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**The Role of Teachers' Psychological Control in Students'
Motivational Developments Across Transition to Middle
School**

Michal Har-Even

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Abstract

Transitioning from one educational setting to another often involves changes that are accompanied by various challenges: changes related to pubertal development, major changes in the interactions between the individual and his environment, and the need to adapt rapidly to new academic and social demands (Eccles, 1983). In Israel, there is a major change in the characteristics of the educational environment when transitioning from elementary school to middle school. This transition takes place when students are around twelve years old and is part of an effort to facilitate the optimal conditions for their education, with the environment tailored to the students' emotional, social, and academic developmental needs (Oplatka & Tuvin, 2008; Byrnes & Ruby, 2007).

As a result of a decision made in the Knesset in 1968 to comprehensively reform the education system in Israel, a shift has been made from the original two-stage system that included eight years of study at the elementary level (grades 1-8) and four years of study in a high school (grades 9-12) to a three-stage model that includes six years of study at the elementary level (grades 1-6), three years of middle school (grades 7-9), and three years of high school (high school, grades 10-12) (Knesset, 1971). However, the implementation of the reform in question has met with many difficulties that have lasted for many years, and thus different structures of secondary education have been created over time (Vergen, 2010). Today, most districts in Israel have implemented the three-stage model. One of the justifications for creating a middle school is that it can act as an institution of transition between elementary school and high school. In other words, a shift unit from an individualized attention and tight support learning

environment with a small number of teachers to a new mature style of learning, which involves an achievement-oriented system, multiple subjects, and an increased number of teachers (Hargreaves, 1986; Mills, 1998). The middle schools were supposed to offer an age-appropriate educational plan for students, allow for their growth and development, and prepare young adolescents for gaining their independence, personal responsibility, and leadership. Additionally, it would allow teachers to estimate their students' intellectual abilities and perhaps provide an opportunity for educators to widen the general areas of interest of adolescents (Oplatka & Tobin, 2008).

The transition to middle school takes place when students are in the early stages of adolescence, which is characterized by various cognitive, social, and emotional changes (Arnett, 1999). For example, previous studies have found that the combination of transition and adolescence leads to a decrease in the educational achievement (Vorgan, 2010; Anderman & Midgley, 1997), self-esteem, and self-image of the student (Plume and King, 1989; Gunter & Bakken, 2010). This combination also leads to an increase in stress, physical and psychological symptoms (son of Enoch, 1989; Lohaus, Elben, Ball, & Klein-Hessling, 2004), violence (Rush, 2008; Roeser & Eccles, 2000), and school dropouts (National task force for the advancement of education in Israel, 2005; Rumberger & Thomas, 2000). Conversely, middle school may have a positive impact on the social aspect and self-perception of students, thereby minimizing the negative effects of the transition and sensitive nature of students' development at this point in their lives (Cantin & Boivin, 2004).

Previous studies from around the world, comparing populations of students in the seventh grade who went to middle school with those who did not transition to middle school, noted that the transition itself has negative effects on motivation; this transition

is characterized by decreases in motivation (Eccles & Roeser, 2009), students' perceptions of their abilities (Anderman & Midgley, 1997; Simmons & Blyth, 1987), the level of intrinsic motivation (Gottfried, Fleming, & Gottfried, 2001), self-confidence (Simmons & Blyth, 1987), and interest in learning at school (Wigfield et al., 2007).

In this study, the leading theory is called the "Expectancy Value Theory" (Eccles, 1983), in which Eccles defines the value a person attributes to a specific action as the main motivation for the task. This value can be broken down into four different types of task values: intrinsic, attainment, utility, and cost (Eccles, 1983). The intrinsic value relates to the internal pleasure one experiences from performing the activity itself; the decision to perform a specific act is made based on how pleasurable and/or challenging the activity is. The attainment value is associated with the importance of the task to the person and his/her level of identification with the principles that the activity represents. Utility value refers to performing a task that is suitable for the individual's future plans and his profit from it; the activity is a means to an end. The cost value refers to that which individuals have to give up or lose for a specific task and the effort expected to complete it (Eccles, 2005). The positive values, meaning those that predict adaptive educational products, are intrinsic, attainment, and utility, while the negative task value, related to educational products that are non-adaptive, is the cost. In her research, Eccles (Eccles, 2005) focuses on how expectations for success and the values of the individual influence his/her choices, performance of actions, and perseverance. Expectations and values are influenced by beliefs, such as: perception of abilities, perception of difficulty of a task, the individual's goals, and his emotional memories that are associated with his achievements (Wigfield et al., 2007).

The current study examines the impact of the transition to middle school on the various task values of students who study mathematics. The research method is a longitudinal study that spanned two years and includes four repeated measurements, at the beginning and end of the sixth and seventh grades, in an effort to form a comparison between students who transitioned from elementary school to middle school and those who continued to study in an elementary school. The various indices were tested using several previously validated questionnaires: the levels of intrinsic, utility, and cost perceptions of students were assessed with a questionnaire of values created by Eccles and colleagues (Eccles et al., 1993), and the students' perceived level of psychological control was measured using a questionnaire of perception of psychological control that was assessed by the students' teachers (Madjar, Nave, & Hen, 2013).

In this research, additional variables that were found to be relevant in previous studies were addressed, such as a student's previous grades, gender, and psychological control. Psychological control is essentially an invasive emotional manipulation (Barber, 1996) or a form of negative intrusive coercion characterized by hostility towards the individual (Silk, Morris, Kanaya, & Steinberg, 2003).

The current study reveals a number of significant findings: **the first finding** is the existence of a positive /correlation between the adaptive measurements, intrinsic and utility, as well as between the non-adaptive measurements, cost and psychological control, alongside a negative correlation between the adaptive and non-adaptive measurements. Analysis of the correlation between the indices supports the finding and the structural validity of the questionnaires used. The transition was not associated with the level of intrinsic, but a number of other variables do: students with higher grades in

math express a higher intrinsic in the subject and also report lower cost in the subject. Additionally, male students showed higher intrinsic in mathematics and report a lower cost than female students.

The second finding is that among all students, over time (with the increase in age) there was a steady decline in the adaptive task value utility. Furthermore, the decline of the utility value was explained by their grades. In students who had high scores in mathematics, the decline in utility was smaller and more moderate after the transition to seventh grade, whereas among students who had lower scores in mathematics, the decline in the utility variable was much more rapid. The term "Matthew Effect" of Stanovich (Stanovich, 1986) connects to this finding since students' whose scores were higher in mathematics gained a higher utility from mathematics, compared to students with lower scores, who had less utility from mathematics. In addition, in general, variables such as grades, gender, psychological control, and switching schools were associated with the intrinsic value in mathematics, as seen in previous studies.

The third finding is that students that transfer from elementary school to middle school also reported a transition from a low level of psychological control to a higher one, whilst the students who did not move from elementary school to middle school started from a higher psychological control and declined to lower psychological control.

The last finding is that over time the adaptive task value, utility, affected the level of psychological control experienced by the students. That is, for a student who progressed from a perceived low psychological control environment to a higher one, a decrease in utility was observed. In contrast, a student who declined from a place of learning in which his psychological control was high to an environment in which he perceived that he had low control, experienced an increase in utility.

The main innovation of this study is in its review and comparison of psychological control in the two different educational environments, elementary school and middle school, and their influence on students through the task values of the "Expectancy Value" theory of motivation (intrinsic, utility, and cost) with regard to the educational context - mathematics. This study has the potential to contribute to applied research due to its involvement in several measurements whose effects were tested in parallel. It can be concluded from this study that an educational environment adapted to the specific needs of adolescents is significant for them, regardless of whether they transfer to middle school or remain in elementary school. An adapted environment should include support for students, allow for more choice and opportunities, and provide an emotional and educational climate in which students will be able to develop good social practices and avoid the use of psychological control. This kind of educational environment will have a significant impact on the various motivational values of students both inside and outside of the classroom.