

The Role of Maternal Beliefs in Predicting Home Learning Activities in Head Start Families*

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A conceptual model specifying that maternal beliefs (maternal self-efficacy, perceived control) mediate the relation between child-family characteristics (child's difficult temperament, mother's education, stressful life events) and the extent of involvement in home learning activities in Head Start families was tested. The sample was 306 mothers (51% Mexican American, 36% Anglo American, 13% other minorities). Results provided partial support for the model (i.e., parental self-efficacy mediated the effects of the child's difficult temperament on mothers' reports of family involvement in home learning activities). Maternal education and family stress were not directly related to home learning, although family stress influenced home learning indirectly through parental self-efficacy. Separate analyses yielded comparable results for Anglo Americans and Mexican Americans. Ways to facilitate parent self-efficacy are discussed.

The significant influence of the home learning environment on child cognitive and academic outcomes during the early childhood years has been well-documented in the literature (Baharduin & Luster, 1998; Bradley, Caldwell, & Rock, 1988; Gottfried, 1984). Further, there is strong and consistent evidence that the quality of the home learning environment serves as a major pathway by which poverty and its correlates (e.g., low maternal education) affect young children's cognitive and academic outcomes. Differences in the amount of cognitive stimulation in the home account for a substantial amount of the effect of socioeconomic (SES) disadvantage on the cognitive development and academic skills of poor children (McLoyd, 1998; Smith, Brooks-Gunn, & Klebanov, 1997).

Beyond broad sociodemographic determinants (e.g., income, parent education, family structure, minority status), there is surprisingly little research that explicates the factors that contribute to differences in parents' involvement in home learning activities with their children. Studies linking low parental involvement to low SES and minority status without exploring the basis for such differences contribute to a deficit view that fails to recognize the wide variability among low-income families. Yet, current research shows us that many poor parents do provide positive learning experiences and respond effectively to the developmental needs of their young children (Rosier & Corsaro, 1993; Soto, 1988). Thus, further research is needed to illuminate the factors associated with variation in the quality of home learning environments among poor families. Such evidence is of particular importance for informing current intervention efforts aimed at enhancing parental involvement in early education (Kellaghan, Sloan, & Bloom, 1993).

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A Model of Influences on Home Learning Activities

The present study examined a model of the direct and indirect influences of mother, child, and family factors on home learning activities in low-income families. The model is based on the proposition that maternal beliefs (i.e., parental self-efficacy and parental control) mediate the effect of child and family background factors (i.e., child temperament, maternal education, and family stress) on family involvement in home learning activities.

Parent self-efficacy is defined as a parent's belief that he or she possesses the required parenting skills to meet specific child-rearing challenges (e.g., calming a distressed child) (Izzo, Weiss, Rodriguez-Brown, & Shanahan, 1997; Jain, Fish, & Stifter, 1997). Interest in how parental beliefs have an impact on behavior grew out of Bandura's examination of self-efficacy as a cognitive mechanism of coping (e.g., Bandura, 1989, 1997). Grounded in attribution theory (Weiner, 1993), parent perceived control is defined as a parent's perception of personal control (or low personal helplessness) in determining their child's personality and development. Like self-efficacy, perceived control is viewed as critical in understanding individual differences in coping with adverse situations (Luster & Rhoades, 1989).

Theoretically, parent self-efficacy and perceived control tap two distinct belief systems. Self-efficacy reflects parents' beliefs in their capabilities to parent effectively, whereas perceived control reflects parent beliefs about their personal impact on the child's development and learning. Presumably these two parental belief systems act independently. For example, a low-income parent might feel efficacious about his/her parenting ability yet feel little control over the child's outcomes, given the larger socialization context of television, unmotivated peers, poor schools, and violent neighborhoods. Previous research provides empirical support for this distinction (Wells-Parker, Miller, & Topping, 1990). These findings showed that perceived control and self-efficacy loaded on different factors and were differentially predictive of women's active coping with life roles (e.g., family, career).

In the present model, parental self-efficacy and perceived control operate as proximal (or direct) influences on home learning activities. Maternal education, child temperament, and family stress, on the other hand, are conceptualized as exogenous variables that affect the home learning environment indirectly by way of their impact on maternal efficacy and control beliefs. Thus, higher maternal education, less difficult child temperament, and lower levels of family stress are expected to be as-

sociated with higher maternal self-efficacy and perceived control. In turn, maternal self-efficacy and perceived control are expected to predict a family's involvement in home learning activities with the child. Mothers with a high sense of self-efficacy should be more inclined to engage in school readiness activities because they view themselves as capable cognitive socializers for their children. Likewise, mothers with a high sense of perceived control should show similarly high levels of home learning support because they believe that their children's school readiness is contingent upon how they parent. Literature supporting these proposed linkages is reviewed below.

Role of Parental Beliefs

Increasing attention has been paid to the role of parents' beliefs in mediating parenting behavior (e.g., Goodnow, 1988; Harkness & Super, 1996). The assumption is that parents' appraisals about their role in childrearing would influence their parenting practices. Bandura (1989, 1997) argued that our examination of cognitive appraisals, particularly beliefs about self-efficacy, is critical in understanding behavior. Thus, the study of parenting beliefs can provide insight into individual differences in parenting quality (e.g., Mash & Johnston, 1983).

Parental Beliefs and Parent Involvement

Parental beliefs influence parent involvement in learning activities both at school and at home. For example, Hoover-Dempsey, Bassler, and Brissie (1992) found that high parent self-efficacy was associated with increased parent involvement in their school-age children's classrooms and in out-of-the-home learning activities. Similarly, Grolnick, Benjet, Kurowski, and Apostoleris (1997) found that parental attitudes played a strong role in the parents' provision of cognitive stimulation in the home. Parents who viewed themselves as efficacious and as having a teaching role were more involved in cognitive activities with their school-age children.

Mediating Influence of Parental Beliefs

Previous research provides evidence for the role of parental beliefs in mediating the effects of parent and child characteristics on parental sensitivity and responsiveness. For example, Teti and Gelfand (1991) examined the impact of parent self-efficacy in depressed mothers of young infants. Depressed mothers often were reported as being hostile and intrusive when interacting with their infants. However, high parent self-efficacy reduced the potential negative effect of maternal depression to zero. Thus, mothers' sense of parenting efficacy mediated the relationship between personal feelings of hopelessness and responsive parenting with their infants. Gondoli and Silverberg (1997) report similar findings in their research on parent-adolescent relationships. Emotionally distressed mothers who had a positive sense of capability and skill in handling parenting challenges were more responsive when talking to their adolescents than were mothers with low self-efficacy.

There is a limited research that supports the mediational role of parental beliefs in relation to parent involvement in home or school learning activities. Luster and Rhoades (1989) found that maternal beliefs of perceived control mediated the relationship between the stress of families with adolescent mothers and their providing supportive, verbally stimulating, and warm homes for their toddlers. In this study, perceived control, not parent self-efficacy, was associated with higher ratings on the HOME in-

ventory (Caldwell & Bradley, 1979). There also is some evidence of the mediational role of perceived control on parents' school involvement in former Head Start children. Seefeldt, Denton, Galper, and Younoszai (1998) found that parental beliefs about perceived control over their child's learning was an important mediator between participating in Head Start transition demonstration projects and parent involvement during the kindergarten year. Former Head Start parents were interviewed as their children finished their kindergarten year. About two-thirds of this ethnically diverse sample had participated in a Head Start transition demonstration project, and the remaining third of the sample had not been in any kindergarten transition program. Parental beliefs about perceived control rather than participation in a transition program correlated with increases in school-related parent involvement in kindergarten classrooms.

As practitioners and scholars, we search for ways to increase parent support of their child's learning both at home and in school. Previous investigations identify early home learning as predictive of later school success (e.g., Gottfried, 1984). Yet, we know little about the factors that are associated with parents constructing positive home learning environments for their young children, particularly poor children. Continued examination of the mediational role of parental beliefs might help us understand individual differences in parent's involvement in their children's home learning.

Child-Family Background Factors as Predictors of Parental Beliefs and Home Learning Activities

Although multiple child and family background factors might influence parenting beliefs and home learning activities (e.g., Okagaki & Divecha, 1993), three factors are of particular relevance in the present research: maternal education, family stress, and child temperament. The association between maternal education and the quality of the home learning environment is well documented, and there also is evidence to support the link between parent education and parental self-efficacy beliefs. Less well-educated mothers report lower feelings of self-efficacy (Hoover-Dempsey et al., 1992; Luster & Rhoades, 1989) and tend to provide less stimulating home environments for their young children (Smith et al., 1997).

Although economic hardship is a significant stressor for all poor families, these families differ in the extent to which they experience accompanying stressful events in their lives. The additive effect of multiple stressors, such as single parenthood and unstable employment, may reduce levels of nurturant parenting and cognitive stimulation in the home (e.g., Lee, Brooks-Gunn, Schnur, & Liaw, 1990; McLoyd, 1998). Further, the sheer number of critical and potentially life changing events may dampen parental opinions about efficacy and control (Scheel & Rieckmann, 1998).

In terms of child characteristics, child temperament is shown to affect both parental beliefs and the child's home learning experiences. In a study of low-income, African American families, Luster, Reischl, Gassaway, and Gomma (1995) found that preschoolers with more easy-going temperaments had better quality home environments than did less adaptable children. Likewise, Grolnick et al. (1997) found that mothers who perceived their school-age children as temperamentally easier reported feeling more efficacious as parents and were more likely to provide their children with cognitively stimulating activities at home.

Table 1
Demographic Characteristics of the Sample

Variable	Total Sample		Anglo American		Mexican American	
	<i>N</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
Sample size	306	(100)	111	(36.3)	157	(51.3)
Child's gender						
Male	148	(48.4)	54	(48.6)	76	(48.4)
Female	158	(51.6)	57	(51.4)	81	(51.6)
Mother's education*						
<High school	122	(39.9)	20	(18.0)	91	(58.0)
High school or above	181	(59.2)	89	(80.2)	42	(42.0)
Family type						
Two parents	210	(68.6)	70	(71.2)	107	(68.2)
Single parent	96	(31.4)	32	(28.2)	50	(31.8)
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)
Number of children*	2.95	(1.55)	2.69	(1.33)	3.16	(1.73)
Child's age	55.15	(4.05)	53.89	(3.98)	55.39	(4.15)
Mother's age	29.78	(5.56)	29.87	(5.52)	29.78	(5.46)

Note: Thirty-eight non-Anglo American families were omitted from this table because ethnic comparisons were made between Anglo American and Mexican American families.

* = significant mean differences between the subsamples.

Ethnicity as a Moderator

The present study examined influences on home learning activities in an ethnically diverse (predominantly Hispanic) sample of low-income families. As such, it is important to consider the possibility that the hypothesized relationships among child-family background variables, maternal beliefs, and home learning might not operate in a similar fashion across ethnic groups. Accordingly, we examined the moderating influence of ethnicity by conducting a model comparison for the Anglo American and Mexican American samples and then testing the model fit separately for the two ethnic groups. Although there is evidence for cultural influence on parental beliefs and practices related to school readiness (Harkness & Super, 1996), the literature does not provide an adequate basis for forming specific hypotheses regarding ethnic group differences in the relationships of interest in this study. For example, Izzo, Weiss, Shanahan, and Rodriguez-Brown (2000) examined the role of parental self-efficacy and control of immigrant parents from Mexico in the academic and social adjustment of their school-age children. No comparison group was included in their study, so no ethnic group comparisons were possible.

In sum, the primary purpose of the present research was to examine a mediational model specifying that maternal education, family stress, and child temperament influence the quality of the home learning environment through their effects on the dual belief systems of parental self-efficacy and perceived control in an ethnically diverse sample of Head Start families. The child-family background variables and maternal beliefs were assessed at the beginning of the Head Start year, and the home learning activities were measured approximately 9 months later. Thus, we examined the relationship among the variables over time. In addition, we were interested in determining whether ethnicity moderates the relationships among child-family background variables, maternal beliefs, and the family's involvement in home learning activities with preschoolers. Ethnicity by itself might impact the relationship among the variables.

Method

Participants

Three hundred and six Head Start children and their mothers participated in the second year of a larger, 3-year investigation

of the predictors of Head Start children's early school adjustment. The sample consisted of 120 Head Start families from a rural community in northern California and 186 families from a city in southern Arizona. Families were recruited from 11 classrooms in California and 14 classrooms in Arizona and constituted about 70% of all Head Start families enrolled at both sites. Only mothers were included for purposes of this study, because they constituted the largest group of primary caregivers (89.2%). The following caregivers were excluded from the study: fathers (4.9%), grandmothers (2.9%), other relatives (1%), foster parents (1%), and guardians or adoptive mothers (1%).

The ethnic composition of the sample was 51% Mexican American, 36% Anglo American, and 13% other ethnic minorities. Fifty-nine percent of the Mexican American mothers were born in Mexico, and the remaining were born in the United States. Approximately 57% of the Mexican American mothers spoke only Spanish, 29% spoke only English, and 13% were proficient in both languages.

Approximately 68% of the children had two parents or caregivers in the home (13.7% had live-in partners), and the remaining 31.7% of the children were living in single-parent households. For this study, the single parent was the biological mother. The proportion of single- or two-parent households corresponded to the proportions found at the Head Start sites as a whole. For the analyses involving ethnic-group comparisons, approximately 13% of the children ($n = 38$) were excluded because they were neither Anglo American nor Mexican American. Eight of these children were African American, 11 were Native American, and 19 were biracial. Overall, the participation rate was high (above 70%), and the samples were considered to be demographically representative of the larger Head Start populations at both locations.

Table 1 provides further information on the demographic characteristics of the sample as a whole, as well as a breakdown for the two largest ethnic groups: Mexican American ($n = 157$) and Anglo American ($n = 111$). Ethnic group comparisons revealed no significant differences with respect to child's gender, family structure (two- vs. one-parent family), child's age, and mother's age. However, the two groups did differ significantly with respect to maternal education and number of children in the family. More of the Mexican American mothers (58%) had

not completed high school and had more children ($M = 3.16$) as compared to their Anglo American counterparts (18% non-high school graduates, $M = 2.69$ children per family; $t = 6.17$, $p < .001$ and $t = 2.49$, $p < .05$, respectively).

Measures

Maternal education. Mothers reported their highest level of education using the following categories: *6th grade or less, 7th to 9th grade, 10th to 11th grade, 12th grade, high school graduate/GED, some college, BA, more than a BA, and other.* For purposes of data analysis, maternal education was coded into two categories: $<$ high school degree = 0, $>$ high school degree = 1.

Family stress. Information on the degree of family stress was collected using the Life Events Scale (Sandler & Block, 1979). Mothers were asked to report which of 32 life events had occurred in the past year. Checklist items included areas such as family structure and stability (e.g., birth of a child, moving into a new house), employment (e.g., job loss), and family violence (e.g., child is a victim of violence). The total number of reported events was used as a family stress score.

Child temperament. The child's temperament was assessed using the mothers' reports of the Temperament Assessment Battery for Children (TABC; Martin, 1988). This 48-item rating scale yields 5 subscale scores based on recent factor analytic research (Presley & Martin, 1994): activity, adaptability, negative emotionality, task orientation, and social inhibition. A factor analysis of the subscale scores with this sample yielded two factors. Negative emotionality, low adaptability, high activity, and low task orientation loaded on one factor called "difficult temperament." For this study, the reliability coefficient was quite high ($\alpha = .89$). The score for the "social inhibition" subscale loaded on a second factor but was not used for purposes this study.

Maternal beliefs. Mothers were asked to rate their level of agreement on the Parent Opinion Survey, adapted from questionnaires developed by Stevens (1986) and Luster and Rhoades (1989). Four items from Stevens' measure of parent self-efficacy and 8 items from Luster's perceived contingency (control) and perceived competency (efficacy) scales were used. All items were rated on a 4-point scale from 1 = *strongly disagree* to 4 = *strongly agree*. Principal components factor analysis with a varimax rotation on the 12-item questionnaire yielded a two-factor solution corresponding to Parent Self-Efficacy (PSE) and Parent Perceived Control (PPC). After eliminating those items with factor loadings less than .40, four items emerged as the PSE factor: "I am able to take care of my child's needs," "My child is happy and well-adjusted because of the things that I do," "My child has learned to do many things with my help," and "The kinds of toys and experiences I provide for my child will help him/her to be successful as an adult." Ratings were summed over the four items ($\alpha = .58$). A high score represents high parent self-efficacy.

Six items remained on the PPC factor after using the same criteria to eliminate items with low factor loading: "I believe that the way I treat my child will strongly influence how he/she will behave toward others," "Successfully rearing a child has much to do with luck," "The way my child behaves has little to do with what I do as a parent," "There is not much a parent can do to influence how smart a child will be," "The way children turn out has little to do with how a parent raised them," and "I have little control over whether or not my child learns how to make and keep friends." The items were scored so high

scores reflect high perceived control. Ratings were summed across the items for a total score on PPC ($\alpha = .73$).

Home learning activities. Mothers responded to the 25-item Home Learning Experiences scales of the Home-Learning Environment Profile (HLEP; Heath, Levin, & Tibbetts, 1993). In developing the HLEP, Heath and his colleagues aimed to address certain limitations of more widely-used measures, such as the Home Observation Measurement of the Environment (Caldwell & Bradley, 1979), by including culturally appropriate items and by eliminating items considered to be more reflective of socioeconomic status (e.g., material resources in the child's home) than home learning environment. Accordingly, items were developed to encompass a range of home learning activities practiced in families from diverse ethnic and economic backgrounds. Items tap the frequency with which mothers perceived family members engage in specific school readiness activities (e.g., reading or looking at books with child; using workbooks or flashcards with child), as well as common family/cultural practices that support child learning and development (e.g., talking with child about how family members are related; giving child religious training). Each item is rated on a 4-point scale, from 1 = *never* to 4 = *often*, and the ratings were summed to derive a total score for the scale.

Heath, et al. (1993) field-tested the HLEP with a sample of Hawaiian-descent children enrolled in the Kamehameha Early Education Program. Their findings showed high internal reliability ($\alpha = .98$) for the scale and low but significant correlations with standardized measures of verbal ($r = .26$, $p < .001$) and quantitative ($r = .22$, $p < .05$) achievement. Evidence collected as part of our larger investigation of Head Start families also supports the scale's reliability ($\alpha = .84$) and validity, that is, low but significant correlations with teacher ratings of cognitive ability ($r = .15$, $p < .05$) and verbal ability measured on the Peabody Picture Vocabulary Test-Revised ($r = .16$, $p < .05$).

Procedure

During fall and spring of the Head Start academic year, mothers were interviewed individually either in their homes or at the center. Mothers were interviewed in either English or Spanish, depending on their preference. English versions of all questionnaires were first translated into Spanish and then translated back into English by a second translator. This back-translation method is a way to insure equivalence in both the languages (Marin & Marin, 1991). During the fall interviews, mothers responded to all survey items. During the spring interviews, mothers completed the Home Learning Environment Profile. Fall interviews generally were completed in about 1.5 hours, whereas spring interviews were completed in 1 hour. All participants were compensated with a small stipend.

Results

Preliminary Analysis

Table 2 shows the correlations among the variables. As can be seen, modest but significant associations were found between the child-family background variables and parental beliefs. Mothers who were more educated ($r = .30$, $p < .01$) and perceived their child as less difficult ($r = -.20$, $p < .01$) were higher in perceived control. Also, mothers who reported having fewer family stressors ($r = -.21$, $p < .01$) and a less difficult child ($r = -.40$, $p < .01$) were higher in self-efficacy. However, only the child's difficult temperament was associated with family

Table 2
Correlations Among Family, Child, Parent Beliefs, and Home Learning Activities

Variable	1	2	3	4	5	6
Maternal education	—	.11	-.02	.30**	-.05	.05
Family stress		—	.17**	.00	-.21**	-.08
Difficult temperament			—	-.20**	-.40**	-.20**
Perceived control				—	.08	-.14
Parent efficacy					—	.23**
Home learning activities						—

Note: $N = 303$ – 306 . Maternal education was coded: 0 = less than high school education; 1 = high school diploma or more.

home learning activities ($r = -.20, p < .01$); children with difficult temperaments were exposed to fewer learning activities in the home. The absence of significant correlations of maternal education and family stress with home learning activities may be attributable to the characteristics of our sample (i.e., low-income minority families) and our measure of home learning environment. As noted above, the Heath, et al. (1993) measure of home learning environment was specifically designed to minimize overlap with indices of socioeconomic status. Measured in this way, variation in maternal education was not directly associated with differences in low-income families' provision of home learning activities.

With respect to the influence of parental beliefs, self-efficacy was associated with more frequent involvement in home learning activities with the child ($r = .23, p < .01$). However, parent perceived control was unrelated to the quality of the home learning environment ($r = -.14, ns$).

Testing the Conceptual Model

The path model that had three background variables and two mediators was proposed to explain the variance in home learning activities. In this model, we posited that the relationship between the three background variables (i.e., mothers' education, family stress, and child temperament) and home learning activities was mediated by maternal beliefs of self-efficacy and control. Because our correlational analyses showed no significant relationship between the family background variables (i.e., family stress and maternal education) and home learning activities, a key condition for demonstrating mediation was not met in the present case (Baron & Kenny, 1986). Still, parental beliefs might operate as intervening variables that indirectly link the family background variables to home learning activities.

The proposed model was tested using AMOS version 4.0 (Arbuckle & Wothke, 1999). To examine possible effects based on what geographic region the Head Start children lived in, we conducted a comparison of the two samples from California and Arizona. Path analysis results revealed no significant difference between the two sites, $\chi^2(19, N = 306) = 27.5, ns$, indicating that the path model explains home learning activities similarly for both Arizona and California samples. Thus, two samples were combined for all subsequent analyses.

Because there is no consensus in using specific indices for judging overall model fit of a path model, four different indices that have different theoretical backgrounds were used: χ^2 likelihood ratio statistic, Bentler's (1990) normed comparative fit index (CFI), Tucker-Lewis's (1973) non-normed index (TLI), and Root Mean Square Error of Approximation (RMSEA; Steiger, 1990). According to Marsh, Balla, and McDonald (1988), a χ^2 statistic is an absolute index that addresses the residual or unexplained variance remaining after a model fitting. If the χ^2

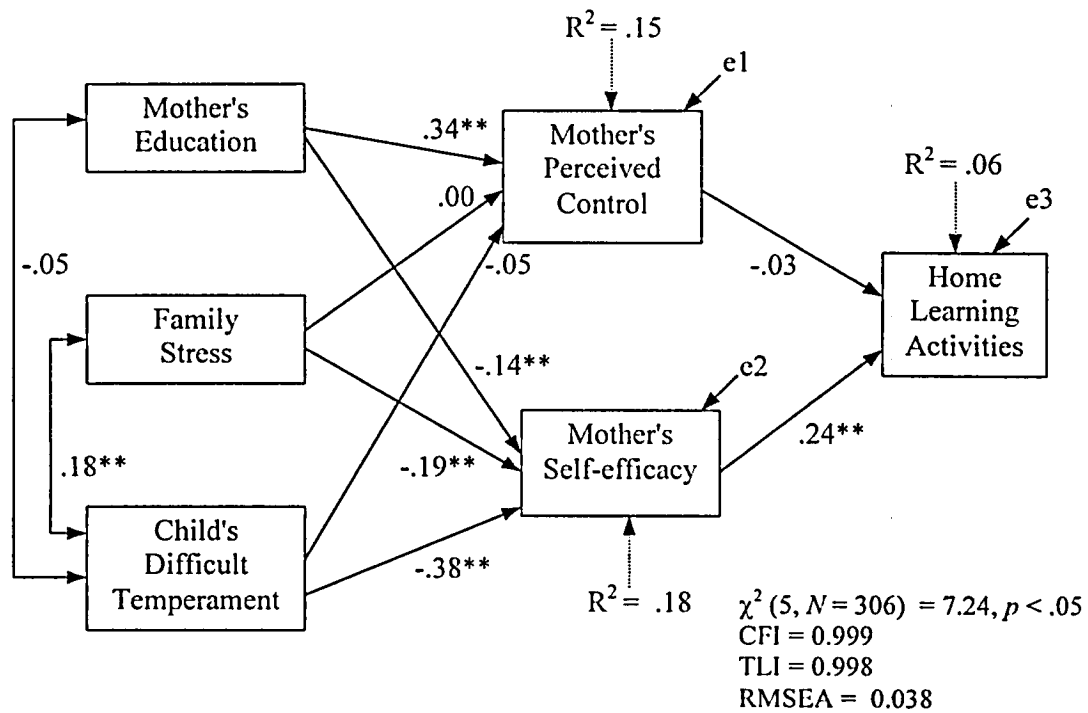
test is significant, the proposed model does not fit the data. On the other hand, CFI and TLI are based on relative comparisons between the proposed model and other possible models. A typical approach is to use a "worst fitting" model, called "null model" (i.e., all covariances are zero). The indices are bounded by 0 and 1. The closer to 1, the better the model fits. A reasonable fit level for CFI is 0.95 (Bentler, 1995) and for TLI is .90 (Bentler & Bonett, 1980). Finally, RMSEA is one of the fit indices ordering models from best fitting to worst fitting. Although there is no absolute value, it is possible to determine a relative ordering of different models for a single data set (Maruyama, 1998). The RMSEA also is bounded by 0 to 1. Less than .08 is recommended for a reasonable fitting (Browne & Cudeck, 1993). The results of path analysis (see Figure 1) showed that the proposed model fit the data, $\chi^2(5, N = 306) = 7.24, p < .05$, CFI = .999, TLI = .998, and RMSEA = .038. Thus, the proposed model especially focusing on the effects of two parental belief variables was confirmed.

Five of the eight path coefficients were statistically significant at the .01 level. Consistent with expectation, maternal education, family stress, and child temperament significantly predicted parent self-efficacy, and this, in turn, predicted home learning activities. Interestingly, however, mothers' education was negatively associated with self-efficacy. Because the zero-order correlation between maternal education and parent self-efficacy was nonsignificant, this may represent a suppressor effect. In contrast to the self-efficacy findings, only one pathway involving perceived control was significant. Maternal education (but not family stress or child temperament) was associated with higher perceived control. However, the mother's perceived control did not significantly correspond with the family's involvement in home learning activities.

Testing for Moderation Effects

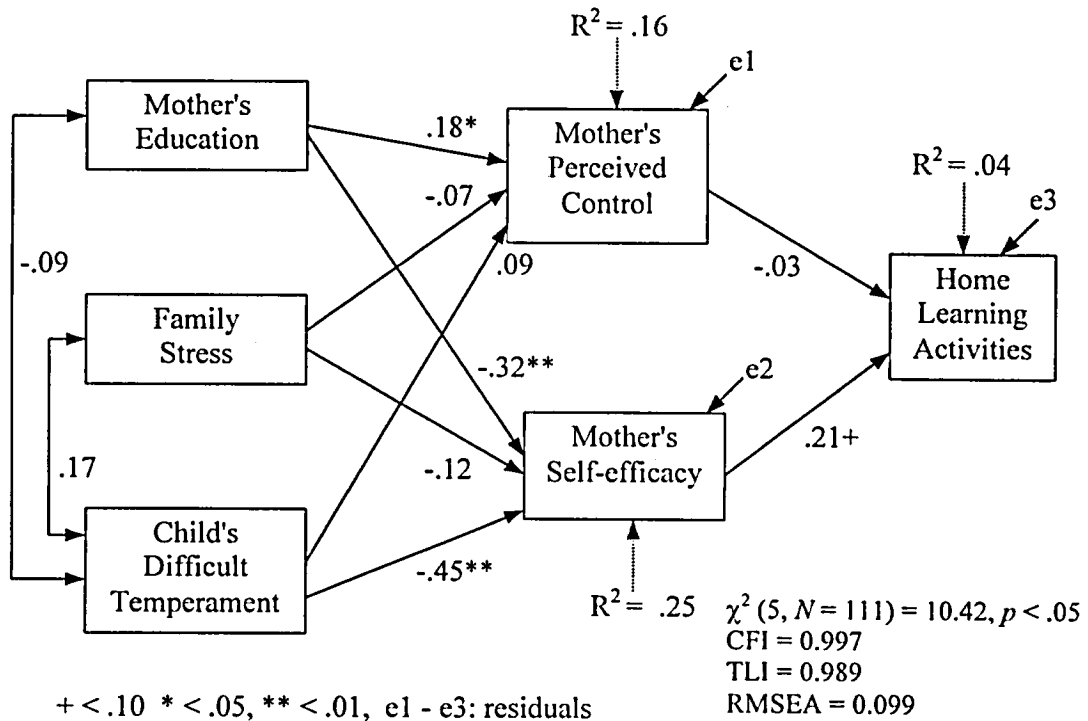
To determine whether ethnicity moderated the observed relationships among the variables, a model comparison was conducted for the Anglo American and Mexican American samples. Ethnic differences were tested by examining the margin of sampling error using chi-square statistics. If the chi-square statistic is not significant at a .05 level, we can conclude that each parameter in the Mexican American sample is equal to the corresponding parameter in the Anglo American sample. The results indicated that ethnicity moderated the relationship among the variables, $\chi^2(19, N = 268) = 33.86, p < .05$.

To further examine the model fit for the two ethnic groups, we conducted a path analysis on the Anglo American and Mexican American samples separately (see Figures 2 and 3, respectively). The model showed a reasonable fit to the data for the Anglo American sample, $\chi^2(5, N = 111) = 10.42, p < .05$, TLI = .989, CFI = .997, RMSEA = .09, and for Mexican American sample, $\chi^2(5, N = 157) = 7.26, p < .05$, TLI = .996, CFI = .999, RMSEA = .054. Significant path coefficients among the variables were similar in the two ethnic groups and comparable to those found for the total sample. One exception to this pattern was the lack of a significant link between family stress and mother's self-efficacy in the Anglo American sample. It should be noted that variations in the significance levels of the beta weights in the two samples are attributable partly to differences in sample sizes.



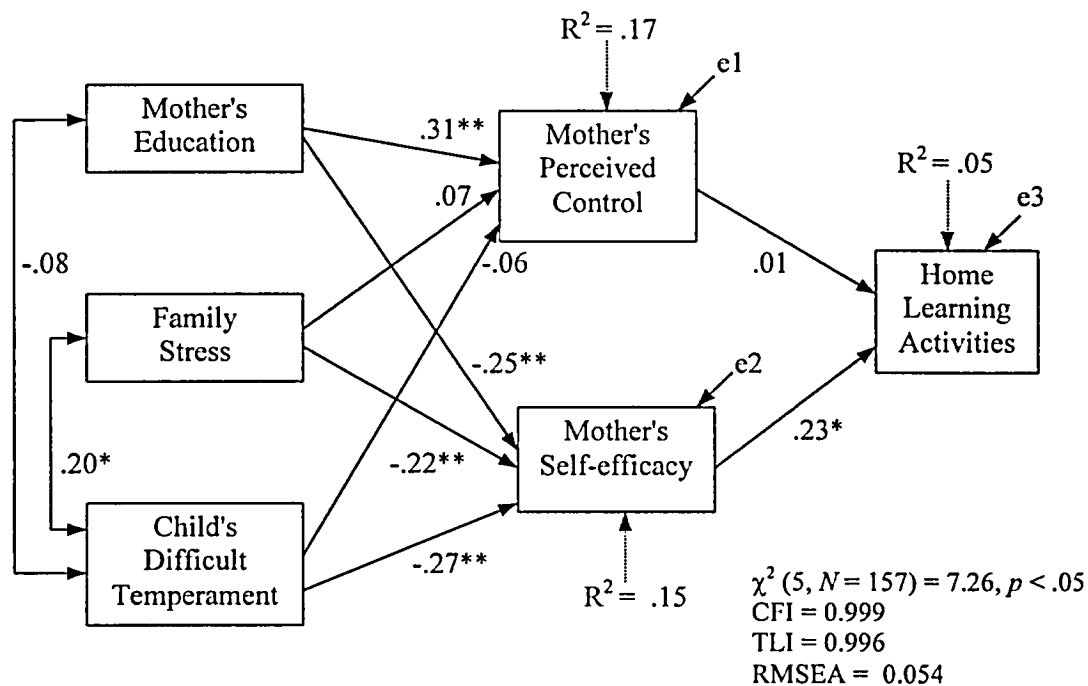
* < .05, ** < .01, e1 - e3: residuals

Figure 1. Results of testing the model of family involvement in home learning activities in the full sample.



+ < .10 * < .05, ** < .01, e1 - e3: residuals

Figure 2. Results of testing the model of family involvement in home learning activities in Anglo Americans.



* < .05, ** < .01, e1 - e3: residuals

Figure 3. Results of testing the model of family involvement in home learning activities in Mexican Americans.

Discussion

The Mediating Role of Parental Beliefs

The present study examined a model of the mediational role of parental beliefs (parent self-efficacy and perceived control) in predicting parental involvement in home learning activities in a sample of Head Start families. Path analysis results provided partial confirmation of the model in showing that parent self-efficacy serves as an intervening variable linking child and family background characteristics and the learning environment of the home. Specifically, parent self-efficacy, as reported by mothers, was found to mediate the effect of child temperament on the family's provision of home learning activities. In addition, family stress was found to impact the child's home learning environment indirectly through maternal self-efficacy.

Contrary to expectation, the present results failed to confirm the mediational role of perceived control in predicting home learning activities. From our factor analysis, the items for efficacy and control loaded on different factors as was the case for other studies (e.g., Wells-Parker et al., 1990). However, Wells-Parker, et al. found that perceived control was predictive of active coping orientation when women were dealing with occupation and economic issues, but not when asked about familial or marital issues. Our findings are also at odds with those of Luster and Rhoades (1989) where perceived control, rather than parental efficacy, was found to mediate family stress in predicting the home learning environment. Several factors might account for this discrepancy, including differences in the measures of perceived control and home learning environment, as well as differences in the demographic characteristics of the samples.

Further research is needed to disentangle the influences of

the dual parental belief systems of perceived control and self-efficacy in predicting parent involvement in home learning. However, consistent with Bandura (1997), the present findings provide some evidence that beliefs about self-efficacy can help us understand how people respond and cope with difficult situations such as parenting. Low-income parents have to overcome a number of challenges but it appears that having some sense of competency or confidence in one's parenting can facilitate a home learning environment that prepares children for school.

Ethnicity as a Moderator

A secondary aim of the study was to determine whether ethnicity served to moderate the relationships among the variables in our model. Our path analysis results do not provide conclusive evidence on this question. Although the chi-square analysis results supported a moderator effect, model testing revealed an adequate model fit for both ethnic groups, although the fit was somewhat stronger for the Mexican American sample. The most noticeable ethnic-group difference was a somewhat weaker influence of family stress on parent self-efficacy in the Anglo American sample, suggesting that stressful family circumstances may have a more debilitating effect on Mexican American mothers' sense of efficacy in their parenting role.

Limitations of the Study

There are a number of limitations that must be described. First, the parent beliefs and home learning activities data were obtained from one source, the mothers. Thus, there is the problem with shared method variance and its possible distortion of the results. Replication of this study with reports from other sources including observations of mother-child interactions would confirm the frequency and quality of home learning ac-

tivities. Therefore, the results of this study should be considered preliminary and regarded with caution.

Another limitation is that only maternal beliefs were examined in the present study. We would agree that the beliefs of all significant caregivers, particularly fathers, should be included as significant cognitive socializers. However, because of limited resources, we were only able to interview one caregiver per family. Mothers were selected because they accounted for 90% of the self-identified primary caregivers. There were too few fathers and other caregivers to draw sound conclusions about the contribution of their beliefs to home learning.

Contribution and Directions for Future Research

The present study makes a number of contributions. The study provided information about parenting beliefs and a family's practices related to school readiness in preschoolers. Previous research had examined parent self-efficacy in families with older children (e.g., Hoover-Dempsey et al., 1992) or with troubled or clinical samples of children and adolescents (e.g., Gondoli & Silverberg, 1997). We focused on nonclinical samples of preschoolers in low-income families—those families thought to be at higher risk for academic failure in school. Also, this study builds upon a growing body of work that found that mothers' appraisals (beliefs, values, goals, and expectations) play an important role in mediating both parenting practices, and children's academic and psychological competence (Brody, Flor, & Gibson, 1999; Izzo et al., 2000). Our findings demonstrate cross-ethnic-group equivalence with respect to the mediational role of parent self-efficacy. In both Anglo American and Mexican American samples the mother's confidence in her parenting competency mitigated the negative impact of child difficult temperament on her perceptions of the family's level of involvement in home learning activities. Our findings highlight the need to further explore possible ethnic group differences in the impact of family stress on parental self-efficacy and home learning activities.

There are several directions for future research. One is to explore the relationships among increased involvement in parent support activities (e.g., attending parent meetings, talking with teachers), parent efficacy beliefs, and the quality of the home learning environment. Norton (1998) found that increased collaboration between parents and teachers was linked with parent efficacy in dealing with social services to meet family needs. The focus, then, would be on investigating ways that staff can empower parents with a sense of capability in rearing young children.

Another line of research involves examining the role of parent self-efficacy in home learning activities and its links to children's readiness for kindergarten. Parker, Piotrkowski, Kessler-Sklar, and Baker (1996) found that an enhanced home learning environment increased the likelihood that children from Head Start entered school ready to learn and demonstrated greater school success over time. This focus would involve extending our proposed model to include linkages among parent efficacy, home learning, and improved academic outcomes for children.

Implications for Practice

Mothers' ideas and theories about parenting practices are of particular interest to educators, developmental psychologists, and therapists. Examination of mothers' beliefs allows us to understand behavior and some of the motivation propelling behavior. For teachers, on-going conversations may reveal whether a mother believes that she is a critical and capable socializer for

her child's school success. Does she feel that she is capable of providing a positive learning environment for her preschooler at home (e.g., able to read in the school language, play or help)? By ascertaining the mother's beliefs about one's parenting efficacy, teachers can redirect or highlight parenting behaviors that promote children learning at home. If mothers report low parenting efficacy, teachers can identify strengths unseen by parents or suggest ways that parents can teach their young children. Encouragement and support of parents helps them provide a strong foundation for future school success. Thus, teacher assessment of parent efficacy can help guide teachers' comments with parents.

Central to the issue is how a teacher, family service coordinator, or therapist can build mothers' self-efficacy. Bandura (1997) discussed several sources of efficacy beliefs: having focused discussion on strengths, comparing one's parenting practices with other mothers, and identifying improvement over time. Discussion and attention can be directed to what the mother has done to solve a particular problem (e.g., getting a reluctant child to bed, turning off the television more often for some reading time). Mothers may become self-assured as their strengths are highlighted by valued authorities. Parent education, involvement, and support groups also can provide a mirror for many parents as they struggle through typical developmental milestones.

Intervention programs for parenting skills have replicated the transactional nature of context and beliefs (Bandura, 1997). Changes in parent self-efficacy corresponded with expressed readiness for parenting change, attendance in intervention sessions, and collaborative partnership with professionals (Spoth, Redmond, Haggerty, & Ward, 1995). Self-efficacy is built upon one's self-reflections, and within a collaborative and supportive context of situation-specific parent training. For educators, family life educators, social workers, and therapists, building parent self-efficacy allows a viable opportunity to help parents make constructive and potentially long-lasting changes. From a policy standpoint, maternal self-efficacy can be incorporated as a measurable outcome for intervention programs for children and mothers, as self-efficacy may be a critical characteristic of healthy families who provide stimulating and nurturing contexts for young children.

On another front, comprehensive early childhood intervention programs like Head Start can strengthen home learning environments for preschoolers. These programs serve two generations of citizens by supporting parents in their roles of caregiver and breadwinner and educating their preschoolers. Stress can interfere with positive parent-child interactions and parenting (e.g., Hanson, McLanahan, & Thomson, 1997). Because early intervention programs are designed to support and educate parents to alleviate some of the accumulation of stressful life events, we can help parents provide stimulating home learning environments for their preschoolers by engaging them in immediately relevant and brief interventions such as routine reading from picture books at home with their preschooler (e.g., Whitehurst et al., 1994). Parents welcome ways to help their children learn and be ready for kindergarten. Helping parents experience success as teachers of their children also builds parent self-efficacy. In addition to working with parents, programs like Head Start are mandated to adhere to certain quality standards. They usually have developmentally appropriate environments where children can grow cognitively, emotionally, physically, and socially. Parents observe various enriched learning environments and the formation of various personal relationships that support their chil-

dren's school readiness. Solutions are complex. However, it is apparent that pathways to stimulating home learning environments must be approached from multiple levels by empowering parents, educating children, and forming collaborative partners with the multitude of agencies that serve poor children and their families.

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