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# Promoting Resilience in Youth from Divorced Families: Lessons Learned from Experimental Trials of the New Beginnings Program

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## Abstract

This article focuses on the contributions that the program of research on the New Beginnings Program (NBP) has made to understanding pathways to resilience in youth who experience parental divorce. First, the research demonstrating that divorce increases risk for mental health, physical health and social adaptation problems is reviewed. Next, theory and research linking social environmental-level and youth-level modifiable risk factors and resilience resources to youth's post-divorce adjustment are presented. The conceptual framework underlying the NBP and the risk factors and resilience resources targeted in this program are described next. The short-term and long-term results of two experimental, randomized efficacy trials of the NBP and moderators and mediators of its effects are then presented. Analyses that examine whether youth self-systems beliefs account for the links between program-induced changes in family-level resilience resources and positive long-term program on adaptation outcomes are presented and how experimental trials can be used to further theories of resilience for youth facing adversities is discussed. The final section describes directions for future research on the NBP.

Parental divorce is one of the most prevalent adversities experienced by adults and children in the U.S. Currently, nearly half of first marriages and about 60% of remarriages end in divorce (Visher & Visher, 2003) and these divorces affect over 1.5 million youth each year (US Census Bureau, 1999). Currently, 10 million children (14% of the population) live in divorced or separated households (National Center for Health Statistics, 2005) and it is estimated that 34% of children in the U.S. will experience parental divorce before reaching age 16 (Bumpass & Lu, 2000). The high prevalence of divorce means that its impact on population rates of problem outcomes is substantial (Scott et al., 1999). Thus, understanding factors that affect children's resilience after parental divorce not only has important theoretical but also significant public health implications.

Similar to Luthar, Cichetti and Becker (2000) and Masten (2001), we conceptualize resilience as achieving positive outcomes in the context of significant adversity. We theorize that the effects of adversity and resources available to the individual are mediated through two common mechanisms -- the satisfaction of basic needs and the accomplishment of age-appropriate developmental competencies (Sandler, 2001). Adversity is conceptualized as exposure to major life stressors that increase the probability of mental health, physical health or social adaptation problems. Resources are conceptualized as characteristics of individuals, families and communities, such as coping style and parenting. Resources and adversities are seen as dynamically affecting each other over time.

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In this article, we present what we have learned about modifiable resilience resources of youth who have experienced parental divorce through our program of research on the New Beginnings Program (NBP). The NBP is a theory-based preventive intervention for divorced families that has been rigorously evaluated in two randomized experimental trials. Before describing these trials, we summarize the empirical work on the risk that parental divorce confers for mental health, physical health and social adaptation problems across development and discuss the empirically-supported, modifiable risk factors and resilience resources associated with children's post-divorce adaptation. Next, we articulate the conceptual framework underlying the development of the NBP, briefly discuss the format and nature of the program and the research on its short-term and long-term effects and moderators and mediators of these effects. We then illustrate how data from intervention trials can be used to further theories of resilience by presenting analyses that test whether self-systems beliefs are a pathway to resilience linking program-induced improvements in mother-child relationship quality and positive adolescent outcomes. We conclude with a discussion of directions for research.

## Risks conferred by parental divorce

It is well documented that parental divorce can have serious negative effects on child and adolescent functioning. Meta-analyses of 92 studies published through the 1980s (Amato & Keith, 1991) and 67 studies in the 1990s (Amato, 2001) showed that youth in divorced families had more conduct, internalizing, social, and academic problems than those in non-divorced families. These differences occurred across age and gender and were slightly larger in more recent studies. Although less well studied, divorce has also been shown to be associated with higher levels of children's physical health problems (see Troxel & Matthews, 2004). Adolescents in divorced families are more likely than those in non-divorced families to report elevated levels of drug and alcohol use (e.g., Furstenberg & Teitler, 1994; Hoffmann & Johnson, 1998) and are two to three times more likely than their counterparts in non-divorced families to experience clinically significant levels of mental health problems, receive mental health services (e.g., Hetherington et al., 1992), drop out of school (McLanahan, 1999), leave home early, cohabitate, and experience premarital childbearing (Goldscheider & Goldscheider, 1998; Hetherington, 1999). Illustratively, Hetherington et al. (1992) reported that 35% of adolescent girls and 20% of adolescent boys whose parents divorced in childhood scored in the clinical range on mental health problems versus 4% of girls and 4% of boys in non-divorced families. McLanahan's (1999) analysis of 10 national probability samples revealed school dropout rates of 31% and teen birth rates of 33% for adolescents in divorced families versus 13% and 11%, respectively, for adolescents in non-divorced families.

A large body of research has shown that parental divorce in childhood or adolescence also increases risk for a wide array of problems in adulthood. Adults who experienced divorce in childhood have lower educational and occupational attainment (e.g., Biblarz & Gottainer, 2000; Hetherington, 1999), more economic and employment problems (e.g., Caspi et al., 1998), poorer marital quality (e.g., Amato & Booth, 1991) and higher rates of divorce (e.g., Webster & Herzog, 1995) than those from non-divorced families. Further, multiple prospective studies with epidemiologic samples have shown that parental divorce is associated with substantial increases in clinical levels of mental health problems, substance abuse, mental health services use, and psychiatric hospitalization in adulthood (Chase-Lansdale et al., 1995; Kessler et al., 1997; Maekikyroe et al., 1998; Rodgers et al., 1997; Zill et al., 1993). Parental divorce also increases risk for physical health problems (Amato & Keith, 1991b; Hemminki & Chen, 2006; Maier & Lachman, 2000). For example, in a national probability sample, Maier and Lachman (2000) found that parental divorce was related to increased chronic health problems for men and acute health problems for men and women at midlife. Also, adults whose parents divorced before they were age 21 experienced a 44% increase in mortality risk,

controlling for childhood personality and own divorce; their life span was four years shorter than that of their peers from non-divorced families (Schwartz et al., 1995).

The concept of population attributable fraction (PAF; maximum proportion of an outcome due to a risk factor or percent of cases that could be prevented by removing it) provides an important perspective on the public health burden of major life stressors. In the case of divorce, PAF refers to the impact of reducing the effects of pathognomonic processes associated with divorce rather than preventing the divorce. Using relative risk (RR) figures from prospective studies of a national probability sample that controlled for pre-divorce stressors, SES, and child's vocabulary score (Furstenberg & Teitler, 1994; Zill et al., 1993), Wolchik, MacKinnon and Sandler (2006) computed PAFs of 36% (RR= 2.38) for clinical levels of mental health problems between ages 18-22, 30% (RR=2.08) for teen pregnancy, and 23% (RR=1.75) for school dropout. In other words, 36% of cases of mental health problems in early adulthood, 30% of teen pregnancies, and 23% of school dropouts could be prevented by eliminating the effects of harmful processes associated with divorce. Using Odds Ratios from Kessler et al.'s (1997) study to determine the size of the relation of parental divorce and mental disorders in adulthood and controlling for demographics, prior disorders, and adversities, the PAFs are sizeable. For example, the PAFs are 31% and 20% for dysthymia and drug dependence, respectively (Wolchik et al., 2006). Thus, a substantial proportion of significant mental health and social adaptation problems in youth whose parents divorce could be prevented by reducing the risks associated with this family transition.

There is some controversy about the extent to which the negative outcomes associated with parental divorce reflect dysfunctional processes that arise before parental separation, such as interparental conflict and parental mental health and substance use problems (Cherlin et al., 1991; Furstenberg & Teitler, 1994; Needle et al., 1990). For example, Block et al. (1986) provide evidence that problems in boys who later experience parental divorce predate the divorce by up to 11 years. Cherlin et al. (1991) show that by controlling for predivorce functioning at age 7, the effects of divorce at age 11 are substantially reduced, particularly for boys. However, in several other prospective studies, the effects of divorce remain significant after controlling for family-level variables or predivorce child functioning (e.g., Acock & Kiecolt, 1989; Chase-Landsdale, et al., 1995; Furstenberg & Teitler; Needle et al.; Zill, et al., 1993). For example, controlling for emotional and school-related problems at age 7, Chase-Lansdale et al. (1995) reported a 39% increase in the likelihood of meeting the clinical cutoff for psychological problems in young adults who experienced parental divorce in childhood.

It is important to note that although parental divorce is associated with significant elevations in risk for a wide array of problems at each stage of development, there is marked variability in children's and adolescents' responses to parental divorce (e.g., Hetherington, 1989; Sandler, Wolchik & Braver, 1988). Although almost all youth are highly distressed after parental divorce, most do *not* manifest serious mental health, physical health or social adaptation problems as a result of the divorce (e.g., Amato, 2001; Amato & Keith, 1991). Across multiple studies, about 70 to 75% of youth from divorced families did *not* experience clinically significant mental health problems (e.g., Hetherington, Bridges & Insabella, 1998; Wolchik et al., 2006).

## Role of risk factors and resilience resources in post-divorce adaptation outcomes

In the context of the significant public health burden associated with divorce, the variability in adaptation outcomes has prompted researchers to examine factors that affect children's post-divorce outcomes. There is currently a large body of work that has demonstrated links between children's adaptation outcomes after parental divorce and social environmental-level and

youth-level risk factors and resilience resources. In our summary, we focus on risk factors and resilience resources that are potentially modifiable because of our interest in developing interventions to promote resilience.

## Social-environmental risk factors and resilience resources

A large body of research has shown that interparental conflict is one of the most damaging aspects of divorce (e.g., Amato & Keith, 1991b; Grych, 2005). In addition, researchers have consistently shown that the occurrence of other stressful events that often happen after parental divorce predicts children's post-divorce externalizing and internalizing problems and mental disorder cross-sectionally and longitudinally (Sandler, Tein & West, 1994; Stolberg & Anker, 1983; Wolchik, Wilcox, Tein & Sandler, 2000). Stressful events that are common after parental divorce include moving, changing schools, spending less time with the non-custodial parent (in most families, the father [Kelly, 2006]), parental distress, mother beginning work outside the home or increasing hours of employment, and parents beginning new romantic relationships.

There is strong, consistent empirical support for the protective effect of high quality mother-child relationships (e.g., Amato & Keith, 1991; Kelly & Emery, 2003; Wolchik, Sandler, Weiss, & Winslow, 2007). Mother-child relationships that are characterized by warmth, supportiveness, effective problem-solving skills, positive communication, and low levels of conflict and negativity are consistently associated with lower mental health problems and positive social adaptation outcomes following divorce (e.g., Hetherington et al., 1992; Simons et al., 1996; Simons, Lin, Gordon, Conger & Lorenz, 1999; Wolchik et al., 2000). Maternal discipline that is consistent and appropriate, rather than punitive, also facilitates children's post-divorce adjustment (Forgatch et al., 1988; Wolchik et al., 2000). Although most of the research on this resilience resource has examined direct relations between maternal parenting and children's post-divorce adjustment, a few studies have shown that high quality parenting mitigates the negative effect of divorce-related stressors on mental health problems (Camara & Resnick, 1987; Hetherington, Cox & Cox, 1982; Wolchik, Wilcox, Tein & Sandler, 2000). For example, Wolchik, Wilcox et al. (2000) showed that relations between divorce stressors and internalizing problems and externalizing problems were stronger for children who reported both low acceptance and low consistency of discipline than for those who reported either high consistency of discipline and low acceptance or high acceptance and low consistency of discipline. Children with high levels of both acceptance and consistent discipline had the lowest levels of adjustment problems.

Although not as well studied as the mother-child relationship, there is growing support for the importance of the father-child relationship in children's post-divorce adjustment. Studies on the amount of contact between non-residential fathers and children have yielded mixed results (Amato & Gilbreth, 1999; Whiteside & Becker, 2000; King, 1994). However, there is consistent support for a significant association between father-child relationship quality and children's positive post-divorce adaptation outcomes (Amato & Gilbreth, 1999; Amato & Fowler, 2002). In Amato and Gilbreth's (1999) meta-analyses, the dimensions of the father-child relationship that involved feelings of closeness and authoritative parenting were significantly related to better academic success and lower levels of externalizing problems and internalizing problems.

In one of the few studies to examine the joint effects of parenting by mothers and fathers, King and Sobolewski (2006) found that high quality, responsive parenting of fathers and mothers was significantly related to lower levels of children's post-divorce mental health problems, even after accounting for the quality of the relationship with the other parent. These researchers also compared adjustment outcomes of children who had a positive relationship with one parent, both parents, or neither parent. Similar to the findings of other researchers (e.g.,

Buchanan, Maccoby, & Dornbusch, 1991), they found that having a positive relationship with either the mother or father was associated with fewer mental health problems compared to not having a close relationship with either parent. More recently, Sandler, Miles, Cookston and Braver (2008) found that high levels of warmth in mother-child and father-child relationships independently predicted fewer externalizing problems. For internalizing problems, the relation between problems and warmth differed depending on level of interparental conflict. In families with high conflict, children had lower internalizing problems when there was high warmth in mother-child relationship or father-child relationship, even if warmth in the relationship with the other parent was low. In families with low conflict, high warmth in the father-child relationship was significantly associated with fewer internalizing problems when warmth in the mother-child relationship was high but not when warmth in the mother-child relationship was low.

## Youth-level risk factors and resilience resources

Researchers have identified several youth-level factors that predict post-divorce adaptation. There is evidence that how children appraise and cope with divorce stressors is predictive of mental health outcomes. Using a short-term longitudinal design, Sheets, Sandler, and West (1996) found that appraisals that events involved a high level of threat were related to higher levels of mental health problems. Also, the use of avoidant coping has been shown to be related to higher mental health problems (Armistead, McCombs, Forehand, Wierson, Long, & Fauber, 1990; Sandler et al., 1994) whereas the use of coping strategies that involve problem focused coping and positive reframing related to lower mental health problems after parental divorce (Sandler et al.,1994; Sandler, Tein, Mehta, Wolchik, & Ayers, 2000). Further, coping efficacy, a global belief that one can deal both with the demands made and emotions aroused by a situation, has been shown to relate to lower internalizing problems (Sandler et al., 2000). Using a measure in which children from divorced families rated how much they would have positive or negative thoughts in response to stressors commonly experienced by children in divorced families, such as parental arguments, Mazur, Wolchik and Sandler (1992) found that positive illusions were related to lower mental health problems and negative cognitive errors were related to higher mental health problems, controlling for the effects of recent stressful events. In another sample, Mazur, Wolchik, Virdin, Sandler and West (1999) found that positive illusions buffered the effects of stressful divorce events on child report of depression and mother report of externalizing problems. In addition, negative cognitive errors amplified the relations between stressful divorce events and both mother and child report of internalizing problems and externalizing problems for older children (mean age =11.5) but not younger children (mean age= 9.3).

There is also evidence that children's self-systems beliefs about social relatedness, self-worth and control predict post-divorce adjustment. For example, several researchers have found that concerns about social relatedness, defined as fear of abandonment, predict higher levels of mental health problems (Kurdek & Berg, 1987; Wolchik et al., 1993; Wolchik, Tein, Sandler & Doyle, 2002). Sandler (2000) reported that self-worth was significantly related to depression and externalizing problems in children from divorced families. Studying control beliefs, Fogas, Wolchik, Braver, Freedom and Bay (1992) found that higher levels of internal locus of control were related to lower levels of internalizing problems. Sandler, Kim-Bae and MacKinnon (2000) found that low levels of unknown control beliefs for positive events mitigated the relation between stressors and psychological symptoms and that lower levels of unknown control beliefs for positive as well as negative events were related to fewer psychological symptoms.

Nearly all the studies of the risk factors and resilience resources for youth in divorced families have used correlational or nonexperimental designs and thus causal inferences about the

relations between these variables and children's post-divorce adaptation cannot be drawn (Cole & Maxwell, 2003). Randomized experimental trials of preventive interventions that assess changes in children's adaptation and in the risk factors and resilience resources targeted by the intervention provide a rare opportunity to strengthen the ability to draw causal inferences (Cole & Maxwell, 2003; Hinshaw, 2002; Howe, Reiss & Yuh, 2002; Rutter, 2005; Rutter, Pickles, Murray, & Eaves, 2001; Sandler et al., 2006). If an intervention has a positive impact on children's adaptation outcomes in a well-conducted randomized experimental trial, and the intervention effects on the outcomes are accounted for by changes in the risk factors, resilience resources or both, inferences about the causal nature of the relations between the risk factors and resilience resources and adaptation outcomes are strengthened over what can be inferred from correlational studies. This is because randomization to the experimental and control conditions makes it unlikely that third variables (e.g., biological factors such as shared genes; psychosocial variables, such as parental stress; economic factors, such as poverty) account for the relations between program-induced changes in the risk factors and resilience resources and program-induced changes in the adaptation outcomes (e.g., Rutter, 2005). In this next section, we describe the theory and development of the NBP, format and nature of the program, and findings of research on its short-term and long-term effects and moderators and mediators of these effects.

## The NBP: An experimental study of risk factors and resilience resources in divorced families

### Theory and development of the NBP

The NBP was developed in the mid 80′s and has been evaluated in two experimental trials (For details of these trials, see Wolchik et al., 1993;2000;2002;Wolchik et al, 2007). To date, we have examined the short-term program effects in both trials and conducted a six-year follow-up of one of them. We are currently collecting 15-year follow-up data.

The development of the NBP involved several steps. First, we examined the literature for theories on positive adaptation in the face of parental divorce and other adversities and identified empirically-supported potentially modifiable risk factors and resilience resources associated with positive post-divorce adaptation. Second, we conducted generative studies and conducted secondary data analyses to provide further insight into the processes that influence post-divorce adaptation. Next, we developed an intervention to affect these risk factors and resilience resources and evaluated it in randomized field trials.

The conceptual model underlying our research on the NBP combines elements from a person-environment transactional framework and a risk and protective factor model. Our model posits that dynamic person-environment interactions underlie individual development across time. Changes in social environmental-level and youth-level risk factors (e.g., interparental conflict, avoidant coping) and resilience resources (e.g., high quality mother-child relationships, active coping) are viewed as shaping the development of adaptation problems and competencies in an individual, which in turn influence the social environment and development of competencies and adaptation problems at later developmental stages (e.g., Cicchetti & Schneider-Rosen, 1986; Sameroff, 1975; 2000).

Although not available at the time the NBP was developed, Cummings, Davies and Campbell's (2000) "cascading pathway model" has provided a useful developmental framework for our research on the long-term effects of the NBP. From this perspective, adversities such as divorce can lead to an unfolding of failures to resolve developmental tasks, increased susceptibility to mental health problems and impairment in developmental competencies. In this framework, the resilience resource of high quality parenting plays a central role in facilitating successful

adaptation after divorce. Further, the skills and resources developed in the early post-divorce period are seen as providing important tools and resources for coping with future challenges. Dynamic interactions between children's successful adaptation and the skills developed and resources available to them are hypothesized to lead to a positive cascade of adaptive functioning in multiple domains over time. For example, high quality mother-child relationships may lead to lower levels of externalizing problems, which increase the likelihood of positive interactions with mothers, fathers and peers which may lead to further improvements in externalizing problems over time.

The NBP was designed to promote positive adaptation after divorce by reducing children's exposure to risk factors and increasing their resilience resources. We defined positive adaptation as experiencing low levels of mental health problems and accomplishing developmentally appropriate tasks. The development of the NBP was guided by a "small theory" (Lipsey, 1990) approach. Our use of the term small theory is based on two features. First, small theory specifies a model of precursors of positive adaptation based on theory and empirical (usually correlational) evidence (West & Aiken, 1997). To maximize the chances of impacting positive adaptation, processes are selected based on data demonstrating that they are related to outcomes and are potentially modifiable. These processes are called putative mediators because changing them is predicted to lead to changes in post-divorce adaptation. Second, the public health objective of promoting positive adaptation is a central goal. Thus, program developers who use this model are primarily concerned with maximizing program effects on outcomes by targeting multiple processes in the program (Rothman, 1980).

There are significant advantages of using a small theory approach to program design. First, developing a small theory serves an important heuristic role by forcing program developers to specify central processes hypothesized to underlie the development of adaptation problems. Once these processes are specified, their plausibility can be probed by using existing data sets (West , Sandler, Pillow, Bacca & Gersten, 1991). Second, the identification of potentially modifiable processes allows for efficient program design by targeting processes that are most likely to impact desired outcomes. Third, the small theory, in combination with a careful evaluation of implementation of the program, offers guidance for program revision. This information helps distinguish between intervention components that were too weak or poorly implemented to have an effect and those that were well implemented but did not have their theoretically intended effect. Fourth, analyses identifying processes that account for program effects can be used to identify the "core components" to be preserved in adaptations for cultural groups not well represented in the trial as well as in disseminated versions (West & Aiken, 1997). Finally, evidence that experimentally-induced change in putative mediators accounts for program effects on adaptation outcomes provides stronger support for the causal effects of these variables than that from passive correlational studies (e.g., Patterson & Fisher, 2002; Sandler, Wolchik et al., 1997). Such tests of the underlying small theory can add to our understanding of the basic processes that affect children's response to adversity (Coie et al., 1993).

The small theory articulates both a psychosocial theory (links between the putative mediators and adaptation outcomes based on theories of problem development and psychosocial research) and a program theory (links between the putative mediators and change strategies based on theories of behavior change and intervention research) (West & Aiken, 1997). The psychosocial theory of the NBP was based on the transitional events perspective (Felner, Farber, & Primavera, 1983; Felner, Terre, & Rowlinson, 1988; Kurdek, 1981) and empirical work on the modifiable correlates of children's post-divorce adjustment problems. From the transitional events perspective, divorce is viewed as a process that leads to the occurrence of multiple stressors in children's social and physical environments (such as spending less time with their father and interparental conflict), and adaptation problems are viewed as a

consequence of both the stressful events that occur and the social environmental- and youth-level resilience resources available to the children (e.g., Felner et al., 1983; Kurdek, 1981; Sandler, Wolchik, & Braver, 1988).

This framework was used to organize the research findings available at the time we developed NBP. These findings provided consistent empirical support for significant associations between children's adaptation outcomes after divorce and the following risk factors and resilience resources: (a) quality of the child's relationship with the custodial parent (e.g., Hetherington, Cox & Cox, 1982; Stolberg & Bush, 1985); (b) *effective discipline* (e.g., Santrock & Warshak, 1979); (c) contact between the child and the noncustodial parent (e.g., Guidubaldi et al., 1986; Warren et al., 1984); (d) *interparental conflict* (e.g, Hetherington et al., 1978; Stolberg & Anker, 1983); and (e) *contact with and support from non-parental adults* (Guidubaldi & Cleminshaw, 1983; Santrock & Warshak, 1979). As noted earlier, the research published since the NBP was developed has provided additional support for the importance of these risk factors and resilience resources for children's post-divorce adaptation.

Figure 1 shows that in our conceptual model, these risk factors and resilience resources are negatively affected by parental divorce but positively changed by the NBP and that the program-induced changes in these putative mediators are hypothesized to affect youth adaptation outcomes. Most of the risk factors and resilience resources for which there was consistent empirical support when we developed the NBP were in the parent's rather than the child's control. Thus, we selected mothers, given that they are the primary residential parents in most divorced families, to be the change agents. The intervention was designed to teach mothers skills to affect the above five risk factors and resilience resources. Changes in these variables were expected to lead to positive changes in children's post-divorce adaptation outcomes. Figure 2 depicts the program theory component of the NBP, which specifies the links between the targeted risk factors and resilience resources and intervention strategies. As shown, for each putative mediator, multiple change strategies were employed. When possible, the intervention strategies used were based on techniques that researchers had demonstrated changed the targeted risk factors and resilience resources.

### Format and nature of the NBP

In both trials, the program was delivered to primary residential mothers in a group format. Two masters' level co-leaders conducted groups that consisted of 8 to 10 mothers. The program included 11 weekly group sessions (1.75 hours each) and two additional individual sessions (1 hour each) that were designed to tailor program skills to each mother's family. The program was cognitive-behavioral in orientation with a strong emphasis on skills acquisition and enhancement. All sessions were highly structured and included both didactic and experiential components. Weekly home practice assignments were given in which mothers used the program skills with their children. Home practice was cumulative so that skills taught early in the program were continued in later sessions. To ensure high fidelity, sessions were delivered using detailed manuals and extensive training and supervision were provided.

The content of the program was highly similar in the two trials. About half of the sessions focused on improving the quality of the mother-child relationship and about a third addressed effective discipline. The program activities were designed to affect several dimensions of the mother-child relationship, including responsiveness, closeness, acceptance, support, reinforcement for positive behaviors, and its general affective nature. The segment on discipline focused on monitoring misbehavior, developing and using age-appropriate expectations, communicating these expectations clearly, and using appropriate and consistent consequences. The segment on interparental conflict included teaching mothers several ways to reduce children's exposure to interparental conflict, including anger management skills. Contact between the father and child was addressed in the second individual session, during

which mothers and leaders worked collaboratively to decrease obstacles to visitation. The program in the first trial targeted increases in the amount and quality of support children received from nonparental adults (e.g., aunts, mother's friend). This component was dropped in the second trial to increase the amount of time focused on discipline. Additional details on the nature of the program and intervention strategies can be found in Wolchik et al. (2007).

## Evaluation of the NBP

The NBP has been evaluated in two randomized, experimental trials. The first one, conducted in 1986 and 1987, was a small-scale trial (N = 70; target child age range = 8-15 yrs) that used an intervention versus wait list control group design. The second larger trial (N = 240; target child age range = 9-12 yrs), conducted in 1991 through 1994, was designed not only to assess whether the positive program effects achieved in the initial trial could be replicated and whether these effects persisted over time, but also to determine whether the addition of a children's group produced additive effects. Because this trial included several follow-up assessments, a literature control group was used as the comparison condition. The orientation of the children's group was cognitive-behavioral and focused on skill acquisition and enhancement. This component targeted increasing effective coping, reducing negative thoughts about divorce stressors, and improving mother-child relationship quality. Mothers and children in the control group each received three books on children's divorce adjustment and a syllabus to guide their reading. Analyses comparing the mother-only to the mother plus child condition revealed that adding the child group did not increase program benefits on any mental health outcome beyond the effects of the mother program alone (Wolchik et al., 2000;2007). Thus, our discussion of the results focuses on the mother program.

In both trials, families were recruited primarily through random sampling of court records for divorce filings of families with children. Media articles, presentations to school personnel and word of mouth were also used. In the second trial, mothers who expressed interest in the program participated in an in-home recruitment visit. Multiple eligibility criteria were used in both studies, including the divorce occurred within the past two years, the mother did not plan to remarry during the course of the study, and neither the mother nor the child was in treatment for psychological problems at the time. In the first trial families were eligible if there was at least one child between 8 and 15 years old. Because of the child component in the second trial, the age range was narrowed to 9 to 12 years old. See Wolchik et al. (1993;2002) for additional eligibility criteria. Because the intervention was designed to be preventive, families were excluded if the child had test scores indicating clinical levels of depression or extreme levels of externalizing problems or endorsed an item about suicidal ideation. These families were referred for treatment.

In both trials, nearly all the mothers were Caucasian (90 %; 88%). About three-fourths of the mothers in the first trial and half in the second trial had completed some college courses. Most mothers had sole maternal legal custody (74%; 63%). Of the families that met the eligibility criteria in the second trial, 36% were randomly assigned to condition.

In the second trial, families that participated in the in-home recruitment visit but were not interested in the intervention study were asked to complete an interview (63% agreed; Refusal Group [RG]; n=70) Comparisons of the RG and those assigned to condition on 27 demographic, putative mediator and mental health outcome variables revealed three significant differences: acceptors had higher maternal education, higher family income and fewer children than RG families.

Analyses for both trials were conducted using an intent-to-treat design, such that all participants who were randomized to condition were included in the analyses, regardless of their level of attendance in the program. Attendance in both trials was high and did not differ significantly

across condition. Retention in the assessments was extremely high in both trials. Illustratively, in the second trial, 98% of the participants randomly assigned to condition completed the 3- and 6-month follow-ups and 91% completed the 6-year follow-up. Assessments at each time point included multiple measures of the targeted mediators as well as youth's adaptation outcomes.

## Short-term Findings

The initial trial revealed positive program effects at post-test on the putative mediators of mother-child relationship quality, effective discipline, divorce stressors, and father-child contact (i.e., mothers' willingness to change visitation) (Wolchik et al, 1993). For mother-child relationship quality, divorce stressors and discipline, program effects were moderated by baseline functioning such that program benefits were greatest for families with poorer initial functioning. Importantly, positive program effects occurred for youths' mental health problems. Similar to the pattern of effects for the putative mediators, program effects were stronger for those youth with higher initial levels of mental health problems.

The positive findings observed at post-test in the initial trial were replicated in the second trial (Wolchik et al., 2000). Significant program main effects occurred for the putative mediators of effective discipline, as assessed by questionnaire, and a behavioral observation measure of mother-child relationship quality. Program by baseline interactions for questionnaire measures of mother-child relationship quality and father-child contact (i.e., maternal attitudes toward the father-child relationship) were also significant. Program benefits were greater for families with poorer initial functioning. For mother/child reported externalizing problems, there was a significant program by baseline interaction indicating that program benefits were greatest for those with higher initial problems. There was also a significant main effect to improve mother/child report of internalizing problems. However, according to teacher report, the mother program led to higher internalizing problems relative to the literature control. The proportion of children scoring ***below*** the clinical cutoff point for internalizing or externalizing problems (Child Behavior Checklist; Achenbach, 1991) was significantly higher in the mother program condition (82%) than in the literature control condition (72%). Analyses of 6-month follow-up data revealed a significant program by baseline interaction for mother/child and teacher reports of externalizing problems. Program benefits were greatest for those with higher baseline problems.

## Long-term Findings

The 6-year follow-up was conducted when the youth were in mid-to-late adolescence. Post-hoc comparisons of the effects of the mother program versus the mother-plus-child program on children's mental health problems at post-test, 3-month follow-up and 6-month follow-up revealed that only one of tests of main or interactive effects was significant or marginal (Wolchik et al., 2007). Thus, at 6 year follow-up, the mother program and mother plus child program conditions were combined and compared to the literature control to provide a more parsimonious perspective on the long-term findings. Because previous analyses had also consistently shown that program benefit was greater for families who had poorer functioning at baseline, an empirically-derived composite risk index was created and used as the baseline covariate and the risk by program interaction was included in all models. The risk index was composed of the variables assessed at baseline that were significant predictors of multiple adolescent outcomes in the literature control group (Dawson-McClure, Sandler, Millsap & Wolchik, 2004). This index included standardized scores on baseline measures of externalizing problems and a composite of environmental stress (i.e., interparental conflict, negative life events, maternal distress, reduced contact with father, current per capita annual income).

In terms of the pitative mediators, a significant interactive effect occurred for mother-adolescent relationship quality; program benefits were greater for families with higher baseline risk. There were positive program effects on a wide range of developmentally salient outcomes; significant main and/or interactive effects were found for 12 of the 15 outcomes tested (Wolchik et al., 2007). Significant positive main effects were found for grade point average, number of sexual partners, and percent of adolescents with a mental disorder in the past year. Illustratively, 14.8% of adolescents in the NBP had a mental disorder in the past year (assessed with the DISC) versus 23.5% of those in the control group. Interactive effects were found for parent/adolescent reported internalizing problems, parent/adolescent reported externalizing, teacher reported externalizing problems, symptoms of mental disorder, alcohol use, marijuana use, other drug use, polydrug use and competence. As in previous analyses, program benefits were greater for those with higher baseline risk.

In addition to assessing whether there were differences between the control and NBP conditions on the putative mediators and mental health and social adaptation outcomes, we assessed whether the magnitude of the program effects changed over time. Theoretically, the effects of preventive interventions may remain stable, decrease over time, or increase over time. Effects of an intervention, particularly a relatively short one such as the NBP, may fade over time as the positive short- term effects on risk factors and resilience resources are counteracted by multiple life changes that occur independently of the intervention, such as new significant adults entering the family, economic changes, and changes in friendships. Alternatively, the immediate improvements in risk factors and resilience resources and improvements in mental health problems may have positive cascading effects. Improvements in mental health problems can lead to more positive interactions with family members and peers, which could further strengthen both social environmental-level and youth-level resilience resources, which then in turn positively affect adaptation outcomes.

To examine the nature of change in the magnitude of program effects over time, we selected variables that were assessed with the same measures at all time points. The effect sizes for these variables were plotted for the high risk group at post-test, short-term (3- and 6- month) follow-up, and 6-year follow-up. As shown in Figure 3a, for discipline and relationship quality, the effect sizes decreased from post-test to short-term follow-up and then increased somewhat from short-term to 6-year follow-up. For active coping, the effect size showed a sizeable increase from short-term to 6-year follow-up. A similar pattern of change occurred for self-esteem. The growth in program effects for active coping and self-esteem is consistent with a cascading pathways model in which changes in social-environmental-level resources, such as mother-child relationship quality, at one point in development promote increases in youth-level resources, such as self-esteem, at later developmental stages. Growth in the magnitude of program effects also occurred for the mental health outcomes. As shown in Figure 3b, for both parent/adolescent and teacher reports of externalizing problems, effect sizes at 6-year follow-up were considerably larger than those at post-test or short-term follow-up. For parent/adolescent report of internalizing problems, the growth in effect size occurred between the short-term and 6-year follow-ups. These patterns of change are consistent with a cascading pathways model in which program-induced changes increase over time.

## Mediational Analysis

Short- and long-term mediational analyses were conducted to test the theoretical proposition that program-induced changes in putative mediators would account for improvements in adaptation outcomes. Findings from the initial trial revealed that program effects on mental health problems at post-test were mediated by mother-child relationship quality (Wolchik et al, 1993). In the second trial, analyses revealed that the program effects on internalizing problems at post-test were mediated by improvements in mother-child relationship quality, and

the program effects on externalizing problems at post-test and 6 month follow-up were mediated by improvements in mother-child relationship quality and effective discipline (Tein, Sandler, MacKinnon, & Wolchik, 2004). Mediation was primarily present for families with poorer baseline functioning (i.e., poorer mother-child relationship quality and/or higher externalizing problems). The results of the mediational analyses for the 6-year program effects showed that program-induced changes in effective discipline at post-test mediated the positive program effects on grade point average, regardless of risk status (Zhou, Sandler, Millsap & Wolchik, in press). For the high baseline risk families only, improvements in mother-child relationship quality at post-test mediated the positive program effects on symptoms of mental disorder, internalizing problems, and externalizing problems in adolescence. In all tests of mediation, mediation was partial rather than complete.

## Furthering our understanding of pathways to resilience: Exploring mechanisms of action of family-level resilience resources

### Contextual resilience model

Although the mediation analyses described above indicate that mother-child relationship quality and effective discipline partially accounted for several of the program effects on adaptation outcomes at post-test and the short-term and six-year follow-ups, these mediational relations do not completely describe the pathways through which improvements in mental health problems and academic performance occurred. Using a contextual resilience model (Sandler, 2001; Sandler, Wolchik & Ayers, 2008), we recently completed analyses to explicate further the processes through which program-induced changes in mother-child relationship quality account for program effects on adolescent outcomes. In this model, similar to other ecological models (e.g., Bronfenbrenner, 1979; Kurdek, 1981; Wyman et al., 2000), youth are viewed as active agents who are nested within the contexts of family, community, and culture. In each level, there are risk factors and resilience resources that can exacerbate or mitigate the effects of major life events on adaptation outcomes, and risk factors and resilience resources are viewed as mutually influencing each other within and across levels. Youth are seen as actively construing themselves in relation to their social contexts of family, community and culture around the fulfillment of basic needs through self-system beliefs, which reflect the degree of satisfaction of basic needs. Changes in the level of satisfaction of these needs are proposed to affect adaptation outcomes.

Applying this model to parental divorce, we propose that the stressors that occur following the divorce, such as increased conflict between the parents and change in residence and schools, threaten the satisfaction of three basic needs: positive self-worth, social relatedness and control. We also argue that resilience resources promote need satisfaction directly or by mitigating the negative effects of stressors on need satisfaction. Similar to the cascading pathways model, positive changes in risk factors and resilience resources are viewed as having a dynamic influence on other social environmental-level as well as youth-level variables over time, leading to more effective satisfaction of youths' basic needs and further improvements in adaptation outcomes. Further, competencies developed in the process of adapting to stressful events provide important resources for coping with future challenges.

As discussed earlier, our previous research has provided support for the role of these three self-systems beliefs in children's post-divorce adaptation. In a cross-sectional model, Fogas et al. (1992) found that locus of control partially mediated the relations between divorce stressors and depression and anxiety and Sandler, Kim-Bae and MacKinnon (2000) found that unknown control beliefs significantly mediated the relation between stressors and psychological symptoms. Sandler's (2000) cross-sectional analyses provided support for self-esteem as a mediator of the relation between adversity (defined as recent negative events, economic

poverty, parent demoralization and interparental conflict) and depression. Focusing on the need for social relatedness, Wolchik, Tein, Sandler and Doyle (2002) tested a model in which the effects of divorce stressors and mother-child relationship quality on mental health problems were accounted for by fear of abandonment. Using a prospective longitudinal design, they found that the relation between divorce stressors as well as the relations between mother-child relationship quality and both internalizing problems and externalizing problems, assessed five months later, were mediated through fear of abandonment.

There are several plausible ways in which high quality parenting might influence adaptation outcomes through its effect on the satisfaction of the needs of social relatedness, control beliefs and positive self-worth. First, high quality mother-child relationships may reduce feelings of helplessness (Wolchik, Ramirez, Sandler, Fisher, Balls, & Brown, 1992) or facilitate children's engagement with developmental goals, such as autonomy and social competence, both of which have an impact on adaptation outcomes (Davies, Forman, Rasi & Stevens, 2002). It is also possible that caregivers who use positive parenting strategies shield children from exposure to some uncontrollable stressors, which may promote children's sense of control. A greater sense of control may help children become re-engaged in mastery-enhancing developmental tasks that were disrupted by the divorce, which leads to improvements in adaptation problems. Also, high quality mother-child relationships may provide emotional and tangible support for coping with stressors, promote children's sense of emotional security which could lead to a more varied repertoire of coping responses (Power, 2004), and help children to interpret stressors in more hopeful ways and less threatening ways. A wider range of coping options and more hopeful appraisals may enhance children's sense of mastery over their environment, which leads to improvements in adaptation outcomes (Kliewer, Sandler, & Wolchik, 1994; Lengua, Sandler, West, Wolchik & Curran, 1999; Sandler, Tein, Metha, Ayers & Wolchik, 2000).

Mother-child relationships that include high levels of responsiveness and warmth may promote children's beliefs that they will be able to cope with both controllable as well as uncontrollable stressors. For stressors within a child's control, coping efficacy beliefs may lead to use of active coping strategies, which are associated with positive adaptation outcomes (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Rothbaum, Weisz and Snyder (1982) describe secondary control strategies for events that cannot be directly controlled, such as believing that powerful others will help control such events or believing that the world is predictable and makes sense. Supportive caregivers may promote both types of beliefs and thus promote children's sense of their efficacy to cope with stressors beyond their control. Interactions with mothers who are responsive, warm and affectionate may also enhance children's self-esteem, which may lead to improvements in adaptation outcomes by encouraging less threatening appraisals of stressors or buffering the negative effects of divorce-related stressors on adaptation outcomes (Kliewer & Sandler, 1992). Effective discipline may positively affect youths' adaptation outcomes through enhancing their sense of the predictability of their environments. The consistent occurrence of expected consequences for misbehaviors may promote a sense of control, which could influence adaptation outcomes through its effect on threat appraisals, coping efficacy or coping efforts (Skinner & Wellborn, 1994).

## Testing models that link parenting, self-systems beliefs and adaptation outcomes

The second trial included measures of self-systems beliefs, parenting and adaptation outcomes. Thus, this data set allowed an examination of whether self-system beliefs are pathways by which program-induced improvements in parenting influence adaptation outcomes. Measures of control and positive self-worth were included in the data set. Control was operationalized as coping efficacy, or a belief that one can handle problems effectively; positive self-worth was assessed using a measure of self-esteem. Because previous analyses have shown that

program-induced improvements in internalizing problems, externalizing problems, and symptoms of mental disorder were mediated by changes in mother-child relationship quality for families with high baseline risk (Zhou et al., 2008), these outcomes were included in the models.

A total of six three-path mediational models were tested in which two mediators (i.e., mother-child relationship quality; self-systems beliefs) intervene sequentially between the independent and dependent variables (Taylor, MacKinnon, & Tein, 2008). Given that there are significant program × baseline risk interactions for all three outcomes tested, two-group Structural Equation Modeling (SEM) was used to examine mediation of program effects for high and low risk groups simultaneously. Analytic procedures followed those outlined in Zhou et al (2008). The models were part-longitudinal; paths from program condition to relationship quality and from relationship quality to coping efficacy or self-esteem were longitudinal, whereas the paths from coping efficacy or self-esteem to the mental health outcomes were cross-sectional. Models controlled for baseline levels of the mediators and the baseline mother-child relationship quality by program interaction. MPlus software (Version, 4.0, Muthén & Muthén ,1998) was used; full maximum likelihood estimation (MLE) was implemented to account for missing data, and bias-corrected bootstrapping was used to test for the significance of mediated effects[1].

For all models, the two-group analysis did not yield evidence of moderation by risk, indicating that the mediational paths were invariant across high and low risk groups. The three models testing whether coping efficacy mediated the effects of mother-child relationship quality on the mental health outcomes all fit the data well: $\chi^2$ (20) = 18.61, p = .55, RMSEA = .00, SRMR = .06, CFI = 1.00 for externalizing problems; $\chi^2$ (20) = 14.303, p = .81, RMSEA = .00, SRMR = .05, CFI = 1.00 for internalizing problems; and $\chi^2$ (20) = 15.03, p = .77, RMSEA = .00, SRMR = .05, CFI = 1.00 for symptoms of mental disorder. The results of the model testing the mediational relations for externalizing problems are provided in Figure 4. As shown, paths from program condition to post-test relationship quality (unstandardized path coefficient, B = .21, p =.000), from relationship quality to coping efficacy at 6-year follow-up (B = .83, p = .04), and from coping efficacy to externalizing problems at 6-year follow-up (B = -.08, p = .000) were significant. The test of the mediated effect was also significant (95% Confidence Intervals: -.04, -.002)[2].

The tests of the models for internalizing problems and symptoms of mental disorder also showed that the effects of program-induced improvements in mother-child relationship quality at post-test on these outcomes at six-year follow-up were mediated by increases in coping efficacy at six-year follow-up. The paths from program condition to post-test relationship quality (B = .21, p = .000) were significant. The path from relationship quality to coping efficacy was extremely close to significance for internalizing problems (B = .79, p =.051) and for symptoms of mental disorder, the corresponding path was marginally significant (B = .12, p = .07). Paths from coping efficacy to internalizing problems (B = -.10, p = .000) and to symptoms of mental disorder (B =.-1.68, p = .000) were significant. Tests of the mediated effects were significant for both models (internalizing 95% CI: -.05, -.002; symptoms of mental disorder 95% CI: -.77, - .02)[3]. Although the models testing whether self-esteem mediated the

[1]Evidence suggests that MLE procedures are superior to traditional missing data techniques (e.g., Muthén, Kaplan, & Hollis, 1987), and bias-corrected boostrapping has been shown to be the most powerful test of mediation for three-path mediational models (Taylor et al, 2008).

[2]The significant program by baseline mother-child relationship quality interaction indicates that the positive relation between participation in the intervention and post-test mother-child relationship quality was stronger for families with lower baseline mother-child relationship quality.

[3]For these models, the significant program by baseline mother-child relationship quality interaction was significant, indicating that the positive relation between participation in the intervention and post-test mother-child relationship quality was stronger for families with lower baseline mother-child relationship quality.

effects of mother-child relationship quality on internalizing problems, externalizing problems and symptoms of mental disorder fit the data well, mediation was not significant for any of these three models.

These results suggest that self-system beliefs about control are one potential mechanism through which increases in the quality of mother-child relationships improve adaptation outcomes. One fruitful direction for future research involves examining whether self-systems beliefs about social relatedness serve a similar role. Given the salience of disruption of intimate social bonds, beliefs about social relatedness may be a particularly important influence on adaptation outcomes after parental divorce. It will also be useful to test more complex models of how program-induced improvements in quality of parenting impact adaptation outcomes over time. For example, researchers could study how reciprocal relations between youth internalizing problems and externalizing problems and quality of parenting affect self-systems beliefs as well as other resilience resources, such as coping efforts and peer relationships.

## Summary and directions for future work

The program of research on the NBP illustrates the rich interplay that can exist between theoretical and correlational work on risk factors and resilience resources and experimental trials that successfully manipulate these processes. The NBP targeted empirically-supported modifiable risk factors and resilience resources and assessed changes in these variables as well as children's adaptation outcomes. Rigorous evaluations showed that the NBP improved quality of parenting, defined as mother-child relationship quality and effective discipline, and youth adaptation outcomes. For most outcomes, the program effects were stronger for those entering the program with high levels of risk. Mediational analyses showed that both short-term and long-term effects program on multiple adaptation outcomes were accounted for by changes in the quality of parenting. For several resilience resources and adaptation outcomes, the program effects increased over time. Our research focused on unpacking the relation between improvements in parenting and positive change in adaptation outcomes suggests that coping efficacy is one pathway through which resilience achieves it effects. These findings provide support for the cascading pathway model of adjustment to adversity, in which there are positive, dynamic relations between resilience resources and youth adaptation outcomes and between resilience resources within and across levels.

There are several important directions for future research. One of the most significant directions involves transporting the NBP into natural delivery systems. Research on other evidence-based programs has shown that implementation of such programs in real-world settings typically deviates markedly from the original design (e.g., Gottfredson & Gottfredson, 2002) and that low fidelity of implementation is related to lower levels of effectiveness (Maher & Davidson, 2000). Effectively transporting university-tested programs into ongoing services requires understanding that there are barriers to consistent high quality implementation because of important differences between university and real world settings (e.g., Schoenwald & Hoagwood, 2001). For example, the level of resources devoted to program implementation (e.g., training, supervision; monitoring of implementation) in the experimental trials of NBP is not realistic in settings outside the university. In addition, parents in community settings are more diverse than the participants in the NBP trials (e.g., diverse cultural backgrounds, fathers as well as mothers, never married as well as married parents). The goal of our program of research is to proactively identify such barriers and adapt the NBP so that it is appropriate for the broader population of divorced families and to maximize the likelihood that the NBP will be delivered with high levels of fidelity and quality in community settings. Prior to widespread dissemination of the NBP, it is critical to conduct an effectiveness trial of the NBP, in which its effects are examined as it is delivered in natural service delivery systems under normal and sustainable conditions. This study can address not only the effects of the NBP on youth

adaptation outcomes but other important issues, such as whether there are there differential effects across sub-groups of parents, what types of recruitment strategies are most effective, whether variability in implementation relates to outcomes, and the impact of delivery of the NBP on the service delivery systems.

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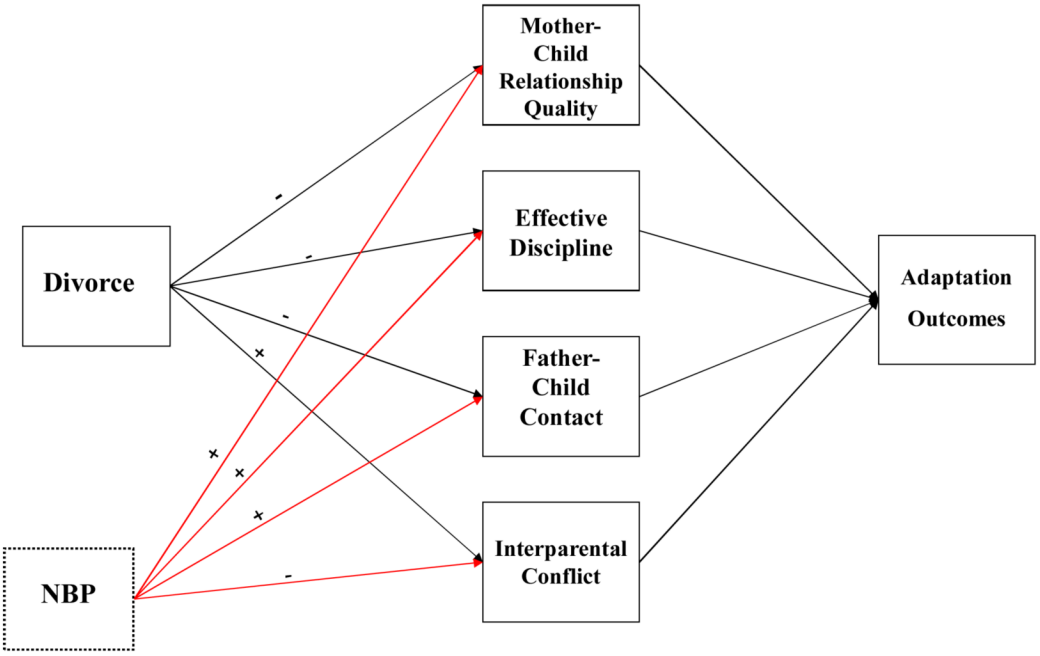



**Figure 1.**
Links between Divorce, Risk Factors and Resilience Resources Targeted in NBP and Youth Adaptation Outcomes.

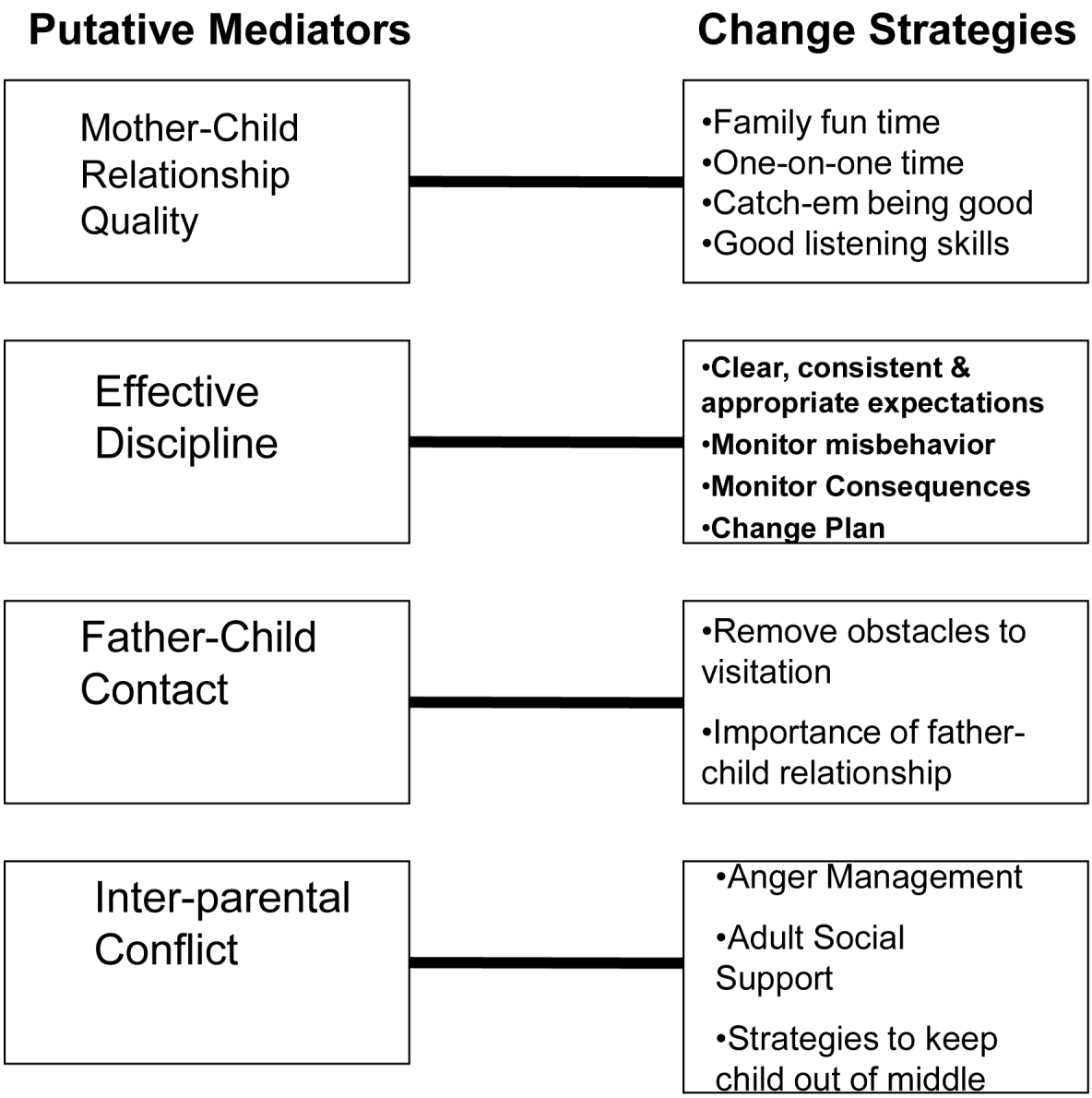
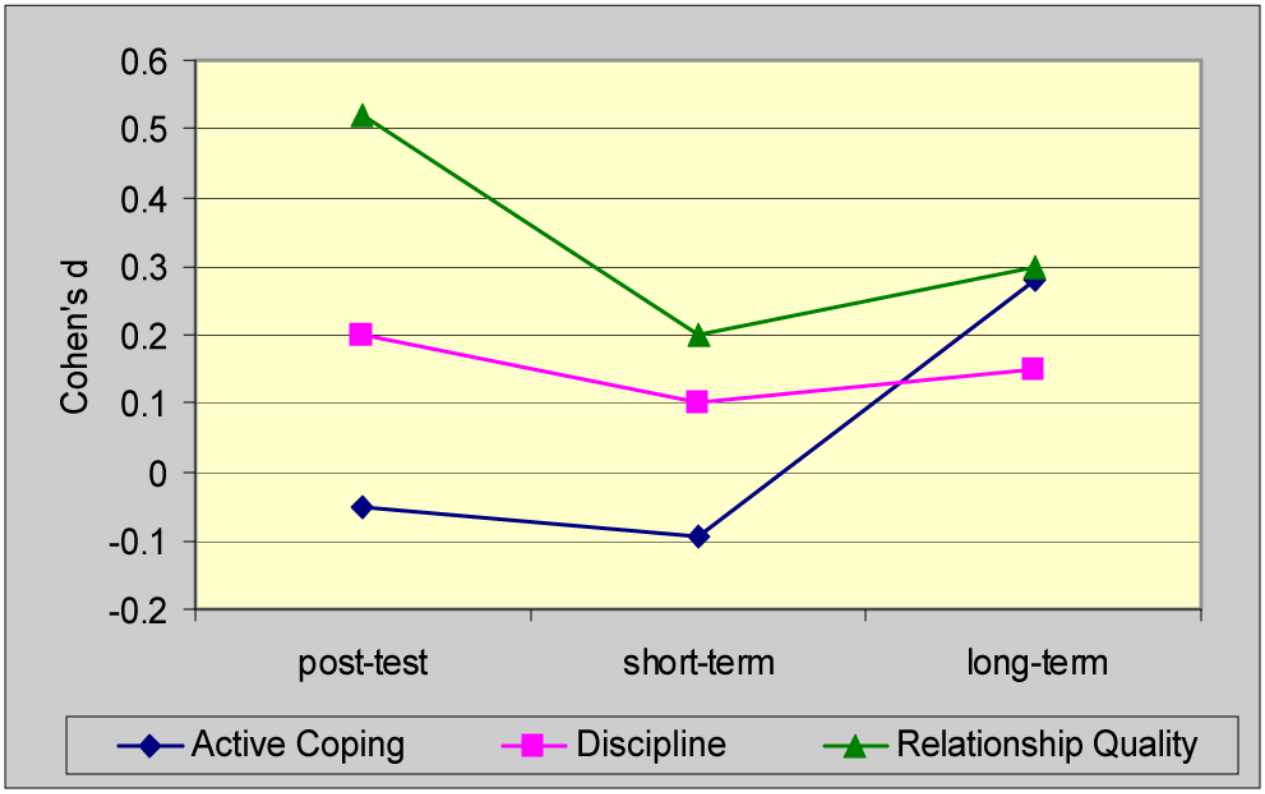



**Figure 2.**
Change Strategies for each Putative Mediator



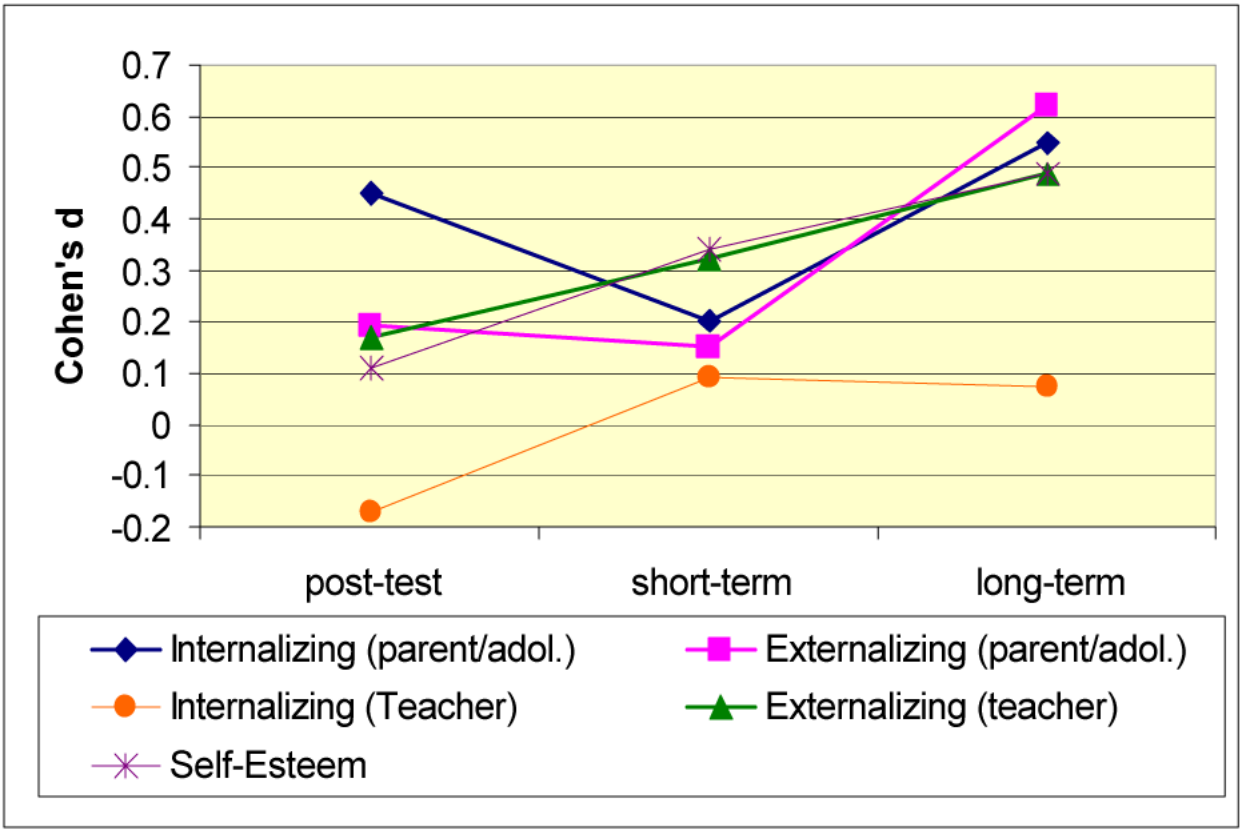



*Figure 3a* Changes in the Magnitude of Program Effects across Time—Putative Mediators.
*Figure 3b* Changes in the Magnitude of Program Effects across Time—Adaptation Outcomes.

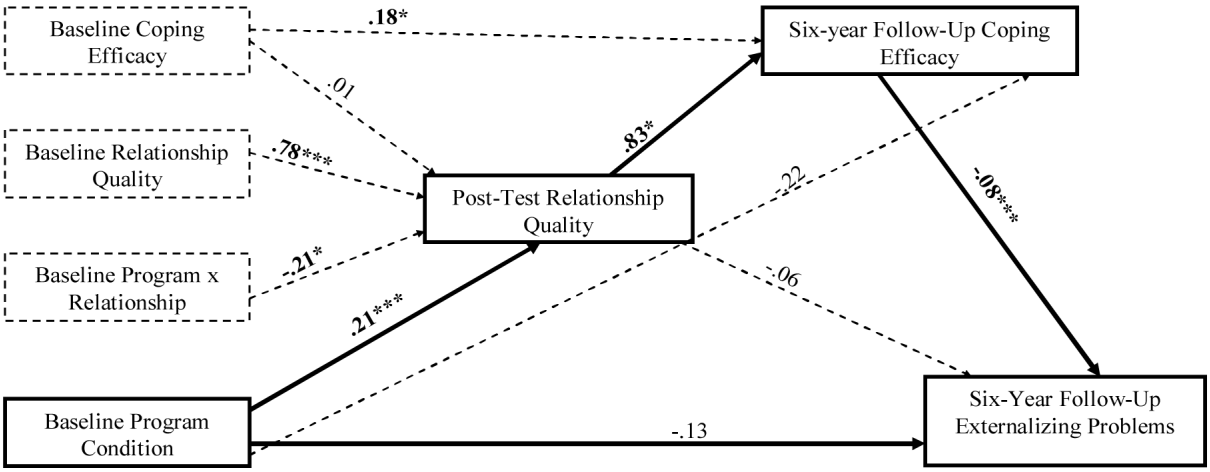



**Figure 4.**

Coping Efficacy as a Mediator of the Effects of Program-induced Changes in Relationship Quality on Symptoms of Mental Disorder.

Note. The primary paths of interest (i.e., the three indirect paths and the direct path) are represented by solid bold lines; all other paths are dashed. All path coefficients are unstandardized; significant coefficients are presented in bold.