

Effectiveness of a Multiple Family Group Intervention for Juvenile First Offenders in Reducing Parent Stress

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Abstract Parenting practices are major influences on incidents of juvenile delinquency. Stress experienced by parents of children with behavioral problems is a leading contributor to parenting practices. We investigated the extent to which parental stress was reduced by participation in an established multiple group family intervention, the Family Solutions Program, developed to reduce recidivism among juvenile offenders. We also examined parent stress by gender, ethnicity, dropout rates, intervention benefits at 3-month follow-up, single-versus two-parent households, and across dimensions of family functioning and parent-adolescent communication. Parents reported greater levels of parent stress than non-clinical parents prior to intervention. Parental stress did diminish in response to intervention, but not until follow-up to intervention completion. No differences were found on initial parent stress level between completers and non-completers of the intervention or between parent stress and gender or ethnicity of the parent; however, single-parent household was associated with significantly higher levels of parent stress. Family functioning was significantly negatively correlated with parental stress. Finally, open communication between juvenile first offenders and their parents improved significantly in response to the intervention both at post-intervention and at follow-up.

Keywords Family intervention · Parental stress · Juvenile delinquency

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Reduction in the rate of juvenile delinquency continues to be a challenge for communities as well as social service and juvenile justice agencies. There are a number of risk factors that contribute to increased adolescent delinquency including poverty, drug use, low social conformity, low verbal skill, interpersonal inadequacy, low self-esteem, peer rejection, poor school achievement and dropping out of school, associating with deviant peers, limited prosocial peer involvement, few rules in the household and inadequate parental support and guidance, low social support, and frequent mobilization (Carr, 2001).

Over thirty years of research conducted on treatment for childhood conduct problems and delinquency has documented positive effects of a number of treatments, including childhood cognitive-behavioral approaches, and parent-focused interventions to improve family interaction and parent management (Beauchaine, Webster-Stratton, & Reid, 2005; Eyberg et al., 2001; Patterson, Dishion, & Chamberlain, 1993). A major construct with demonstrated associations with delinquency is a cluster of family influences. Specifically, these factors include lack of parental monitoring, divorce or separation, lax or harsh discipline, high levels of conflict and hostility in the home, parental difficulties such as drug use/abuse, psychopathology, criminal activity, low parental affection and warmth, lack of cohesion, and high stress (Hawkins et al., 2000; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Wells & Rankin, 1991). Many studies have demonstrated the utility of family interventions in diminishing the likelihood of youth offending as well as reducing re-arrest rates for juvenile first offenders. Efforts to improve the quality of family functioning by focusing on family cohesion and communication, parental direction or guidance, supervision or monitoring, and control, trust and problem solving skills have become important variables in the successful treatment of juvenile offenders (Huey, Henggeler, Brondino, & Pickrel, 2000; Perkins-Dock, 2001).

The intervention examined in our study, the Family Solutions Program, offered to juvenile *first* offenders, has documented efficacy in reducing juvenile re-offending. From 1992–2003, only 24% of youth who graduated from the FSP re-offended, compared with 42% of the FSP non-graduates (Quinn, 2004). Recently, first-time juvenile offenders who completed the FSP were compared with first-time juvenile offenders placed on probation only and those who were referred to the FSP, but did not complete the program (Quinn & Van Dyke, 2004). Using logistical regression analysis, youth placed on probation were 9.3 times more likely to re-offend and those who dropped out of the FSP prior to completion were 4.4 times more likely to re-offend than FSP graduates. These differences on recidivism among the three samples held for gender and race.

Parent beliefs and motivational systems that derive from stressful events and psychological symptoms are associated with increases in adolescents' emotional and behavioral problems (Abidin, 1992; Compas, Howell, Phares, Williams, & Giunta, 1989). Parent stress has been related to excessive punitive behavior and disruptive discipline practices that showed a direct link to adolescent maladjustment (Conger, Patterson, & Ge, 1995; Greenwald, Bank, Reid, & Knutson, 1997; Patterson et al., 2002). Parent stress is a construct shown to disrupt competent parenting practices, adversely effect parent-child communication, and decrease the likelihood of successful efforts to make positive change (Webster-Stratton, 1990). Parents of children diagnosed with a chronic medical illness displayed reduction of stress when efforts were made to educate them about their child's diagnosis (Sheeran, Marvin, & Pianta, 1997). While most research assessing parent stress indicates that when efforts are made by parents to better understand their children's problems, develop coping skills to aid their children, and improve communication within the family, a reduction in parent stress occurs. Lacking are studies focusing on adjudicated youth to determine if family intervention reduces stress in parents, particularly in African-American parents.

Stress has clearly been demonstrated as a primary disrupter of parental function, attitude, and practice. These include: extra-familial stressors such as unemployment, financial difficulties, and daily hassles; inter-parental stressors like divorce or marital distress; and child stressors such as difficult temperament and conduct problems. The presence of one or more of these stressors has been shown to contribute to a greater likelihood that parents have more negativistic perceptions of their children, become less nurturing, and less capable of problem-solving and become more irritable, critical and potentially abusive. Such parenting behaviors in turn have been associated with greater incidence of conduct disturbance in children, setting up downward spiraling parent-child interactions and thus further stress on the parents (Holden & Banez, 1996). While previous work has demonstrated the effectiveness of treatments focused on the family in reducing delinquency, substance abuse and addiction, and numerous other behavioral problems of youth, the problem to be investigated in the present study is the extent to which a structured multi-family group intervention for juvenile *first* offenders has an impact on parent stress.

Research addressing gender differences in parenting stress has presented mixed results. In general, it was thought that mothers consistently experienced more of the burden of parenting stress than fathers based on their higher overall scores on parenting stress measures (Berry & Jones, 1995). However, it has become evident that factors such as socio-economic status, employment, marital status and satisfaction, child characteristics, and social support have much more robust influences on parenting stress than do gender (Deater-Deckard & Scarr, 1996; McBride, Schoppe, & Rane, 2002).

Most of the research on stress and ethnicity does suggest that minority status is associated with higher levels of stress (Clark, Anderson, Clark, & Williams, 1999). However, it appears that SES, resource availability and social support have a much greater impact on parent stress than ethnicity (Conger et al., 2002). Of particular interest in this study is the experience of stress on African American parents, a population over-represented in this research sample, in families of juvenile offenders. African-American parents have been assessed as experiencing increased levels of parental stress as compared to Caucasian parents (Capage, et al., 2001; Kazdin, Stolar, & Marciano, 1995). As a result, they are more likely to have difficulties employing effective parenting techniques and have children with behavioral problems (Abidin, 1992; Mash & Johnston, 1990). Stressful negative experiences have been associated with harsher discipline practices, child abuse, negative perception of parental roles and responsibilities, and less adequate parenting overall by African American mothers (Daniel, Hampton, & Newberger, 1983; Deater-Deckard, Dodge, Bates, & Pettit, 1996; McLoyd, Jayaratne, Ceballo, & Borquez, 1994).

The research on levels of parent stress and single versus married parents suggests that SES and social support factors are more influential than marital status. Several studies have demonstrated increases in parenting stress associated with single parenting (regardless of gender of parent), although most of the differences were attributed to socioeconomic factors, multiple role conflicts and greater overall workload (D'Ercole, 1988; Voydanoff & Donnelly, 1998). Even in a matched study which accounted for SES and child age and gender, single parents exhibited greater stress compared to married parents and this was attributed to longer work hours, less support from a social network and greater workloads associated with single parenting (Weinraub & Wolf, 1983).

In research on juvenile delinquency, family functioning characteristics such as parental supervision and knowledge of a child's whereabouts, the amount and quality of activities and conversation between parent and child, persistence of and agreement about discipline, the effectiveness of communication around emotions, disagreements and problems between parent and child, caretaker happiness with partner, and parent stress level have all been

noted as having a significant bearing on the likelihood of developing or preventing persistent delinquency (Stouthamer-Loeber, Wei, Farrington, & Wilkstrom, 2002). Family cohesion or the extent of emotional attachment, dependability, support, and clear communication among family members has been demonstrated as one of the most robust correlates to indexes of child adjustment (Tolan, Gorman-Smith, Huesmann, & Zelli, 1997). Proximal factors of poor parental attachment, responsiveness, consistency, and involvement have been found to be the strongest predictors of adolescent antisocial behavior, with the recommendation that the most important aspects of family functioning in lowering the risk of antisocial child behavior are parent support, guidance, consistency, and supervision (Dekovic, Janssens, & Van As, 2003).

Parent stress measures have been used to assess the effectiveness of aggression management training on aggressive parents and the benefit of parent support groups (Acton & During, 1992; McBride, 1991). Parent stress variables have also been used in evaluating the impact of social support, marital status, mental health, and disciplinary practices on parent function (Suarez & Baker, 1997; Greenwald et al., 1997; Jackson, Gyamfi, Brooks-Gunn, & Blake, 1998).

Though follow-up research using parent stress as a treatment outcome measure is limited, four studies on parent intervention have documented the persistence of treatment gains. Parent stress reduction was found to be maintained at a two-month follow-up in a wait-list controlled study evaluating a temperament-focused parent-training program for parents of temperamentally difficult children (Sheeber & Johnson, 1994). Also, in two separate wait-list controlled studies of parents of children diagnosed with ADHD, reductions in parenting stress were found to be maintained for two to three months after participating in parenting training (Anastopoulos et al., 1993). Parents of children referred for severe antisocial behavior maintained treatment gains in the way of reduced parent stress at one year following a parent management training group (Kazdin, Siegel, & Bass, 1993). Research on multifamily group therapy with juvenile offenders has proven to be the most effective intervention in affecting reduction of recidivism and improving family and youth functioning (Borduin et al., 1995; Hollin, 1999; Perkins-Dock, 2001).

Our study evaluated three different characteristics of family dynamics that associate with delinquency: (1) parent stress, (2) family functioning, and (3) parent-adolescent communication. In addition, a follow-up assessment was conducted to examine stability of change in these three constructs over time.

Method

Sample

The participants were parents in six Northeast Georgia counties referred to the Family Solutions Program (FSP) by juvenile courts, a multi-family group intervention targeting *first-time* juvenile offenders and their family members. One hundred and eighty-one (181) parents participated in this study. The ethnic makeup was primarily Caucasian (50%) and African-American (47%). The majority of the parents (80%) were female. Of the female participants, 89% were mothers, stepmothers, or foster mothers, 7% grandmothers, and 4% other relation to youth. All of the male participants were fathers, stepfathers, or foster-fathers except for one grandfather. Parent participants ranged in age from 22 to 61 with a mean age of 40. Slightly more “two-parent” homes (57%) than “one-parent” homes (43%) were reported. The majority of the sample was low-income, with 54% of the sample reporting

a household income of under \$20,000. The adjudicated youth in the intervention program were 57% male and 43% female and ranged in age from 9 to 17 with a mean age of 14.07.

From the 181 parents who were referred to the FSP during the time of data collection for this study, 168 provided usable, valid data on the PSS pre-test. Three PSS pre-tests had invalid response sets (respondents used the same number on all 18 items), and 10 parents did not complete the PSS at pre-test. Four participants left three or fewer of the 18 PSS items blank, so an imputation process was used for the items omitted by inputting the mean score of the completed PSS items (Little & Rubin, 1987).

Intervention

The FSP consists of 10 weekly two-hour sessions that must be attended by the youth and parent(s), and any other family members such as siblings or grandparents. A maximum of one absence from the group is allowed for the youth and family to be eligible to complete the program and given credit by the juvenile court. A satisfactory level of participation is also required. Excess absences or inadequate participation results in referral back to the court system and loss of eligibility to complete the FSP (Quinn, Van Dyke, & Kurth, 2002). The groups are led by human service professionals, school counselors, or therapists trained in the FSP model which is standardized with a curriculum manual outlining the theory, referral process, session goals and objectives, session activities, videos, handouts and homework assignments, and evaluation forms (Quinn, 1998). The group leaders must complete a formal one and one-half day training program followed by ongoing consultation with the FSP Coordinator and Executive Director and measures of family reports to insure compliance with program curriculum and guidelines. These reports indicate how families are experiencing the group leader and session content including enthusiasm, empathy, structure, and content. At the final group session, youth and parents complete a session evaluation form rating each activity in the program.

Four to ten family units comprised a multi-family group with a family unit consisting of a minimum of one parent and the juvenile first offender, but often including other family members such as siblings and extended family who were encouraged to attend. Only parents who successfully completed the Family Solutions Program graduation criteria were included in post and follow-up intervention data. The implementation of the FSP follows three progressive stages. In the first stage, sessions 1 and 2, the focus is on building trust and group cohesion by getting to know each other, establishing group rules, negotiating group topics, and promoting family cooperation and cohesion. In stage two, sessions 3–9, the focus is on interpersonal and family skill building through communication exercises, behavioral contracting, and parenting skill development. Home-school partnerships are fostered and an emphasis on academic success is promoted. Youth are also required to participate in a community service activity. There is also a focus on improving decision-making skills and building conflict-resolution skills through role play and rehearsal. Parents in the multiple group format receive support while enthusiasm grows as they provide encouragement and guidance from each other. In stage three, the last group session, a celebration event occurs as members are acknowledged for the work they have done, and graduation certificates, photos of families engaged in FSP activities, and What We Like About You cards, among other symbols of achievements, are presented. Finally, youth write and read orally an answer to the question, “What I Have Learned in the Family Solutions Program.” Parents and youth

provide testimonies of improvements they have made in their lives while participating in the Family Solutions Program.

Instruments

Parental stress scale

The Parental Stress Scale (PSS) was developed in response to the need for a specific measure targeting the impact of stress associated with the role of parenting (Berry & Jones, 1995). This 18 item questionnaire focuses solely on feelings and perceptions about the experience of being a parent and it has provided clinicians with a user friendly scale that has demonstrated an ability to provide relevant measures of emotions and role satisfaction of parents both in clinical and non-clinical populations. The PSS showed strong comparisons to other measures of stress including the Perceived Stress Scale and the Parenting Stress Index, as well as measures of psychological well-being, role satisfaction, loneliness, anxiety, marital satisfaction, marital commitment, job satisfaction, state-trait guilt, and social support amount and satisfaction (Abidin, 1986; Cohen, Kamarck, & Mermelstein, 1983). The PSS demonstrated a clear ability to discriminate between parents of children with typical development versus parents of children with emotional, behavioral or developmental problems. With the exception of number of social support measures for fathers, measures from the PSS were significantly related to all the above measures in the expected direction. Moreover, it has certain advantages over other measures in that it is specific to the construct of parent stress, is appropriate for both mothers and fathers, parents of children with and without clinical problems, and is brief and easy to read, administer and score (Berry & Jones, 1995).

Family apgar

The Family APGAR (FAPGAR) is a five-item measure designed to evaluate five areas of family functioning: Adaptability, Partnership, Growth, Affection, and Resolve (Smilkstein, 1978). Subjects are presented with a single question for each dimension, 5 questions total, that require responses of hardly ever, some of the time, or almost always, scored 0, 1 and 2 respectively. A total score of 0–3 suggests severe dysfunction in the family, a total score of 4–6 indicates moderate dysfunction, and a total score 7–10 represents good family functioning. Validity was addressed by examining correlations with the Pless-Satterwhite Family Function Index (validity correlation of .80) and with estimates of family function made by psychotherapists (validity correlation of .64). Internal reliability estimates ranged from .80 to .86 (Smilkstein, Ashworth, & Montano, 1982). The FAPGAR has been used to demonstrate the effect of lack of social support on child psychosocial dysfunction, the association of poor family functioning with greater stress, poorer health, and greater incidence of depression (Chao, Zyzanski, & Flocke, 1998; McNabb, 1983; Murphy et al., 1998).

Parent-adolescent communication scale

The Parent-Adolescent Communication Scale (PACS) was developed by Barnes and Olson (1982) to evaluate openness, information-exchange, and concerns between parents and their children. The PACS also provides information about the trust or honesty experienced, and the emotional quality of interactions. Two subscales (10 items each) measure positive aspects (open communication) and problem-solving aspects of process and content issues in communication. Alpha reliabilities for each subscale were .87 and .78, respectively, and

Cronbach alpha coefficients for the instrument ranged from .74 to .91. (Barnes & Olson, 1985; Masselam, Marcus, & Stunkard, 1990).

The PACS has been used to demonstrate a significant association between open communication and reduction of delinquent behavior Clark and Shields, (1997). Poor parental communication has been linked to violent conduct using the PACS (Caprara, Regalia & Bandura, 2002). In an African-American sample the PACS indicated the existence of strong associations between overall family problems reported by adolescents and those reporting less open and more problem communication with their mothers (Terras, 2000). Finally, the PACS demonstrated effectiveness in predicting family therapy outcome in adolescent substance abuse outpatient treatment (Friedman, Tomko, & Utada, 1991).

Procedure

Participants were referred to the FSP by the juvenile court, usually through a process called an “Informal Adjustment.” A first-time juvenile offender opts to admit guilt for the crime to a court officer, such as a probation officer, rather than go before a judge. By doing so the youth and the family are referred to the Family Solutions Program rather than face formal probation, fines, or other sanctions. Some court referrals were court mandated and youth were placed on probation, and determined to be in violation of probation if they did not attend. Prior to the inception of the Family Solutions Program (FSP), the youth and at least one parent meet at the juvenile court with a representative from FSP and the probation officer. FSP involves an inclusive systems approach and family members or other persons who have an ongoing relationship with the youth may be invited by FSP staff to attend. A risk assessment is conducted, an explanation is given to the family about its obligation to FSP, the time and place of the first meeting of the FSP is provided, and questions raised by the family are answered.

The risk assessment, or screening process, provides information to FSP staff to determine if a family presents with a characteristic not conducive to successful participation, such as an untreated drug or alcohol problem. It also provides information to help prepare program content and process to conform to the family’s issues and needs. General demographic information about age, gender, ethnic background, SES, education level, and family functioning is gathered, with particular attention to risk factors such as school performance and behavior, level of parental supervision, peer associations, and familial alcohol or drug use or criminal history. The FSP procedures have been reviewed by the University of Georgia’s Human Subjects Institutional Review Board (IRB). After IRB approval, the Parental Stress Scale (Berry & Jones, 1995) was included with the FSP risk assessment as part of the ongoing program assessment effort and a consent form outlining the purpose of this study was included.

For families who complete the FSP, the group leader at the last session administers a post-intervention assessment to the youth and parent(s). Families complete the same instruments administered at pre-intervention that pertain to the program’s goals, including those examined in this study (parent-adolescent communication, family functioning, and the parental stress scale). At one month following FSP completion, parents were mailed the PSS, FAPGAR, and PACS along with a second consent form to complete and return in a stamped return-addressed envelope. As an incentive to complete and return follow-up questionnaires, parents were offered a gift-certificate or voucher of no more than ten dollars in value from a local retailer to be mailed to them upon receiving returned completed items. Returned follow-up questionnaires were considered if they were received between one and three months of FSP graduation.

Analyses

Parents who satisfactorily completed the FSP by attending and actively participating in at least 9 out of 10 sessions comprised the program completion group. Pre-test, post-test, and follow-up scores of the PSS from the sample of parents who completed the intervention were evaluated to determine if there was a reduction of parent stress after program completion.

Scores from parents on the PSS who attended intake, but did not complete the FSP during the time period of this study, were compared to evaluate if parental stress measures had predictive value in determining parents at risk of intervention dropout. It was predicted that parents with higher levels of parent stress would be more likely to drop out of intervention prior to completion. Therefore a one-way between-subjects *t* test design was used comparing the intake PSS scores of those who did not complete intervention with the intake PSS scores of those who did complete intervention.

Results from all PSS scores were compared regarding ethnicity, gender, single vs. two-parent households, and APGAR and PACS scores, to evaluate any associations with parent stress. To evaluate any changes in family functioning in response to intervention, pre- and post-test scores of the FAPGAR and PACS were evaluated using a within subjects non-directional *t* test because of the absence of any known research indicating changes in FAPGAR or PACS sub-scale scores in response to intervention of parents of juvenile offenders. Pre- and post-intervention scores were compared with corresponding participant pre- and post-intervention PSS scores using a Pearson correlation coefficient. To determine if any changes resulting from program participation persisted or developed after completion of the FSP, PSS, FAPGAR, and PACS scores were evaluated comparing follow-up results with pre- and post-intervention scores on these scales using within subjects non-directional *t* tests.

Results

Of the 181 referred participants, 127 successfully completed the FSP and 27 did not complete the FSP, for a favorable 21% dropout rate. Among graduates of the FSP, 105 of the 127 (82%) completed valid PSS post-tests that could be paired to PSS pre-test scores. There were no invalid response sets among the 105 respondents who provided pre-test and post-test PSS scores and every one of the 105 respondents completed all 18 items of the PSS at post-test. Four respondents listed 'other' as their ethnicity and were not included in data sets comparing African-American and white sample data. Data were imputed on three of the 168 pre-test FAPGAR and two of the 92 post-test FAPGAR measures by using a mean-of-respondent-existing-item score in the place of two or fewer missing responses (Little & Rubin, 1987). Data were imputed on 15 of the 168 pre-test PACS scores and 11 of the 88 post-test PACS scores by using a mean-of-respondent-existing-item score after following the PACS reverse scoring procedure in the place of three or fewer missing responses. Only four respondents listed 'other' as their ethnicity and were not included in data sets comparing African-American and white sample data.

Comparing pre-intervention parent stress scores with the non-clinical samples of the Parenting Stress Scale using a between-groups design, parents of first-time juvenile offenders in this sample ($M = 41.37, SD = 10.14$) did experience significantly higher levels of stress than the 115 parents included in the non-clinical sample used to norm the Parental Stress Scale ($M = 37.1, SD = 8.1$), $t(282) = 3.92, p < .001$. When compared to the Parental Stress Scale's clinical sample of 51 parents whose children were receiving services for emotional

Table 1 Comparisons of Pre-Test, Post-Test, and Follow-up scores for parents completing the family solutions program

	<i>N</i>	Mean	<i>SD</i>	Mean	<i>SD</i>	<i>t</i>	<i>P</i>
		Pre-Test		Post-Test			
Parental Stress	105	40.58	10.58	40.03	11.06	.84	.41
Family Functioning	92	7.32	2.51	7.21	2.58	.50	.62
Communication (total)	88	63.90	7.78	65.32	7.11	1.60	.11
Open communication*	78	34.97	7.59	36.83	6.90	3.20	.002
Problem communication	77	29.21	7.34	29.10	7.68	.17	.87
		Pre-Test		Follow-up			
Parental Stress*	46	39.48	10.27	36.57	11.37	2.20	.033
Family functioning	44	7.68	2.57	7.30	2.66	1.11	.28
Communication (total)	43	63.90	6.79	64.42	6.94	.44	.66
Open communication*	41	34.97	7.59	37.65	7.15	2.03	.05
Problem communication	39	29.21	7.34	26.45	7.65	1.32	.19

**p* < .05.

and/or behavioral problems ($M = 43.2, SD = 9.1$), there was not a significant difference, $t(217) = 1.23, p > .10$, in this sample of parents of juvenile first offenders.

Of the 168 parents who provided usable pre-test Parental Stress Scale scores, 110 successfully completed the Family Solutions Program providing 105 valid pre- and post-intervention Parental Stress Scale scores. A within subjects comparison of post multi-family group intervention completion PSS scores ($M = 40.03, SD = 11.06$) and pre-intervention PSS scores ($M = 40.58, SD = 10.58$) did not show a significant reduction of parent stress in response to program completion, $t(104) = -.84, p > .10$ (see Table 1).

A test to determine whether there was a difference between the group that completed the intervention and the group that did not on the level of parent stress was conducted. Comparing the pre-test Parental Stress Scale scores of parents who successfully completed the Family Solutions Program ($M = 41.39, SD = 10.66$) with those parents who did not ($M = 42.96, SD = 9.10$) using a between subjects one-way *t* test design, there was not a significant difference in program completion rates based on parental stress scores at intake, $t(152) = .79, p > .20$.

Parent stress related to gender, ethnicity, and family structure

Parental Stress Scale scores of fathers of juvenile first offenders ($M = 41.00, SD = 8.35$) did not differ significantly from those of mothers ($M = 41.46, SD = 10.56$) at intake, $t(166) = .27, p > .10$, or at post-intervention (fathers: $M = 39.18, SD = 7.62$) (mothers: $M = 40.03, SD = 11.80$), $t(108) = .39, p > .10$. However, mothers did experience a reduction in parental stress in response to intervention when comparing mothers' follow-up PSS scores ($M = 36.98, SD = 12.04$) to their paired pre-test PSS scores ($M = 39.80, SD = 10.43$). $t(39) = -2.12, p < .05$. Due to the limited number of fathers who completed follow-up Parental Stress Scales ($N = 6$) there may have been a similar benefit from intervention that did not show significance. No significant gender differences were found comparing gender of parent with gender of child, but there was a trend with fathers of daughters in this sample reporting elevated levels of parental stress ($M = 44.09, SD = 8.30$) when compared to fathers of sons prior to the intervention ($M = 39.21, SD = 7.00$). $t(28) = -1.72, p = .10$.

Parental Stress Scale scores of African-American parents ($M = 42.53$, $SD = 10.41$) did not differ significantly from those of Caucasian parents ($M = 40.24$, $SD = 9.98$) at intake, $t(162) = 1.44$, $p > .10$; nor did Parental Stress Scale scores of African-American parents ($M = 40.55$, $SD = 10.87$) and Caucasian parents ($M = 39.99$, $SD = 11.43$) differ significantly at post intervention, $t(100) = .39$, $p > .10$. In examining the relationship between ethnicity at pre-intervention and post-intervention to assess whether there was a difference as a result of program completion, no significant differences were found comparing paired pre-test and post-test PSS scores of Caucasian parents, $t(57) = .45$, $p = .66$ and African-American parents, $t(43) = .95$, $p = .35$. However, there was a significant difference when pre-test and follow-up PSS scores were compared. African-American parents displayed a significant reduction in parental stress at follow-up ($M = 38.29$, $SD = 9.57$) when compared with their paired pre-test parental stress scores ($M = 42.62$, $SD = 9.78$), $t(21) = 2.28$, $p < .05$. Caucasian parents did not show a significant reduction in parental stress at follow-up ($M = 35.21$, $SD = 12.96$) when their paired pre-test parental stress scores were compared ($M = 36.75$, $SD = 10.31$), $t(24) = .80$, $p > .10$. The only significant difference between the two groups on other measures in this study was on pre-intervention mean scores of Caucasian parents on the FAPGAR that reflected a higher level of family functioning, $t(128) = 2.07$, $p < .05$.

This sample of parents of first time juvenile offenders did show a significant difference when the Parental Stress Scale pre-intervention scores of single parents ($M = 43.47$, $SD = 11.26$) were compared with those from two-parent homes ($M = 39.80$, $SD = 8.96$), $t(166) = 2.27$, $p < .05$. Parental Stress Scale scores of single parents ($M = 41.33$, $SD = 12.03$) and parents in two-parent homes ($M = 38.65$, $SD = 9.86$) did not differ significantly at post intervention, $t(103) = .39$, $p > .20$. In examining the relationship between household composition at pre-intervention and post intervention to see if there was a difference as a result of program completion it was found that parents from two-parent homes had a slight, though not significant, decrease in mean parental stress $t(51) = .61$, $p = .55$. There was a trend found for single parents who had a reduction in parental stress in response to program completion $t(54) = -1.69$, $p = .10$, though not significant at the $p < .05$ level. Single mothers reported significantly lower levels of family functioning ($M = 6.89$, $SD = 2.61$) than mothers from two-parent homes ($M = 7.89$, $SD = 2.32$) prior to the intervention $t(108) = 2.115$, $p < .05$, a factor correlated with higher levels of parental stress in this study.

Family functioning, parent-child communication, and intervention

Family functioning did show a significant negative correlation ($r = -.32$) to parent stress in this sample of parents of first-time juvenile offenders. Parents who completed the Family Solutions Program did not exhibit any significant changes in family functioning when pre-intervention ($M = 7.32$, $SD = 2.51$) and post-intervention ($M = 7.21$, $SD = 2.58$) when FAPGAR scores were compared, $t(92) = .498$, $p > .20$. Also, no significant differences were found comparing paired follow-up FAPGAR scores ($M = 7.30$, $SD = 2.57$) and pre-intervention ($M = 7.68$, $SD = 2.66$) FAPGAR scores, $t(44) = 1.11$, $p = .28$.

Parent-adolescent communication at pre-intervention did not show a significant correlation ($r = -.06$) to parent stress in this sample of parents of first-time juvenile offenders. Parents who participated in the Family Solutions Program exhibited some improvement in overall parent-adolescent communication when pre-intervention ($M = 63.90$, $SD = 7.78$) and post-intervention ($M = 65.32$, $SD = 7.11$) total PACS scores were compared, $t(87) = 1.60$, $p = .11$, though this result was not significant. However, when pre- and post-intervention PACS scores were divided down into open communication and problem-solving communication, the open communications dimension did show a significant

reduction in response to intervention. A paired samples *t* test revealed PACS open communication dimension mean scores at post intervention ($M = 36.83$, $SD = 6.90$) were significantly higher than at pre-intervention ($M = 34.97$, $SD = 7.59$), $t(77) = 3.20$, $p < .05$. Comparing the problem-solving subscale of the PACS dimension at pre-intervention ($M = 29.21$, $SD = 7.34$) with post-intervention ($M = 29.10$, $SD = 7.68$) paired mean scores did not reveal a significant difference, $t(77) = .167$, $p = .87$.

Outcomes of parent stress, family functioning, and parent-child communication at follow-up

Among the 110 who successfully completed the Family Solutions Program, 43 mailed in valid, usable follow-up Parental Stress Scale scores ($M = 37.16$, $SD = 11.49$). The response rate of 39% was only slightly lower than the 41% response rate found in a meta-analysis by Church (1993) on the use of monetary incentives given upon the return of the survey. Follow-up PSS scores indicated a trend toward a reduction in parental stress when paired with post-test PSS scores ($M = 40.03$, $SD = 11.06$), $t(42) = 1.69$, $p = .10$; however, it was not significant at the $p < .05$ level. Parents who completed follow-up PSS tests ($M = 36.57$, $SD = 11.37$) did show a significant reduction in parent stress when paired with pre-intervention PSS scores ($M = 39.48$, $SD = 10.27$), $t(45) = 2.20$, $p < .05$. Thus, parents who completed the FSP and mailed in follow-up questionnaires reported a significant reduction in parental stress compared to that reported prior to intervention, which suggests that parental stress continued to be lower several weeks following intervention than at pre-intervention.

Since no significant differences in Parent-Adolescent Communication and Family APGAR were found comparing pre-test and post-test scores, follow-up scores were compared to pre-test scores on these instruments. On neither variable was there a significant difference between pre-test and follow-up. However, when the PACS was divided into its two subscales, Open Communication and Problem-Solving Communication, a significant difference was revealed comparing pre-test and paired follow-up scores on the Open Communication Scale. Parents' pre-intervention mean Open Communication scores ($M = 34.97$, $SD = 7.59$) improved significantly at follow-up to intervention completion ($M = 37.65$, $SD = 7.15$), $t(40) = 2.03$, $p < .05$.

Discussion

The parents of first-time juvenile offenders who participated in our study exhibited significantly elevated levels of parent stress similar to that which was found in parents of children with ADHD, conduct disorder or antisocial children and children with other behavioral or clinical problems. While parent stress levels did not predict or diminish significantly upon intervention completion as it did in the aforementioned studies, parent stress did decrease by follow-up. Parent gender and ethnicity did not appear to have a significant impact on the amount of stress experienced by parents of juvenile first offenders in this study. Single parenting was associated with significantly higher levels of parental stress.

The over-representation of low-income families in this sample also could have contributed to the significantly elevated parental stress scores in this population of parents of first time juvenile offenders. Annual household income of mothers was significantly negatively correlated with maternal parental stress scores prior to the intervention, $r(125) = -.20$, $p < .05$. The same did not hold true for fathers, but only 24% of fathers reported an annual household income level below \$20,000 compared to 54% of mothers. In addition to the

financial strain of trying to meet food, clothing, and housing expenses, parents living in poor environments have much greater difficulties addressing the physical and mental or emotional health problems experienced by themselves and their children. Low-income parents are also much more likely to have stressful living conditions, such as poor quality, overcrowded, uncomfortable and dilapidated housing, and are more likely to live in areas of the community with a higher presence of risk factors, such as exposure to crime, drugs and violence, and substandard educational resources.

Though the parents of juvenile delinquents in this sample did have significantly elevated parental stress scores at pre-test, post-intervention scores were not significantly lower as a result of intervention. This may have been because of the absence of any specific educational or therapeutic activities that directly addressed parent stress, even though parent education, family relationship enhancement, and parent support for each other might have theoretically mediated parental stress. However, parental stress did diminish significantly in the sample of parents who completed follow-up parental stress scales.

At follow-up, three months post- intervention, most of the families who successfully completed the Family Solutions Program had resolved the legal problems of the adjudicated youth that led to their referral to the program by virtue of their completion of the program. It is possible that the stress of existing legal problems, and the requirement to complete the intervention, were effectively ameliorated and stabilized several weeks after the program's completion, thus diminishing a major cause of stress for these parents. The multi-family group intervention may have had a residual intervention effect that continued to reduce parenting stress after program completion resulting in a significant change. Finally, it is possible that the sample of parents who completed the follow-up surveys was higher functioning or better organized than non-respondents. However, a post facto analysis of follow-up respondents showed that their pre-test parental stress scale scores ($M = 39.48$, $SD = 10.27$) were not significantly different when compared to all study sample pre-test parental stress scale scores ($M = 41.37$, $SD = 10.14$), $t(214) = 1.11$, $p > .10$. Thus, a significant effect for decreased parental stress at follow-up is not due to sampling bias.

Mothers' parental stress diminished significantly in response to program completion by follow-up. There are many reasons why parental stress may have been reduced after completion of the FSP intervention, the most obvious being a result of participation in the program leading to improvements in parenting skills, more positive relationships with their children, observed changes in their children's behavior, and/or a sense of accomplishment for completing the program. Also, the alleviation of the legal problems of the youth upon satisfactory completion of the program may have contributed to stress reduction at follow-up. And finally, the parents who returned the follow-up surveys may have been more highly motivated to report a more positive response to the program due to improved personal satisfaction than parents who did not return follow-up surveys.

The African-American sample that participated in this study did not display significantly higher levels of parental stress than the white parents in this sample. A post-facto analysis of race and income revealed that the income levels of African-American and Caucasian mothers and fathers were similar. In this sample, 55% of African American parents and 57% of Caucasian parents reported annual household incomes of under \$25,000. The absence of differences on parental stress at pre-intervention could be due to similarities of income levels, as found by Capage et al. (2001).

At follow-up, parental stress in African-American parents was reduced significantly when compared to paired pre-test parent stress levels, a difference not found in Caucasian parents. Intervention engagement was fairly equal when comparing African-American (48%) with Caucasian parents (50%) in this sample, as was the intervention graduation rate of

African-American (80%) and Caucasian parents (83%). The data in this study suggest that when African-American parents are engaged in, and completed, a family program they demonstrated greater reductions in parental stress in response to the intervention at follow-up than Caucasian parents. One possible explanation for this success in program completion might be the relatively different response African-American parents have to group intervention in which trust, cohesion, support, and guidance are established in a manner sensitive to their culture. This respectful process may be prized by African-American parents..

The only significant difference in family functioning and parent-adolescent communication on ethnicity was on the FAPGAR at pre-intervention, which reflected a higher level of family functioning for Caucasian parents. Comparing the two groups of parents at pre-test, post-test, and follow-up this difference on the FAPGAR diminished and became non-significant for those African-American parents who completed the intervention and diminished further at follow-up. It is likely that African-American parents improved in family functioning in response to program participation, though this change did not reach the level of significance set for this study.

The single parents who participated in this study did report significantly higher levels of parental stress as a group than parents from two-parent homes prior to the intervention. Prior to the intervention, single mothers reported significantly lower family functioning than mothers from two-parent households, and family functioning was negatively correlated with parental stress. The deficits in family functioning reported by single mothers could account for some of the elevated parental stress found with single parents.

A significant relationship was found between family functioning and parental stress among the parents in this study. Lower family functioning was significantly negatively correlated with higher levels of parental stress, which are two of the strongest predictors of parent self-efficacy (Scheel & Rieckmann, 1998). Results of this study serve to confirm the relationship between parental stress and family functioning in yet another population. One implication of this finding is the possible inclusion in the FSP curriculum and similar family interventions for juvenile offenders of targeting parental self-efficacy that might improve family functioning and lower parental stress.

The FAPGAR did reveal some interesting differences between mothers and fathers in this sample. While mothers had higher levels of family functioning than fathers prior to intervention, fathers who completed the FSP improved on measures of family functioning that reached the level of FAPGAR scores for mothers who completed FSP at post-intervention. And at follow-up, FAPGAR scores for fathers were higher than for mothers in the sample. It appears as though fathers' family functioning improved more than mothers' in response to participation in this intervention. Improvements in fathers' view of family functioning may have emerged in the same way as it did with African-American parents who reported improvements in family functioning in response to program participation. Caucasian parents in this sample had significantly higher FAPGAR scores than African-American parents at pre-intervention, post-intervention, and follow-up. Mothers from two-parent homes reported significantly higher levels of family functioning than single mothers prior to the intervention, a factor associated with lower parental stress. The opportunity for single parents to engage in a supportive environment with other parents in a family intervention program may be particularly salient.

Though the differences were not as robust as those found with the FAPGAR, the PACS did provide some valuable information about parents of juvenile first offenders and their response to intervention. Prior to the intervention, both the mothers and fathers in this sample had significantly lower PACS group mean scores than the mothers in the Barnes and Olson sample. Additionally, the parents in this study scored significantly lower than the norm on

both the problem-solving communication and open communication subscale measures prior to the intervention. These deficits in open communication have been significantly associated with more serious forms of delinquency (Clark & Shields, 1997).

The improvement on the open communication subscale, a possible mediator of recidivism rates, was significant for mothers and fathers at both post-intervention and at follow-up. The fact that this significant reduction occurred at both post-intervention and remained robust at follow-up suggests that the intervention may in fact have a potent effect on the quality of communication between juvenile offenders and their parents. When pre-test and follow-up scores were compared, problem-solving communication did improve at follow-up, though not significantly significant. It is quite possible that, with a larger sample, parent-adolescent communication improvements in response to participating in the Family Solutions Program may have been more pronounced.

Given the level of parental stress demonstrated in this study by the parents of juvenile first offenders, curricula that target stress reduction or stress management strategies for parents might be recommended in interventions with this population. Even though parent stress did not differ significantly among those parents who dropped out and those who completed the intervention, and, as a group, all parents stress levels were elevated prior to the intervention, an early focus on reducing this stress might be beneficial in not only reducing stress, but corresponding improvement in depressive symptoms, problem solving and social support (Gammon & Rose, 1991; Kirkham, 1993).

Prior to completion of the FSP, the parents in this sample had parental stress scores significantly higher than the norm. By follow-up the parents in this sample did not differ from the population of 'normal' parents used to establish the norms for the PSS. It appears likely from these results that the FSP was successful at improving parenting skills, reducing problem behaviors (child and parent), and increasing parent efficacy associated with parental stress reduction. Correspondingly, parents who participated in the FSP had family functioning scores significantly lower than the norm at pre-intervention, but by follow-up their scores did not differ from the norming populations of the FAPGAR. It has been found that improvements in family functioning have been directly associated with decreases in both delinquent peer affiliation and delinquent behavior over time which could be one of the influences the Family Solutions program has on reducing juvenile recidivism.

The results suggest that parents of juvenile first offenders who participated in this study did have significantly elevated levels of parental stress at pre-intervention, as well as lower levels of family functioning, and poorer parent-adolescent communication than numerous samples of "normal" parents in other studies. It was further established that participation in the Family Solutions Program intervention did significantly reduce parental stress at follow-up to the intervention, but not by the time of post-intervention. In addition, the Family Solutions Program did have an effect on parent-adolescent communication, as the open communication scale scores at both post-intervention and follow-up were significantly higher than at pre-intervention.

Single parents who participated in our study displayed significantly higher levels of parental stress than parents from two-parent homes indicating the importance of providing support in interventions to single parent families. Single parents experienced greater parental stress reduction than two-parent families in response to program participation. African-American parents also reported lower levels of family functioning than white parents at all phases of measurement, and family functioning was significantly negatively correlated with parental stress in this study.

Overall, five significant findings were found in this study. First, parents of juvenile first offenders did report significantly elevated levels of parent stress. Second, the parental stress

experienced by parents of juvenile first offenders did diminish in response to intervention, though not until follow-up to intervention completion. Third, single parenting was associated with significantly higher levels of parent stress within this population of parents of juvenile first offenders. Fourth, level of family functioning was significantly negatively correlated with parental stress. And, fifth, open communication improved significantly in response to the family intervention at both post-intervention and follow-up.

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