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Motivation to Learn: Achievement Goals, Self-Efficacy and Classroom Social Climate in Secondary School

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Abstract

Several studies on school motivation emphasize that motivation to learn is not a unitary process, but it can be considered like a set of strategies that involve metacognitive processes at different levels. In Educational Psychology, the Achievement Goal Theory is an approach used to discuss research into motivation to learn and for this reason achievement goals are thought to be a key factor influencing the level of a student's intrinsic motivation. This study analyzes, in secondary school students, the relationship between achievement goals, self-efficacy and social climate in classroom. We assume that task goals and task goal structure predict the academic self-efficacy and the classroom social climate with particular reference to perceived teacher-student relationships and sense of school belonging. This research highlights the importance of the achievement goals in the development of motivational processes and self-efficacy in school.

Introduction

Several studies on student motivation emphasize that being motivated to learn is not a unitary process but can be considered as a set of strategies that involve different levels of metacognitive processes. In Educational Psychology, the Achievement Goal Theory [1,2] is an approach used to discuss research into motivation and for this reason achievement goals are thought to be a key factor in influencing the level of a student's inherent motivation.

The cognitive approach stresses the importance of perceptions, thoughts and reflections in influencing the level of motivation to perform a task. The Theory of Achievement Goals [1-4] stresses the importance of achievement goals inherent in school assignments. Ames [2] makes a distinction between target goals (e.g., passing an exam) and achievement goals (e.g. passing an exam to be in good standing with teachers and parents, to deepen one's knowledge of concepts in order to do a better job, etc.). Which is to say, the same target goal can correspond to different achievement goals for different students. Ames [2] considers an achievement goal as an individual's desire for self-realization, which is reflected in a coherent combination of conduct and attitudes in specific situations related to achievement. An achievement goal is also contingent upon self-esteem, a style ascribable to success-failure, a degree of perseverance, expressions of positive and negative feelings in response to successes and failures. In the same theoretical field, Carol Dweck [4] noted that elementary school students responded differently to failure: some tended to become discouraged, others showed persistence.

To explain these different patterns, Elliot, Dweck [1] used the "achievement goal" construction to indicate the goal with which a student confronts a learning situation.

Elliot, Dweck [1] defined an achievement goal as a program of cognitive processes that have "cognitive, affective, and behavioural consequences" (p.11). In the research literature, two types of achievement goals have received the most attention: mastery goals and performance goals [1]. With a mastery goal, students are oriented toward developing new skills, trying to understand their work and showing an inherent motivation to learn. Central to a performance goal is a focus on one's ability, a sense of self-worth and competitiveness. Mastery and performance goals have been described as representing two forms of "approach tendencies" produced by different environmental or instructional demands [2].

Mastery goals are centered on school tasks; students are fundamentally motivated to master their work, to understand how to do it and how to do it well. The behavior pattern of such students is governed by self-efficiency, flexible cognitive strategies, pleasure in the work and interest in the specific task. Performance goals are typical of students who tend to show off their abilities, receive positive feedback from teachers, parents and classmates, or avoid receiving negative feedback.

The pattern is considered maladaptive, that is, characterized by a susceptibility to depression, especially in the case of low self-esteem [5]. Those who seek to master goals believe that ability can, on the other hand, be apprehended and errors are not considered a sign of inability, but as steps toward learning. For those oriented to performance goals, success is defined in terms of receiving good grades, being superior to one's peers, and gaining recognition from others, and errors represent failure and incompetence. Elliot [6] noted that performance goals are not always characterized by a maladaptive pattern. For Elliot, the approach includes mastery and performance, and both imply an involvement in activities geared toward achievement (whether to develop competency or demonstrate it). Hence Elliot [6] introduced a new typology of goals: avoidance of performance (avoiding a standard of incompetency in relation to others). Avoidance, according to Elliot, is typical of students who

aspire to avoiding failure, and they are totally geared toward avoiding displaying their inability. Elliot considers this to be a truly maladaptive pattern insofar as it impedes students from engaging in activities that could lead them to succeed. In the field of achievement goal theory, Ames [7] introduced the concept of goal structure. Goal structure consists of messages related to dominant goals in a class or school that can influence individuals' personal objectives. Ames [7] identifies three structures for class activities with three different goals:

- **Competitive structures:** students considered to be "succeeding" are pitted against students considered to be "failing." All must reach a single goal, but only a few will succeed.
- **Cooperative structures:** each group member shares in the success and failure of the group. Students win or lose as a team.
- **Individualistic structures:** each student is evaluated based on personal performance and his or her evaluation has nothing to do with others.

According to these theories based on achievement goals [2,8,9], classroom context can effect whether students adopt achievement goals and either encourage or discourage students from adopting mastery goals. On an educational level, what matters is not so much discouraging the pursuit of performance goals (often inevitable) but encouraging students to take pleasure in school work, influencing them to adopt mastery goals ("I work hard on an assignment because I like it and it interests me"). It's also important to bear in mind the goals implied by a structure of activities and communicating with students, because they can influence the scholastic environment. Hence educational practices and class structures for teachers can explicitly or implicitly encourage a positive or negative class environment.

Classrooms and other learning environments have frequently been described in terms of the ways in which certain kinds of instructional demands relate to various cognitive and affective outcomes in students [10-12]. Some classroom environments lead to a mastery goal orientation and others lead to a performance goal orientation [10]. This is the reason why it is possible to study achievement goals by considering the "perceived school goal dimension" [3]. This dimension includes "task goal structure" and "ability goal structure," and it can condition the perception of a school's psychological environment.

The students' learning goals and their awareness of these goals are important components of school motivation and result in qualitatively different motivational patterns and classroom social climate [3,8,10]. In fact, an intersubjective approach to school motivation believes learning is an interactive process, whereas the motivation to learn is related to the context [13]. Thus it is possible to study the learning goals not just in terms of personal mastery goals and performance goals [1], but also by considering the "perceived school goal dimension" [14]. Teachers, through their systems and performances, can emphasize improvement, mastery and intellectual progresses (task goals). Furthermore, they can stress social comparison, relative ability and competition between students (relative ability goals). In fact, schools play an important role in facilitating or inhibiting successful adolescent development and scholastic motivation. Studies by Roeser, Midgley and Urdan [3] demonstrate that students who perceive teachers and school systems as tending toward learning goals (task goal structure) are inclined to adopt task goals; on the contrary, those who perceive teachers giving emphasis to performance goals (ability goal structure) are inclined to adopt relative ability goals. In this context, self-efficacy [15] is very important because it explains the

students' determination to successfully execute the behaviors required by the task. The perception of self-efficacy is represented by personal beliefs related to students' ability to organize and implement the actions needed to achieve certain benefits. Increasing perceived self-efficacy tends to increase the number of students' goals and their perseverance to achieve them.

Aims and Hypothesis

This study analyzes the relationship between achievement goals (mastery and performance goals), perceived school goal dimension (task goal structure and ability goal structure), perceived school relationship dimension (teacher-student positive relationship) and academic self-efficacy in 14- to 15-year-old students. We assume that task goals and task goal structure [3] predict the academic self-efficacy and the classroom social climate with particular reference to perceived teacher-student relationships and sense of school belonging.

Method

The design of this study is descriptive and uses the inquiry method. A selection of questions was taken from questionnaire by Roeser, Midgley and Urdan [3]. The Italian adaptation of the questionnaire evaluates 13 scales [16,17] and demonstrates adapted reliability coefficients [18].

The main subjects under investigation are: personal goals (Relative ability goals and Task-mastery goals), perceived school goal dimensions (Ability goal structure and Task goal structure), academic self-efficacy and the sense of belonging to school. The study uses a selection of 6 scales [3,16,17], in which the items are rated on a 5-point Likert scale (1=not at all true in this school, 5=very true in this school).

These scales are summarized below.

- Personal Task Goals Scale (5 item; α=.610) assesses students' personal task goals and students' preferences for challenging work, task mastery and understanding, and learning new things (items such as: "I like school work the best when it really makes me think" and "I like school work that I'll learn from even if I make a lot of mistakes");
- Personal Relative Ability Goals Scale (6 item; α=.713) includes items that assesses students' desire to demonstrate their ability relative to others and to be recognized by their teachers and parents for their ability relative to others (items such as: "I like to show my teachers I'm smarter than the other kids" and "I'd like to show my parents that I'm smarter than the other kids in my classes").
- School Task Goal Structure Scale (6 item; α=.713) analyzes student perceptions of a school-task goal structure and assesses students' perceptions of the school's emphasis on effort, understanding, and the belief that all students can learn and be successful (items such as: "In this school, understanding the work is more important than getting the right answers" or "In this school mistakes are okay as long as we are learning");
- School Ability Goal Structure Scale (5 item; α=.711) analyzes perceptions of a school-ability goal structure and includes items which evaluate student perceptions that relative ability is a salient and rewarded marker of success in the school, and that higher achieving students are treated better than other students (items such as: "In this school, only a few kids get praised for their school

work" and "In this school, teachers only care about the smart kids").
- Academic Self-Efficacy Scale (6 items; α=.660) assesses feelings of self-efficacy in scholastic tasks with (items such as: "I can do even the hardest school work if I try" and "Even if the work in school is hard, I can learn it").
- School Belonging Scale (4 item; α=.702) analyzes feelings of belonging to school and whether students feel that they are important, that they matter, and that they belong in their school (item such as: "I feel like I am successful in this school" and "I feel I belong in this school").
- Perceived Teacher-Student Relationships Scale (5 items; α=.804) analyzes student perceptions of the quality of teacher-student interactions in school (items such as: "In this school, students' ideas are listened to and valued" or "In this school, teachers treat students with respect").

Participants

336 students participated in this study (56.8% male, 43.2% female). All of the students are in their first year of secondary school in Italy. They are 14 to 15 years old.

Statistic procedure

In the first phase of the study, the scales were tested for reliability (Cronbach's alpha coefficient, 18); subsequently, the existing relationships between the Perceived Teacher-Student Relationships and the other variables were analyzed by calculating Pearson's coefficient linear correlation. The next step was to verify which sources of personal goals, structures and School Belonging are predictors to Perceived Teacher-student positive relationships, carrying out analysis of the multiple linear regression. Finally, we applied the same procedure to analyze the relationships and predictors of sense of belonging to school and academic self-efficacy.

Cronbach's alpha coefficient

The first phase of the study was to test the reliability [18] of the scales.

	Alpha
Personal Task Goals	.610
Personal Relative Ability Goals	.713
School Task Goal Structure	.713
School ability Goal Structure	.711
School Belonging	.702
Perceived Teacher-student relationships	.804
Accademic-Self Efficacy	.660

Table 1: Cronbach's alpha coefficient.

Using the analysis of Cronbach's alpha coefficient [18], the reliability of the scales was tested (α> .60).

Results

Bivariate relations about academic self-efficacy

Summary statistics and correlations for the participating students (N=336) with the Academic Self-Efficacy Scale and the other scales are presented in Table 2.

	Correlations	Academic Self-Efficacy
Personal Task Goals	Pearson Correlation	.595**
Sig. (2-tailed)		.000
Personal Relative Ability Goals	Pearson Correlation	.115*
Sig. (2-tailed)		.034
School Task Goal Structure	Pearson Correlation	.502**
Sig. (2-tailed)		.000
School ability Goal Structure	Pearson Correlation	-.140*
Sig. (2-tailed)		0.10
School Belonging	Pearson Correlation	.435**
Sig. (2-tailed)		.000
**Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed).		

Table 2: Statistics and correlations for the participating students.

The correlation analysis [19] shows that Personal task goals, school task goal structure and school belonging correlate positively with Academic Self-Efficacy.

Of particular interest is the correlation between Personal Task Goals and Academic Self-Efficacy (r=.595; p=.000), and between School Task Goal Structure and Academic Self-Efficacy (r=.502; p=.000). We can also see a positive correlation between School Belonging

and Academic Self-Efficacy (r=.435; p=.000). However, the correlations between Personal Relative Ability Goals and Self-efficacy (r=.115; p=.034), and Self-efficacy and School Ability Goal Structure (r=-.140; p=.010) are lower. We can also observe that this Pearson coefficient is negative.

Regression analyses

Predictors of Academic Self-Efficacy: Given the analysis of multiple linear regression [20], it was possible to highlight the main predictors of Academic Self-Efficacy (enter method, also used for the following formulations).

Criterion variable: Academic Self-Efficacy: This regression model explains 43.1% of the variance of the model (R2 correct=.431; F(5)=51,711; p=.000). The best predictors of Academic Self-Efficacy are: Personal Task Goals (β=.385; t=7.381; p=.000); School Task Goal Structure (β=.201; t=3.986; p=.000) and School Belonging (β=.200; t=3.956; p=.000). Personal Relative Ability Goals and School Ability Goal Structure have less influence than the other variables. School Ability Goal Structure negatively affects the development of Academic Self-Efficacy (β=-.138; t=-2.864; p=.004) These results confirm the results from the previous scales about students' perception of teachers'

goals, as well as the importance of the School Task Goal Structure in the development of Academic Self-Efficacy.

	Beta	t	Sig.
Personal Task Goals	.385	7.381	.000
Personal Relative Ability Goals	.024	.478	.633
School Task Goal Structure	.201	3.986	.000
School ability Goal Structure	-.138	-2.864	.004
School Belonging	.200	3.956	.000
Fit model R=.663; R²= .439 R²correct= .431; F(5,336)= 51,711; p =.000			

Table 3: Predictors of Academic Self-Efficacy.

Bivariate relations about perceived teacher-student relationships

Summary statistics and correlations for the participating students (N=336) with the Perceived Teacher-Student Relationships Scale and other scales are presented in Table 4.

	Correlations	Perceived Teacher-Student Relationships
Personal Task Goals	Pearson Correlation	.525**
Sig. (2-tailed)		.000
Personal Relative Ability Goals	Pearson Correlation	0.099
Sig. (2-tailed)		0.069
School Task Goal Structure	Pearson Correlation	.571**
Sig. (2-tailed)		.000
School ability Goal Structure	Pearson Correlation	-.200**
Sig. (2-tailed)		.000
School Belonging	Pearson Correlation	.438**
Sig. (2-tailed)		.000
**Correlation is significant at the 0.01 level (2-tailed).		

Table 4: Statistics and correlations for the participating students-Teacher relationship.

The correlation analysis [19] shows that Personal task goals, school task goal structure and school belonging correlate positively with the Perceived Teacher-Student Relationships.

Of particolar interest in this study is the correlation between Perceived Teacher-Student Relationships and School Task Goal Structure (r=.571; p=.000), and between Teacher-Student Relationships and Personal Task Goals (r=.525; p=.000). However, there is no significant correlation between this variable and the Personal Relative Ability Goals, whereas the correlation between this relational dimension and the School ability Goal Structure is negative (r =-.200; p =.000).

Regression analyses

Predictors of perceived teacher-student relationships: Given the analysis of multiple linear regression [20], it was possible to highlight the main predictors of Perceived Teacher-Student Relationships (enter method, also used for the following formulations).

Criterion variable: Perceived teacher-student relationships: This regression model explains 44.5% of the variance of the model (R2 correct=.445; F(5)=54.825; p.=.000). The best predictors of Perceived Teacher-Student Relationships are: School Task Goal Structure (β=.335; t=6.723; p=.000); School Belonging (β=.239; t=4.785; p=.000) and Personal Task Goals (β=.223; t=4.327; p=.000). Personal Relative Ability Goals and School Ability Goal Structure have less influence than other learning goals. School ability Goal Structure negatively affects the development of a positive relationship with teachers. These

results confirm the importance of the relationship between students' perception of teachers' goals and school motivation in the processes of learning.

	β	t	Sig.
Personal Task Goals	.223	4.327	.000
Personal Relative Ability Goals	.029	.584	.559
School Task Goal Structure	.335	6.723	.000
School ability Goal Structure	-.190	-4.000	.000
School Belonging	.239	4.785	.000
Fit model R =.674; R²=.454; R²correct =.445; F(5,336)= 54,825; p =.000			

Table 5: Predictors of perceived teacher-student relationships.

	Correlations	School Belonging
Personal Task Goals	Pearson Correlation	.469**
Sig. (2-tailed)		.000
Personal Relative Ability Goals	Pearson Correlation	.400**
Sig. (2-tailed)		.000
School Task Goal Structure	Pearson Correlation	.371**
Sig. (2-tailed)		.000
School ability Goal Structure	Pearson Correlation	.161*
Sig. (2-tailed)		.001
Perceived Teacher-student relationships	Pearson Correlation	.467**
Sig. (2-tailed)		.000
**Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed).		

Table 6: Pearson coefficient correlation between Personal Task Goals and School Belonging.

Regression analyses

Predictors of school belonging: Given the analysis of multiple linear regression [20], it was possible to highlight the main predictors of School Belonging (enter method, also used for the following formulations).

	Beta	t	Sig.
Personal Task Goals	.256	5.239	.000
Personal Relative Ability Goals	.278	6.366	.000
School Task Goal Structure	.044	.869	.385
School ability Goal Structure	.107	2.397	.017
Perceived Teacher-student relationships	.281	5.484	.000
Fit model R= .630; R²= .397; R²corretto= .389; F(5, 336)=55,473; p=.000			

Table 7: Predictors of school belonging.

Bivariate relations about school belonging: Summary statistics and correlations for the participating students (N=336) with School Belonging and other scales are presented in Table 5.

The Pearson coefficient correlation (19) between Personal Task Goals and School Belonging (r=.469; p=.000), and Perceived Teacher-Student Relationships and School Belonging (r=.467; p=.000) is high. Correlation analysis also shows that Personal Relative Ability Goals (r=.400; p=.000) and School Task Goal Structure (r=.371; p=.000) have a positive Pearson coefficient correlation with School Belonging. However, the correlation between School Ability Goal Structure and School Belonging (r=.161; p=.001) is lower.

Criterion variable: school belonging: This regression model explains 38.9% of the variance of the dependent variable (R2 correct=.389; F (5)=55,437; p=.000). The best predictors of Academic Self-Efficacy are: Perceived Teacher-Student Relationships (β=.281 t=5.484; p=.000); Personal Relative Ability Goals (β=.278 t=6.366; p=.000) and Personal Task Goals (β=.256; t=5.239; p=.000).

On the other hand, School Ability Goal Structure has less influence than the other variables (β=.101; t=2.397; p=.017) and School Task Goal Structure is not a predictor of School Belonging.

Discussion and Conclusion

This research analyzes the important relationship between learning goals and positive school climate in classroom. The School Task Goal Structure is a significant predictor of the Perceived Teacher-Student Relationships. Teachers who attach importance to the task, tolerate errors that promote learning, and enhance the inherent motivation of students, encourage the development of good relations with their students because they are perceived positively by their students. The

development of a positive teacher-student relationship is also determined by the sense of belonging to school. Students who feel they belong to the school and have a recognized role within the school structure tend to develop a positive perception of teachers.

This underlines the importance of planning activities in which students are personally approved and given a role in school activities, such as making use of expert tutors and collaborative learning experiences. This research also highlights that a sense of belonging to school is chiefly determined by positive teacher-student relationships, personal goals of mastery, and relative ability. An orientation to learning goals, both on its own and with the task orientation, is a predictor of the development of a sense of belonging to school. The research also shows that the structures do not seem to have a role in determining the development of a sense of belonging to school; only the School Ability Goal Structure appears to influence this. We can interpret this data, taking into account that in order to facilitate the development of a sense of belonging to school, activities aimed at promoting group work through positive competition among schools are certainly very useful.

On the other hand, Self-Efficacy is determined predominantly by the Personal Task Goals and by the School Task Goal Structure. We can also observe that the Personal Relative Ability Goals bears no weight in determining the development of academic self-efficacy. Teachers focused on skill development also affect the students' sense of self-efficacy. These results confirm the studies of Roeser, Midgley and Urdan [3], and emphasize the importance of being aware of learning goals in order for teachers and students to create a cooperative school climate and good teacher-student relations. The pattern of the findings suggests that classroom goal orientation may facilitate the maintenance of motivation patterns when mastery goals are salient and adopted by students. The main argument of this thesis calls for identifying classroom structures that contribute to a mastery orientation, systematically analyzing these structures, and determining how these structures relate to each other.

The data underscores the need to constantly check the impact of the learning objectives and their structures on the teacher's educational practices, focusing on communication styles that they use with their students and how these styles can influence the development of students' perceptions. Furthermore, these results allow us to consider the educational implications of teacher-student intersubjectivity in the development of motivational processes [14].

References

1. Elliott ES, Dweck CS (1988) Goals: an approach to motivation and achievement.J Pers Soc Psychol 54: 5-12.

2. Ames C (1992) Classrooms: Goals, Structure, and Student Motivation. Journal of Educational Psychology 84: 261-271.

3. Roeser RW, Midgley C, Urdan T (1996) Peceptions of the school psychological and behavioural functioning in school: the mediating role of goals and belonging. Journal of Educational Psychology 88: 408-422.

4. Dweck CS (1986) Motivational Processes affecting learning. American Psychologist 41: 1040-1048.

5. Ames C, Archer J (1988) Achievement Goals in the Classroom: Students' Learning Strategiesand Motivation Processes. Journal of Educational Psychology, 80: 260-267.

6. Elliot AJ (1997) Integrating the "classic" and "contemporary" approaches to achievement motivation: A hierarchical model of approach and avoidance achievement motivation. In ML Maher e PR Pintrich (Eds), Advances in motivation and achievement 143-179.

7. Ames C (1984). Competitive, Cooperative and Individualistic Goal Streucture: a Cognitive-Motivational Analysis. In R Ames (Ed.) Research on Motivation in Education, vol.1. San Diego (CA): Academic Press.

8. Blumenfeld P (1992) Classroom learning and motivation: clarifying and expanding goal theory. Journal of Educational Psychology 84: 272-281.

9. Kaplan A, Middleton MJ, Urdan T, Midgley C (2002) Achievement goals and goal structures. In C Midgley (Ed.), Goals, goal structures and patterns of adaptive learning 21-53.

10. Patrick H, Kaplan A, Ryan AM (2011) Positive classroom motivational environments: convergence betwueen mastery goal structure and classroom social climate. Journal of Educational Psychology 103: 367-382.

11. Darnon C, Butera F, Harackiewicz JM (2007) Achievement goals in social interactions: Learning with Mastery vs. Performance goals. Motivation and Emotion 31: 61-70.

12. Darnon C, Dompnier B, Gilliéron O & Butera F (2010) The Interplay of Mastery and Performance Goals in Social Comparison: A Multiple-Goal Perspective. Journal of Educational Psychology 102: 212-222.

13. Pianta R (2001) La relazione bambino-insegnante. Aspetti evolutivi e clinici. Cortina: Milano.

14. Pedditzi ML, Rollo D (2013) Intersoggettività studente-insegnante e motivazione: uno studio sugli obiettivi di riuscita nella scuola secondaria. Psicologia dell'Educazione 7: 231-241.

15. Bandura A (2001) Social cognitive theory: an agentic perspective.Annu Rev Psychol 52: 1-26.

16. Marini F (1999) Il fare della Psicologia. Cagliari: CUEC.

17. Pedditzi ML, Spigno M (2012) Motivation to learn: a research on university students. Procedia Social and Behavioral Sciences 69: 1198-1207.

18. Morrison EF (1993) The measurement of aggression and violence in hospitalized psychiatric patients.Int J Nurs Stud 30: 51-64.

19. Boes DC, Graybill FA, Mood AM (1988) Introduzione alla Statistica, Milano (Italia): McGraw-Hill Libri Italia.

20. Lewis-Beck MS (1993). Regression Analysis. Thousands Oaks (CA): Sage.