Multilevel Analysis of Factors Influencing the Achievement of 4th Grade Students in Mathematics with Emphasis on Mothers' Employment

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Introduction
Accepting the reality of women's employment as a social phenomenon is evident, as, with many other social phenomena, this phenomenon has many positive and negative consequences. One of the implications of maternity employment is its impact on the educational achievement of children. In this study, this issue has also been addressed. The change in the role of women in the society leads to changes in the family organization, in this way, it is necessary to explain and predict the positive and negative consequences of family change and, if necessary, provide appropriate strategies. This issue is also important because, after recognizing the factors affecting the educational achievement of children, relying on the impact of mothers' employment, managers and planners lead to appropriate decisions and policies. The purpose of this study is to determine the factors influencing the 4th-grade students' mathematics achievement such as father's education, mother's education, gender, educational resources at home and at school, with emphasis on mothers' employment. Hence, in view of the objectives of this study, the key questions are whether the fourth-grade children with working mothers have more achievement than their counterparts with non-working mothers? Is the success of students in mathematics influenced by parenting education, gender, and educational resources at home? What are the most important determinants of the educational achievement of the children who are studying at 4th-grade in mathematics? What is the effect of schools (school location in terms of urban and rural) on the development of the 4th-grade children in mathematics?

Material & Methods
The research method in this study is quantitative and is based on secondary data. To achieve the study objectives, the multilevel method and the HLM software have been used to analyze the data. The statistical population of this study is all Iranian students studying 4th-grade in the year 2015. The sample of (Trends in International Mathematics and Science Study) TIMSS 2015 in Iran consists of 3823 students (1863 girls and 1960 boys) and 248 schools. The statistical sample at 2015 is selected by using a two-stage cluster sampling method among schools in each country in the year 2015, which has two preliminary and final stages, simultaneously and seamlessly.

Discussion of Results & Conclusions
The findings of this study on the educational achievement of the students showed that at the level of the student, the mothers’ employment, gender, and access to educational resources at home, are not significant but parents’ education is a positive and significant variable. It has also been shown that students’ mathematical scores vary from one school to another; in another words, the students at schools in urban areas are better in mathematics scores than those studying in rural schools. In general, variables in the first level (students) explain more variance than the second level variables (schools).

According to the results of this study, as well as the results of most of the literature in this regard, which indicate that the quality of time that parents spend on caring for their children is more important than the quantity of time spent with them. Although parents, especially mothers, may have less time with their children or child due to their working conditions and the length of time they are away from their children, but if parents, especially mothers, address the physical and mental needs of their children, they are not considered as an obstacle to the development of children. Therefore, it seems necessary that planners and policymakers, through the media, educational facilities, and educational assistance, try to inform families and improve the quality of communication between parents and children. Along this vein, school administrators and teachers, through holding meetings with parents, emphasize the need to improve the quality of time that parents spend with their children, and especially those who are students. Also, according to the results of this study, students studying in rural schools will have less educational achievement in math than those studying in urban schools. Planners and policymakers need to pay more attention to rural

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schools in their planning. Further, considering that today’s children are the fathers and mothers of the future, and considering the results of this study, it is necessary to improve the educational level of the present and future parents, both in urban and rural areas, so that in the future we can see the quantitative and qualitative improvement of future generations.

Keywords: Maternal Employment, Mathematics Achievement, Educational Resources at Home, School Location, (Trends in International Mathematics and Science Study) TIMSS.

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