Parents’ Causal Attributions Concerning Their Children’s School Achievement: A Longitudinal Study

Katja Rytkönen, Kaisa Aunola, and Jari-Erik Nurmi, University of Jyväskylä

The present study investigated the causes to which parents attribute their children’s academic successes and failures during children’s transition from preschool to primary school. It followed 182 mothers and 167 fathers of 207 children. The parents completed a questionnaire concerning their causal attributions, level of education, and parenting styles in the middle of the preschool year and during Grades 1 and 2. The children’s performance in reading and mathematics was tested at the beginning of the preschool year. The results showed that, while the children were in preschool, parents attributed their children’s success to ability and teaching. When the children moved to primary school, parents increasingly attributed their children’s success to ability, whereas they typically attributed failure to lack of effort. Furthermore, the higher the level of performance the children showed, the more the parents attributed their children’s success to ability and the less they attributed it to teaching.

Although a substantial amount of research has been carried out on the kinds of the attributions parents form about their children’s behavior (Bolton et al., 2003; Chavira, López, Blacher, & Shapiro, 2000; A. Miller, Ferguson, & Moore, 2002) and on the role of parental causal attributions in children’s academic achievement (Dunton, McDevitt, & Hess, 1988; Kinlaw, Kurtz-Costes, & Goldman-Fraser, 2001; S. A. Miller, 1995), little is known about how parental attributions come about. In particular, little investigation has been carried out on the role of parent-related factors, such as education.
and parenting styles, in the formation of mothers’ and fathers’ causal attributions. The aim of the present study was to examine the extent to which parents’ causal attributions concerning their children’s school achievement change during children’s transition from preschool to primary school, as well as the extent to which parents’ level of education, parenting styles, and gender contribute to these causal attributions over and above child-related factors, such as the child’s school achievement and gender.

**Parental Causal Attributions**

The attributional theory of achievement motivation (Weiner, 1985, 1986) has expanded in recent years to encompass the ways in which parents explain and evaluate their children’s academic behavior. According to this theory, parents usually attribute their children’s achievement (success and failure) to specific causes, such as ability, effort, teaching, and task difficulty (Cashmore & Goodnow, 1986; Yee & Eccles, 1988). These causal attributions vary along three dimensions: locus of control (internal versus external), stability, and controllability (Weiner, 1986). For any individual, for example, ability is an internal, stable, and uncontrollable factor; effort is an internal, unstable, and controllable factor; and teaching and task difficulty are external, stable, and uncontrollable properties (Weiner, 1986).

Previous research suggests that parents typically employ “self-protective bias” (Dix & Grusec, 1985; Himelstein, Graham, & Weiner, 1991; S. A. Miller, Manhal, & Mee, 1991) when they attribute their children’s school achievement to a cause; that is, they typically give their children the credit for success but avoid blaming them for failure. A similar pattern has also been described as “developmental optimism” (Coplan, Hastings, Lagacé-Séguin, & Moulton, 2002; Goodnow, Knight, & Cashmore, 1986). However, some studies have obtained rather different results. For example, Yee and Eccles (1988) found that parents most typically attribute their children’s failure to lack of effort, which emphasizes the child’s responsibility for the outcome and also has consequences for his or her future behavior at school.

Previous research on parental causal attributions has at least four limitations. First, only a few studies have been carried out on the development of parental causal attributions; consequently, little is known about how parents’ causal attributions change across time. Second, most studies have examined older children (Cashmore & Goodnow, 1986; Georgiou, 1999), although it might be assumed that parents’ causal attributions concerning their children’s school performance evolve during the first school years. Third, only a few studies have focused simultaneously on both mothers’ and fathers’ causal attributions. Fourth, most of the recent research on
parental attributions has focused on clinical samples (Dadds, Mullins, McAllister, & Atkinson, 2003; White & Barrowclough, 1998) or on children’s problem behavior (Bolton et al., 2003; Johnston, Reynolds, Freeman, & Geller, 1998). Less is known about the normal development of parental causal attributions, particularly in the domain of children’s school achievement.

Consequently, the first aim of this study was to examine the causes to which mothers and fathers attribute the academic successes and failures of their children during the preschool year, as well as how these causal attributions change when the child moves to Grade 1 and Grade 2. Two alternative hypotheses were tested. The first posited that parents use self-protective bias in their causal attributions. As the alternative hypothesis we proposed that parents refer frequently to lack of effort after a child’s failure, which might be thought to have consequences for the child’s future behavior. Because few studies have examined simultaneously the causal attributions of both parents, one additional aim of the study was to examine the extent to which mothers and fathers share or differ in their causal attributions concerning the school achievement of their children.

**Child-Related Factors in Parental Causal Attributions**

Despite the considerable research carried out on the kinds of causal attributions parents evince (Dunton et al., 1988; Georgiou, 1999; A. Miller et al., 2002), less is known about the factors that influence these attributions. The few studies carried out have typically concerned the child-related antecedents of parents’ causal attributions, such as the child’s gender and achievement. It has been shown, for example, that parents’ success attributions differ depending on the child’s gender: mothers typically attribute their sons’ success to ability, whereas they attribute their daughters’ success to effort, particularly in mathematics (Dunton et al., 1988; Eccles, Jacobs, & Harold, 1990; Holloway & Hess, 1985; Räty, Vänskä, Kasanen, & Kärkkäinen, 2002; Yee & Eccles, 1988). It has been further suggested that such differences are due to parents’ gender stereotypes (Dunton et al., 1988; Eccles et al., 1990; Fincham, Beach, Arias, & Brody, 1998). It has also been shown that mothers’ thinking is more dependent on gender stereotypes, whereas fathers rely more on children’s school achievement (Frome & Eccles, 1998). Not all studies, however, have found such gender differences. Cashmore and Goodnow (1986), for example, found that both parents attributed success on the part of their daughters and sons alike to their abilities.

It has also been shown that children’s past performance at school is one of the major antecedents of parents’ causal attributions: the higher the
level of the child’s past performance, the more frequently mothers attribute the child’s success to ability and attribute failure to lack of effort (Holloway & Hess, 1985). However, most of the studies in the field have focused on mathematical skills (S. A. Miller, 1995), although children’s literacy skills might be assumed to play an equally important role in parents’ causal attributions, particularly when children move from preschool to primary school and learning to read and write becomes one of the major educational goals. Consequently, one aim of the present study was to examine the extent to which certain characteristics of the child, such as gender and previous levels of reading and mathematics performance, would predict parental causal attributions.

Parent-Related Factors in Parental Causal Attributions

Only a few studies have examined the role of various parent-related factors in how mothers’ and fathers’ causal attributions concerning their children’s school achievement come about. Parents’ beliefs and attitudes on the topic of child rearing are one factor that may contribute to parental causal attributions. Such parenting beliefs have typically been described in terms of parenting styles (Coplan et al., 2002), which refer to a constellation of attitudes that create an emotional climate in which parents’ behaviors are expressed (Darling & Steinberg, 1993). Parenting styles have usually been investigated according to three dimensions: affect, behavioral control, and psychological control. Affect refers to emotional support and warmth (Darling & Steinberg, 1993), behavioral control to the behaviors with which parents seek to control their children’s activities (Barber, 1996), and psychological control to the ways in which parents attempt to control their children’s psychological and emotional development (Barber, 1996). However, only a few studies have sought to link parenting styles with parental causal attributions. In one such recent study, Coplan et al. (2002) found that authoritarian mothers (low in warmth but high in behavioral control) tended to attribute their children’s positive behavior to external causes and negative behavior to internal causes to a greater extent than authoritative mothers did. However, the focus of that study was children’s social behavior rather than their school achievement.

Another parental characteristic that may contribute to parents’ causal attributions concerning their children’s academic achievement is level of education. It has been found previously, although not in the context of parenting, that level of education and field of study affect individuals’ causal attributions (Guimond, Begin, & Palmer, 1989). For example, social science students attributed the causes of poverty and unemployment to more external reasons than did students in other fields or persons with a
lower level of education (Guimond et al., 1989). However, no previous studies have examined the impact of parents’ level of education on the kinds of causal attributions they show concerning their children’s academic success.

Consequently, the final aim of the present study was to examine the extent to which certain parental characteristics, such as gender, level of education, and parenting styles, predict their causal attributions concerning their children’s school achievement. Additionally, we examined whether characteristics shared by both parents or the characteristics of individual mothers and fathers would have the greater influence on their causal attributions.

In the present study, multilevel latent growth modeling (MLGM) was used to examine the research questions. MLGM combines two more frequently used statistical methods. The latent growth modeling part of this analysis was used in the present study to estimate the initial level and the linear and quadratic growth components of a particular type of parents’ causal attributions across the three measurements. The multilevel (hierarchical) part of the MLGM analysis differentiated the variance of these components concerning a particular causal attribution that was shared by both the mother and the father in the same family from the variance that was typical for each individual parent. Because the MLGM statistical method also estimates the means for each component, we were able to examine the extent to which parents attribute their children’s academic successes and failures to a particular cause as well as whether the level of these causal attributions changes from children’s preschool year to Grade 2 (research question 1). Next, by entering a variety of child-related variables into the model to predict the variance of a particular causal attribution that was shared by both mothers and fathers, we were able to examine whether children’s gender and previous levels of math and reading performance would predict parental causal attributions (research question 2). Moreover, by entering several parent-related variables into the model to predict the variance of a particular causal attribution that was due to individual parents, we were able to examine whether parents’ gender, level of education, and parenting styles would predict the parents’ causal attributions concerning their children’s school achievements (research question 3). For example, entrance of parents’ gender as a predictor in these analyses provided us with an opportunity to examine whether mothers and fathers report a different level of a particular causal attribution at preschool and whether the changes in this particular causal attribution across time are different for mothers and fathers. Finally, by entering interaction terms between parents’ gender and children’s gender and between parents’ gender and children’s performance in reading and mathematics, it was possible
to investigate whether children’s performance would predict mothers’ and fathers’ causal attributions in different ways.

**Method**

**Participants and Procedure**

The present study is a part of the Jyväskylä Entrance into Primary School (JEPS) study (Nurmi & Aunola, 1999). A total of 207 (111 boys, 96 girls) 5- to 6-year-old children ($M = 75$ months, $SD = 3.30$ months) and their parents were followed during the children’s transition from preschool to primary school. The original sample consisted of all the children from two medium-size districts in central Finland who were born in 1993 ($N = 210$). The families consisted of two parents and their children (83.2% of the cases), of the mother or the father living with her or his new spouse and their children (9.9% of the cases), and of a mother with her child or children (6.8% of the cases). The number of children per family ranged from 1 to 11 ($M = 2.80, SD = 1.50$). Written permission from parents to gather data from the children was obtained in August 1999. Permission was given by the parents of 207 children.

Parents’ causal attributions, educational level, and parenting styles were assessed by means of a mailed questionnaire on three occasions (Times 1, 2, and 3): first, during the children’s preschool year (December 1999); second, during Grade 1 (December 2000); and third, during Grade 2 (December 2001). Mothers and fathers were asked to answer each questionnaire independently and without conferring. During December of the preschool year the questionnaire was returned by 191 mothers, of whom 189 answered the questions concerning their causal attributions; during December of Grade 1 the questionnaire was returned by 182 mothers, of whom 170 answered the questions concerning their causal attributions; and during Grade 2 it was returned by 179 mothers, of whom 178 answered the questions. During December of the preschool year the questionnaire was returned by 167 of the fathers, of whom 164 answered the questions concerning their causal attributions; during December of Grade 1 the questionnaire was returned by 157 fathers, of whom 147 answered the questions concerning their causal attributions; and during December of Grade 2 the questionnaire was returned by 160 fathers, all of whom answered the questions concerning their causal attributions.

Information about the 207 children’s performance in reading and mathematics was gathered at the beginning of their preschool year (Time 0), that is, in October 1999 ($N = 207$).
Parents’ Measures

Causal attributions. Parents’ causal attributions for their children’s success and failure at school were measured by a questionnaire that consisted of four statements. It was based on items used in previous studies (e.g., Ames & Archer, 1987; Parsons, 1980). Two of the four statements assessed parents’ causal attributions for their children’s success at school (e.g., “If my child does well in some school assignment, it is probably because . . .” and “If my child does well at school, it is probably because . . .”), and two assessed parents’ causal attributions for their children’s failure at school (e.g., “If my child does not do well in his/her school assignments, it is probably because . . .” and “If my child does not know how to do some school assignment, it is probably because . . .”). After each statement the parents were asked to rank-order four alternatives according to their importance (a = “The child has/lacks abilities,” b = “The child has/lacks effort,” c = “The child gets/does not get good teaching,” d = “The tasks are too easy/difficult for the child”). On the basis of the parents’ rank-ordered answers, sum scores were calculated for each type of causal attribution—that is, ability, effort, teaching, and task difficulty—separately for the success and failure situations (across two statements). The sum scores, ranging from 2 to 8, were reversed, 8 indicating the higher and 2 the lower importance of the causal attribution in question. Internal consistency (Cronbach’s $\alpha$) for the scales ranged between .67 and .86 for mothers’ and between .75 and .93 for fathers’ causal attributions for success, and between .68 and .92 for mothers’ and between .75 and .86 for fathers’ causal attributions for failure.

Education. Parents were asked about their education on a 4-point scale (1 = no vocational education, 2 = vocational school, 3 = a degree from an institution of professional education, 4 = a university degree).

Parenting styles. Parenting styles were measured with a Finnish version of the Block Child Rearing Practices Report (CRPR; Roberts, Block, & Block, 1984). The parents were asked to rate 28 items measuring different dimensions of parenting styles on a 5-point scale (1 = “not like me at all,” 5 = “very much like me”). On the basis of principal-axis factor analysis with an oblim rotation (Aunola & Nurmi, 2004), three summary variables were created: (1) affection, including items reflecting a positive relationship with the child (e.g., “I often show my child that I love him/her”; “My child and I have a good relationship”); (2) behavioral control, including items that reflected the valuing of obedience in children and clear expectations about child behavior (e.g., “When I am angry with my child, I let him/her know about it”; “My child should learn that we have rules in our family”); and (3) psychological control, including items that reflected parental attitudes appealing to pride and guilt and expressing disappoint-
Parents’ Causal Attributions

ment (Barber, 1996) (e.g., “I believe a child should be aware of how much I have done for him/her”; “I expect my child to be grateful and appreciate all advantages he/she has”). The respective Cronbach’s α reliabilities for the mothers were .82, .66, and .79 at Time 1; .81, .66, and .77 at Time 2; and .82, .70, and .76 at Time 3 (Aunola & Nurmi, 2004). The respective Cronbach’s α’s for the fathers were .82, .70, and .74 at Time 1; .84, .69, and .72 at Time 2; and .80, .70, and .75 at Time 3 (Aunola & Nurmi, in press).

Children’s Measures

Mathematical performance. Children’s mathematical performance was assessed by the Diagnostic of the Basic Mathematical Concepts Test (Aunola, Leskinen, Lerkkanen, & Nurmi, 2004; Ikaheimo, 1996). The test consisted of progressively more difficult tasks that assessed knowledge of numbers (ordinal and cardinal numbers), counting skills, and basic arithmetic (addition, subtraction, division, and multiplication). In the diagnostic test, one point was given for each correct answer. The total maximum score for the test was 19. The test-score correlation with teachers’ ratings of the children’s math performance was .60. The test-retest reliability for the test has been shown to range between .73 and .83 (Aunola & Nurmi, 2004).

Reading performance. Children’s reading performance was assessed by three subtests:

1. Letter identification, in which the participants were asked to name 21 uppercase letters. Scoring was based on the number of correctly identified letters.

2. The Reading Words and Sentences test (Normaalikoulu, 1985), in which the participants were presented first, one by one, with 20 written words of increasing difficulty, and then with two sentences. Their task was to read aloud each word or sentence. Testing continued until four successive words/sentences were read incorrectly or were not attempted. One point was scored for each word/sentence read correctly (maximum 22).

3. The Sentence Comprehension test (Lindeman, 1998), in which the children were shown four sentences and one picture and asked to choose which sentence best matched the meaning of the picture. The test consisted of 20 items, which became progressively more difficult across the test. The test score (maximum 20) consisted of the number of right answers the child gave during a 2-minute period.
The sum score for reading performance was calculated by summing up the scores of the three tests. Thus, the maximum score for reading performance was 63. The sum score correlation between teachers’ assessments and children’s reading performance was .49. The test-retest reliability for the test ranged between .67 and .93.

**Analysis Strategy**

The research questions were analyzed using multilevel latent growth modeling (MLGM; Muthén & Muthén, 1998–2002; see also Duncan et al., 1997). This method combines two more frequently used statistical analyses. On the one hand, it includes a latent growth model (LGM) analysis that estimates the (initial) level and growth components (linear, quadratic, etc.) from data obtained from several measurements. Besides estimating the variances of the level and growth components, and whether these variances are statistically significant, it also estimates the means of these components. On the other hand, the MLGM also includes a multilevel (hierarchical) analysis, which provides a tool enabling the variance that is shared by the correlating cases—that is, in our case mothers and fathers—and the variance that is due to individual cases (i.e., an individual parent) to be differentiated. By combining these two statistical procedures, the MLGM allowed us not only to estimate the level and linear and quadratic growth components of a particular parental causal attribution across three measurements but also to examine which proportion of these growth components are shared by both mothers and fathers and which proportions are typical to an individual parent. Moreover, the MLGM analyses enabled us to enter into the analysis family-level (e.g., child’s gender, shared level of education) and parent-level (parent’s gender, level of education, parenting styles) predictors as well as their interaction terms.

The analyses were carried out in two steps. First, in order to investigate the extent to which parents’ causal attributions would change across time and the extent to which the level and changes in these causal attributions would be shared by both parents (between-level) or whether they relate to individual parents (within-level), multilevel latent growth models were carried out separately for each type of causal attribution (“ability,” “effort,” “teaching,” and “task difficulty”) in success and failure situations. In these analyses, the mean level of the causal attributions, their average rate of growth, and individual variation across these means were estimated. Second, to investigate the extent to which child-related factors, such as gender and initial level of performance in reading and in math (Time 0), and parent-related factors, such as gender, level of education, and parenting
styles (Time 1), would predict the level of and changes in parents’ causal attributions, these predictors were included in the models as covariates. Moreover, to examine whether these predictors would be different for mothers and fathers, the interaction terms between these predictors and parents’ gender were also added into the models.

The correlations between parents’ causal attributions in success situations and their predictors are presented in Table 1 for the between-level data and in Table 2 for the within-level data. Full correlation and covariance matrices, which include all the manifest variables, are available from the first author.

All the analyses were performed using the Mplus statistical package (version 2.13; Muthén & Muthén, 1998–2002). Using the missing data method, we were able to utilize all observations in the data set. Because the variables were skewed, the parameters of the models were estimated using the MLR estimator (Muthén & Muthén, 1998–2002). MLR produces standard errors and a chi-square test statistic for missing data with non-normal outcomes by means of a sandwich estimator and the Yuan-Bentler T2 test statistic (Muthén & Muthén, 1998–2002). The goodness of fit of the estimated models was evaluated using three indicators: \( \chi^2 \) test, Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA).

**Results**

**Changes in Parental Causal Attributions**

Table 3 presents the means, medians, and standard deviations for parents’ causal attributions, and statistically significant differences between the different attributions, at each measurement point. These initial analyses showed that at Time 1 parents most typically attributed their children’s success to teaching or ability and least typically to task difficulty; at Time 2 they typically attributed their children’s success mostly to ability and least to task difficulty; and at Time 3 they attributed their children’s success mostly to ability and teaching and least to task difficulty. At each measurement time, failure was most typically attributed to effort and least to ability.

To investigate further the causes to which mothers and fathers attribute the academic successes and failures of their children during the preschool

---

1. Because it has been previously shown that there is no individual variance in the growth of parenting-style dimensions (Aunola & Nurmi, 2004), only the initial level of parenting styles (Time 1) was considered as a predictor of the level and slope of attributions.
Table 1. Sample Correlation Matrix Between Attributions for Success Variables and Covariates at Between-level, and Their Means ($M$) and Variances ($S$)

<table>
<thead>
<tr>
<th></th>
<th>Child-related variables at Time 0</th>
<th>Parent-related variables at Time 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gender</td>
<td>Math performance</td>
</tr>
<tr>
<td>Ability¹</td>
<td>-0.16</td>
<td>0.34</td>
</tr>
<tr>
<td>Ability²</td>
<td>-0.06</td>
<td>0.39</td>
</tr>
<tr>
<td>Ability³</td>
<td>-0.10</td>
<td>0.42</td>
</tr>
<tr>
<td>Effort¹</td>
<td>0.06</td>
<td>-0.13</td>
</tr>
<tr>
<td>Effort²</td>
<td>-0.05</td>
<td>-0.34</td>
</tr>
<tr>
<td>Effort³</td>
<td>0.07</td>
<td>-0.32</td>
</tr>
<tr>
<td>Teaching¹</td>
<td>0.14</td>
<td>-0.36</td>
</tr>
<tr>
<td>Teaching²</td>
<td>0.13</td>
<td>-0.13</td>
</tr>
<tr>
<td>Teaching³</td>
<td>-0.01</td>
<td>-0.10</td>
</tr>
<tr>
<td>Task¹</td>
<td>0.01</td>
<td>0.04</td>
</tr>
<tr>
<td>Task²</td>
<td>0.08</td>
<td>-0.03</td>
</tr>
<tr>
<td>Task³</td>
<td>0.15</td>
<td>-0.13</td>
</tr>
<tr>
<td>$M$</td>
<td>1.54</td>
<td>12.10</td>
</tr>
<tr>
<td>$S$</td>
<td>0.25</td>
<td>21.06</td>
</tr>
</tbody>
</table>

Note: ¹ = Time 1, ² = Time 2, and ³ = Time 3
Table 2. Sample Correlation Matrix Between Attributions for Success Variables and Covariates at Within-level, and Means (M) and Variances of Covariates (S)

<table>
<thead>
<tr>
<th>Parent-related variables at Time 1</th>
<th>Gender</th>
<th>Education</th>
<th>Affection</th>
<th>Behavioral control</th>
<th>Psychological control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability¹</td>
<td>-0.13</td>
<td>0.14</td>
<td>0.06</td>
<td>0.04</td>
<td>-0.13</td>
</tr>
<tr>
<td>Ability²</td>
<td>-0.16</td>
<td>0.17</td>
<td>0.17</td>
<td>0.05</td>
<td>-0.12</td>
</tr>
<tr>
<td>Ability³</td>
<td>-0.13</td>
<td>0.06</td>
<td>0.19</td>
<td>0.13</td>
<td>-0.18</td>
</tr>
<tr>
<td>Effort¹</td>
<td>0.12</td>
<td>-0.16</td>
<td>-0.15</td>
<td>0.08</td>
<td>0.13</td>
</tr>
<tr>
<td>Effort²</td>
<td>0.20</td>
<td>-0.07</td>
<td>-0.09</td>
<td>0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>Effort³</td>
<td>0.16</td>
<td>0.05</td>
<td>-0.10</td>
<td>-0.00</td>
<td>0.13</td>
</tr>
<tr>
<td>Teaching¹</td>
<td>-0.10</td>
<td>0.12</td>
<td>0.07</td>
<td>-0.12</td>
<td>-0.02</td>
</tr>
<tr>
<td>Teaching²</td>
<td>-0.12</td>
<td>-0.04</td>
<td>-0.01</td>
<td>-0.06</td>
<td>-0.01</td>
</tr>
<tr>
<td>Teaching³</td>
<td>-0.10</td>
<td>-0.04</td>
<td>-0.12</td>
<td>-0.14</td>
<td>-0.03</td>
</tr>
<tr>
<td>Task¹</td>
<td>0.06</td>
<td>-0.10</td>
<td>0.02</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Task²</td>
<td>0.06</td>
<td>-0.06</td>
<td>-0.09</td>
<td>-0.02</td>
<td>0.10</td>
</tr>
<tr>
<td>Task³</td>
<td>0.08</td>
<td>-0.11</td>
<td>-0.01</td>
<td>0.02</td>
<td>0.08</td>
</tr>
<tr>
<td>M</td>
<td>1.50</td>
<td>2.59</td>
<td>4.05</td>
<td>3.81</td>
<td>2.77</td>
</tr>
<tr>
<td>S</td>
<td>0.25</td>
<td>0.36</td>
<td>0.17</td>
<td>0.16</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Note: ¹ = Time 1, ² = Time 2, and ³ = Time 3

year, and how these causal attributions change when the child moves to primary school (mean level and mean trends), and to examine the extent to which the variation in these levels and changes (i.e., growth components) would be shared by both parents in a family (the between-family level) or the extent to which they would relate only to individual parents (within-family level; between spouses), multilevel latent growth curve models were carried out separately for each type of attribution (ability, effort, teaching, task difficulty) in success and failure situation.

The model testing was started by estimating the three growth components at both the within-family level and the between-family level (separately for each parental causal attribution), that is, intercept growth factor (initial level), linear slope, and quadratic trend. The models were constructed by setting the loadings of each of the observed causal attribution variables at Time 1, Time 2, and Time 3 to 1 on the intercept factor (level), to 0, 1, 2 on the linear slope, and to 0, 1, 4 on the quadratic trend, respectively. In order to end up with an identifiable model, the estimates for the error terms of the observed variables on the within-family level were first fixed using estimates obtained from the initial linear growth models (i.e.,
Table 3. Means (M), Medians (Mdn), and Standard Deviations (SD) for Parents’ Causal Attributions at Different Measurement Points

<table>
<thead>
<tr>
<th></th>
<th>Ability</th>
<th>Success</th>
<th>Effort</th>
<th>Teaching</th>
<th>Task</th>
<th>Failure</th>
<th>Ability</th>
<th>Effort</th>
<th>Teaching</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Time 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Time 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>2.91a</td>
<td>2.59b</td>
<td>2.99a</td>
<td>1.52c</td>
<td></td>
<td>1.77a</td>
<td>3.04b</td>
<td>2.56c</td>
<td>2.63c</td>
<td></td>
</tr>
<tr>
<td>Mdn</td>
<td>3.00</td>
<td>2.50</td>
<td>3.00</td>
<td>1.00</td>
<td></td>
<td>1.50</td>
<td>3.00</td>
<td>2.50</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>0.88</td>
<td>0.90</td>
<td>0.80</td>
<td>0.78</td>
<td></td>
<td>0.90</td>
<td>0.89</td>
<td>0.90</td>
<td>0.94</td>
<td></td>
</tr>
</tbody>
</table>

Note. Statistically significant differences (p < .05) between different attribution types when tested with paired-Sample t-tests are shown in superscripts.

models without the quadratic trend). On the between-family level, they were set to zero (Muthén & Muthén, 2001). In addition, means were estimated for the growth components—that is, level, linear growth, and quadratic growth. The final models described below contained only statistically significant growth components. All of the final models fitted the data well. The fit indices and estimated means and variances for the growth components included in the final models for success situations are presented in Table 4 and for failure situations in Table 5.

Causal Attributions for Success

The results of the final model for parents’ causal attributions of success to ability showed that the mean of the linear slope was positive and statistically significant, whereas the mean of the quadratic trend was negative and statistically significant (Table 4): on average, parents’ ability attributions first increased but then leveled off. The results showed further that the variance of level was statistically significant on both between-family and within-family levels (Table 4): there was variation in the level of ability attributions that was shared by both parents, as well as variation owing to individual parents. However, the variance of the linear slope was significant only on the between-family level: whenever there was
Table 4. Parameter Estimates (Unstandardized Forms) and Fit Indices for Multilevel Growth Models for Parents’ Causal Attributions Concerning Their Children’s Success at School

<table>
<thead>
<tr>
<th>Growth parameters</th>
<th>Ability</th>
<th>Effort</th>
<th>Teaching</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Between-level</td>
<td>Within-level</td>
<td>Between-level</td>
<td>Within-level</td>
</tr>
<tr>
<td>Means</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level</td>
<td>2.90 (.05)(^a)</td>
<td>2.60 (.05)(^a)</td>
<td>3.00 (.05)(^a)</td>
<td>1.53 (.03)(^a)</td>
</tr>
<tr>
<td>Slope</td>
<td>0.31 (.10)(^b)</td>
<td>-0.03 (.03)</td>
<td>-0.42 (.09)(^a)</td>
<td>—</td>
</tr>
<tr>
<td>Quadratic trend</td>
<td>-0.12 (.05)(^b)</td>
<td>—</td>
<td>0.18 (.04)(^a)</td>
<td>—</td>
</tr>
<tr>
<td>Variances</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level</td>
<td>0.27 (.06)(^a)</td>
<td>0.18 (.03)(^a)</td>
<td>0.26 (.05)(^a)</td>
<td>0.18 (.03)(^a)</td>
</tr>
<tr>
<td>Slope</td>
<td>0.41 (.18)(^c)</td>
<td>—</td>
<td>0.06 (.02)(^b)</td>
<td>—</td>
</tr>
<tr>
<td>Quadratic trend</td>
<td>0.08 (.04)(^d)</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Fit of the model</td>
<td>(\chi^2 (2) = 2.12, p = 0.35)</td>
<td>(\chi^2 (6) = 6.45, p = 0.37)</td>
<td>(\chi^2 (7) = 7.71, p = 0.36)</td>
<td>(\chi^2 (8) = 11.65, p = 0.17)</td>
</tr>
<tr>
<td>CFI</td>
<td>1.00</td>
<td>1.00</td>
<td>0.99</td>
<td>0.96</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.01</td>
<td>RMSEA = 0.04</td>
<td>RMSEA = 0.02</td>
<td>RMSEA = 0.04</td>
</tr>
</tbody>
</table>

Note: \(^*\) = fixed; \(^a\)\(p < .001\), \(^b\)\(p < .01\), \(^c\)\(p < .05\), \(^d\)\(p < .10\).
<table>
<thead>
<tr>
<th>Growth parameters</th>
<th>Ability</th>
<th>Effort</th>
<th>Teaching</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Between-level</td>
<td>Within-level</td>
<td>Between-level</td>
<td>Within-level</td>
</tr>
<tr>
<td>Means</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level</td>
<td>1.77 (.04)a</td>
<td>3.04 (.05)a</td>
<td>2.55 (.05)a</td>
<td>2.63 (.05)a</td>
</tr>
<tr>
<td>Slope</td>
<td>—</td>
<td>0.23 (.11)c</td>
<td>0.44 (.11)a</td>
<td>—</td>
</tr>
<tr>
<td>Quadratic trend</td>
<td>—</td>
<td>—</td>
<td>0.10 (.05)d</td>
<td>—</td>
</tr>
<tr>
<td>Variances</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level</td>
<td>0.13 (.04)a</td>
<td>0.13 (.04)b</td>
<td>0.04 (.04)</td>
<td>0.04 (.04)</td>
</tr>
<tr>
<td>Slope</td>
<td>—</td>
<td>—</td>
<td>0.57 (.23)c</td>
<td>—</td>
</tr>
<tr>
<td>Quadratic trend</td>
<td>—</td>
<td>—</td>
<td>0.12 (.06)c</td>
<td>—</td>
</tr>
<tr>
<td>Fit of the model</td>
<td>$\chi^2 (9) = 12.18, p = 0.20$</td>
<td>$\chi^2 (4) = 8.29, p = 0.08$</td>
<td>$\chi^2 (5) = 4.45, p = 0.49$</td>
<td>$\chi^2 (2) = 0.11, p = 0.95$</td>
</tr>
<tr>
<td>CFI</td>
<td>0.97</td>
<td>0.94</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.03</td>
<td>0.05</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Note: * = fixed. a$p < .001$, b$p < .01$, c$p < .05$, d$p < .10$. 

Table 5. Parameter Estimates (Unstandardized Forms; Standard Errors in Parentheses) and Fit Indices for Multilevel Growth Models for Parents’ Causal Attributions Concerning Their Children’s Failure at School
change in ability attributions, it was shared by both parents. No statistically significant variance emerged in the quadratic trend.

The results for parents’ attributions of success to effort showed that, on average, parents’ effort attributions did not change during the study period (Table 4). There was variation in the level of effort attribution that was shared by both parents as well as variation owing to individual parents. Whenever there was linear change in effort attributions, this was shared by both parents.

The results for parents’ attributions of success to teaching showed that, on average, teaching attributions first decreased and then increased (Table 4). There was variation in the level of teaching attribution that was shared by both parents, as well as variation owing to individual parents. The fact that the trend components showed no statistically significant variance suggested that the change in teaching attributions was similar for all participants.

The results for parents’ attributions of success to task difficulty showed that there were no mean differences in these attributions across time (Table 4). There was variation in the level of task difficulty attribution that was shared by both parents as well as variation owing to individual parents.

Overall, the results for parents’ success attributions showed that, when children were in preschool, parents attributed their success mostly to teaching and ability. Moreover, parents referred increasingly to ability when their children moved from preschool to Grade 1. After that, the level of ability attributions stayed at the same level. In contrast, teaching attributions decreased when the children moved from preschool to Grade 1, and they remained at the same decreased level thereafter. In the case of success, parents’ ability and effort attributions showed more variation that was shared by both parents (59–60% of the variation) compared to that which was due to an individual parent (40–41% of the variation). In contrast, teaching and task difficulty attributions showed more variation that was due to individual parents (54–65%) compared to that which was shared by both parents (35–46%). No variation was found in the change in parents’ teaching and task difficulty attributions. When ability and effort attributions changed, this was shared by both parents (100%).

**Causal Attributions for Failure**

The results for parents’ attributions of failure to ability showed that there were no mean differences in these attributions across time (Table 5). The variation in the level of ability attribution for failure was partly shared by both parents and partly owed to individual parents.

The results for parents’ attributions of failure to effort showed that, on average, attributions of failure to effort increased over time (Table 5). The
results showed further that the variation in the level of parental effort attributions owed to individual parents. However, whenever there were changes in effort attributions across time, these were shared by both mothers and fathers.

The results for parents’ attributions of failure to teaching showed that, on average, attributions of failure to teaching first increased but then decreased (Table 5). Moreover, the variation in the level of attribution of failure to teaching owed to individual parents. However, whenever there were changes in teaching attributions across time, these were shared by both parents.

The results for parents’ attributions of failure to task difficulty showed that, on average, these attributions first decreased and then increased (Table 5). The variation in the level of attributions of failure to task difficulty owed to individual parents. However, whenever there were changes in attributions of failure to task difficulty across time, these were shared by both parents.

Overall, the results for parents’ failure attributions showed that when children were in preschool parents attributed failure most often to effort and least often to ability. Moreover, on average, parents’ effort attributions increased across time; their teaching attributions first increased but then slightly decreased; and their task difficulty attributions first decreased and then slightly increased. Furthermore, most of the variation in the level of each failure attribution type owed to individual parents (100% of the variance in the case of teaching and task difficulty attributions, 50% of the variation in the case of ability attributions). Variation shared by both parents was found for effort (19% of the variation) and ability attributions in failure situations (50% of the variation). When effort and teaching attributions changed, this was shared by both parents (100%).

**Antecedents of Parental Causal Attributions**

To examine the extent to which children’s performance in reading and math, children’s gender, parents’ gender, level of education, and parenting styles would predict parents’ causal attributions, several MLGM models were carried out in which these variables were added as covariates to the model described previously. Children’s gender and level of performance in reading and math were added to the models as between-level predictors (i.e., to predict variance shared by both parents), and parents’ gender was included as a within-level predictor (i.e., to predict variance owing to individual parents). Parents’ education and parenting styles—that is, psychological control, behavioral control, and affection—were entered as both between-level and within-level predictors. In order to examine whether
different predictors would have different impacts depending on parents’
gender, interaction terms on the within-level were also included in the
models (each tested in separate analyses). We started by testing models in
which the paths from the predictor variables to those growth components
that had statistically significant variance were included. The final models
contained only statistically significant paths. Because the levels of chil-
dren’s reading and math performance were highly correlated, the relative
impacts of these were tested in separate analyses.

**Attribution of success to ability.** The MLGM model (Figure 1) for
parents’ attribution of success to ability ($\chi^2 = 30.07, df = 29, p = 0.41;
CFI = 1.00; RMSEA = 0.01$) showed that the between-family variation
in the level of ability attributions was predicted by the child’s performance
in reading and math at Time 0 and by the educational level of the family:
the higher the level of the child’s performance and the higher both parents’
education, the more the parents attributed the child’s success to ability.

At the within-family level, parents’ gender showed a unique impact:
mothers attributed their children’s success to ability more frequently than
fathers did. Moreover, one interaction term was statistically significant:
parents’ gender $\times$ psychological control (stand. estimate = .62, $t = 2.90$).
The follow-up analyses carried out separately for mothers and fathers after
controlling for the shared between-level variance showed (Figure 1) that

![Figure 1. MLGM model with statistically significant predictors (standardized betas) for parents’ ability attributions for success. Note. *p < .05, **p < .01, ***p < .001](image-url)
among mothers psychological control predicted ability attributions: the higher the level of psychological control mothers showed, the less they thought their children succeeded because of ability. No effect of psychological control was found among fathers.

**Attributions of success to effort.** The MLGM model showed that only one variable turned out to be a statistically significant predictor of parents’ attributions of success to effort ($\chi^2 = 15.70, df = 11, p = 0.15; CFI = 0.96; RMSEA = 0.04$). At the between-family level, parents’ level of education predicted the level of effort attributions (stand. estimate = −.38, $t = −3.90$): the higher the level of both parents’ education, the less typically they attributed the success of their child to effort.

**Attribution of success to teaching.** The MLGM model for attributions of success to teaching (Figure 2; $\chi^2 = 44.64, df = 39, p = 0.25; CFI = 0.97; RMSEA = 0.02$) showed that children’s performance in reading and math contributed at the between-family level to the prediction of the level of teaching attributions: the higher the level of performance children showed in reading and math, the less often parents attributed their children’s success to teaching. Also, level of affection shown to the child contributed at the between-family level to the prediction: the more affection shown by both parents, the more they attributed success to teaching.

**Figure 2.** MLGM model with statistically significant predictors (standardized betas) for parents’ teaching attributions for success. Note. *$p < .05$, **$p < .01$, ***$p < .001$
Second, parents’ gender and level of affection and behavioral control predicted at the within-family level the attribution of success to teaching; the higher the level of affection and behavioral control individual parents reported, the less they thought that success was due to teaching. Attributing success to teaching was also more typical of fathers than of mothers.

Moreover, one of the interaction terms turned out to be statistically significant: parents’ gender × psychological control (stand. estimate = −.72, t = −2.94). The follow-up analyses ($\chi^2 = 14.22$, $df = 10$, $p = 0.16$; $CFI = 0.96$; $RMSEA = 0.04$) showed that, among mothers, the higher the level of psychological control, the more they thought their children’s success was due to teaching (Figure 2). Among fathers, the effect of psychological control was not significant (Figure 2).

No statistically significant predictors were found for parents’ attributions of success to task difficulty.

Antecedents of Parental Failure Attributions

Next, analogous MLGM models were carried out for parents’ causal attributions for failure. In these analyses, only one statistically significant effect was found. At the within-family level, psychological control contributed negatively to parents’ attributions of failure to task difficulty: the higher the level of psychological control parents showed, the less they attributed their children’s failure to task difficulty (stand. estimate = −.17; $t = −2.42$; $R^2 = 0.03$; $\chi^2 = 2.04$, $df = 4$, $p = 0.73$; $CFI = 1.00$; $RMSEA = 0.00$).

Discussion

Although the ways in which parents typically explain the causes of their children’s academic successes and failures might be assumed to have their origins in children’s early school years (S. A. Miller, 1995), most previous studies have examined parents whose children are in their preadolescent or adolescent years. The present longitudinal study investigated parents’ causal attributions during the period in which their children experienced the transition from preschool to primary school. The results showed that, while the children were at preschool, parents attributed their successes mostly to ability and teaching, but after the children moved into primary school there was an increase in ability attributions and a decrease in teaching attributions. By contrast, parents attributed the failures of their preschool-age children most often to effort. In addition, the higher the level of performance the children showed, the more their parents attributed their children’s success to ability and the less they attributed it to teaching. In addition, the higher both parents’ level of education, the more they attribu-
Mothers’ and Fathers’ Causal Attributions Concerning Their Children’s School Achievement

The first aim of the present study was to investigate the factors to which parents typically attribute the causes of their children’s successes and failures at preschool, as well as how these attributions change when the children move to primary school. The results showed that during the preschool year parents most typically attributed the success of their children to teaching and ability. However, after the children had moved to primary school, parents began increasingly to attribute the children’s academic success to ability and decreasingly to teaching. These results are in accordance with the previous results found among older children, suggesting that parents often attribute their children’s success to ability (Cashmore & Goodnow, 1986; Holloway & Hess, 1982; Yee & Eccles, 1988). Irrespective of the time points, mothers and fathers seldom attributed their children’s success to task easiness or effort. These latter findings are in accordance with the findings of some previous studies (Cashmore & Goodnow, 1986; Yee & Eccles, 1988). The results of the present study showed further that both mothers and fathers tended to attribute children’s failure to lack of effort, whereas lack of ability was seldom mentioned as a cause of failure.

The tendency found here for parents increasingly to emphasize ability as a cause of success as their children grow older may be due to the greater amount of feedback parents receive about their children’s academic performance from primary school onward. For example, parents typically follow closely their children’s progress in learning to read and acquiring basic math skills. This knowledge about children’s attainment of the basic academic skills may then have the effect of increasing parents’ trust in their children’s abilities. Another possible explanation for the results of the present study is that, when children start Grade 1, parents may also begin to see their children as more independent and subsequently to need less help from parents and teachers. This may then boost parents’ tendency to attribute their children’s success to ability, and decrease their attributions to the importance of teaching. The third possible explanation is that one of the major school subjects during this period in Finnish schools is learning to read (Aunola & Nurmi, 2004). As Finnish children learn to read within a relatively short time, due to the good orthographic fit of Finnish (Lerkkanen, 1994; Linnakylä, 1993), parents may perceive this development as owing to their children’s talents, which may then be reflected in their causal attributions.
Overall, the results suggested that during children’s transition from preschool to primary school, parents increasingly attributed their children’s success to ability (i.e., an internal, stable, and uncontrollable property) and attributed their failure to effort (i.e., an internal, unstable, and controllable property). These results are only partly in accordance with the previous literature suggesting that parents deploy a “self-protective bias” (Dix & Grusec; 1985; Himelstein et al., 1991; S. A. Miller et al., 1991) and “developmental optimism” in their causal attributions (Coplan et al., 2002; Goodnow et al., 1986). The result that children’s failure was attributed to their effort rather than to external causes suggests that the stability and controllability dimensions of attributions may play a more central role than the internality dimension in the “defensive” bias of parents’ causal attributions. For example, Dix and Grusec (1985) suggested that, because parents attempt to cast their children in the best light, they attribute their children’s success to stable properties, whereas they attribute their children’s failure to unstable properties. Another possible explanation for the result is that parents’ causal attributions reflect their tendency to encourage their children to succeed better at school. For example, Yee and Eccles (1988) suggested that by attributing children’s failure to effort, parents may aim to improve children’s performance by motivating them to try harder at school (see also Weiner, 1994).

The second aim of the present study was to investigate the extent to which mothers and fathers share similar kinds of causal attributions concerning their children’s school achievement. The results showed that mothers and fathers did share causal attributions for their children’s success, particularly for ability and effort. Moreover, whenever parents’ causal attributions concerning their children’s success changed, these changes were shared by both parents. Overall, these results suggest that parents perceive in similar ways the major causes of the child’s progress at school. This is not a surprise, as both parents are likely to receive similar information on their child’s school achievement and are likely to discuss it as well.

However, mothers and fathers also showed some differences in the overall levels of the causal attributions they reported concerning their children’s academic achievement. For example, mothers attributed their children’s success to their abilities more often than their fathers did. Fathers, in turn, attributed their children’s success more often to teaching than their mothers did. As has been suggested previously, mothers may be more aware of their children’s academic progress (Bird & Berman, 1984) and therefore more likely to attribute their success to their abilities. This may also be a reason why fathers frequently emphasized the role of teaching in their children’s academic achievement.

Parents’ causal attributions for children’s failure, however, were not shared by the parents but rather reflected the individual opinion of each
parent. However, when parents’ causal attributions concerning their children’s failure changed, these changes were shared by both parents.

**Child-Related Antecedents of Parental Causal Attributions**

The third aim of the present study was to investigate the extent to which the characteristics of the child, such as gender and academic skills, would contribute to parents’ causal attributions. The results showed, first, that children’s performance in reading and math predicted the ways in which parents attributed the causes of their success: the better the academic skills children showed, the more their parents thought children succeeded because of their abilities, and the less because of teaching. The results of the present study showed also that children’s skills in reading and mathematics equally predicted both mothers’ and fathers’ causal attributions. This result deviates from some previous findings suggesting that fathers more than mothers base their perceptions of their children’s school performance on the children’s academic skills (Frome & Eccles, 1998). In the present study, the levels of reading and mathematics were both found to contribute to parents’ causal attributions concerning their children’s school achievement. Previous studies have found that children’s math performance predicts mothers’ causal attributions (Holloway & Hess, 1985). The present study showed that the level of reading skills is also influential during the time when children are expected to acquire basic literacy skills.

The results of the present study showed that the child’s gender did not contribute to his or her mother’s and father’s causal attributions. This result conflicts with previous findings which have shown that parents attribute successful performance by daughters and sons to different causes (Dunton et al., 1988; Eccles et al., 1990; Eccles et al., 1993; Holloway, 1986; Holloway & Hess, 1985; Räty et al., 2002; Yee & Eccles, 1988). One possible explanation for the differences between previous findings and those found in the present study are the cultural differences in gender-role stereotypes. Most of the previous research on parents’ causal attributions has been carried out in countries such as England, Canada, and the United States. Although gender equality has become an increasingly important issue in these countries during recent decades, it may be that they have not reached the level of gender-equality beliefs typical of the Nordic countries. Another possible explanation for the difference between this and some previous studies is that gender differences only emerge as an influential fact later, when children grow older. For example, in previous studies it has been found that the effect of children’s gender and gender-related stereotypes are stronger both among older children and in the judgments of their parents compared to younger children (Eccles et al., 1990; Jaworski & Hubert, 1994).
Parent-Related Antecedents of Mothers’ and Fathers’ Causal Attributions

The present study aimed also to investigate how various parental characteristics would contribute to mothers’ and fathers’ causal attributions. The results showed that the level of education shared by both parents in the family (between-level) predicted both their ability attributions and their effort attributions in case of success: the higher parents’ level of education, the more they thought their children succeeded because of their ability and the less they thought their children succeeded because of their effort. There are several possible explanations for these results. First, such differences in parents’ causal attributions may have their origins in the parents’ own past experiences at school. The fact that parents with a high level of education count more on their children’s academic skills may reflect their own positive experiences at school and their belief that ability is important. In turn, parents with a low level of education may not count on their children’s skills so much. Second, it has been found previously that parents with more education are more involved with their children’s schoolwork (Stevenson & Baker, 1987). Therefore, it is possible that parents with higher levels of education simply have more knowledge about their children’s abilities at school, which is then reflected in their causal attributions. The third possible explanation is that parents with higher levels of education may have more knowledge about how to encourage their children at school, for example, by attributing their success to internal, stable, and uncontrollable factors, such as ability.

Also, parenting styles were found to contribute to the kinds of causal attributions parents reported concerning their children’s school achievement. The results showed, first, that the higher the level of affection an individual parent showed, the less the parent thought his or her child succeeded because of teaching. Moreover, the higher the level of behavioral control an individual parent showed in his or her parenting, the less the parent thought that the child succeeded because of teaching. One explanation for these results is that high levels of affection and behavioral control reflect authoritative parenting, and thus these findings would be consistent with the previous results found in the context of children’s social behavior (Coplan et al., 2002), according to which authoritative parents tend to use “developmental optimism” when attributing their children’s behavior.

However, the results showed that the higher the level of affection both parents evidenced in their parenting, the more they thought their child succeeded at school because of teaching. One possible explanation for this finding is that parents generalize from their own orientation of support to the behavior of their child’s teachers. In other words, parents assume that
the teacher will support their child at school as they in turn do at home, and accordingly they build into their causal attributions the teachers’ role in their child’s achievement.

The results showed further that mothers who reported a high level of psychological control in their parenting—that is, who sought to control their children through guilt, anxiety, and withdrawal of love (Barber & Harmon, 2002)—often attributed their children’s success to teaching and seldom to ability. This result is in accordance with the theory of psychological control (Barber & Harmon, 2002): by not crediting the child’s success to his or her talent but rather attributing it to external causes, the psychologically controlling mother arouses guilt and anxiety in her child. Another possibility is that a high level of psychological control on the part of the mother reflects an overall authoritarian parenting style, and it has been shown previously that authoritarian parents perceive their children’s positive behaviors to be due to external rather than internal causes (Coplan et al., 2002).

Only one antecedent was found to predict parents’ causal attributions concerning their children’s failure: the more the psychological control both parents reported, the less they thought their children failed because of too-difficult tasks. This result is similar to that found in the present study on the success attributions of parents who use psychological control: such parents typically emphasize the kinds of causes for their children’s successes and failures that foster negative feelings (e.g., guilt and anxiety) among their children, thereby heightening their psychological power in the parent-child relationship.

Limitations

At least five limitations should be considered in any attempt to generalize the findings of the present study. First, the present study focused on four types of causal attributions (i.e., ability, effort, teaching, and task difficulty). It has been found previously in using open-ended questions to elicit mothers’ causal attributions that mothers spontaneously produce other kinds of causal attributions beside the four examined here (Jaworski & Hubert, 1994). Consequently, some of the findings of the present study should be replicated by using open-ended procedures. Second, parental attributions have often been investigated using domain-specific procedures (Cashmore & Goodnow, 1986; Yee & Eccles, 1988), whereas in this study the parents’ questionnaire concerned children’s general school performance. This difference in the methods used may also explain some of the differences in the results of this study compared to previous studies. Third, in the present study only the measure of children’s level of performance
in the preschool year was used. Consequently, the present study did not examine the possibility that parents’ causal attributions might have contributed to children’s skill development (see Rytikönen, Aunola, & Nurmi, 2005). Fourth, other family-related factors, not studied here, may also have an impact on parents’ causal attributions. For example, other kinds of parental beliefs, such as expectations of children’s academic outcomes, may also affect their causal attributions concerning their children’s behavior (S. A. Miller, 1995). Fifth, this study was carried out in one particular country, Finland, and consequently some of the results may turn out differently in some other sociocultural context.

Conclusion

Overall, the results of the present study revealed that mothers and fathers often share similar kinds of causal attributions concerning their children’s school achievement: both parents typically attribute their children’s success to ability, whereas failure is typically attributed to lack of effort. The results showed further that highly educated mothers and fathers often attribute the success of their children to ability, whereas those with low educational background tend to attribute success to effort. These results were found after controlling children’s level of academic performance.

References


Goodnow, J., Knight, R., & Cashmore, J. (1986). Adult social cognition: Implications of parents’ ideas for approaches to development. In M. Perlmutter (Ed.), *Cognitive Perspectives on Children’s Social and Behavioral Develop-
Parents’ Causal Attributions


