



## **Results from a randomized control trial of a parenting intervention for highly stressed families: Make Parenting A Pleasure**

Lynne Mender, MPH; John Seeley, PhD; Jeff Gau, MS; Mika Singer, MA;  
Susan Schroeder, MPH

Parenting Now!, Oregon Research Institute

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Author correspondence and reprint requests to: Lynne Mender, MPH  
Parenting Now!  
86 Centennial Loop  
Eugene OR 97401  
Ph: 541-349-7782  
Email: [lmender@parentingnow.org](mailto:lmender@parentingnow.org)

### **Abstract**

This study evaluated the efficacy of a group-based parenting education curriculum, *Make Parenting A Pleasure (MPAP)*, in assisting highly stressed families in improving Protective Factors that are associated with reducing the risk of child abuse and neglect, such as parental resilience, social connections, knowledge of parenting and child development and the social and emotional competence of children. In this curriculum, 10-15 families meet with a trained facilitator for guided discussions regarding various parenting issues for 120-minute sessions. This study was a randomized clinical trial, with a waitlist control condition with a sample of 59 participants with children aged birth to 8 years of age. The *MPAP* program was found to reduce symptoms of depression and increase reported parenting skills compared with the waitlist control group, demonstrating that *MPAP* is effective in improving outcomes for stressed families.

### **Peer-reviewed journal article:**

Munger, K., Seeley, J., Mender, L., Schroeder S., Gau, J. (in press). Effect of Make Parenting A Pleasure on Parenting Skills and Parental Depression. *Child and Family Behavior Therapy*.

## Significance

Parenting and the early family environment are the most significant factors affecting a young child's social and emotional development, providing the foundation of behaviors in adolescence and adulthood. Extensive research on early child development shows that harsh or unresponsive parenting and a high-stress home life alters the physical development of a young child's brain, and has a devastating effect on the brain's "wiring" during the early, critical years. Furthermore, events that occur in early childhood have lasting impact on health outcomes into adulthood. The Adverse Childhood Experiences (ACE) study analyzed data from more than 17,000 adults about childhood exposure to psychological, physical, or sexual abuse. Results showed that more than half of respondents reported at least one ACE and 25% reported more than two categories of ACE. A strong relationship was found between the number of ACEs reported and the presence of disease as an adult, including cardiovascular disease, cancer, chronic lung disease, and liver disease, and premature death (1, 2).

The Protective Factors Framework, developed by the Center for the Study of Social Policy (3) is an evidence-based approach consisting of five factors that, when nurtured and developed, build family strengths, enhance child development, and reduce ACEs. The factors include: parental resilience, social connections, concrete support in times of need, knowledge of parenting and child development, and social and emotional competence of children. In a family environment in which the Protective Factors are well established, parental resilience to adverse circumstances increases, parent-child relationships are more positive, parents are more involved in their children's lives, and there is improved parental functioning. Furthermore, child cognitive and socio-emotional skills, language development, and readiness to learn are all more developed. Protective Factors lead to reductions in the incidence of child abuse, trauma, and future substance abuse (4).

*Make Parenting A Pleasure (MPAP)*, developed by Parenting Now! (PN!), is a comprehensive, research-based curriculum designed to strengthen parenting skills and provide support to highly stressed parents of children from birth to 8 years of age. *MPAP* is theoretically grounded in the Protective Factors Framework. In promoting Protective Factors, *MPAP* aims to reduce the likelihood of ACEs and subsequent adverse health effects.

*MPAP* has been disseminated nationwide and is used in parenting education programs, child abuse prevention programs, schools, low income housing projects, public health programs, alcohol and drug recovery programs, hospitals, domestic violence programs, community colleges, extension programs, Head Start programs, programs for incarcerated parents and more. In Oregon, *MPAP* is one of the most widely used curricula in the state and is on the Oregon Parenting Education Collaborative (OPEC) list of approved curricula for use in statewide Early Learning Hubs. The Children's Trust Fund of Oregon considers *MPAP* a leading parenting curriculum operating in Oregon. It was also selected by the Los Angeles County Mental Health as the only parenting education curriculum they would purchase in 2015. Parenting educators consistently comment on its adaptability for their individual families, communities and situations, as well as its ease of use and transformative outcomes with parents.

## Program Description

*Make Parenting A Pleasure (MPAP)* is designed to bring parents together to share and normalize their parenting experiences, learn about typical early childhood development and

parenting strategies, develop a support network, and learn about other community resources available to them. Grounded in the Protective Factors (see Table 1), *MPAP* helps parents gain the tools to manage their own stress and life challenges while they develop the skills they need to nurture the physical, social, emotional and cognitive development of their children.

An important determinant of parenting behavior is a parent’s own developmental history and personal psychological resources. Parental stress, anxiety, and depression can disrupt healthy parenting practices and impair parents’ ability to respond consistently and sensitively to their child’s needs. Parental depression increases the likelihood of marital, financial, and interpersonal challenges, as well as child maltreatment. In studies of low-income parents, children of parents with a depression diagnosis were two to three times more likely to experience neglect or abuse, have adjustment problems, problems in school, low levels of self-esteem and/or psychiatric problems of their own. Resilience is a key factor that protects families from these negative outcomes (5, 6, 7). In the *MPAP* sessions, parents become more resilient to stress and depression by developing a greater ability to connect with others, creatively solve problems, communicate their feelings and needs, and seek help and social support when needed.

Parents meet once a week for two hours for 12 weeks in small groups facilitated by trained professional parenting educators. The groups are highly interactive, using discussion and experiential activities. Discussion topics range from self-care to child development and dealing with challenging behaviors. Discussion topics are listed in Table 2.

Table 1. Five Protective Factors.

<b>Protective Factor</b>	<b>Description</b>
Parental resilience	The ability to cope constructively with and bounce back from all types of challenges.
Knowledge of parenting and child development	Having accurate information about raising young children, as well as appropriate expectations for a child’s behavior, helps parents better understand and care for their children.
Social and emotional competence of children	The parent-child relationship is impacted by the child’s ability to interact positively with parents and others, to self-regulate, and to communicate his or her emotions.
Social connections	Friends, family, neighbors, and other community members can provide emotional support and concrete assistance to parents.
Concrete support in time of need	Helping to ensure the basic needs of a family are met, such as food, clothing, shelter; connecting parents and children to appropriate services and support.

Table 2. Outline of *Make Parenting A Pleasure* Discussion Modules.

<b>Modules</b>	<b>Key Concepts</b>
1. Getting Started	<ul style="list-style-type: none"> <li>• Parenting is the most challenging and most important job there is.</li> <li>• Parents are the foundation of the family.</li> <li>• Positive parenting skills do not come naturally; they are learned.</li> </ul>
2. Nurturing: Taking Care of Ourselves	<ul style="list-style-type: none"> <li>• The whole family benefits when parents find ways to nurture and take care of themselves each and every day.</li> </ul>
3. Understanding Stress	<ul style="list-style-type: none"> <li>• Stress is a normal part of life.</li> <li>• Reducing stress helps us feel more in control of our lives.</li> </ul>

Modules	Key Concepts
4. Stress and Anger Management Techniques	<ul style="list-style-type: none"> <li>• Stress is a normal part of parenting.</li> <li>• Managing stress effectively is critical to parenting children effectively.</li> <li>• As parents we teach and model how to cope with stress.</li> </ul>
5. Managing Anger, Modeling Alternatives	<ul style="list-style-type: none"> <li>• Anger is a normal emotion.</li> <li>• Anger as an emotion is always okay. But how we act on anger can help or hurt our children and ourselves.</li> </ul>
6. The Dance of Communication: Nonverbal	<ul style="list-style-type: none"> <li>• Actions speak louder than words especially with our babies and young children.</li> <li>• Effective communication begins with what we do.</li> </ul>
7. Communication: Listening Skills	<ul style="list-style-type: none"> <li>• Listening is at least as important as talking and often harder to do.</li> </ul>
8. Verbal Communication	<ul style="list-style-type: none"> <li>• Words are powerful and it is important to use words thoughtfully.</li> <li>• Learning to communicate positively takes practice.</li> </ul>
9. Child Development: The Basics	<ul style="list-style-type: none"> <li>• Every child develops at his or her own pace.</li> <li>• Understanding child development helps us appreciate our child and have realistic expectation for our child.</li> </ul>
10. Discipline: Laying the Foundation	<ul style="list-style-type: none"> <li>• Paying attention to children when they’re doing well can keep them from “acting out” to get our attention.</li> </ul>
11. Discipline: Parent’s Toolbox	<ul style="list-style-type: none"> <li>• In order for parents to make positive discipline decisions, they need to be aware of possible solutions.</li> </ul>
12. Discipline: Challenging Behaviors	<ul style="list-style-type: none"> <li>• While prevention is the best medicine, parents need strategies for their children’s challenging behaviors.</li> </ul>
13. Closure: Saying Good-bye	<ul style="list-style-type: none"> <li>• Developing positive parenting skills is an ongoing process.</li> <li>• It is important to acknowledge growth and change in order to strengthen positive changes.</li> </ul>

### Program Evaluation

To evaluate the *MPAP* curriculum, we conducted a feasibility trial in which participants were randomly assigned to one of two groups: treatment and waitlist control. Treatment condition participants were given immediate access to an *MPAP* group. The waitlist control group were assigned to the next group following their participation in the study. Evaluation measures were administered at pretest and at a 12-week posttest.

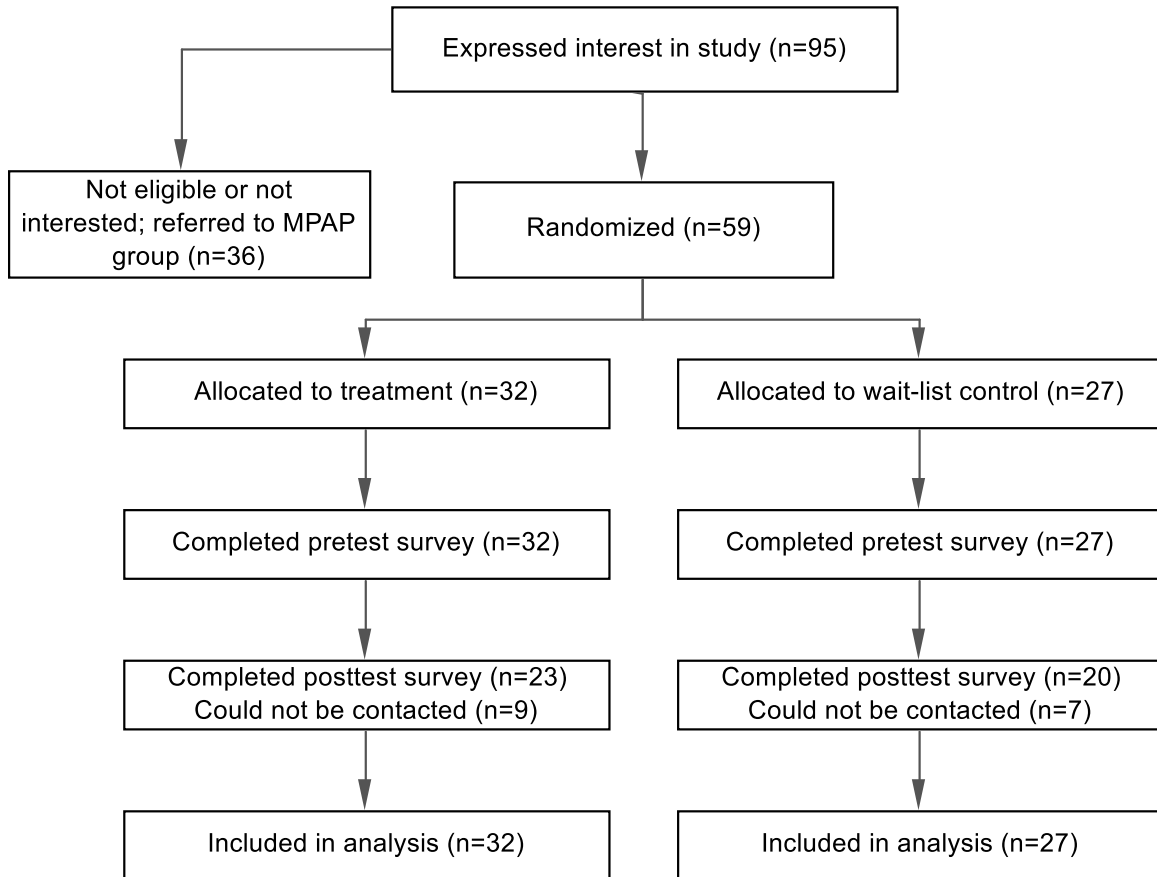
Desirable outcomes included significant improvement shown for parents participating in *Make Parenting A Pleasure* in the following Protective Factors: parental resilience, social connections, knowledge of parenting and child development, and social and emotional competence of children. These Protective Factors lead to improvement in parental functioning; reduction in potential for child abuse; reduction in the potential for childhood trauma; and improvement in child development in cognition, socio-emotional skills, language development, and readiness to learn.

Additionally, we measured symptoms of depression because of the high prevalence of postpartum depression and because depression adversely affects the Protective Factors. Depression in either the mother or father or both reduces parental resilience, makes social connections more difficult, and hinders effective parenting.

Subjects and Recruitment

The study population consisted of 59 parents with children aged 0-8 who voluntarily sought parenting training through Oregon agencies currently offering the *MPAP* curriculum. These agencies (e.g. nonprofit parenting education agencies or County Health Departments) offer free training for families who are at risk for abuse or neglect and experiencing one or more stressors (i.e. poverty, unemployment, social isolation, family/personal history of abuse, alcohol or drug use, depression or other mental health problems).

Figure 1. MPAP Evaluation Design



Parent participants were recruited per site for a total number of 59 subjects. Participating agencies met the following criteria: They (a) provided access to groups with a parenting educator who had received training from PN! to use *MPAP* and who had facilitated *MPAP* groups for at least 2 years or 4 times and (b) had adequate numbers of families participating in *MPAP* with satisfactory retention throughout the 12-week program.

Ninety-five (95) parents expressed interest in the study and were informed of the requirements by Parenting Now! staff. Participants were parents of children aged birth to 8 who contacted the evaluation site to begin a new *MPAP* program. Fifty-nine (59) parents were eligible for the study and agreed to participate. Staff obtained informed consent and referred them to the study. Urn randomization was used to allocate participants to either the treatment condition or the waitlist control condition. The parenting educator leading the group did not

know which participants were in the study and which were non-experimental parents. All parents' participation in the *MPAP* groups was voluntary.

### Procedures

The human subjects review committees (IRB) at the Oregon Center for Applied Science and Oregon State University reviewed the activities of this proposal.

Potential participants were informed of the study, invited to learn more, and referred to the study. A Parenting Now! staff person contacted interested participants, screened them for eligibility, and obtained informed consent from them. Parents interested in participating were randomized to treatment or waitlist control. Parents who were not interested in participating after learning more about the study were referred back to the evaluation site for scheduling into a *MPAP* group as a nonstudy participant.

Treatment condition participants ( $n = 32$ ) were given immediate access to an *MPAP* group. Waitlist control condition participants ( $n = 27$ ) agreed to wait until the 12-week study group was completed to begin their participation in an *MPAP* group.

Eligible participants were mailed pretest surveys in stamped return envelopes. In some cases, the *MPAP* sessions were scheduled to begin sooner than a parent could reasonably return the pretest; in those instances, a Parenting Now! staff person administered the pretest over the phone. Approximately 6 weeks after obtaining their completed pretests, participants were contacted again to verify their contact information and to remind them that the final survey would arrive in the mail in the next few weeks. A final posttest and return envelope were mailed to participants 12 weeks after completing their pretest and at the end of the *MPAP* program. After the study, waitlisted participants were referred back to the evaluation site for the next available *MPAP* session.

All participants received incentives in the form of \$25 on completion of the pretest and \$75 on completion of the posttest.

### Measures

Study outcome measures were organized into sub-domains of the Protective Factors: Family Functioning, Social Support, Nurturing, and Knowledge of Child Development and Behavior. Additional outcome measures included Postnatal Depression, Parenting Skills, Parenting Stress, and a *MPAP* Program Knowledge score.

All participants completed basic demographic information regarding race-ethnicity, gender, age of child, income and other relevant information. In addition, we assessed each participant's satisfaction and usability ratings of the program.

*Protective Factors Survey (PFS)*. The 20-item Protective Factors Survey (8) was used to assess protective factors. The scales in the PFS demonstrate high internal consistency (alphas of .76 – .89) and adequate temporal stability estimates are also adequate (.52 – .75). Content validity, construct validity, and criterion validity provide evidence that the PFS is a valid measure of multiple protective factors against child maltreatment (5). The alphas listed for the subscales below are from the PN! evaluation.

- The Family Functioning subscale consisted of 8 items ( $\alpha = .92$ ) with a 7-point Likert response scale (1=never; 7=always). Participants were asked to describe how often each statement was true for them or their family (e.g., “In my family, we talk about problems”; “My family pulls together when things are stressful”).
- The Social Support subscale asked parents to respond to 5 items ( $\alpha = .94$ ) on a 7-point Likert response scale (1-strongly disagree; 7-strongly agree). Participants rated

their level of agreement or disagreement with each statement (e.g., “I have others who will listen when I need to talk about my problems”; “If there is a crisis, I have others I can talk to”).

- The Nurturing subscale consisted of 6 items ( $\alpha = .81$ ) with a 7-point Likert response scale (1=never; 7=always). Participants were asked to describe how often the activity described in each item happened in their family (e.g., “I am able to soothe my child when he/she is upset”; “I spend time with my child doing what he/she likes to do”).
- The Knowledge of Parenting and Child Development portion of the Family Functioning Survey consisted of 5 items on a 7-point Likert response scale (1-strongly disagree; 7=strongly agree) (e.g., “I know how to help my child learn”; “There are times when I don’t know what to do as a parent.”). Because the 5 items are not considered to comprise a PFS subscale, a composite score was created by standardizing each item and computing the mean z-score.

*Postnatal Depression.* To measure postnatal depression, we used the 10-item Edinburgh Postnatal Depression Scale (EPDS), a self-rating scale that screens for postnatal depression and has been used widely in clinical and community settings as well as in epidemiological studies ( $\alpha = .83$ ).

*Parenting Skills.* The Parenting Skills Ladder, a 30-item scale, assessed parental discipline practices. The scale measures three stable factors that have been identified as dysfunctional parental discipline behaviors: laxness, over-reactivity, and hostility. Participants rate their skills on a Likert scale of 0 to 6 (0=low; 6=high) in response to skill statements such as “Listen to my child and understand their feelings” and “Find positive ways to guide and discipline my child(ren).”

The Parenting Skills Ladder has adequate internal consistency; alphas are as follows for mothers and fathers, respectively: laxness (.85 and .82), over-reactivity (.80 and .80) and hostility (.78 and .83). The scale has good test-retest reliability and correlates well with self-report measures of child behavior, marital discord, and depressive symptoms and with observational measures of dysfunctional discipline and child behavior. (9)

*Parental Stress Scale.* The Parental Stress Scale (PSS) is an 18-item inventory measures overall parental stress by asking parents how much they agree or disagree with their typical parenting experiences (e.g., “I am happy in my role as a parent”; “I feel overwhelmed by the responsibility of being a parent”). The PSS has demonstrated satisfactory levels of internal reliability ( $\alpha = .83$ ) and test-retest reliability ( $\alpha = .81$ ) (10).

Response options are on a 5-point scale (1 = strongly disagree; 5 = strongly agree). A total sum score was created with a higher score indicating greater levels of parenting stress. In the current study, the scale showed excellent reliability ( $\alpha = .90$ )

*MPAP Program Knowledge.* Eleven items specific to the MPAP program were developed by the study staff (e.g., “In order to meet my child’s needs most effectively I need to take good care of myself”). The scale showed adequate consistency ( $\alpha = .75$ ).

A *satisfaction survey* was conducted with parents in the intervention group. Two items asked participants to rate the course on a 5-point scale “How helpful were the information and resources you received in this series?” and “Would you recommend this class to other parents?” Five additional qualitative items asked participants to provide comments about the course, how their parenting behavior may have changed since participating in MPAP, and suggestions for changes.

### Missing data

In order to increase participation and successful completion of pre- and post-surveys, small financial incentives were provided. Waitlisted participants received reminder cards midway through the study period to ensure valid addresses and prompt them to be ready for the final survey.

To address any concerns parents may have had about the confidentiality of their data and participation, participants were told during the informed consent process that they might find some of the questions uncomfortable or embarrassing to answer, but that their answers were confidential and would not be shared with anyone other than Parenting Now! study staff.

### Potential confounding variables

*Attrition.* Average completion rates at Parenting Now! for *MPAP* range from 53% to 78% for groups held over the last three years. Attrition is a typical problem for waitlist groups in research studies. To obtain our desired minimum sample size of 50 for participants and control groups, we initially selected twice the needed number for each sample. To minimize attrition, all participants received incentives to participate: \$25 for completion of the pretest and \$75 for completion of the posttest.

*Contamination and co-intervention biases.* Parents are targets of a variety of influences from social media to public service messages and television, and so contamination and co-intervention biases are possible. Both the intervention and waitlist control groups are susceptible to these problems.

An additional potential confounding variable is that waitlist participants might seek other types of parenting education as they wait for a *MPAP* group to open.

### Appropriateness of analysis

Well-known, standardized measures with high reliability, change sensitivity, and validity that matched the hypothesized subject change objectives were used. Data analysis was performed using standard SPSS software, first conducting analysis of variance or co-variance to determine if there were any significant interactions in the data as determined by the F-values. If any significant F-values were found, the plan was to conduct matching mean differences using t-tests, with one-tail tests for hypothesized directions of effect. The effect sizes would also then be calculated for each major scale to determine the strength of the association. Statistical significance was calculated by comparing the changes in the families participating in a parenting group with the waitlist group who did not receiving any parenting services. Significance was measured at the .05 level.

Missing data were calculated using missing data multiple imputation.

## **Results**

### Sample

Fifty-nine parents participated in the study, and 32 (54%) were randomized to the treatment group and 27 (46%) to the waitlist control group. Sample characteristics by study condition are shown in Table 4 at the end of this document.

### Participation/Attrition Analysis

All 59 participants completed the pretest assessment, and 43 (73%) completed the posttest assessment. Those who failed to complete both assessments were compared to those who did complete both assessments on study condition, demographic characteristics, and all pretest measures of the outcomes. Failure to complete both assessments was significantly related to

baseline measures of nurturing ( $t=2.12, p=.038$ ) and stress ( $t=2.67, p=.010$ ). Those who did not complete the posttest had lower baseline nurturing scores (23.2 vs. 25.3) and higher stress scores (42.7 vs. 34.3) compared to those who remained in the study. Failure to complete both assessments was not related to study condition or any demographic characteristic.

Baseline Equivalency

Groups were compared on baseline measures of study outcomes and demographic characteristics as a test of the randomization. Groups did not differ on any measure with the exception of single parenting ( $\chi^2 [1, 59] = 5.74, p<.001$ ). Participants in the waitlist control condition were parenting by themselves at a higher rate than the treatment participants (78% vs. 22%). The single parenting indicator was included as a covariate in the statistical tests of the efficacy of the program.

Measures

Table 3 below summarizes scale properties. For each scale a total score across all items was created.

Table 3. Assessment Scale Properties.

Scale	No. of Items	Alpha	Higher Score =
Edinburgh Postnatal Depression Scale	8	.83	Greater depression
Family Functioning Scale	5	.92	Higher functioning
Social Support Scale	3	.94	Greater support
Nurturing	6	.81	Greater nurturing
Parenting Skills Ladder	12	.81	Greater parenting skill
Parenting Stress Scale	18	.90	Greater stress
MPAP Program Knowledge Scale	11	.75	Greater MPAP skills

Analysis Plan

Twenty datasets were imputed to account for missing data. The general linear model was used to test the efficacy of the program at posttest with study condition as a two-level predictor and the pretest outcome score and the single parenting indicator as covariates. Effect size was estimated as the partial point-biserial correlation (11) and converted to Cohen’s d-statistic. To balance the risk of Type I and Type II errors, the Benjamini-Hochberg correction (12) was applied and unadjusted and adjusted p-values reported.

A few methodological differences should be noted. First, this is an intent-to-treat analysis using all randomized participants. Second, only eight of ten items were administered from the Edinburgh Postnatal Depression scale, so instead of a sum score a mean was computed across the eight items. Finally, the five-item child development and behavior measures were not meant to be analyzed as a scale, and so these were examined as a standardized composite score.

**Results**

MPAP Intervention Effects

Table 5 shows descriptive statistics for the outcome measures at pretest and posttest by study condition. Table 6 shows results of condition effects from the general linear models. Three

statistically significant findings were detected. *MPAP* participants showed lower posttest adjusted depression scores ( $t=-2.23$ ,  $p = .026$ ,  $d = .60$ , medium effect size) and higher scores on the Parenting Skills Ladder ( $t=2.16$ ,  $p = .031$ ,  $d = .58$ , medium effect size) compared to their control counterparts. *MPAP* participants also showed higher posttest adjusted scores on the child development and behavior knowledge composite score ( $t = 2.13$ ,  $p = .033$ ,  $d = .57$ , medium effect size). In addition, a trend-level and medium-size effect was obtained for the *MPAP* Knowledge scale ( $t = 1.72$ ,  $p = .086$ ).

After applying the Benjamini-Hochberg false discovery rate correction, no statistically significant differences at  $p<.05$  were found. However, medium-effect size group improvements were still seen in depression scores ( $d=.60$ ), Parenting Skills Ladder ( $d=.58$ ) and parents' knowledge of child development and behavior ( $d=.46$ ) based on the adjusted  $p$ -values.

### Program Satisfaction

Participants in the treatment group responded to two items on the posttest that asked them to rate the course. In response to the item, "How helpful were the information and resources you received in this series?" the average response was 4.0 on a 5-point Likert scale (1=not helpful; 5=very helpful). The average rating on the item, "Would you recommend this class to other parents?" was 4.2 on a 5-point Likert scale (1=would not recommend; 5=would definitely recommend).

Five additional items asked participants to write aspects of the course. Connecting with other parents was the most common theme expressed in response to the item, "What did you like about the parenting series?"; e.g., "having time with other parents to learn more about parent"; "hearing other parents stories and experiences."

In response to the question, "How has your parenting behavior changed since participating in this series?" participants mainly focused on improvements in their ability to manage stress ("better at dealing with my own stress levels"; "more patient"; "more often I am able to keep calm in stressful situations"). Responding to the item "How has your participation in this series impacted your child?" parents described their child as "happier, fewer tantrums"; "reduced fussiness at home"; and "better controlled behavior at school, balancing emotional behaviors."

The final two program satisfaction questions asked parents to list any suggested improvements for the *MPAP* series and any other feedback they wanted to provide. Overall, comments were positive; e.g., "This was a great class, and I do recommend all parents should take this class no matter how good of a parent you think you are"; "I wish everyone could and would attend these classes; our kids would be better young adults." Two participants suggested more time be allowed for parents to discuss and problem-solve among themselves. Two parents expressed a desire for additional resources and community agency information.

### **Summary**

*MPAP* is a comprehensive, research-based parenting education curriculum designed to strengthen parenting skills and provide support to highly stressed parents of children from birth to 8 years of age. Theoretically grounded in the Protective Factors Framework (1), the primary aim of this group-based curriculum is to build family strengths and enhance child development by building parental resilience, social connections, concrete support when needed, knowledge of parenting practice and child development, and social and emotional competence of children. *MPAP* is further informed by the ACE study, which showed a strong link between adverse

childhood experiences and prevalence of a variety of illnesses later in life (3,4). Children who grow up in a family environment in which the protective factors are more well established have a reduced likelihood of adverse childhood experiences and subsequent adverse health effects.

We evaluated the efficacy of this group-based curriculum with 59 parents in a relatively small randomized clinical trial with a waitlist control group. The *MPAP* program was found to reduce symptoms of depression, increase reported parenting skills and improve knowledge of child development and *MPAP*-related content, compared to the waitlist control group, suggesting that *MPAP* is effective in improving parental resilience and family functioning for stressed families.

Future research should include a larger sample size. A larger sample size would possibly result in statistically significant levels of change, rather than the group differences seen in this study.

Participants rated the curriculum as helpful and indicated they would recommend it to another parent, a good indicator of the acceptability of the program.

*MPAP* has been distributed nationwide and is used in numerous settings, including child abuse prevention programs, schools, low income housing projects, public health programs, alcohol and drug recovery programs, hospitals, domestic violence programs, community colleges, extension programs, Head Start programs, programs for incarcerated parents and more. Additional studies are needed to demonstrate the efficacy of the curriculum with larger samples and diverse ranges of families.

Table 4. Study Demographic Characteristics				
	Control		Treatment	
	N	%	N	%
Gender (% female)	25	92.6	31	96.9
Age				
20 – 25	5	18.5	9	29.0
26 – 30	10	37.0	7	22.6
31 – 35	5	18.5	4	12.9
36 – 40	7	25.9	7	22.6
41 or older	0	0.0	4	12.9
Race/ethnicity				
Black	1	3.7	0	0.0
Asian	1	3.7	1	3.1
White	18	66.7	21	65.6
Hispanic/Latino	2	7.4	5	15.6
Native American	2	7.4	2	6.3
Multiracial	3	11.1	1	3.1
Declined	0	0.0	2	6.3
Highest level of education				
Less than high school diploma	2	7.7	2	6.5
High school diploma	2	7.7	7	22.6
Some college	10	38.5	11	35.5
Associates degree	1	3.8	3	9.7
Bachelor’s degree	8	30.8	4	12.9
Advanced degree	3	11.5	4	12.9
Annual household income				
Not sure	3	11.5	2	6.5
Less than \$25,000	13	50.0	16	51.6
\$25,000 - \$50,000	6	23.1	9	29.0
\$50,001 - \$75,000	2	7.7	3	9.7
\$75,001 - \$100,000	2	7.7	1	3.2
Do you work outside the home?				
No	10	40.0	18	60.0
Yes, part time	10	40.0	6	20.0
Yes, full time	5	20.0	6	20.0
Number of children				
One	11	40.7	16	50.0
Two	12	44.4	10	31.3
Three or more	4	14.8	6	18.7
Relationship to children				
Mother	25	92.6	27	84.4
Father	2	7.4	1	3.1
Other	0	0.0	4	12.6
How are you parenting?				
With a partner	13	48.1	25	78.1
By yourself	14	51.9	7	21.9

Table 5. Descriptive Statistics for Study Outcomes

	Control				Treatment			
	Pretest		Posttest		Pretest		Posttest	
	M	SD	M	SD	M	SD	M	SD
Edinburgh Postnatal Depression	1.10	0.52	1.09	0.62	0.93	0.51	0.75	0.47
Family Functioning Scale	25.0	6.18	24.5	6.10	25.8	6.42	26.0	5.44
	0		4		2		9	
Social Support Scale	14.5	5.20	16.0	4.64	15.3	5.26	16.8	4.28
	6		4		8		7	
Nurturing	23.1	3.79	21.9	4.64	24.2	2.83	23.5	3.45
	5		9		8		6	
Parenting Skills Ladder	4.28	0.89	4.31	0.97	4.35	0.55	4.81	0.80
Parenting stress	41.7	10.7	39.9	11.5	39.2	11.3	36.4	10.2
	4	4	5	8	8	5	7	2
Child development and behavior	-0.07	0.73	-0.16	0.66	0.06	0.62	0.13	0.56
MPAP Scale	4.04	0.47	5.42	0.85	3.89	0.50	5.56	5.56

M = mean, SD = standard deviation. Means and standard deviations are averaged across the 20 imputed data sets.

Table 6. Test statistics and effect sizes for the MPAP intervention effects on the posttest outcome measures adjusting for pretest

	Estimate	SE	t-value	p-value	B-H	d
Edinburgh Postnatal Depression	-0.268	0.121	-2.23	.0261	.0891	.60
Family Functioning Scale	1.429	1.526	0.93	.3505	.4006	.25
Social Support Scale	0.691	0.938	0.74	.4616	.4616	.20
Nurturing	1.177	1.098	1.07	.2840	.3787	.29
Parenting Skills Ladder	0.524	0.243	2.16	.0311	.0891	.58
Parenting stress	-2.196	1.765	-1.24	.2138	.3421	.33
Child development and behavior	0.299	0.140	2.13	.0334	.0891	.57
MPAP Scale	0.346	0.201	1.72	.0863	.1726	.46

Note. B-H = Benjamini-Hochberg adjusted p-value. Condition effects were adjusted for the pretest score of the outcome measure and the indicator of single parent status.  
 d = Cohen’s d. 0.2 = small effect size; 0.5 = medium effect size; 0.8 = large effect size

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