

Hannu Rätty

## **Do parents' causal attributions for success and failure of their child's verbal competence relate to their assessments of the child's competence in the mother tongue?**

### **Abstract**

*This study sets out to identify explanation patterns that parents apply in order to explain their child's success or failure in the mother tongue and the contribution of these patterns to parental perceptions of the child's competence in the mother tongue. It was found that parents with a combination (both talent and effort) explanation or talent-directed explanation for success had a significantly higher opinion of their child's competence in the mother tongue during the child's compulsory school years than those parents who had an effort-directed explanation for success. As parents with a talent-directed explanation pattern tended to increase their level of assessment, the parents with combination explanations indicated a stable and high level of assessment across the child's school years. Parents who endorsed the combination explanations for success showed reluctance in their explanations for failure. Further, significant effects related to the child's gender and the parents' education were detected. In conclusion, explanation patterns seem to represent fairly constant interpretation modes, which construe parental confidence in the child's academic competencies.*

### **Keywords**

*Parental causal attributions; Mother tongue; Gender; Education; Longitudinal study*

## **Stehen elterliche Kausalattributionen für muttersprachlichen Kompetenzerfolg und -misserfolg ihrer Kinder in Beziehung zu den elterlichen Kompetenzeinschätzungen?**

### **Zusammenfassung**

*Ziel dieser Studie ist es, Erklärungsmuster zu identifizieren, die Eltern anwenden um den Erfolg oder Misserfolg ihrer Kinder bei muttersprachlichen Tests oder Aufgaben zu erklären, sowie den Beitrag dieser Muster zu den elterlichen Wahrnehmungen der muttersprachlichen Kompetenz der Kinder aufzuklären. Die Ergebnisse der vorliegen-*

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*den Studie zeigen, dass Eltern, die eine Kombination von Erklärungen (Begabung und Anstrengung) oder eine ausschließlich begabungsspezifische Erfolgserklärung hatten, eine signifikant bessere Einschätzung der muttersprachlichen Kompetenz ihrer Kinder hatten als diejenigen Eltern, die Erfolg allein anstrengungsbezogen erklärten. Während Eltern mit einem begabungsspezifischen Erklärungsmuster dazu neigten, die Kompetenzeinschätzung im Zeitverlauf der Studie zu erhöhen, zeigten Eltern mit einer kombinierten Erklärung eine stabile und hohe Kompetenzeinschätzung im Verlauf der Schuljahre des Kindes. Eltern mit einem kombinierten Erklärungsmuster waren zurückhaltend in ihren Erklärungen für Misserfolg. Zudem konnten signifikante Effekte in Bezug auf das Geschlecht des Kindes und das elterliche Bildungsniveau beobachtet werden. Als Fazit lässt sich festhalten, dass die untersuchten Erklärungsmuster relativ konstante Interpretationsarten repräsentieren, die elterliches Vertrauen in die akademischen Leistungen ihrer Kinder auslegen.*

## **Schlagworte**

*Elterliche Kausalattributionen; Muttersprache; Geschlecht; Bildung; Längsschnittstudie*

## **1. Introduction**

Conceptions of children's abilities represent an important interpretative framework which parents use to understand their children's schooling and academic achievement. There is convincing research evidence to the effect that parents' beliefs about their children's abilities influence the children's performance at school (Fredricks & Eccles, 2002; Frome & Eccles, 1998; Parsons, Adler, & Kaczala, 1982). Previous research has found links between children's performance and parents' causal attributions, too (Pomerantz & Dong, 2006; Yee & Eccles, 1988). There is also evidence from longitudinal studies that when children perform well at school, parents are likely to attribute their success to a stable cause, such as ability, whereas failure is typically ascribed to an unstable cause, such as effort (Holloway & Hess, 1985; Rytönen, Aunola, & Nurmi, 2005). Thus, the ways in which parents explain their child's school performance are of educational significance, as explanations contribute to parental reliance on the child's competencies.

This study was designed to identify patterns of explanation that parents apply in order to understand their child's success and failure in Finnish, the mother tongue, and to examine how explanations were related to parental perceptions of the child's proficiency in Finnish during the course of the child's compulsory school years. In addition, we wanted to compare parental explanations regarding the mother tongue with those of mathematics: that is, whether similar or different explanation patterns would emerge and whether their associations with parental perceptions were similar or not (Rätty & Kärkkäinen, in press).

Parents are apt to rely on dispositional explanations of intelligence, which Mugny and Carugati (1989) labeled as "the ideology of natural giftedness". In line with this view, a child's intelligence is attributed to biological factors, such

as genes, which are considered to set limits for the development of mental abilities. Also, practice plays an important role in parental explanations for advancing a child's abilities (Snellman & Rätty, 1995), and effort, in particular, is highlighted by parents, and teachers, in a child's first years of school (Stipek & McIver, 1989).

These two factors, talent and effort, are included in Weiner's (1986) influential theory of causal attributions in the field of achievement motivation. Talent is defined as a stable and uncontrollable factor, while effort is seen as an unstable and controllable factor. One difficulty with this characterization is that it does not consider the possibility that parents may well use these explanations in different combinations. There is research evidence to show that people are apt to use multiple explanations, as well (Kelley, 1972).

A consequent problem in Weiner's theory is the assumption that ability falls outside one's control. Dweck's (1999) theory on the subjective conceptions of intelligence stresses that children who endorse the dynamic (incremental) notion of intelligence regard ability as a controllable skill which can be developed through persistent effort, whereas those who endorse the static (entity) notion of intelligence, see ability as nature given and thus an uncontrollable and stable capacity.

Instead of focusing on the effects of separate causal factors, we tried to identify different explanation patterns and we tried to look at their contribution to the parental perceptions of their child's competence in Finnish. We expected to discover more or less similar types of explanation to which we noted in the parental explanations in mathematics: an explanation pattern which would be predominantly based on talent, an explanation pattern which would be based on both talent and effort, and an explanation pattern that would be predominantly based on effort.

Moreover, as in the case of mathematics, we assumed that the two first explanation patterns would be more firmly associated with parental confidence in their child's verbal competence than the one based on effort only. There is research evidence to the effect that parental endorsement of the talent explanation for their child's academic success predicts the improvement of the children's academic competencies, while the use of effort explanations predicts poorer academic performance in children (Rytkönen et al., 2005). Additionally, children and adults tend to resort to effort explanations when failed, since by attributing the failure to insufficient practice it provides one with the chance to improve one's competence in the future, although this intention may not always be realized in practice (Rätty, Kärkkäinen, & Kasanen, 2010).

Parental explanations of their child's academic accomplishments are not just individual accounts. Well-educated parents are inclined to explain their child's academic performance in reference to his/her talents more so than poorly educated parents do, who see their child's lack of talent as a more important reason for the child's failure than well-educated parents do (Rätty, Kasanen, & Kärkkäinen, 2006). A child's gender has a bearing on parental attributions for a child's competence in Finnish, too. According to the dominant cultural expectation of the girls' superiority in the verbal domain and the fact that at school girls do better in languages than boys do, parents are apt to ascribe competence in Finnish to girls more than boys

(Rätty, Kasanen, & Honkalampi, 2006). Yet, there is research evidence to show that parents still explain their daughters' success in Finnish in reference to their hard work more than that of their sons, whose success is explained in terms of talent more than that of girls (Rätty, Vänskä, Kasanen, & Kärkkäinen, 2002).

Given that we measured parental explanation patterns at the end of the child's first school year and then followed parental assessments of their child's competencies in Finnish every second year till the very end of his/her 9 years of compulsory schooling, it became possible to scrutinize whether their explanations were related to the changes in their perceptions. In our previous study on parental explanations and perceptions regarding mathematics, we did not find any significant connections. Thus, we did not formulate any particular hypothesis on the relationships between the changes in parental explanations and perceptions of Finnish.

In sum, the research questions for this study were as follows:

1. What kind of explanation patterns can be identified that parents apply in order to explain their child's success or failure in the mother tongue?
2. Do these explanation patterns contribute to parental perceptions of their child's competence in the mother tongue across the child's compulsory school years?
3. Are explanation patterns related to the parents' education and the child's gender?

## 2. Method

### 2.1 Participants

The initial participant group comprised a nationally representative group of academically and vocationally educated parents ( $N = 574$ ), who had a seven-year-old child ready to start school (Rätty, 2003). Finnish children begin their 9-year long comprehensive school at the age of seven after an optional year in pre-school. These parents were contacted again at the end of their child's 1st, 3rd, 5th, 7th, and 9th school years. The response rate for each follow-up phase was approximately 90%, hence by the completion of the study the final response rate was 57%.

In the last follow-up phase ( $N = 326$ ), mothers responded more actively (95%) than fathers did (89%), and academic parents more actively (96%) than vocational parents did (90%). The response rate of parents of girls did not differ significantly from that of parents of boys. In the present follow-up group of parents, 64% were mothers and 36% fathers; these two gender groups did not differ in terms of their child's gender. The group comprised 57% vocationally educated and 43% academically educated parents; these two educational groups did not differ in terms of their gender or their child's gender. The girls' parents made up 51% and the boys' parents 49% of the group. The parents' average age was 47 years ( $SD = 5.29$ ) at the end of the last follow-up study.

## 2.2 Questionnaire

*Parental explanations of success and failure* – In one part of the questionnaire, presented at the end of the child's school year, the parents were asked to "recall a test or a task in Finnish in which your child succeeded better than normally. Please assess the impact of the subsequent factors in the positive outcome". The factors included the following: "the child has verbal talent" and "the child had practiced a lot of verbal tasks". The parents were requested to indicate their choice on a 5-point rating scale that ranged from "no impact at all" (1) to "major impact" (5). The failure instruction read as follows: "How about a test or a task in Finnish in which your child had less success than was normally the case? Please assess the impact of the subsequent factors in the negative outcome." The factors included the following: "the child lacks verbal talent" and "the child had not practiced enough". The parents were requested to indicate their choice on the 5-point rating scale described above.

*Assessment of competence in Finnish* – In each study phase, the parents were asked to assess their child's competence in different school subjects, including Finnish, on a 5-point scale anchored by "clearly below average" (1) and "clearly above average" (5).

## 2.3 Analyzing procedures

We started our exploration of the data by identifying the patterns of explanation by using cluster analyses (K-means cluster). Then *the mixed between-within subjects ANOVA* was employed to examine the contribution of parental explanation patterns to their assessments of the child's competence in Finnish in the course of the child's schooling. Since the condition of sphericity – as measured by Mauchly's test – was not met, the Greenhouse and Geisser correction was applied, and the Bonferroni method was used as a post hoc test. Once the parents' education and child's gender were found to affect parental assessments of their child's competence in Finnish (Räty, Kasanen, & Honkalampi, 2006), they were set as covariants. Finally, we scrutinized the relationships between the success and failure explanation patterns and their associations with the parents' education and child's gender.

## 3. Results

### 3.1 Explanation patterns for success

A total of 315 parents rated the factors for success. Based on the clarity of the interpretations, a three cluster solution seemed to be the most adequate one.

The differences between the clusters were significant for the ratings of talent,  $F(2, 312) = 270.4, p < .0005$ , and practice,  $F(2, 312) = 263.9, p < .0005$ . The first cluster consisted of 53 parents and was labeled as ‘a talent-directed explanation’, as the mean for the rating of talent ( $M = 4.0$ ) was higher than that of practice ( $M = 3.0$ ). The second cluster entailed 190 parents and was labeled as ‘a combination explanation’, as the means for the ratings of talent ( $M = 4.0$ ) and practice ( $M = 4.0$ ) were both equally high. The third cluster, containing 72 parents, was labeled as ‘a practice-directed explanation’, as the rating for effort ( $M = 4.0$ ) was higher than that for talent ( $M = 3.0$ ).

Pertaining to the within-subjects effects, the explanation pattern significantly interacted with the study phase,  $F(4, 1029) = 6.20, p < .0005$ . As suggested by the post hoc tests, parents who endorse the combination explanations assessed their child’s competence in Finnish to be stable and high across the follow-up period, whereas the assessments of parents who favored the talent-directed explanations, in particular, and to a lesser extent parents who favored practice-directed explanations, tended to increase their assessments as the child advanced in grades (Table 1).

Regarding the tests of between-subjects effects, the explanation pattern had a significant main effect,  $F(2, 302) = 21.90, p < .0005$ . The post-hoc tests indicated that across the follow-up period, parents representing the combination explanations ( $M = 3.96$ ) perceived their child’s competence in Finnish significantly higher than did parents who endorse the talent-directed ( $M = 3.73$ ) or the practice-directed ( $M = 3.41$ ) explanations; and further, parents who favor talent-directed explanations had a significantly higher assessment of their child’s competence in Finnish than did parents who favor practice-directed explanations.

### 3.2 Explanation patterns for failure

Parents were somewhat reluctant to rate the factors for failure, as only 282 parents did so. Based on the clarity of interpretation, the three cluster solution appeared as the most adequate one for the attributions of failure, too. The differences between the clusters were significant for the ratings of talent,  $F(2, 281) = 279.3, p < .0005$ , and practice,  $F(2, 281) = 356.4, p < .0005$ . The first cluster consisted of 97 parents and was labeled as ‘a practice-directed explanation’, as the mean for the lack of practice ( $M = 4.0$ ) was higher than the ratings for lack of talent ( $M = 2.0$ ). The second cluster was labeled as ‘a moderate combination explanation’, as the means for the ratings for lack of talent ( $M = 3.0$ ) and practice ( $M = 4.0$ ) were both fairly high. The third cluster, consisting of 86 parents, was labeled as ‘a reluctance to explain’, as the means for the ratings of lack of talent ( $M = 2.0$ ) and practice ( $M = 1.0$ ) were both low.

In relation to the within-subjects effects, the explanation pattern did not significantly interact with the study phase,  $F(7, 898) = 1.23, p > .28$ . The tests of between-subjects effects indicated that the explanation pattern had a significant main

effect,  $F(2, 272) = 18.85, p < .0005$ ; and the post hoc tests suggested that across the follow-up period parents who endorsed the moderate combination explanations ( $M = 3.48$ ) assessed their child's competence in Finnish significantly lower than did parents who endorsed the lack of practice explanations ( $M = 4.00$ ) and parents who were reluctant to give explanations ( $M = 3.85$ ).

**Table 1:** Means for the explanations patterns for success in each study phase (standard deviations are given in brackets)

Phase	Talent-directed <i>n</i> = 53	Combination <i>n</i> = 190	Practice-directed <i>n</i> = 72
1st grade	3.53 <sup>b</sup> (.81)	4.02 (.72)	3.09 <sup>b</sup> (.81)
3rd grade	3.58 <sup>b</sup> (.85)	4.04 (.73)	3.35 <sup>a</sup> (.79)
5th grade	3.66 <sup>ab</sup> (.89)	4.02 (.79)	3.45 <sup>a</sup> (.81)
7th grade	3.72 <sup>ab</sup> (.95)	3.96 (.77)	3.51 <sup>a</sup> (.87)
9th grade	4.00 <sup>a</sup> (.97)	3.94 (.87)	3.42 <sup>a</sup> (.88)

Note. Means with different superscripts in each row are different based on the Bonferroni test ( $p < .05$ ).

### 3.3 The relationship between explanation patterns for success and failure

Since only 282 parents rated the factors for failure, the cross-tabulations between the explanation patterns for success and failure were based on that number; thus the number of parents differed somewhat from that obtained in the original clusterings. According to the chi-square analyses, the explanation patterns for success and failure were significantly related to each other,  $\chi^2(4) = 21.89, p < .0005$ . As indicated in Table 2, particularly parents who explained their child's success in Finnish either by emphasizing his/her talent and effort were reluctant to explain their child's failure; and parents favoring the combination explanations for success tended not to use the moderate combination explanations for failure. Parents who endorsed practice-directed explanations for their child's success tended to use the moderate combination explanations for their child's failure.

Finally, we looked at the associations of explanation patterns between the parents' education and the child's gender. As to the explanations for success, there was a significant association with the child's gender,  $\chi^2(2) = 7.00, p < .03$ : of the parents of boys, 21% endorsed the talent-directed explanations, whereas the corresponding share among the parents of girls was 12%; and of the parents of girls, 67% endorsed the combination explanations, while the corresponding share among the parents of boys was 53%. Another significant association dealt with the parents' education,  $\chi^2(2) = 10.42, p < .0005$ : of the academic parents, 22% favored the talent-directed explanations, while the corresponding share among vocational parents was 12%; and of the vocational parents, 29% favored the practice-directed explanations, while the corresponding share among academic parents was 16%.

As to the explanations for failure, there was one significant association with the parents' education,  $\chi^2(2) = 14.66, p < .001$ : of the vocational parents, 44% endorsed the moderate combination explanations, whereas the corresponding share among academic parents was 25%; and of the academic parents, 45% favored the lack of practice explanations, while the corresponding share among vocational parents was 26%.

**Table 2:** Associations of the explanation patterns for success and failure

Explanations for success	Explanations for failure			
	Practice-directed	Moderate	Reluctance	Total
Talent-directed	19	19	11	49
Combination	59	43	62	164
Practice-directed	17	39	13	69
Total	95	101	86	282

## 4. Discussion

According to the parents' ratings of talent and effort as potential factors of their child's accomplishments in Finnish, we identified three explanation patterns for success and three explanation patterns for failure. We have also noted basically similar types in parental ratings of their child's success and failure in mathematics (Rätty & Kärkkäinen, in press).

Though the similarity between ratings of mathematics and Finnish could be interpreted as providing a measure of construct validity to the explanation patterns observed, we need further independent studies to cross-validate our findings.

The present results differ from the parental explanations regarding mathematics in that the combination explanations for success were endorsed by a great majority of parents (60%), while the corresponding share regarding the talent-directed explanations was only 17%. This may indicate that Finnish is not understood to be a trait-like ability as mathematics is, in which the proportions of those endorsing the combination (34%) and talent-directed (38%) explanations were more even (cf. Yee & Eccles, 1988).

The between-subjects effects demonstrated that parents who favor either the combination explanations or talent-directed explanations for their child's success had a significantly higher opinion of their child's competence in Finnish than those who support the practice-directed explanations for success. Parents who endorse the combination or talent-directed explanations tended to show reluctance in their explanations for failure, whereas the parents who favor practice-directed explanations for success were apt to use the moderate combination explanations for their



child's failure. As in the case of mathematics, explanations for success based on talent or both talent and effort were associated with parental confidence in the child's competence in Finnish more firmly than the solely effort-directed explanations for success.

It seems, then, that in order to build up reliance, parents should lean upon their child's internal potential, whether it is seen as inherent or as a result of the child's persistent practice. Endorsement of the combination explanation pattern seemed to relate to relatively stable parental assessments throughout the child's compulsory schooling, whereas parents who support the talent-directed explanations gradually increased their assessments as the child advanced through the grades. Thus, at the end of the child's 9th grade, the means of parental assessments were practically identical for the groups favoring the combination and talent-directed explanations. Although parents who support the practice-directed explanations for their child's success also somewhat increased their assessments, its level remained relatively low – which could even predict the child's poor performance later (Rytkönen et al., 2005). In addition, there is research evidence to the effect that if parents have a high opinion of their child's academic competences, the decrease of the child's academic self-concept is less dramatic over time (Fredricks & Eccles, 2002).

Despite the fact that parents usually have a more positive view of their daughters' competencies in Finnish than that of their sons' (Räty, Kasanen, & Honkalampi, 2006) and that at school girls gain better marks in Finnish than boys do, the parents tended to explain their boys' success in Finnish in reference to his talent more frequently than that of the girls. We have noted this tendency previously, too (Räty et al., 2002), and it may pertain to the general view that the girls' superior overall academic success is taken for granted and attributed to their diligence and conformity (Swim & Sanna, 1996).

The parents' education did make the difference, as well. Academic parents applied the talent-directed explanations for their child's success and lack of effort explanations for failure more frequently than did vocational parents, who, for their part, referred moderately to their child's lack of effort and talent for his/her failure more often than did academic parents. Apparently, vocational parents do not rely on their child's internal potentials as firmly as academic parents do. For instance, there is research evidence to show that well-educated parents are inclined to believe in their child's educational resilience more than poorly educated parents (Kärkkäinen, Räty, & Kasanen, 2009). Well-educated parents' greater involvement in the 'ideology of natural giftedness' may well be one social-psychological factor in carrying out social reproduction in education (cf. Lareau, 1989).

Our study should be interpreted in the light of the following limitations. As the present group was based on the nationally and regionally representative sample of academic and vocational parents, it was not possible due to practical reasons to obtain outside evaluation of the children's school performance, such as teachers' judgments or test results. This would have given us a chance to use it as a control variable. Although parents tend to have a relative accurate view of their child's academic standings (Hughes, Wikeley, & Nash, 1994), it would be useful to scrutinize

those cases in particular in which there are discrepancies between the parents' and the school's assessments. In addition, further research is required to examine the extent of the cross-cultural generalizability of our findings.

Parents' subjective perceptions of their children's academic competence are stronger predictors of children's perceptions of their competence than is children's actual achievement (Frome & Eccles, 1998). Parents' perceptions are also more important to children's academic development than are teachers' assessments (Entwisle, 1997). Therefore, parents' subjective views, right or wrong, tend to shape their children's educational reality. Thus, the major conclusion of this study and the previous one is that parental explanation patterns, as early as at the beginning of the child's schooling, seem to represent relatively consistent interpretation modes – which are presumably an important part in constructing parental reliance on the child's proficiency in two pivotal academic subjects, the mother tongue and mathematics.

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**Q**ualitätssicherung erfährt im Bildungswesen zunehmende Bedeutung. Ihre Resultate zeigen auf, wo Probleme bestehen, wo interveniert werden muss. Gerade im Mikro-Kosmos der Bildungseinrichtungen und des Lehrerhandelns ist die objektive Bestimmung der (Unterrichts-)Qualität von großer Bedeutung. Die statistischen Verfahren aber, die solchen Messungen zugrunde liegen, lassen viele vor einer solchen Überprüfung zurückschrecken.

Das Handbuch ist ein Leitfaden zum Umgang mit Verfahren der Qualitätsmessung und richtet sich ausdrücklich an Lehrkräfte und Schulleitungen, um sie grundlegend in Messverfahren einzuweisen und ihnen eigene Messungen zu ermöglichen. Für Studierende pädagogischer Fachrichtungen bietet das Buch durch seine grundlegenden Ausführungen das Rüstzeug zur objektiven Überprüfung der eigenen Arbeit. Begleitend werden wissenschaftlich überprüfte Instrumente der Qualitätsmessung sowie Bezugswerte in einer Online-Testothek des Zentrums für Empirische Bildungsforschung und Fachdidaktik der Universität Vechta kostenfrei zur Verfügung gestellt und aktualisiert.

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2010, 184 Seiten

Broschur: 24,90 €

ISBN 978-3-8309-2415-9

E-Book: 22,40 €

ISBN 978-3-8309-7415-4

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