

# **Characterizing environmental factors that influence students' motivation to learn science in and out of school**

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Students' motivation to learn science and to engage in scientific activities declines towards the end of elementary school and during the middle school years (Anderman & Young, 1994; Lee & Anderson, 1993). At the same time, there is a decline in mastery achievement goals orientation towards school learning (Anderman & Anderman, 1999). Students' endorsement of mastery goals orientation has been regularly found to be associated with positive outcomes such as self-efficacy, persistence, preference for challenge, self-regulated learning, learning for understanding strategies, continuing motivation, and positive affect (Kaplan & Maehr, 2007).

The goal of this study is to characterize the ecological factors that influence students' motivation and goals orientation toward school science learning, as well as students' engagement in extracurricular science activities. The study will focus on the influence of teaching practices, class environment, school's educational philosophy, and the students' parents. It will include a comparison between democratic and "traditional" schools, from the 5<sup>th</sup> to the 8<sup>th</sup> grade.

Data source will include self-report questionnaires from teachers, students, and their parents. Some of these questionnaires already exist; others will be developed and validated as part of this study. In addition, students will be interviewed regarding their teachers' perceived goals. In some of the classes, to identify students' motivational changes, data will be collected in two waves, in consecutive years. This study will contribute to a deeper understanding of adolescents' distancing from science learning and may suggest ways to improve the present state of affairs.

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