

Early Academic Learning Problems of Jamaican Children: Possible Family Influences

by

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Abstract

Following concerns raised by the Jamaican Teachers Association about children's adjustment problems in early childhood and elementary education classrooms, this study examined the association between family circumstances and children's skills in communication, problem solving, and regulation of social-emotional behaviors. The study's findings mirrored results found in Western developed countries about the influence of family variables such as socio-economic status (SES) or maternal mental health upon children's adjustment in school. However, the limitations of the study warrant discussions among school officials and families to interpret and develop culturally appropriate and more socially responsive policies and methods of supporting children's adjustment and learning in academic settings.

Child development experts and educators have well articulated the importance of providing appropriate experiences that promote the development of skills that children require to successfully transition from the home to the school environment (Pianta, 1999; Stipek, 2001). Of the many skills that better enable children to adapt to the demands of the school, the ability to regulate social and emotional behaviors, the ability to use language to communicate with others, and the ability to problem-solve have been frequently cited in the literature as being the most critical. Failure to provide the necessary guidance in dealing with change may be associated with

children's behavioral, emotional, and learning difficulties in school and later in life (Committee on Early Childhood Pedagogy, 2001). The associations between the guidance that is provided by adult caregivers and the children's difficulties in school, however, are findings of research largely conducted in western, industrialized countries (Durbrow, 1999).

As more governments of developing countries are now encouraging private-sponsorship of early childhood education programs or providing preschool and kindergarten services that are organized as part of the public school system, so are opportunities in doing comparative research (Morrison & Milner, 1995). An opportunity to study caregiving variables and children's difficulties in adjusting to school had emerged in Jamaica, following concerns raised by the Jamaican Teachers Association about the severe behavior problems of children in schools, including children in the privately sponsored Basic Schools serving children from ages three to six years (Morrison, Ipsa, & Milner, 1998). The association had approached the Ministry of Education for help in understanding and managing the children's challenging behaviors. Being natives of Jamaica, the expertise of the second and fourth authors were sought to assist in the study.

Basic Schools

Basic Schools serve about 82% of all Jamaican children of ages four to six years, with most of the children living with families earning low wages (Johnson & Brown, 1995). The teachers identified a lack of curiosity, reluctance to participate in new activities, and behavior problems as the main

concerns about the children (Morrison et al., 1998). As curiosity and participation are typical characteristics associated with motivation in learning of young children, and non-social behaviors contributed to chaotic teaching and learning environments, the trends were especially worrisome (Committee on Early Childhood Pedagogy, 2001).

Purpose

A review of the developmental psychology literature provided support for the notion that behavioral, emotional, and learning difficulties of children are often interrelated. Thus the reports of the Basic School teachers about the children's behaviors appeared to have some measure of legitimacy. Also in the literature, three external influences have been acknowledged as contributing to the difficulties that may be experienced by children in new settings such as schools. The influences are socioeconomic status of families, family functioning, and maternal psychopathology. The purpose of this paper is to describe the effects of these three influences (independent variables) on the Jamaican children's regulation of behaviors related to learning and verbal abilities (dependent variables).

Method

Subjects

Children. One hundred and fifty one children of ages four to six from six urban Basic Schools participated in the study. Children who were at-risk for delays because of biological reasons (e.g., weighed low at birth, had ingested lead, had iron deficiency anemia, suffered malnutrition,) and children with diagnoses of developmental delays or disabilities were not included in the sample. The majority of the children lived with their biological mothers (93%). Biological fathers were present in 50% of the homes.

Mothers. One hundred and fifty one mothers participated in the study. Biological mothers were not present in seven percent (7%) of the homes where the children lived; instead, stepmothers, adoptive mothers, or grandmothers served as the primary maternal figures for the children. The ages of the mothers ranged between 20 and 51 years.

Procedures

Socioeconomic measure. Socioeconomic status (SES) was measured by calculating the number and quality of appliances and material goods in the home of each participating family. Examples of appliances and goods included cooking equipment, indoor lighting, toilet facilities, and water amenities. Rose (1998) reported that SES scores calculated in this way were as accurate as other measures of SES such as income or current occupation. The higher the total score, the higher the SES of the family.

Family functioning measure. The Family Adaptability and Cohesion Environment Scales II (FACES) (Olson & Russell, 1980; Olson, Sprenkle, & Russell, 1979) were used to measure the extent each family functioned as a cohesive unit or system. The participating mothers responded to 30 descriptions of behaviors and attitudes about families (e.g., family does things together; children have a say in their own discipline; family shares responsibilities; family spends free time together) by marking one of three responses (no, sometimes, or always). Higher scores reflect higher levels of cohesion within families.

Maternal psychopathology measure. The Brief Symptom Inventory (BSI) (Derogotis, 1992; Derogotis, 1993), a tool widely used by clinicians and researchers, measured the extent of maternal psychopathology. The participating mothers completed the BSI by indicating 0 (no distress) to 4 (extreme) to 53 statements about their personal feelings. Examples of statements included Feeling lonely, No interest in things, Feeling inferior to others, and Hopeless about the future. The higher the BSI score, the higher the psychopathology (e.g., hostility, mild but chronic depression or dysthymia, major depression with psychotic features).

Child self-regulation measure. Completed by the mothers, the Conners Parent Rating Scale (Goyette, Conners, & Ulrich, 1978) presented 48 statements about children's behaviors (e.g., picks at things, easily frustrated, sleep problems, bullies others). The mothers rated their children's behaviors by indicating one of three choices: never, a little, or a whole lot. The higher the total score, the more significant the problem reported about the child's self-regulation of emotions (e.g., emotional and social immaturity, moodiness).

Child verbal and learning skills measure. The Verbal Ability and Puzzle-Solving scales of the McCarthy Scales of Children's Abilities (Kaufman & Kaufman, 1977) were used to measure the cognitive-related skills of the children. The scales were administered individually to each participating child at the school site by a trained examiner. As the McCarthy is a standardized test, the higher the child's score above the mean, the more above average the verbal and learning skills demonstrated by the child.

As appropriate, factor structures of the measures were tested and new factors developed to increase sensitivity to the linguistic standards and values of Jamaican families and culture. Information about the psychometric measures and

their references are available upon request from the authors.

Analysis

As bivariate correlations among multiple independent and dependent variables were sought, the path analysis model represented the most appropriate framework for analyzing the data obtained. A particular strength of the model is the inclusion of the measurement error of all endogenous variables (Klem, 1995). Amos 4.0 was used to obtain the maximum likelihood estimates of the model coefficients (Arbuckle & Wothke, 1999), and the adequacy of fit for the path models was determined by considering several indices in combination. The indices were Chi-Square (χ^2) statistic, Goodness of Fit Index (GFI), Comparative Fit Index (CFI), and Root-Mean-Square Error of Approximation (RMSEA) (Hu & Bentler, 1995). In general, a good-fitting model is one with a non-significant Chi-Square, a GFI and CFI of .90 or larger, and a RMSEA of .05 or less.

Four path analysis models were selected. Model 1 examined the influence of SES, maternal dysthymia, and family cohesion on child outcomes. Model 2 examined the association among SES, maternal dysthymia, and child outcomes. Model 3 examined the influence of SES, maternal depression, and family cohesion on child outcomes, and Model 4 examined the association among SES, maternal depression, and child outcomes.

Results

Bivariate correlations for all variables are presented in Table 1. Figures 1 through 4 graphically illustrate the relationships that were found statistically significant.

In Model 1, SES directly and positively predicted puzzle-solving skill of children. Furthermore, SES indirectly predicted child behavior problems in two ways: (a) from SES to dysthymia, and dysthymia to behavior problems and (b) from SES to dysthymia, from dysthymia to cohesion, and from cohesion to behavior problems. Dysthymia directly and positively influenced child behavior problems, while family cohesion directly and negatively influenced child behavior problems. In Model 2, SES predicted dysthymia, covaried with child verbal ability and puzzle-solving skill, and indirectly predicted behavior problems. Maternal dysthymia negatively related to family cohesion and positively influenced behavior problems of children. Family cohesion directly and negatively influenced child behavior problems. Models 3 and 4 examined the relationship between SES, maternal depression, and family cohesion to child outcomes. In Model 3, SES positively predicted puzzle-solving skill and indirectly predicted child verbal ability (from SES to maternal depression and from depression to verbal ability). Maternal depression directly and negatively related to verbal ability of children. Family cohesion negatively related to child behavior problems. In Model 4, SES predicted depression and covaried with verbal ability and problem-solving skill. Depression directly related to verbal ability of children, and family cohesion directly and inversely related to child behavior problems.

Information about the fit indices for the four models is available from the authors.

Table 1
Bivariate Correlations for all Variables in Models

	1	2	3	4	5	6	7
1. Dysthymia	1.00						
2. Depression	.618*	1.00					
3. Cohesion	-.223**	—	1.00				
4. SES	-.235**	-.355**	.185*	1.00			
5. Behavior Problems	—	—	-.223**	—	1.00		
6. Verbal Ability	—	-.260**	—	.203*	—	1.00	
7. Puzzle-Solving	—	—	—	.247**	—	.419**	1.00

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

Discussion

As hypothesized, the relationships that emerged were complex and strongly influenced by family SES. The saliency of SES as a predictor of preschool and kindergarten children's outcomes in Jamaica lends credence to the impact of low SES on children found in western, industrialized countries. For example, low family SES directly predicted low puzzle-solving skill. One easy explanation may be that low SES restricted families from being able to purchase puzzles and other educational materials, especially in Jamaica where such materials are generally expensive. Thus, the child's opportunities to practice and master skills related to problem solving using such materials were limited. Another plausible reason may also be that because Jamaican parents believe that school, even for young children, should focus on reading and writing, the families do not invest their already limited resources on other types of educational materials other than sending them to school.

Lower SES was found to be associated with a higher level of maternal psychopathology, especially major depression with psychotic features. The inverse relationship between SES and severity of mental illness were similar to findings found in other countries (Keating & Hertzman, 1999). Low chronic levels of dysthymia, for example, were found to restrict mothers' desire to participate in daily activities, thus reducing the amount of time spent with the children or the mothers becoming more directive, demanding, or controlling, all factors associated with behavior problems in young children (Campbell, 1995). In this study, high levels of major depression with psychotic features predicted lower levels of child verbal ability. Because there is less frequent mother-child interaction due to depression, there is less conversation

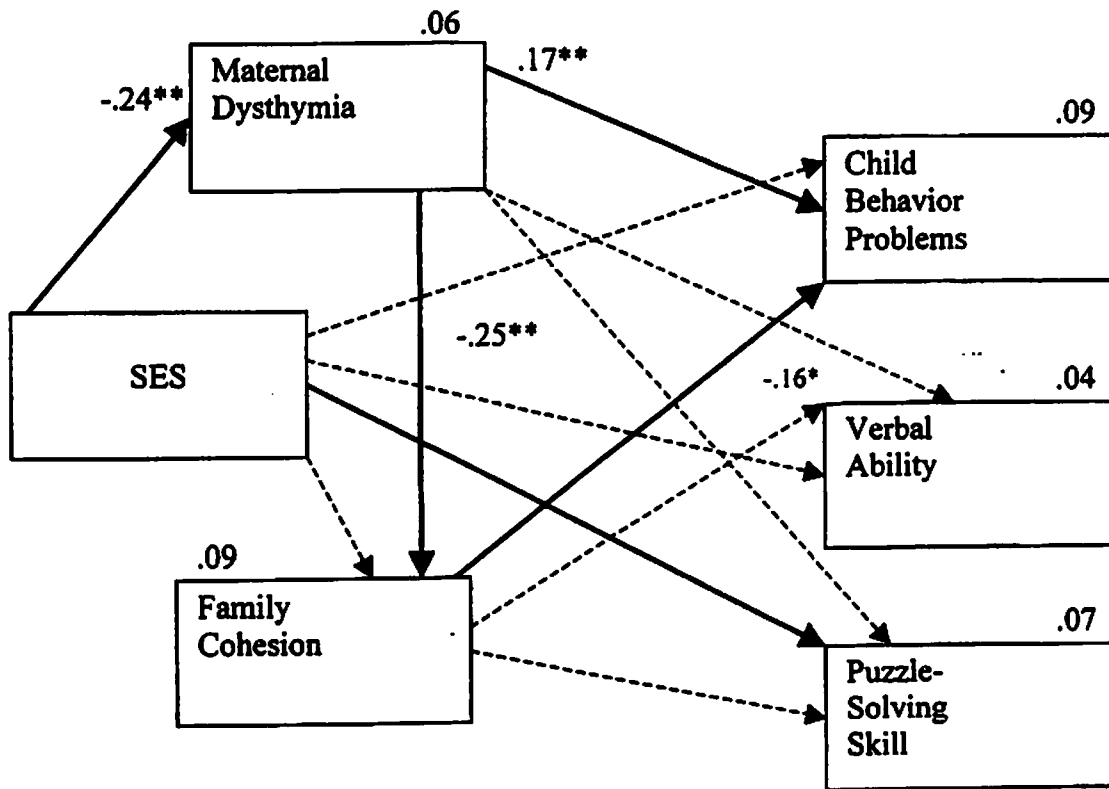
and discussion with the child, or the conversation and discussion may reflect the cognitive deficits and distortions that are part of the illness, which lead to the lower verbal abilities demonstrated by the children.

Low family cohesion was directly related to child behavior problems. This finding is similar to those found in the existing literature on family functioning and child outcome (e.g., Mathijssen, Koot, Verhulst, DeBruyn, & Oud, 1998). As families are the primary influencers of self-efficacy skills early in the lives children's, children learn and model after their families, including social and problem-solving skills that may be inappropriate.

Limitations

A limitation of the study is the ecological validity of the results. In this regard, further studies involving samples from a variety of early childhood programs serving the full range of SES across Jamaica would need to be conducted to determine if paths to child outcome, or child outcome itself, remains the same. There is some indication that there may be differences, as children's outcomes are also influenced by socialization experiences and parental expectations for school performance, in addition to SES (Evans, 1989).

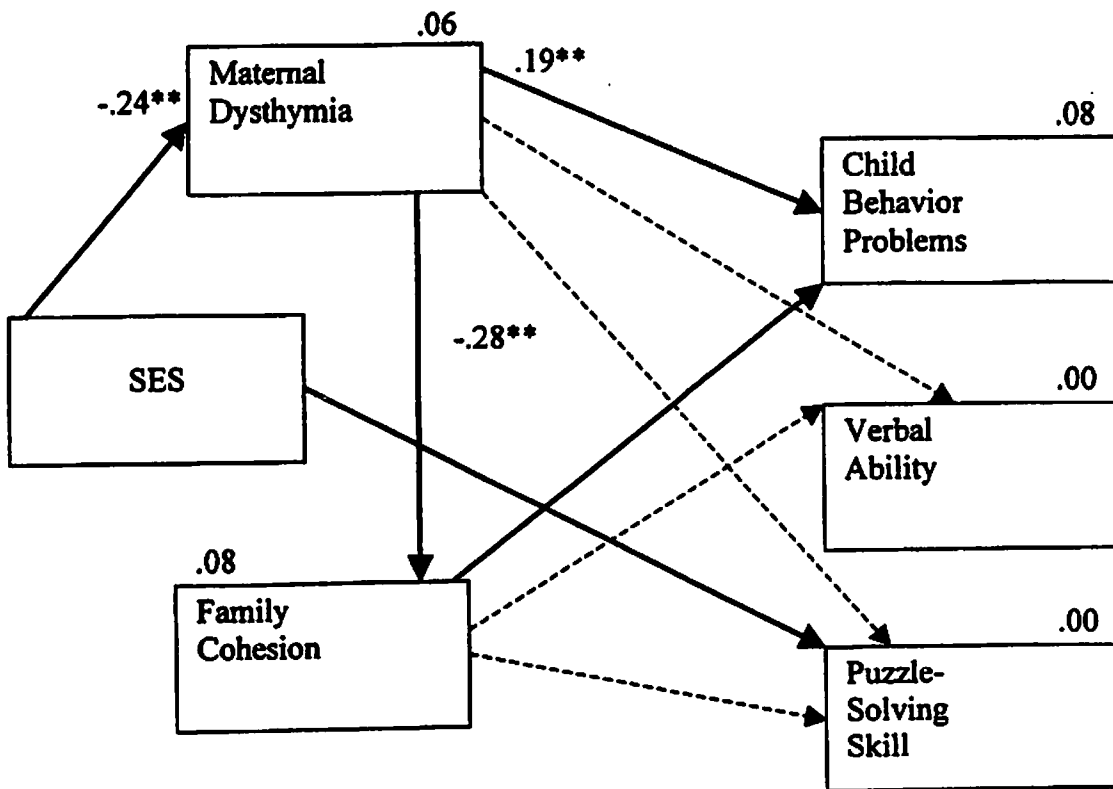
Another limitation concerns the data used. The data used to assess maternal psychopathology, family cohesion, and child behavior problems all came from the mothers, creating a problem with method variance (Pedhazur, 1973). The contribution of the school curricula to the children's experiences was also not considered. Information should ideally come from multiple sources, including other persons who are integral to the household (e.g., fathers) and from persons who interact with the children outside of the home such as the teachers.



$P < .05^*$
 $P < .01^{**}$

—————> Indicates significant path
 - - - - -> Indicates non-significant path

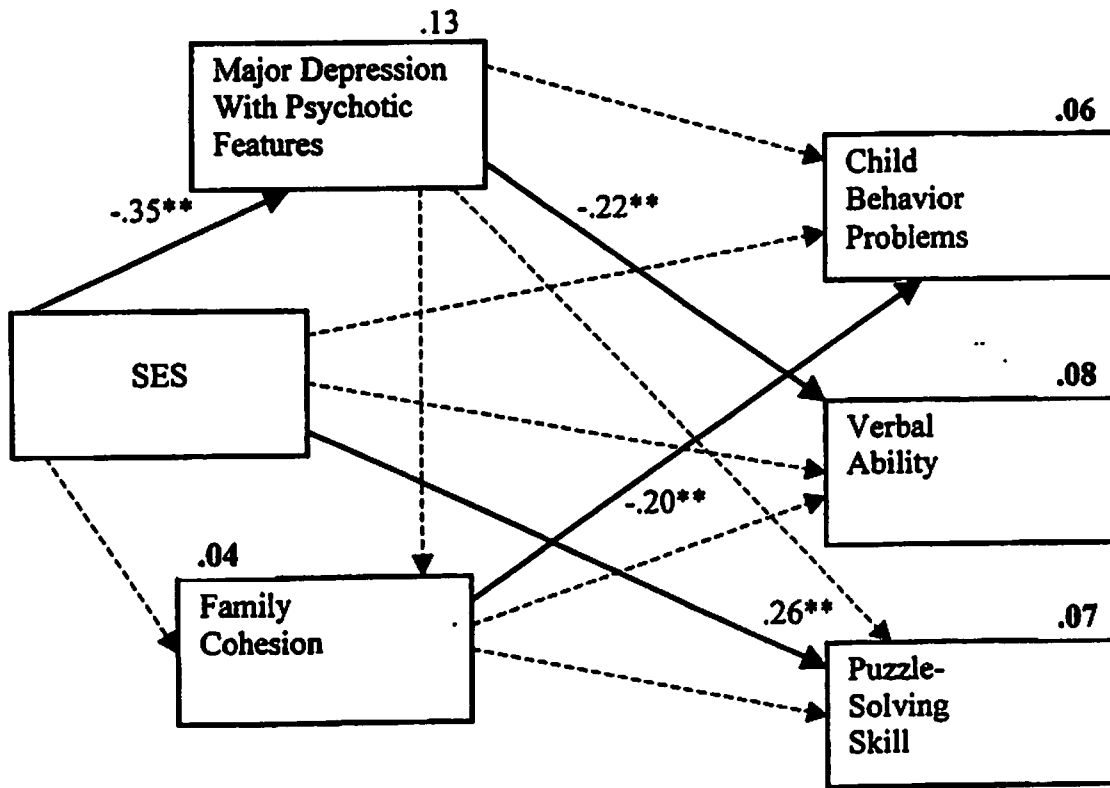
Figure 1. Model 1: Influence of SES, Maternal Dysthymia, and Family Cohesion on Child Outcome



P < .05*
 P < .01**

—————> Indicates significant path
 - - - - -> Indicates non-significant path

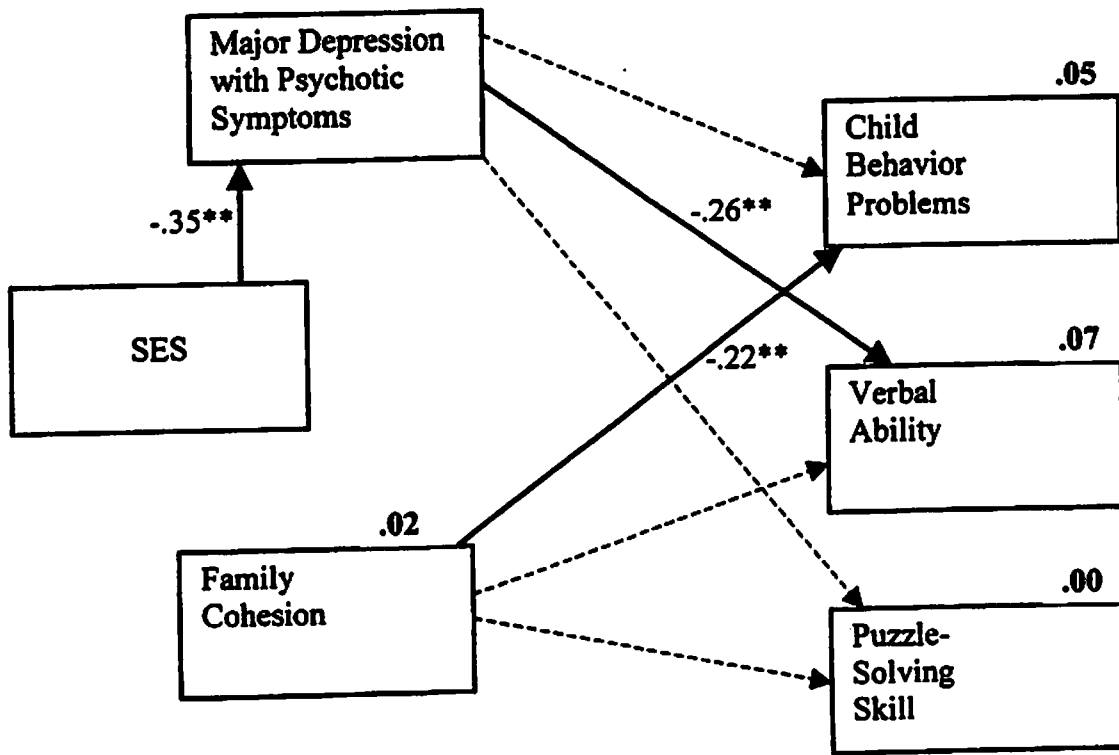
Figure 2. Model 2: Influence of SES, Maternal Dysthymia and Child Outcome



P < .05*
 P < .01**

—————> Indicates significant path
 - - - - -> Indicates non-significant path

Figure 3. Model 3: Influence of SES, Major Depression with Psychotic Features, and Family Cohesion on Child Outcome



$P < .05^*$
 $P < .01^{**}$

—————> Indicates significant path
 - - - - -> Indicates non-significant path

Figure 4. Model 4: Influence of SES, Major Depression with Psychotic Features and Child Outcome

Because this study was cross-sectional, the causal direction between the variables is not known. Lower SES may contribute to higher levels of psychopathology; higher levels of psychopathology may contribute to lower family and individual SES, or the relations may be recursive. Longitudinal designs may be better able to respond to questions about causality.

Another limitation relates to the factor structures of the measures. While the measures were tested and new factors developed, one cannot be certain that the measures held appropriate content and cultural validity for Jamaicans. The content structure for constructs addressed in the study should be more critically addressed in future studies.

Implications for Practice

Jamaica is a developing country with extremes of wealth and poverty, high inflation, and high unemployment, and, for many, a declining standard of living (Bartilow, 1997). The stressors on families and children, therefore, are high and are likely to remain so for the foreseeable future. In light of these trends, Jamaica's decision to commit itself strongly to education is well founded because it represents one of the most effective ways to support social and economic development.

The emergence of serious behavior problems among young children, a factor that significantly interferes with learning, is serious and needs to be addressed. Steps may be taken at both the family and school levels. At the family level, supports and resources that enhance the abilities of families to better prepare their children for school could be provided. As poor school adjustment may also be caused by the mismatch between the curriculum offered and children's developmental and learning needs, school programs may need to provide a flexible curriculum that is more commensurate with the learning needs of the children.

Further discussion is encouraged between school officials, teachers, and families to develop, implement, and refine policies related to families and schools that better serves the learning needs of the children.

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