

From Intent to Enrollment, Attendance, and Participation in Preventive Parenting Groups

Jean E. Dumas, Ph.D.,^{1,4} Jenelle Nissley-Tsiopinis, Ph.D.,²
and Angela D. Moreland, MS³

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Applying the Theory of Planned Behavior (TPB) to the process of engagement in preventive parenting groups, we tested the ability of family and child measures to predict intent to enroll, enrollment, attendance, and quality of participation in PACE (Parenting Our Children to Excellence). PACE is a prevention trial testing the efficacy of a structured program to promote effective parenting and reduce risk of adverse child outcomes. Mothers of preschoolers (N = 451) from diverse ethnic and socioeconomic backgrounds participated at two sites. Results showed that mothers who stated their intent to enroll reported relatively few time constraints but high levels of stress, as did mothers who enrolled. The latter also experienced elevated levels of oppositional defiant child behaviors, indicating that the program reached families who stood to benefit from it. Attendance, which was also best predicted by few time constraints, was high (with 49% of mothers who enrolled attending 5 or more of 8 sessions). In turn, attendance predicted quality of participation (at 1 site only), with mothers attending more sessions participating more actively and enthusiastically. Ethnicity and, with a few exceptions, socioeconomic circumstances and site, were not significant predictors of intent, enrollment, or attendance. Results provide qualified support for the TPB and illustrate its relevance to preventive research and interventions.

KEY WORDS: engagement; recruitment and retention of parents; parenting groups; Theory of Planned Behavior.

¹Professor, Department of Psychological Sciences, Purdue University, West Lafayette, IN.

²Postdoctoral Research Fellow, Child Study Center, New York University, New York, NY.

³Graduate student, Department of Psychological Sciences, Purdue University, West Lafayette, IN.

⁴Correspondence should be directed to Jean E. Dumas, Department of Psychological Sciences, Purdue University, West Lafayette, IN, 47907; e-mail: jdumas@purdue.edu.

Multiple factors account for the development and evolution of disruptive behavior in young children. One of them is parenting quality. Specifically, studies have shown that there is a reliable association between harsh, inconsistent, or ineffective parenting and conduct disorder (e.g., Gorman-Smith, Tolan, Loeber, & Henry, 1998; McCord, 1991), as well as less serious aggressive and oppositional behavior problems (e.g., Campbell & Ewing, 1990; Dumas & LaFreniere, 1993); and that structured behavioral interventions to promote positive parenting reduce these problems and contribute to healthy child development and family functioning (e.g., Brestan & Eyberg, 1998; Nixon, 2002; Serketich & Dumas, 1996). These findings provide a core rationale for a growing number of universal and indicated prevention programs aimed at fostering parenting effectiveness and child coping competence in order to reduce the long-term risk of conduct disorder and related antisocial outcomes (e.g., Conduct Problems Prevention Research Group, 2000; Dumas, Prinz, Smith, & Laughlin, 1999; Forgatch & DeGarmo, 1999).

Behaviorally oriented preventive programs have consistent and replicated positive effects on parenting effectiveness, child adjustment, and family functioning. However, limited parental engagement – evidenced mainly by low rates of attendance – often threatens the internal and external validity of these programs and, when their efficacy has been established, their adoption on a large scale (Lochman, 2000; Spoth & Redmond, 2000). Awareness that this reduces their potential benefits has led to a search for reliable predictors of parental engagement in preventive interventions from experts such as Spoth and colleagues (Spoth & Redmond, 1993; Spoth, Redmond, Kahn, & Shin, 1997; Spoth, Redmond, & Shin, 2000), Szapocznik and colleagues (Coatsworth, Santisteban, McBride, & Szapocznik, 2001, Perrino, Coatsworth, Briones, Pantin, & Szapocznik, 2001), Cunningham and colleagues (Cunningham, Bremner, & Boyle, 1995; Cunningham et al., 2000) and Webster-Stratton, Gross and colleagues (Gross, Julion, & Fogg, 2001; Webster-Stratton, 1998).

Engagement is defined here as the entire process whereby parents become involved in a preventive program, from stated intent to enroll to actual enrollment, attendance at sessions, and quality of participation. This definition is broader than that found in other published reports. Many have limited their definition of engagement to enrollment and/or attendance, or to a combination of the two. For example, Cunningham et al. (2000) and Gross et al. (2001) defined parents as “engaged” if they enrolled and attended more than 1 or 2 sessions. Though reasonable, this definition sidesteps the issue that not all families who sign up to take part in a parenting program actually attend, as not all parents who seek services for their children’s behavioral problems show up for their first clinic appointment (e.g., Wenning & King, 1995). Moreover, few studies have assessed intent or quality of participation, although evidence shows that they are key facets of the engagement process (Orrell-Valente et al., 1999; Spoth et al., 1997). This is particularly surprising with respect to intent, as research stimulated by the Theory

of Planned Behavior (TPB) has shown that it predicts a variety of health decisions (Ajzen, 1991).

The TPB provides an established theoretical perspective within which to understand and promote parental engagement in preventive parenting groups. Specifically, the TPB postulates that behavior is determined by one's intention to act in a certain way and by one's perception that doing so is likely to be beneficial and is under one's control. Casting the engagement process within this social psychological theory, we assume that enrollment and attendance in a parenting program are determined by parents' stated intent to enroll, and by their perceptions that they or their children stand to benefit from the program and that obstacles they may encounter can be overcome. Extending the perspective, we assume further that attendance determines quality of participation in sessions, with more frequent attendance predicting better participation.

Besides sociodemographic characteristics, the predictors of engagement most often studied include child behavior problems/vulnerability and perceived obstacles (e.g., time availability). This fits the theoretical perspective just described, as the former pertain to a potential benefit of program attendance (improved child behavior) and the latter to whether parents have control over potential obstacles to attendance.

Studies of sociodemographic predictors of engagement have often yielded inconsistent results, particularly with respect to caregiver education, marital status, and age. For example, caregivers with higher levels of education have been found to be more likely to enroll and attend in some studies (Cunningham et al., 2000; Haggerty et al., 2002; Spoth et al., 1997) but not others (Danoff, Kemper, & Sherry, 1994; Dumka, Garza, Roosa, & Stoerzinger, 1997; Gross et al., 2001). Family income, which is correlated with education, has only been found to predict engagement in a limited number of studies (e.g., Perrino et al., 2001). Married or cohabiting caregivers have also been reported to be more engaged than single caregivers in some studies (Cohen & Linton, 1995; Cunningham et al., 2000; Dumka et al., 1997) but not others (Danoff et al., 1994; Orrell-Valente et al., 1999). The same is true of relatively older than younger caregivers but again only in some reports (Danoff et al., 1994) but not others (Gross et al., 2001; Orrell-Valente et al., 1999).

Studies comparing engagement in different ethnic groups suggest that it tends to be higher among European Americans and Hispanics than among African Americans, Asians, and Native Americans (Cohen & Linton, 1995; Danoff et al., 1994; Orrell-Valente et al., 1999; Toomey et al., 1996). However, sweeping generalizations about entire groups are unwarranted, as there may be as much variation within as between them. For example, Santisteban et al. (1996) reported better engagement among non-Cuban Hispanic than Cuban Hispanic families, as did Dumka et al. (1997) among Spanish speaking than English-speaking Latina mothers.

Turning to studies that have assessed child behavior problems/vulnerability, some have found that engagement was not related to child antisocial behavior (Orrell-Valente et al., 1999) or vulnerability to problems (Bauman, Ennett, Foshee, Pemberton, & Hicks, 2001). But others have reported a positive association between engagement and child antisocial behavior (Cunningham et al., 2000; Haggerty et al., 2002) or vulnerability (Spoth et al., 1997). There is also evidence that some caregivers engage because they perceive a personal need to attend a preventive program, even when they do not express concerns about their children's behavior or development (Gross et al., 2001; Perrino et al., 2001).

Finally, most research-based parenting programs remove obstacles to enrollment and attendance by scheduling sessions at times and in locations that are convenient for families and, in many cases, providing food, childcare, and transportation (or covering costs associated with those services). These steps facilitate engagement but do not remove all potential obstacles, such as family stress and the fact that attendance at sessions takes time. In general, concurrent family stressors or stressful life events have not been found to be related to engagement (Cunningham et al., 2000; Orrell-Valente et al., 1999; Perrino et al., 2001) but limited time availability and time conflicts repeatedly have. Time factors feature prominently among the reasons parents give to explain why they are not interested in attending a parenting group or why they only attended 1 or 2 sessions (e.g., Cunningham et al., 1995, 2000; Harachi, Catalano, & Hawkins, 1997; Spoth & Redmond, 1993). Finally, beliefs that parenting programs are not relevant or effective may act as obstacles to engagement as may reluctance to attend group meetings to discuss parenting issues and share personal or family experiences. This is supported by findings that parents who are most likely to enroll and attend parenting groups regularly see them as an opportunity to meet other parents with whom to share their experiences (Gross et al. 2001; Harachi et al., 1997).

This study is part of a research project known as PACE – Parenting Our Children to Excellence. PACE assesses the preventive impact of a structured group parenting program on parenting and child outcomes, with particular emphasis on the process of engagement and its relation to those outcomes. The program is designed for parents of preschoolers and delivered at the daycare centers the children attend. PACE has research sites in Indianapolis, Indiana, and Harrisburg, Pennsylvania. Data reported here come from the first two years of the project in Indiana and the first year in Pennsylvania, where research began a year later than in Indiana.

The study tested the ability of progressively more proximal factors – from sociodemographic characteristics, to child behavior problems, to current obstacles – to predict intent to enroll, enrollment, attendance, and quality of participation in the PACE program. No hypotheses were made with respect to sociodemographic characteristics given that there are disagreements in the literature as to which facets of engagement they may predict. However, in line with TPB, we

hypothesized that, after controlling for site and sociodemographic differences, (1) limited obstacles (especially the availability of time) would predict stated intent to enroll in the program; (2) intent to enroll, elevated levels of child behavior problems, and limited obstacles would predict actual enrollment and attendance at sessions; and (3) more frequent attendance would predict higher quality of participation in sessions.

METHOD

Participants

Daycare centers in Indianapolis were recruited with the help of Child Care Answers, a childcare provider training and licensing agency, and in Harrisburg with that of the Early Childhood Training Institute, a training and research service of the Pennsylvania State University. To receive the PACE program, centers had to serve: (1) a minimum of 35 families with children between the ages of 3 and 6 at time of recruitment, and (2) an economically and ethnically diverse population. However, parents themselves did not have to meet specific income criteria to participate and were not recruited to obtain predetermined percentages of participants from specific ethnic groups. Statistics provided by daycare center directors indicated that approximately 4 out of 5 families qualified for financial assistance at participating centers in Indianapolis, $M = .79$ ($SD = .22$), and 2 out of 5 in Harrisburg, $M = .43$ ($SD = .37$).

Participants were 451 mothers or maternal caregivers (hereafter referred to as mothers) who completed the telephone survey that is at the core of the dataset (see below). As caregivers were invited to participate in all facets of PACE irrespective of gender, these mothers represent 94% of the parents who completed the survey. Thirty fathers or paternal caregivers completed it also but their data were not analyzed here. Of the 311 Indianapolis mothers, 217 (70%) described their ethnic origins as African American, 78 (25%) as European American, and 16 (5%) as Other (i.e., Hispanic, Asian, or of biracial heritage). And of the 140 Harrisburg mothers, 63 (45%) identified their ethnic origins as African American, 61 (44%) as European American, and 16 (11%) as Other. (See Table I for complete descriptive statistics about the sample.)

Procedures

A pre-intervention telephone survey was conducted for approximately four weeks at each center and was then followed by the 8-week PACE parenting program. All procedures were approved by the University's Institutional Review Board at each site.

Table I. Descriptive Statistics by Site

	Indianapolis (<i>n</i> = 311)	Harrisburg (<i>n</i> = 140)	χ^2 or <i>t</i> (<i>df</i>)	<i>p</i>
	<i>M</i> (<i>SD</i>) or (%)	<i>M</i> (<i>SD</i>) or (%)		
Sociodemographic measures				
Maternal age	28.4 (6.2)	28.3 (5.7)	0.12 (449)	<i>ns</i>
Maternal ethnicity (AA/EA/OT) ^a	70/25/5 (%)	45/44/11 (%)	25.63 (2)	0.00
Maternal marital status (dual/single)	36/64 (%)	37/63 (%)	0.09 (1)	<i>ns</i>
Maternal education (years)	13.26 (.90)	13.28 (.91)	-0.03 (449)	<i>ns</i>
Family income	\$17,800 (7,100)	\$25,450 (6,300)	-4.43 (443)	0.00
Child gender: female/male	47/53 (%)	44/56 (%)	0.63 (1)	<i>ns</i>
Child age	4.55 (.79)	4.38 (.79)	2.16 (449)	0.05
Child adjustment				
ADHD symptom ratings (0 to 54)	19.59 (9.05)	19.37 (8.56)	0.24 (434)	<i>ns</i>
ODD symptom ratings (0 to 24)	6.68 (4.20)	7.01 (4.07)	-0.78 (446)	<i>ns</i>
Obstacles to engagement				
Personal/family stressors (4 to 16)	6.21 (2.31)	6.25 (2.49)	-0.18 (445)	<i>ns</i>
Relevance/trust in intervention (4 to 16)	6.40 (2.28)	6.59 (2.36)	-0.80 (447)	<i>ns</i>
Intervention demands (4 to 16)	5.76 (2.03)	5.64 (1.94)	0.62 (449)	<i>ns</i>
Time/scheduling demands (2 to 8)	5.48 (1.51)	5.13 (1.54)	2.24 (449)	0.05
Outcomes				
Intent to enroll (1 to 4)	2.23 (.99)	2.19 (1.07)	0.47 (449)	<i>ns</i>
Enrollment (yes/no)	24/76 (%)	29/71 (%)	1.18 (1)	<i>ns</i>
Attendance (0 to 8)	3.53 (3.04)	4.50 (3.12)	-1.76 (126)	<i>ns</i>
Quality of participation (1 to 5)	4.06 (.70)	3.84 (.46)	1.75 (97)	<i>ns</i>

^aAfrican American, European American, Other.

Telephone Survey

This survey was conducted to assess intent to enroll in the parenting program and to obtain all other pre-intervention measures. Primary recruitment strategies included displaying poster advertisements in numerous locations throughout each daycare center, sending registration forms to all eligible parents, and staffing a registration table for two days at each center during which all eligible parents were informed about the survey and the parenting program that would follow it, and invited to participate. Parents provided consent for the survey by returning registration forms to collections boxes or staff members.

The telephone survey was conducted by the Pennsylvania State University Social Science Research Institute. It was administered by trained interviewers using a structured, computerized interview format, and lasted 20–25 min. Prior to telephone contact, parents received letters explaining the survey procedures and containing \$2 as an incentive to complete it. Parents also received a \$15 check by mail after survey completion.

Parenting Program

The PACE program was developed by Dumas on the basis of earlier research on the promotion of parenting effectiveness and child coping competence (Dumas

et al., 1999; Webster-Stratton, 1999). It is manualized in terms of content and process, and addresses childrearing concerns and challenges commonly experienced by parents of young children in a format that fosters active parental participation and mutual support. Sessions cover eight topics: (1) Developing our children's self-esteem, (2) Promoting our children's early thinking skills, (3) Bringing out the best in our children, (4) Setting clear limits for our children, (5) Making sure our children have enough sleep, (6) Helping our children behave well at home and beyond, (7) Helping our children do well at school, and (8) Anticipating challenges and seeking support.

Each PACE group served between 5 and 15 parents, and met weekly for two hours. To reduce common barriers to attendance, groups were offered free of charge and, at each session, participants and their children received a free meal, free childcare, and \$3 in cash to cover cost of transportation. Groups were advertised in the same manner as the survey (through posters and registration forms sent home to parents), but no recruitment tables were set up to enroll parents. Advertisement posters and registration forms briefly informed parents about the contents of each session and stated explicitly that the group was free, that a meal and child care would be provided, and that participants would receive money for transportation at each session.

Group Leader Training, Supervision, and Fidelity Assessments

Each group was conducted by a trained group leader and assistant. Group leader training, supervision, and fidelity assessments focused on program *content* and *process* and followed procedures described extensively elsewhere (Dumas, Lynch, Laughlin, Smith, & Prinz, 2001). Content training pertained to the topics to be covered in each session, their rationale and presentation, and the supporting materials necessary to cover them (e.g., videotapes, posters, handouts). Process training focused on effective communication skills. It emphasized the importance of involving parents in all aspects of each session and provided specific instruction on how to encourage and channel parental discussion, avoid criticism and unsolicited advice giving, provide frequent positive feedback, and deal effectively with resistance. All training was conducted in small groups and consisted of didactic presentations, vignettes, modeling, role-playing, discussions, and practice sessions. Staff competence was determined throughout training using formal quizzes and live observations. In addition, throughout the study, group leaders received weekly supervision that included feedback from weekly fidelity assessments.

To assess fidelity, group leaders wore a lapel microphone attached to a small portable recorder to audiotape all sessions. Trained coders working under the supervision of an expert coder listened to these tapes weekly and coded them for fidelity to program content and process with the help of purpose-made checklists. Results from these assessments were sent to the group leaders' supervisor on a weekly basis for ongoing feedback and provided overall estimates of adherence to

protocol. On average, group leaders covered 79% (range: 20–100%) of all content items (inter-rater reliability, $kappa = 0.79$) and attained an average score of 91% (range: 63–100%) on process fidelity (inter-rater reliability, $kappa = 0.88$).

Measures

Outcome Variables

Four outcome variables were measured: intent to enroll, enrollment, attendance, and quality of participation. One telephone survey question measured intent to enroll in the parenting program by asking, “Do you intend to enroll in the parenting program that is now offered or will be offered soon at your child’s preschool or daycare?” Responses were made on a 4-point Likert scale ranging from 1 “Definitely no” to 4 “Definitely yes.” Parents who returned a parenting program registration form or contacted a daycare center or PACE staff member to register were considered enrolled. The number of sessions they then attended (from 0 to 8) provided the measure of attendance.

After each session, group leaders and assistants independently completed a rating of each participant’s quality of participation by answering the question, “Overall, how well did the parent participate during the session?” Ratings ranged from “1 Did not participate or obstructed group functioning and activities,” to “5 Participated enthusiastically. Was obviously interested and attentive to other group participants.” Each anchor point had specific definitions. Leaders and assistants were trained to use the measure through examples and observations of PACE sessions. As their answers were highly correlated ($r = .72, p < .001$), they were aggregated and averaged over all attended sessions to yield a single quality of participation score per participant.

Predictor Variables

Predictor variables included sociodemographic measures and measures of child adjustment and obstacles to engagement. Parent age, ethnicity, marital status, highest level of education, family income, child age, and child gender were obtained. When a parent had more than one child between the ages of 3 and 6 at time of recruitment, the oldest was the target child.

The target child’s level of adjustment was assessed with the Disruptive Behavior Disorders (DBD) rating scale. Initially developed as a teacher measure of DSM-III-R disruptive behavior disorder symptoms (Pelham, Gnagy, Greenslade, & Milich, 1992), this scale was revised to include the DSM-IV symptoms of those disorders and adapted for use with parents. Only attention deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD) symptoms were assessed

here. Conduct disorder symptoms were not as all children were preschoolers. Participants rated each symptom on a 4-point scale ranging from 0 “Not at all” to 3 “Very much.” Their responses were then added to obtain quantitative ratings of ADHD and ODD. These ratings were internally consistent (Cronbach $\alpha = .87$ and $.80$ respectively).

To assess the extent to which personal and intervention obstacles may limit engagement in a parenting intervention, the first author developed the Obstacles to Engagement Scale (OES). This scale includes 14 items drawn or adapted from the Parental Opinions Questionnaire (Prinz & Miller, 1994; R. Prinz, personal communication, 2002) and the Barriers to Program Participation Questionnaire and the Inclination to Enroll Questionnaire (R. Spoth, personal communication, 2002). The OES has four subscales: (1) Personal or family stressors and obstacles (4 items, e.g., “Would alcohol or drug problems in your family stop you from attending?”); (2) Relevance of and trust in the intervention (4 items, e.g., “Would the belief that parenting programs do not work stop you from attending?”); (3) Intervention demands (4 items, e.g., “Would talking about parenting with people you don’t know stop you from attending?”); and (4) Time and scheduling demands (2 items, e.g., “Would having to find time to go to meetings for several weeks in a row stop you from attending?”). Participants rated each item on a 4-point scale ranging from 1 “Definitely no” to 4 “Definitely yes.” In the present sample, Cronbach α ’s for the subscale scores were $.73$, $.77$, $.77$, and $.40$ respectively.

RESULTS

Descriptive analyses were conducted to compare the Indianapolis and Harrisburg sites on the study variables (see Table I), and assess the extent to which those variables were associated (see Table II). Table I shows that there were more similarities than differences between sites. Considering predictor variables first, there were higher percentages of African American and lower percentages of European American participants and participants of other ethnic origins in Indianapolis than in Harrisburg. Indianapolis mothers also had more limited financial resources and children who were slightly older on average than Harrisburg mothers. However, there were no site differences on maternal age, marital status, and education, or on child gender and child adjustment (i.e., ADHD and ODD symptoms). There were also no site differences on obstacles to engagement in the PACE program, except for the fact that mothers in Indianapolis reported slightly more time and scheduling demands than their Harrisburg counterparts.

Mothers did not differ between sites on any of the outcome variables. Overall attendance was high, with 49% of mothers attending more than half of the sessions. Specifically, 22% of mothers attended 0 session; 18% 1 or 2 sessions; 11% 3 or 4 sessions; 16% 5 or 6 sessions; and 33% 7 or all 8 sessions. Quality of participation

Table II. Zero-order Correlations among Predictor and Outcome Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Maternal age	1.00																
2. Maternal ethnicity	0.02	1.00															
3. Marital status	-0.25**	-0.19**	1.00														
4. Maternal education	0.21**	0.17**	-0.29**	1.00													
5. Family income	0.23**	0.21**	-0.49**	0.53**	1.00												
6. Child gender	-0.04	-0.01	0.04	-0.03	-0.06	1.00											
7. Child age	0.05	-0.07	-0.04	-0.03	0.04	-0.01	1.00										
8. ADHD symptom ratings	0.07	0.11*	-0.10*	-0.04	-0.04	0.08	-0.05	1.00									
9. ODD symptom ratings	0.09	0.10*	-0.02	-0.03	-0.01	0.11*	-0.04	0.55**	1.00								
10. Personal/family stressors	-0.01	-0.00	-0.02	-0.11*	-0.09	-0.10*	0.09	0.12*	-0.03	1.00							
11. Relevance/trust in interventions	-0.02	0.06	-0.04	0.05	0.03	-0.12*	-0.03	0.11*	0.03	0.45**	1.00						
12. Intervention demands	-0.08	0.09*	-0.02	-0.12	-0.10*	-0.04	0.03	0.11*	0.07	0.35**	0.42**	1.00					
13. Time/scheduling demands	-0.02	-0.02	-0.10*	0.12*	0.07	-0.04	0.12*	0.03	-0.02	0.15**	0.13**	0.12**	1.00				
14. Intent to enroll	-0.02	-0.02	0.12**	-0.12*	-0.17**	-0.02	-0.08	0.05	0.05	0.07	-0.07	-0.03	-0.42**	1.00			
15. Enrollment	-0.10*	-0.01	0.10*	0.01	-0.02	0.02	-0.07	0.08	0.19**	0.02	-0.08	-0.06	-0.30**	0.40**	1.00		
16. Attendance	-0.06	0.16	0.08	0.16	0.18*	-0.06	-0.13	0.05	0.02	0.04	0.05	0.02	-0.34**	0.23**	0.59**	1.00	
17. Quality of participation	-0.09	0.12	-0.15	-0.05	0.04	0.09	-0.13	0.14	-0.03	-0.02	0.02	-0.03	-0.03	-0.04	0.05	0.39**	1.00

* $p < .05$; ** $p < .01$.

was also high, with 51% of mothers receiving participation ratings in the 4 to 5 range (on a 1 to 5 scale).

Main Analyses

Variables were standardized before conducting four regression analyses – a logistic regression to predict enrollment (a dichotomous outcome), and multiple regressions to predict intent to enroll, attendance, and quality of participation (three interval outcomes). Each analysis was set up hierarchically, with four blocks of variables entered sequentially as follows: site (1 variable), sociodemographic measures (7 variables), child adjustment (2 variables), and obstacles to engagement (4 variables). A fifth block was also entered in three of the four analyses, intent to enroll in the prediction of enrollment and of attendance, and attendance in the prediction of quality of participation.

Guided by the theoretical perspective presented in the introduction, this analytical framework assumes that, after controlling for site differences, each outcome can be predicted by progressively more proximal factors, from sociodemographic characteristics, to child behavior problems, to current obstacles; and that in the case of enrollment, attendance, and quality of participation, prediction can be further improved by measures of actual maternal behavior. This framework provides statistical control for an increasingly larger number of factors as the models being tested increase in complexity and for the determination that, when more proximal effects are found, a number of variables that could explain them have already been accounted for.

Predicting Intent

Site was not a significant predictor of intent in block 1 (see Table III). The sociodemographic measures improved prediction in block 2, as mothers were more likely to state their intent to enroll in the program when their income was low than when it was relatively high. Specifically, mothers whose family income was at the lowest end of the distribution (less than \$5,000/year) were more likely than mothers whose income was at the highest end (\$50,000+) to say that they would definitely (27% vs. 18%) or probably (54% vs. 23%) enroll.

Child adjustment did not improve the prediction in block 3 but the obstacles variables did in block 4, as mothers were more likely to intend to enroll in the presence of relatively high levels of personal/family stressors and low levels of time and scheduling demands. Specifically, mothers who reported the highest levels of personal/family stressors (i.e., scored 13 or more on the 16-point scale) were more likely to indicate that they would definitely enroll in the program than mothers with the lowest levels of such stressors (i.e., scored 4 or less on the scale) (29% vs. 11%). There was much less variability between the two groups for mothers in the other three categories of intent (probably yes, probably no, and definitely no).

Table III. Hierarchical Multiple Regression Predicting Intent to Enroll in Program

Variables	Block 1			Block 2			Block 3			Block 4		
	B	Standard error B	t	B	Standard error B	t	B	Standard error B	t	B	Standard error B	t
Model test				$F(8,421) = 2.24^*$			$F(10,419) = 1.91^*$			$F(14,415) = 8.54^{***}$		
Block test				$F(7,421) = 2.53^*$			$F(2,419) = 0.59$			$F(4,415) = 24.09^{***}$		
Increase in variance accounted for by block (R^2 change)	0.001			0.040			0.003			0.180		
Site	0.022	0.048	0.463	0.043	0.051	0.850	0.044	0.051	0.863	0.002	0.047	0.049
Maternal age				0.034	0.050	0.672	0.028	0.050	0.558	-0.006	0.046	-0.133
Maternal ethnicity				0.007	0.051	0.131	-0.000	0.051	-0.010	-0.008	0.046	-0.180
Maternal marital status				0.056	0.056	0.991	0.060	0.057	1.057	0.038	0.052	0.738
Maternal education				-0.042	0.057	-0.738	-0.039	0.057	-0.675	0.025	0.053	0.476
Family income				-0.134	0.064	-2.086*	-0.130	0.065	-2.011*	-0.111	0.059	-1.887
Child gender				-0.033	0.048	-0.699	-0.039	0.048	-0.810	-0.045	0.044	-1.018
Child age				-0.072	0.048	-1.497	-0.070	0.048	-1.438	-0.039	0.044	-0.885
ADHD symptom ratings							0.034	0.058	0.589	0.040	0.053	0.746
ODD symptom ratings							0.026	0.058	0.453	0.033	0.053	0.636
Personal/family stressors										0.172	0.051	3.383**
Relevance/trust in intervention										-0.096	0.052	-1.850
Intervention demands										-0.014	0.050	-0.279
Time/scheduling demands										-0.418	0.045	-9.280***

* $p < .05$; ** $p < .01$; *** $p < .001$.

Similarly, mothers who reported the lowest levels of time and scheduling demands (i.e., scored 2 or less on the 8-point scale) were more likely than mothers who reported the highest levels of such demands (i.e., scored 7 or more on the scale) to indicate that they definitely intended to enroll in the program (63% vs. 13%), again with less variability between the two groups for mothers in the other three categories of intent.

Summarizing, the full model accounted for a moderate amount of variance in intent to enroll in the program ($R^2 = .22, p < .01$) and showed that relatively few time constraints were the best predictor of such intent, followed by high current stressors and low family income (although income became nonsignificant when obstacles were entered in the model).

Predicting Enrollment

Site was not a significant predictor of enrollment in block 1, nor were any of the sociodemographic measures in block 2 (see Table IV). However, child adjustment improved prediction in block 3, as enrollment increased more than one and one half times for every unit *increase* in child ODD symptoms. Specifically, when children were divided into four groups based on their ODD symptom score (i.e., 6 or fewer, 7 through 12, 13 through 18, or 19 or more on the 24-point scale), 19% of mothers whose children were in the lowest group enrolled in the program, compared to 32, 38 and 100% of mothers whose children were in the groups with progressively higher ODD scores.

Obstacles improved prediction further in block 4. As was true for intent to enroll, mothers were actually more likely to enroll in the presence of relatively high levels of personal/family stressors and low levels of time and scheduling demands. However, personal/family stressors were no longer a significant predictor once intent was entered in block 5. This indicates that the relation between stressors and enrollment was mediated by intent (Barron & Kenny, 1986) and suggests that, in the present sample, stressors may have exerted much of their influence early in the engagement process (i.e., at the time intent to enroll was assessed).

Block 4 analyses show also that maternal age became significant when obstacles were entered in the model. As it was not in the previous two blocks, a follow-up logistic regression was conducted in which maternal age and the two significant obstacles variables (personal/family stressors, and time and scheduling demands) were entered first, followed by their two- and three-way interactions. None of the interaction terms was significant. This suggests that the most parsimonious interpretation of this finding is provided by the zero-order correlation reported in Table II, which shows that irrespective of site younger mothers were somewhat more likely to enroll than their older counterparts ($r = -0.10, p < .05$).

Finally, in the full model, enrollment increased by 32% for every unit decrease in time and scheduling demands, as mothers who reported the lowest levels of time

Table IV. Hierarchical Logistic Regression Predicting Enrollment in Program

	Block 1		Block 2		Block 3		Block 4		Block 5	
	B	Wald test (z ratio)	B	Wald test (z ratio)	B	Wald test (z ratio)	B	Wald test (z ratio)	B	Wald test (z ratio)
Model test		$\chi^2(1,451) = 1.09$		$\chi^2(8,451) = 10.87$		$\chi^2(10,451) = 30.46^{***}$		$\chi^2(14,451) = 72.13^{***}$		$\chi^2(15,451) = 119.00^{***}$
Block test		$\chi^2(1,451) = 1.09$		$\chi^2(7,451) = 9.78$		$\chi^2(2,451) = 19.60^{***}$		$\chi^2(4,451) = 41.67^{***}$		$\chi^2(1,451) = 46.87^{***}$
Increase in variance accounted for by block (change in Nagelkerke R^2)	0.004		0.038		0.103		0.233		0.365	
Prediction success	75.4% (no = 100.0 & yes = 0.0)		75.4% (no = 100.0 & yes = 0.0)		75.4% (no = 97.5 & yes = 7.7)		79.2% (no = 95.6 & yes = 28.8)		80.1% (no = 92.8 & yes = 41.3)	
Variables	B	Standard error B	B	Standard error B	B	Standard error B	B	Standard error B	B	Standard error B
Site	0.117	0.111	1.101	0.097	0.122	0.635	0.089	0.125	0.512	0.134
Maternal age				-0.175	0.124	2.002	-0.234	0.128	3.345	0.027
Maternal ethnicity				-0.057	0.126	0.206	-0.112	0.131	0.735	0.134
Maternal marital status				0.250	0.140	3.212	0.267	0.145	3.403	0.138
Maternal education				0.092	0.139	0.439	0.122	0.145	0.706	0.137
Family income				0.086	0.159	0.292	0.111	0.165	0.454	0.152
Child gender				0.091	0.116	0.623	0.042	0.119	1.226	0.160
Child age				-0.144	0.116	1.552	-0.132	0.119	1.226	0.174
ADHD symptom ratings							0.049	0.145	0.115	0.013
ODD symptom ratings							0.530	0.140	14.389^{***}	0.128
Personal/family stressors							-0.089	0.130	0.464	0.130
Relevance/trust in intervention							0.009	0.159	0.003	0.054
Intervention demands							0.595	0.153	15.051^{***}	0.009
Time/scheduling demands							0.369	0.143	6.662^{**}	0.587
Intent to enroll							-0.293	0.157	3.471	0.199
							-0.048	0.146	0.110	0.154
							-0.751	0.136	30.347^{***}	0.162
										0.155
										0.152
										0.191
										36.382^{***}

* $p < .05$; ** $p < .01$; *** $p < .001$.

constraints were approximately three times more likely to enroll than mothers who reported the highest levels of such constraints (42% vs. 13%). Similarly, enrollment increased by 68% for every unit increase in intent to enroll. Specifically, mothers were much more likely to enroll in the program when they stated that they definitely intended to do so than when they stated that they would probably, probably not or definitely not enroll (52% vs. 25, 7, and 5% respectively).

To summarize, intent was the best predictor of enrollment, followed by elevated levels of child ODD symptoms, relatively few time constraints, younger maternal age, and high current stressors (the influence of the latter being mediated by intent). The full model accounted for a moderate amount of variance in enrollment (Nagelkerke $R^2 = .37$, $p < .001$) and had an overall classification success of 80%, with 93% of mothers not enrolled classified correctly but only 41% of mothers enrolled classified correctly. In other words, the model was successful at predicting enrollment 4 out of 5 times but much more successful at classifying mothers who did not enroll than mothers who did. Classification of enrollees was actually lower than would be expected by chance alone.

Predicting Attendance

As Table V shows, site was not a significant predictor of attendance in block 1. When the sociodemographic measures were added in block 2, marital status predicted attendance, with single mothers somewhat more likely than mothers in a relationship to attend 7 or all 8 sessions (35% vs. 27%), and less likely to attend fewer than 2 sessions (34% vs. 41%). Child adjustment did not significantly improve prediction in block 3 but obstacles did in block 4, as mothers who reported fewer time and scheduling demands attended more sessions than mothers who reported more demands on their time. Specifically, mothers with the highest levels of time constraints were less likely than mothers with the lowest levels of such constraints to attend 7 or all 8 sessions (28% vs. 63%), and more likely to attend fewer than 2 sessions (61% vs. 0%). Intent did not improve the prediction of attendance in block 5.

Time and scheduling demands exerted a suppressor effect on family income as the latter only emerged as a significant predictor of attendance when obstacles were entered in block 4. A follow-up multiple regression analysis was conducted in which time and scheduling demands and family income were entered first, followed by their interaction. As that interaction was significant ($t_{118} = -3.13$, $p < .01$), we used procedures recommended by Aiken and West (1991) to illustrate and interpret it. Those consisted of plotting the regression lines of time and scheduling demands on attendance for mothers with low, average, and high family incomes (i.e., 1 SD below, around, and 1 SD above the mean respectively), and of conducting post hoc tests of simple slope to assess their significance. Figure 1 shows that there was a negative association between attendance and time

Table V. Hierarchical Multiple Regression Predicting Attendance at Sessions

	Block 1			Block 2			Block 3			Block 4			Block 5		
	B	error B	<i>t</i>	Standard error B	<i>t</i>	<i>F</i> (<i>df</i>)	Standard error B	<i>t</i>	<i>F</i> (<i>df</i>)	Standard error B	<i>t</i>	<i>F</i> (<i>df</i>)	Standard error B	<i>t</i>	
Model test	0.155	0.090	1.718	0.079	0.094	0.839	0.081	0.094	0.863	0.046	0.089	0.516	0.046	0.089	
Block test				-0.077	0.092	-0.836	-0.082	0.093	-0.878	-0.104	0.088	-1.176	-0.103	0.088	
Increase in variance accounted for by block (<i>R</i> ² change)	0.024			0.103		0.206*	0.108		0.217*	0.127		0.270**	0.106		
				0.103		1.91	0.232		2.134*	0.092		4.59**	0.106		
Variables				Standard error B	<i>t</i>		Standard error B	<i>t</i>		Standard error B	<i>t</i>		Standard error B	<i>t</i>	
Site				0.094	0.839		0.094	0.863		0.046	0.089	0.516	0.046	0.089	
Maternal age				0.092	-0.077		0.082	-0.878		-0.104	0.088	-1.176	-0.103	0.088	
Maternal ethnicity				0.093	0.117		0.108	1.147		0.092	0.089	1.027	0.093	0.089	
Maternal marital status				0.103	0.221		0.232	2.134*		0.216	0.099	2.185*	0.212	0.099	
Maternal education				0.106	0.108		0.112	1.058		0.165	0.102	1.627	0.162	0.101	
Family income				0.118	0.209		0.219	1.836		0.238	0.113	2.116*	0.251	0.113	
Child gender				0.088	-0.056		-0.061	-0.680		-0.057	0.085	-0.674	-0.052	0.085	
Child age				0.089	-0.105		-0.102	-0.990		-0.072	0.085	-0.840	-0.067	0.085	
ADHD symptom ratings				0.089	-0.105		0.093	1.017		0.091	0.102	0.891	0.086	0.102	
ODD symptom ratings				0.089	-0.105		-0.022	-0.107		-0.022	0.101	-0.215	-0.026	0.101	
Personal/family stressors				0.098	0.117		0.099	1.015		0.099	0.098	1.015	0.079	0.099	
Relevance/trust in intervention				0.098	0.117		0.000	0.100		0.000	0.100	-0.002	0.011	0.100	
Intervention demands				0.096	0.054		0.054	0.096		0.054	0.096	0.558	0.055	0.096	
Time/scheduling demands				0.087	-0.364		-0.364	0.087		-0.364	0.087	-4.21***	-0.316	0.095	
Intent				0.110	0.101		0.110	0.101		0.110	0.101	1.230	-0.116	0.094	

* $p < .05$; ** $p < .01$; *** $p < .001$.

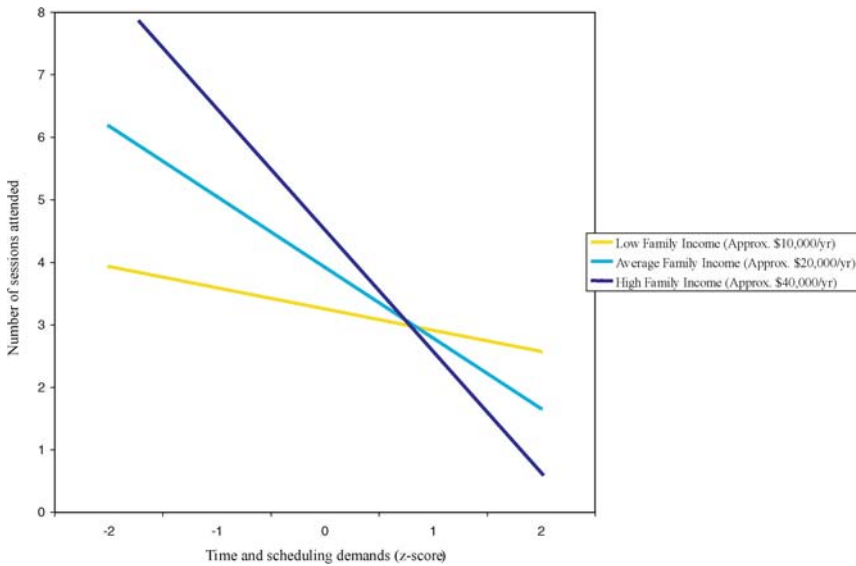


Fig. 1. Relation of Family Income to Attendance at Sessions as a Function of Time and Scheduling Demands.

and scheduling demands, with mothers reporting more time constraints attending fewer sessions. However, this association was only significant for mothers with high ($t_{118} = -5.24, p < .0001$) or average ($t_{118} = -4.36, p < .0001$) but not low family income ($t_{118} = -0.93, ns$). This suggests that higher levels of reported time and scheduling demands are associated with less frequent attendance at sessions for average and high income families, but that the association does not apply to low income families.

To summarize, the full model accounted for a moderate amount of variance in attendance ($R^2 = .27, p < .01$) and showed that relatively few time constraints were the best predictor of program attendance, followed by family income and marital status. Mothers who were single tended to attend sessions more frequently than mothers who were not. This was also true of mothers with relatively low levels of time and scheduling demands, but only when they reported average or above average income levels.

Predicting Quality of Participation

None of the variables entered in each successive block predicted quality of participation until block 5 (see Table VI). (Although site emerged as a statistically significant predictor in earlier blocks, this was not interpreted as the overall model tests were nonsignificant until the last block.) Table VI shows that, in the full model, quality of participation was predicted, in order of importance, by more

Table VI. Hierarchical Multiple Regression Predicting Quality of Participation in Sessions

	Block 1		Block 2		Block 3		Block 4		Block 5		
	B	t	B	t	B	t	B	t	B	t	
Model test			$F(8,85) = 1.73$		$F(10,83) = 1.61$		$F(14,79) = 1.17$		$F(15,78) = 3.02^{***}$		
Block test			$F(7,85) = 1.73$		$F(2,83) = 1.12$		$F(4,79) = 0.21$		$F(1,78) = 24.18^{***}$		
Increase in variance accounted for by block (R^2 change)	0.031		0.109		0.023		0.009		0.196		
Variables	Standard error B	t	Standard error B	t	Standard error B	t	Standard error B	t	Standard error B	t	
Site	-0.175	0.103	-1.705		-0.248	0.107	-2.314*		-0.257	0.110	-2.329*
Maternal age	-0.114	0.106	-1.079		-0.112	0.106	-1.055		-0.119	0.109	-1.093
Maternal ethnicity	0.149	0.107	1.400		0.143	0.107	1.332		0.150	0.110	1.362
Maternal marital status	-0.154	0.118	-1.302		-0.132	0.119	-1.110		-0.142	0.122	-1.161
Maternal education	-0.158	0.121	-1.307		-0.156	0.121	-1.291		-0.164	0.125	-1.311
Family income	0.110	0.135	0.816		0.126	0.136	0.931		0.119	0.139	0.858
Child gender	0.107	0.101	1.058		0.110	0.102	-1.490		0.109	0.105	1.043
Child age	-0.155	0.102	-1.520		-0.152	0.102	-1.480		-0.142	0.105	-1.403
ADHD symptom ratings					0.172	0.122	1.414		0.177	0.126	1.405
ODD symptom ratings					-0.142	0.121	-1.168		-0.140	0.124	-1.126
Personal/family stressors					-0.015	0.120	-0.123		-0.015	0.120	-0.123
Relevance/trust in intervention					0.059	0.123	0.476		0.059	0.123	0.476
Intervention demands					-0.088	0.118	-0.747		-0.088	0.118	-0.747
Time/scheduling demands					-0.041	0.107	-0.388		-0.041	0.107	-0.388
Attendance									0.515	0.105	4.917^{***}

* $p < .05$; ** $p < .01$; *** $p < .001$.

frequent attendance, site, marital status, and education. Mothers who attended fewer than 2 sessions were less likely than mothers who attended 7 or all 8 to receive the highest possible participation score of 5 (48% vs. 71%). That highest score was also more often received by Indianapolis than Harrisburg mothers (29% vs. 2%), mothers in a relationship than single mothers (33% vs. 13%), and mothers who had not completed high school than mothers who had gone to college (25% vs. 14%).

As site, marital status, and education only became significant when attendance was entered in the model, a multiple regression was conducted in which those variables and site were entered first, followed by their higher-order interactions. The site by attendance interaction was the only significant one ($t = -3.49$, $p < .001$). Consequently, we used the procedures described earlier to plot and test the significance of the regression lines of attendance on quality of participation by site. Figure 2 shows that there was a positive association of marginal significance between attendance and quality of participation at the Indianapolis site ($t_{83} = 1.55$, $p < .06$) but not at the Harrisburg one ($t_{83} = -0.30$, ns). Given that there were no other significant interactions, and that the zero-order correlations of quality of participation with marital status and education were nonsignificant (see Table II), attendance probably enhanced the effects of those two sociodemographic characteristics on participation by suppressing irrelevant variance in them (Tabachnick & Fidell, 2001). This is most likely with respect to marital status, which was a significant predictor of attendance, unlike education (see Table V).

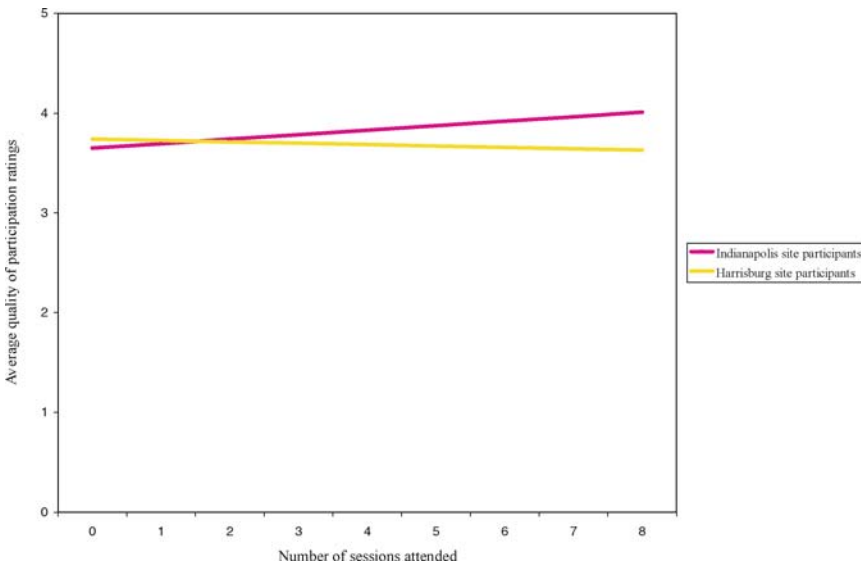


Fig. 2. Relation of Attendance at Sessions and Quality of Participation as a Function of Site.

This suggests that, although single mothers were more likely to attend sessions than mothers in a relationship, the latter showed greater quality of participation whenever they attended.

In summary, the full model accounted for a moderate amount of variance in quality of participation ($R^2 = .37, p < .001$), which was predicted by attendance, site (Indianapolis > Harrisburg), marital status (single > dual), and education (lower > higher). Additional analyses showed that attendance and quality of participation were positively related at the Indianapolis but not at the Harrisburg site, and that marital status and education contributed to the prediction of quality of participation only in the presence of attendance in the model.

DISCUSSION

In line with the literature and the theoretical perspective guiding the study, mothers who intended to enroll in the program reported relatively few time constraints but high levels of personal or family stress. They tended also to be poorer in a sample that was disadvantaged financially. Participants' median family income per year was US\$22,500, well below the median household income in Indianapolis (\$40,421) and Harrisburg (\$41,507) at the time of the study (U. S. Census, 2005). This supports our first hypothesis and shows that the program appealed initially to mothers who had the time to attend and felt personally or financially stressed – a fact largely confirmed when we looked at mothers who actually enrolled.

As our second hypothesis predicted, mothers who enrolled generally intended to do so, saw the program as potentially beneficial (given their children's elevated levels of oppositional problems), and reported few time constraints but high levels of current stress. They tended also to be somewhat younger and to be presumably less experienced than mothers who did not enroll. The effect of stress on enrollment was not direct, however, but mediated through intent. This suggests that stressors may have exerted much of their influence early in the engagement process, when mothers contemplated whether taking part in a parenting program might be beneficial to them or their children. Contrary to the hypothesis, however, attendance was not predicted by intent or child behavior problems, but only by the availability of time. Mothers tended also to attend sessions more frequently if they were single and if their family income was relatively high, but in the case of income again only if demands on their time did not interfere.

Taken together, the emerging picture is one in which time constraints played a major role. Although this factor is well-known to limit engagement, we believe that this is the first study to illustrate the extent of the challenge: only 38% of mothers reporting important time constraints said that they would probably or definitely enroll, compared to 84% of mothers with few such constraints; corresponding figures for actual enrollment were 13% and 42%, and for attendance 28% and 63%. However, when this challenge could be overcome, mothers who were ready to engage had a need for program services, as evidence by the fact that

they or they and their children faced significant challenges. This was particularly clear with respect to enrollment and, as others stress (e.g., Cunningham et al., 2000), questions the belief that preventive parenting programs best reach those who need them least. As lively exchanges around issues such as limit setting, discipline, bedtime, and respect showed repeatedly, mothers in each PACE group were concerned by numerous and at times severe disruptive child behaviors, and often at a loss as to how to manage them. Coupled with the fact that participants tended to be younger and likely less experienced in parenting, and that many faced other stressors besides child opposition, we believe that the program reached people who clearly needed it. This does not mean that it always did so successfully. PACE staff regularly met mothers who wanted to enroll but did not because of daily personal or family stressors, or who enrolled but attended sporadically if at all. As others have emphasized (e.g., Perrino et al., 2001), parents need a minimal level of resources and support to benefit from prevention programs that require a significant personal investment and a major time commitment – weekly meetings for 2 months in the case of PACE.

Finally, we found partial support for our third hypothesis, as attendance predicted quality of participation, but only in Indianapolis. Participation was also predicted to some extent by marital status and education, with mothers in a relationship and less educated mothers receiving higher participation scores than their counterparts. These tentative findings may reflect the fact that we relied on a global rating of quality of participation that may not have captured the complex ways in which participants contribute to the functioning of a parenting group. Future studies will need to consider using a more detailed measure able to assess that complexity.

These findings may also reflect the fact that, as others have found (Orrell-Valente et al., 1999), attendance in the PACE program was essentially bimodal, with 40% of mothers attending 0, 1, or 2 sessions, and 33% attending 7 or all 8 sessions. As group leaders often noted, parents who came to 1 or 2 sessions often “remained on the sideline.” They participated minimally, appearing distant, disinterested or, much more rarely, at odds with the program or the group. At the other end of the distribution, parents who came to 7 or 8 sessions were enthusiastic. They participated fully, providing encouragement and support to others, as much as they learned from the sessions. These differences may largely explain the differences we found in quality of participation ratings at the extremes: 48% of mothers who attended 1 or 2 sessions received the highest possible participation score, but 71% of mothers who attended 7 or 8 sessions did.

Important limitations caution against any over-interpretation of our findings. First, the moderate amounts of variance associated with each facet of engagement indicate that this complex process can only be accounted for in part by the predictors we studied. Other variables will need to be considered to improve the predictive utility of the statistical models tested here, such as measures of immediate contextual obstacles (e.g., changes in employment or work schedules)

and family functioning (e.g., cohesion, communication, and organization). For example, chaotic home environments are associated with multiple detrimental correlates that can interfere with a parent's ability to attend a parenting group regularly (Dumas et al., 2005).

Second, the extent to which participants were representative of mothers of preschoolers in daycare is unknown. We believe that they were to a large degree representative of lower- to lower-middle class families, as mothers with adequate financial resources were balanced by the participation of a high number of Head Start mothers, whose families must meet specific income criteria to receive services. The sample was also ethnically diverse, with strong representation of African American and European American families.

Although confidentiality prevented us from obtaining information about families whose mothers did not participate, daycare center directors provided us with the percentages of families receiving subsidized childcare in Indianapolis and Harrisburg (87 and 53%). Those figures correspond fairly closely to the percentages of sample families who met income and family size requirements to receive subsidized childcare at each site (75 and 56%). This suggests that our sample was representative of mothers whose children attended the participating daycares. However, it does not demonstrate representativeness, which is desirable from a research perspective but not always feasible ethically in the evaluation of programs like PACE.

A third limitation comes from the differential classification rates we obtained in the prediction of enrollment. Essentially, our model was very good at predicting the most likely outcome, non-enrollment, but performed below chance level with respect to enrollment. Future studies will need to compare in detail parents who do and do not enroll in such programs to understand better what motivates their decisions, as accurately predicting enrollment is central to any attempt to maximize the likelihood that prevention programs will reach their targets.

Finally, the sample was limited to mothers. This does not mean that fathers had no interest in the program. Quite the contrary, many of them participated actively in sessions. However, the design prevented their inclusion as it relied on telephone survey data that were overwhelmingly provided by mothers and contained most of the measures used here.

Results provide qualified support for the TPB and illustrate its relevance to the field of prevention. Strong support comes from the finding that enrollment was best predicted by the theory's three determinants of planned behavior: (1) intention (mothers' stated intent to enroll); (2) potential benefit (mothers' report of significant personal/family stressors and/or child oppositional problems); and (3) control (mothers' report of few time constraints to overcome). However, the theory was not supported to the same extent by the finding that attendance was only predicted by one of those determinants, control. Simply stated, mothers who attended more sessions had told us several weeks earlier that they would have the

time to attend. Methodologically, this illustrates the importance of distinguishing enrollment from attendance (a distinction often blurred in the literature). Conceptually, this suggests that enrollment in a preventive parenting program may reflect all three determinants of the TPB, but that actual attendance may be more directly a function of control over conflicting time demands – with intentions and potential benefits playing little role.

Results also have important implications for engagement. We are encouraged by the fact that overall attendance was high, with 49% of enrolled mothers attending 5 or more of the 8 sessions. This figure, which corresponds to those of other prevention trials (e.g., Cunningham et al., 2000; Orrell-Valente et al., 1999), compares favorably with a number of treatment outcome studies of children with behavior disorders (e.g., Barkley et al., 2000) and argues against the widespread belief that programs like PACE only reach a very limited number of parents. However, the fact that time constraints were the most significant obstacle to attendance suggests that researchers and service providers need to consider offering programs of shorter duration to attract parents who cannot or do not want to make more significant time commitments.

Considering that they were invited but not actively recruited to attend the program, it was also encouraging to find that nearly 40% of mothers who said that they would probably or definitely enroll in PACE actually did, compared to 6% of mothers who said that they would not. This shows that, whenever possible, intent should be assessed in preventive interventions (Spath et al., 1997). This would enable staff to predict who is unlikely to enroll (as most people who say ‘no’ mean ‘no’) and thus to focus limited resources to recruit people who say ‘yes’ to maximize the likelihood that they act on what they say. Devoting substantial resources to recruiting parents in preventive interventions is essential to large-scale dissemination and to the representativeness of research samples (Spath & Redmond, 2000), and likely to be facilitated by assessing parents’ intentions early in the engagement process.

It was also encouraging to find that the program reached mothers with significant personal or family stressors, or concerns about their children’s oppositional behavior, and that ethnicity and, with a few exceptions, socioeconomic circumstances, were not significant predictors of the engagement process. This shows that many mothers of young children are concerned about their emotional and behavioral development, and that the preschool years provide a window of opportunity to prevent adjustment problems before they may become major challenges in grade school (Gross et al., 2001; Webster-Stratton, 1998). More specifically, it suggests that the PACE program appeals to mothers from diverse backgrounds and, most importantly, reaches families who stand to benefit from the parenting strategies it offers. Participants are currently being followed up to assess whether mothers who attended sessions regularly and their children did actually benefit. This does not mean that programs like PACE are appropriate for all parents. Many

may not need them. Others may require pre-intervention services to make it possible for them to attend, and still others may want clinical or other individualized services that a group format cannot provide.

Finally, we are encouraged by the stronger influence of proximal than distal factors on the engagement process, as others are (e.g., Perrino et al., 2001). Prospects for prevention would be dimmer if sociodemographic factors had been found to play major roles in most or all facets of engagement. This does not mean that the challenges faced by service providers and researchers are small, only that the likelihood of helping families deal with current stressors or child problems is greater than that of changing long-standing socioeconomic circumstances that are rarely amenable to psychological intervention.

To conclude, engaging parents in interventions that can benefit them or their children has long been recognized as a major challenge in clinical psychology, psychiatry, and medicine (e.g., Drotar, 2000; Kazdin, Mazurick, & Siegel, 1994; Patterson & Forgatch, 1985; Rapoff, 1999). Unfortunately, this challenge may be magnified in prevention, when parents do not actively seek advice or treatment for themselves or their children. This study shows that, in a busy society in which families face multiple, often conflicting demands, the greatest challenge to engagement in preventive parenting groups is time. Enrollment, attendance, and participation may be maximized if this and other obstacles can be anticipated and addressed in the earliest stages of intervention, when parents are inclined to enroll and consider the potential benefits of attending a parenting program. Efforts made across disciplines to develop strategies to overcome such obstacles will hopefully enable more and more parents to have access to effective programs that will improve quality of life and reduce risk for themselves and their children.

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