various forums, we created a Facebook page for IRIS Educational Media and posted an event to invite people to check to see if they were eligible for the study. This event was sent out to friends of IRIS staff and they were encouraged to send it

to anyone they knew who might qualify. The event was also posted on the discussion board of various divorcing parent groups on Facebook. We also created a promotional video and posted it to YouTube, and created a television ad that ran for two weeks in the Eugene, Medford, and Bend areas. We had print ads in the Portland-based magazine Metro Parent and also in their yearly guide. Eugene Weekly (a weekly free paper) was chosen as the venue for our newspaper ad due to its demographics and staying power. Flyers were posted in the Seattle area. Courts in states that had high divorce rates and greater ethnic diversity were contacted and flyers were sent to them. All flyers and correspondence contained the study URL for participants to access.

2. After arriving at the study website, parents read a brief explanation of the project and were directed to a page where they were screened for eligibility. Screening criteria were limited to: (a) Parent who filed for divorce (or had a child custody case) in the last four years, (b) had at least one child aged 3 years to 18, (c) internet access, whether at home, at work, or through a library or school, (d) must have been able to read and write English proficiently.
3. Eligible participants read a detailed written description of the study procedures and were asked to complete an online informed consent.
4. Upon receipt of the informed consent, participants were sent the online baseline assessment.

   At baseline (T1), participants in both groups filled out an online questionnaire that took about 30 minutes. The intervention group was then sent a link to IRISed.com and a license key in order to access the program. They were given two weeks to access the material. After the two weeks and completion of the program, they were sent a short follow-up (T2) questionnaire. This group was asked consumer satisfaction and usability questions along with Behavioral Intention, Self-Efficacy and Knowledge questions. The control group was not given a link to the program. They were sent the T2 questionnaire two weeks after completing the T1 questionnaire – it did not contain consumer satisfaction or usability questions. Four weeks after completing the T2 questionnaire, both groups were sent the final (T3) questionnaire. The questions asked in T1 were again asked in T3. During the four weeks, the intervention group was sent e*d*Clips (an automated email message) containing the salient points learned in the program. The e*d*Clips also invited the participants back to the website to reinforce those points. Approximately six weeks after they had finished the study the control group was sent the link to the program website and license keys in order to access the program. We are unable to report on IRISed usage because beginning on June 24th, 2010; we ran into significant performance issues on our website, IRISed.com, due to an overload of our servers by one of our clients. This means that this data was not collected for TFN users after June 24th.The impact of this is that "Number of Times Accessed" and "Total Program Time" data is not available.

Data management

Protocols were employed to help ensure the integrity of the data. These protocols included creation of a detailed management plan for each instrument covering design, coding, piloting, preparation, administration, entry, verification, locked storage of original data, data set cleansing, and provision of basic descriptive statistics for each instrument item. All data were entered into

DatStat's software program by the participants themselves. Before conducting statistical analyses, all data was checked for out-of-range values, and the distributions of variables was inspected and transformed, if necessary, to ensure that they met the necessary assumptions of the statistical tests used.

Participant attrition

We provided participants with monetary compensation for their time and effort associated with their participation in this project. In previous IRIS Phase II evaluations using this approach, the one month attrition rate ranged from 10-25%. In this study, we estimated an attrition rate of 25% at the one-month posttest assessment and 35% at the two-month follow-up assessment. Our final attrition rate was 14%.

Missing data

Due to the nature on online evaluations, missing data is rare. Each question was required to be answered. Therefore, there was no missing data in this study.

Control condition

The control group was not directed to any specific resource; rather they were able to access resources that they found on their own.

Primary outcome analyses

We anticipated differences at post and follow up on the primary outcome measures. A multivariate analysis was conducted to determine the multivariate effect size followed up by univariate tests to determine the effect sizes obtained for each outcome measure. The extent to which the Treatment condition significantly differed from the Control condition on the outcome measures at the 2-month follow-up assessment was tested to examine the durability and maintenance of program effects.

Process evaluation

A critical element to the program evaluation is the acceptability of the intervention to those to whom the intervention is targeted. Although every effort was made in our formative development process to assure acceptability, we also assessed social validity among the intervention study participants. Participants were asked to describe their experience in the study, and to evaluate their satisfaction with the intervention. This approach to investigating the experience of users provided comprehensive information about the way new users did or did not access this Internet-based intervention program, and the factors that supported or interfered with use of technology. The multiple sources of data enabled us to document detailed accounts of the program utilization, engagement, and acceptability.

Program Effects

Condition effects at T2. A multivariate analysis of covariance (MANCOVA) was conducted comparing the two study conditions on the three outcome measures assessed at T_2; T_1 outcome measures were included as covariates. An overall multivariate model was tested followed by three univariate models. The multivariate test was significant in which the Treatment participants were found to have significant and large overall differences compared to the Control participants, *F* (3,

79) = 5.84, p = .001, partial Eta^2 = .181, large effect size. As can be seen in Table 1, the Treatment group differed significantly from the Control participants in the hypothesized direction on two of the three outcome measures. The largest effects were obtained for behavioral intentions (Eta^2 = .118, medium effect size) followed by knowledge (Eta^2 = .078, medium effect size); a trend-level difference was obtained for self-efficacy (Eta^2 = .035; small effect size).

Table 1. T_1-T_2 Descriptive Statistics and ANCOVA Results for Condition Effects

Measure / condition	T_1 *M (SD)*	T_2 *M (SD)*	T_2 M_{adj}	*F* test	*p*-value	Partial Eta^2
Knowledge				6.87	.010	.078
Treatment	79.1 (13.7)	89.7 (11.9)	90.0			
Control	80.4 (14.7)	84.9 (11.8)	84.5			
Self-efficacy				2.90	.092	.035
Treatment	3.82 (0.64)	4.11 (0.46)	4.09			
Control	3.79 (0.65)	3.92 (0.64)	3.94			
Behavioral intentions				10.85	.001	.118
Treatment	4.03 (0.62)	4.32 (0.43)	4.32			
Control	3.91 (0.70)	3.99 (0.65)	3.99			

Note. N = 86; 45 Treatment and 41 Control participants. M_{Adj} = T_2 mean adjusted for T_1 measures. Multivariate F (3, 79) = 5.84, p = .001, partial Eta^2 = .181. Univariate F-test df = 1, 81. Eta-square of .14, .06, and .01 are considered large, medium, small effect sizes, respectively (Cohen, 1988).

Condition effects at T3. MANCOVA was conducted comparing the two conditions on the nine outcome measures assessed at T_3 controlling for the T_1 levels. The multivariate test was significant in which the Treatment participants were found to have significant and large overall differences compared to the Control participants, F (9, 66) = 3.58, p = .001, partial Eta^2 = .328, large effect size. As can be seen in Table 2, the Treatment group differed significantly from the Control participants in the hypothesized direction on four of the nine outcome measures. The largest effect was obtained for satisfaction with social support (Eta^2 = .113 medium effect size) followed by child prosocial behavior (Eta^2 = .067, medium effect size), self-efficacy (Eta^2 = .063, medium effect size), and knowledge (Eta^2 = .061, medium effect size); a trend-level difference was obtained on behavioral intentions (eta-square = .045; small effect size). The two conditions did not significantly differ with respect to the more distal outcomes of family functioning, parent distress, acrimony, and unmet social support needs. Thus, large program effects were obtained overall with moderate effects obtained on four of the nine outcome measures.

Table 2. T_1-T_3 Descriptive Statistics and ANCOVA Results for Condition Effects						
Measure / condition	T_1 *M (SD)*	T_3 *M (SD)*	T_3 M_{adj}	*F* test	*p*-value	Partial Eta^2
Knowledge				4.77	.032	.061
Treatment	78.9 (13.8)	85.8 (10.7)	86.1			
Control	80.4 (14.7)	81.2 (13.2)	80.9			
Self-efficacy				4.98	.029	.063
Treatment	3.79 (0.65)	4.24 (0.56)	4.21			
Control	3.79 (0.65)	3.96 (0.67)	3.98			
Behavioral intentions				3.46	.067	.045
Treatment	4.04 (0.63)	4.36 (0.54)	4.32			
Control	3.91 (0.70)	4.10 (0.67)	4.13			
Family functioning				0.00	.971	.000
Treatment	23.80 (6.25)	22.25 (6.24)	21.97			
Control	22.59 (5.89)	21.66 (5.11)	21.94			
Parental Distress				0.69	.408	.009
Treatment	29.52 (7.52)	27.32 (6.59)	26.91			
Control	28.02 (9.33)	27.51 (8.10)	27.92			
Acrimony				0.56	.457	.008
Treatment	3.21 (0.61)	3.31 (0.66)	3.38			
Control	3.38 (0.48)	3.36 (0.61)	3.30			
Unmet support				0.04	.839	.001
Treatment	0.34 (0.55)	0.21 (0.51)	0.18			
Control	0.13 (0.53)	0.14 (0.51)	0.16			
Support satisfaction				9.38	.003	.113
Treatment	4.95 (0.98)	5.27 (0.97)	5.23			
Control	4.78 (0.98)	4.54 (1.29)	4.57			
Child prosocial behavior				5.30	.024	.067
Treatment	1.57 (0.40)	1.72 (0.34)	1.76			
Control	1.63 (0.38)	1.66 (0.34)	1.62			
Note. *N* = 85; 44 Treatment and 41 Control participants. M_{Adj} = T_3 mean adjusted for T_1 measures. Multivariate *F* (9, 66) = 3.58, *p* = .001, partial Eta^2 = .328. Univariate *F*-test *df* = 1, 74. Eta-square of .14, .06, and .01 are considered large, medium, small effect sizes, respectively (Cohen, 1988).						

Program Acceptability

Participant satisfaction. Upon completion of the program, Treatment participants rated their satisfaction with the program on nine items using a 6-point Likert-type scale (strongly disagree to strongly agree). As can be seen in Table 3, mean satisfaction ratings ranged from 5.4 to 5.8; each item received over 95% of favorable ratings by the participants. Participants also provided comments about their overall impressions of the program, features they liked best, and recommendation for changes.

Sample comments about overall impressions of the program:

- "My overall impression was highly positive I learned so much on how to be a positive parent. I didn't realize how important it is to let go and accept what the other parent does. The program has so many ways to help me be a better parent."

- “I was pleased with the ideas presented and the way it encouraged me to take the high road in my communications with my soon to be ex-husband.”

- “I found the program very helpful. The techniques were easy to understand, and I was able to start implementing them right away. Although it is hard to take the "higher road", I was able to see the benefit in doing so, and that it really is about what is going to be better for the kids, not how I feel. I only wish my kids' dad could watch the program as well, I think with both parents watching it, it would be very, very powerful.”

Comments regarding the features of the program:

- “That it helped me learn HOW to grow: How to communicate, how to manage, how to function. There is much information available about what to do when separating, raising children alone, etc... The how of these processes is often a missing piece. After all, if many of us knew how to communicate effectively or put the kids’ needs first without running ourselves ragged, marriages would be stronger.”

- “I really liked the interactive "Road Map" tool. While simple, it broke down the concept into steps, basically forcing you to stop and focus on one step at a time. The focus this created helped to minimize what would otherwise be a potentially overwhelming process.”

- “The videos of actual people going through the steps really helped. I like a more visual approach to learning. I also really liked all of the steps the program took me through to solve problems and help me be a better parent.”

Some of the recommendations to improve the program included the following:

- “Give more examples of how to deal with conflict...especially if the other parent is not trying to avoid it.”

- “I found myself wondering what I should do when I tend to be a parallel parent or cooperative parent, but my co-parent is most often high-conflict. Some tips to deal with that situation would have been nice. I can change my attitudes or behavior but not his.”

- “List some [resources] for divorcing families to access in different areas of need and in a county-specific way. Also, please address how to deal with an ex-spouse who battered you and is now using the custody and visitation battle to try to control you (the non-offending spouse).”

Table 3. Treatment Participant Program Satisfaction Ratings			
Item	*M*	*SD*	% Agreed
Overall, I was satisfied with the quality of this program.	5.7	0.6	100.0
It was easy to understand the ideas presented in the program.	5.8	0.4	100.0
I am likely to use strategies I have learned in the program.	5.7	0.6	100.0
The materials gave me new ideas about how to work with my co-parent effectively.	5.6	0.8	97.8
The program materials were engaging.	5.4	0.8	95.6
The knowledge I gained through the program will help my family communicate more effectively.	5.6	0.6	100.0
The program increased my motivation to improve my relationship with my co-parent.	5.4	0.7	100.0
The ideas in the program were practically useful.	5.6	0.6	100.0
I would recommend the program to other separating and divorcing parents.	5.8	0.6	97.8
Note. Items rated on a 6-point Likert-type scale: strongly disagree – strongly agree. *N* = 45.			

Program usability. Treatment participants rated the usability of the website on seven items using a 6-point Likert-type scale (strongly disagree to strongly agree). As shown in Table 4, mean usability ratings ranged from 5.0 to 5.4; each item received over 86% of favorable ratings by the participants.

Table 4. Treatment Participant System Usability Ratings			
Item	*M*	*SD*	% Agreed
The website is visually appealing.	5.0	1.3	88.9
It is easy to move from one page to another.	5.1	1.4	86.7
The overall organization of the site is easy to understand.	5.2	1.3	93.3
Terminology used in the website is clear.	5.2	1.4	91.1
Content of the website met my expectations.	5.2	1.2	93.3
I would be likely to use the website in the future.	5.0	1.4	86.7
Overall, the website is easy to use.	5.4	1.2	93.3
Note. Items rated on a 6-point Likert-type scale: strongly disagree – strongly agree. *N* = 45.			

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