

**BAR-ILAN UNIVERSITY**

**The Relationships between Parental Involvement and the School  
Principals' Management Style, and the Mathematical  
Achievements of Students in Primary Schools, Specialized with  
Behavioral Disturbances**

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## Abstract

This study analyses the relationships between teachers' perceptions of the school principals' management style and the level of improvement in mathematical achievements of students attending Special Education elementary schools, specialized in behavioral disorder. The examination of these relationships is conducted whilst statistically controlling the students' personal background characteristics (i.e., gender, religiousness, country of origin and socioeconomic status); their teachers' profiles (i.e., educational level, teaching seniority and management seniority); and, school features (i.e., size, the socioeconomic status of the school and level of community involvement).

The contribution of this study is threefold. First, this study integrates the theory of the education production function (Hanushek & Woessmann, 2010) with theories in education administration (Tobin, 2012; Nsubuga, 2008; Avney Rosha, 2008; Blas & Adler, 2009). Specifically, similar to other studies in education administration, this study examines the relationships between teachers' perceptions of the management style and their students' academic achievements. In addition, similar to studies analyzing the education production function, this study explores the relationships between the students' background characteristics, teachers' profiles and school features, and the students' academic achievements. Therefore, this study contributes in the integration of the two theories, as it analyses the relationships between perceptions of management style and achievements whilst statistically controlling the background variables.

Second, this study focuses on analyzing the relative improvement in academic achievements gain (Tekwe et al., 2004; Educational Testing Service, 2013; Newton, Darling-Hammond, Haertel, & Thomas, 2010; Gilboa, 2010). Largely, studies in education administration examine the correlation between achievements and management style. The current study focuses on the relationships between teachers' perceptions of the management style and the improvement gain in academic achievements. Specifically, the study refers not only to the absolute level of achievement but also to the relative improvement in achievements as customary in models of Value Added (Grissom, Kalogrides, & Loeb, 2014; MacLean & Sanders, 1984; Heck, 2006).

Finally, an additional contribution of this study is derived from its focus on the unique population of students with behavioral disorder attending special education schools (American Psychiatric Association [APA], 2013; Brandes & Neshor 1996; Har, 2000; Schoenfeld & Mathur, 2009), unlike other studies examining these relationships among students in regular schools (Alon, 2006; Amit & Mosovich-Hadar, 1989; Him-Yones & Fridman, 2000; OECD, 2014).

This study was conducted by using quantitative analysis method known in the literature as path analysis (Pedhazur, 1982). The study evaluates three models of an OLS regression. The

first model examined the correlations between students' background characteristics, teachers' profiles and school features, and academic achievements level as well as the improvement gain in academic achievement. The second model examined the correlations between teachers' perceptions of the management style and the improvement in academic achievements. Last, the third model examined the correlations between teachers' perceptions of the school principals' management style and the level of improvement in the academic achievements whilst statistically controlling students' personal background characteristics, teachers' profiles and school features.

The study was conducted using a management style measurement questionnaire (Shartles & Stogdill, 1953).

In the current study the Alpha Cronbach reliability in the task oriented questionnaire was  $\alpha = .86$ , and in the caring questionnaire was  $\alpha = .74$ .

The purpose of the questionnaire is to examine the teachers' perceptions of the school principals' management style (see appendix 1). The study included 614 participants: 72 elementary school teachers and their 542 students. The students in this study were characterized with behavioral disorder and attended special education schools specializing in these disorders. The teachers who participated in the study were appropriately qualified and taught in these schools. Eleven schools from four different districts around the country participated in the study.

The findings of the first model indicated that **there is a statistically significant correlation between students' background characteristics and the level of the academic achievements**. Specifically, there is a statistically significant correlation between the student's gender, country of origin and socioeconomic status and his or her level of academic achievements ( $\beta = -0.115^{***}$ ,  $\beta = 0.88^*$ ,  $\beta = 0.092^*$ , respectively, see Table 15). Thus, female students, born in Israel and students with a high socioeconomic status, will score higher than their counterparts. In addition, no statistically significant correlation was found between teachers' profiles, school features and the level of academic achievement.

Notably, the findings of this model indicated that **there are statistically significant correlations between students' background characteristics, teachers' profiles and school characteristics and the improvement gain in the academic achievement**. More particularly, it was found that among the students' background counterparts, the religiosity of the students is positively related to the improvement gain in his or her academic achievement. Namely, the average of mathematical achievements improvement of religious students is higher compared to that of their peers ( $M = 7.79$ ,  $M = 2.68$ , respectively,  $F = 10.45^{***}$ , see table 6). Moreover, regarding teachers' profiles, it was found the teachers' seniority and level of education are related to the improvement gain in their students' academic achievement. Specifically, novice teachers with a bachelor degree (B.A.) improve their students' academic achievements more than

their M.A. holder counterparts ( $M = 10.96$ ,  $M = 2.84$ , respectively,  $F = 10.96^{***}$ , see table 9). A negative correlation was found between seniority in teaching, management and achievements improvement ( $r = -.11^{**}$ ,  $r = -.08^*$ , respectively, see Table 10). Investigating the schools' characteristics revealed a significantly negative correlation between the size of the school and the achievements improvement. Meaning, the level of achievements improvement increased as the number of students in a school was higher ( $r = -.10^*$ , see Table 11).

The findings of the second model indicated that **a correlation between teachers' perceptions of the management style of the school principal and the level of their students' achievements improvement**. Specifically, it was found that the more teachers perceive their principal as task oriented and less caring, the lesser the improvement in mathematical achievements is (task oriented  $\beta = .170^{**}$ , caring  $\beta = -.189^{**}$ , see Table 15).

**The findings of the third model indicated that the more teachers perceive their principal as task oriented rather than caring, the greater the achievements improvement will be ( $\beta = 0.299^{**}$ ,  $\beta = -0.329^{**}$ , respectively, see Table 15), whilst the rest of the background variables are statistically controlled.**

The findings of this study emphasize the complexity of the school environment and indicate that it is multi-dimensional and subjected to many influences (internal and external) and the interactions between them. This complexity also supports previous findings in the professional literature, broadly addressing the multiple factors that affect the students' educational performance (Nsubuga, 2008; Oplatka, 2012).

The policy implications conferred from this study focuses on placing teachers in special education schools specializing in behavioral disorder, while emphasizing the teachers' profiles contributing to the achievements improvement. The more teachers with low teaching seniority are placed in mathematics teaching in behavioral disorder classes and schools, the greater improvements in achievement can be expected. Additional policy implications focus on grooming a management style that contributes to achievements improvement. Choosing principals with a task oriented management style, which contains more task-oriented elements than caring ones, leads to a greater improvement in students' achievement.