

## SECONDARY SCHOOL STUDENTS' STUDY AMBITIONS AND PREREQUISITES FOR THE STUDY

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### Abstract

The article reports on the results of empirical research, aiming to analyse the relationship between two constructs - aspiration to study and prerequisites for the study - both of which are subjectively assessed by secondary school students themselves. Aspiration to study (possibly also achievement-aspiration) expresses the expected level of performance or positions an individual wants to achieve. Prerequisites for the study then indicate whether an individual has the talent, previous education, will or sufficient motivation to achieve a particular goal or position. In the educational reality, it can be assumed that all four combinations of both constructs can occur, with the worst being the student's distrust of their prerequisites for the study combined with zero effort to be a good student. A questionnaire survey of a group of 907 secondary technical school students in one region of the Czech Republic provides data for categorising students into one of four combination groups and at the same time determining whether the number of students in categories varies with the year of study or field of study. It is not known whether research-based categorisation has previously been performed on these learning success constructs.

**Keywords:** *Educational aspiration, ambition for study, prerequisites for the study.*

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### 1. Introduction

Educational aspiration reflects educational goals an individual sets for themselves. It is essential as it encourages and energises the individual to achieve them (Fraser, Garg, 2011). However, in the professional community, there is no single and universally accepted definition or common agreement as to what the term means (Quaglia and Cobb 1996). Oxford Dictionary defines aspiration as “hope or ambition of achieving something” (Stevenson, 2010a). Educational aspiration thus refers to one's hope or ambition of achieving something in education. Sometimes, the meaning of aspiration and its synonym expectation, defined as a “strong belief that something will happen or be the case” (Stevenson, 2010b), may be used interchangeably (Hong, 2022). We understand the current state of an individual, characterising mainly their talent, previous education, will or sufficient motivation to achieve a specific educational goal, usually formulated by obtaining a certain degree and field of education. Children's abilities and talents play an essential role in developing their aspirations. Research indicates that children's aspirations are raised when doing well academically. For example, children's ability at age seven was related to their aspirations at age 11, and ability at age 11 was related to aspirations at age 16. At both 11 and 16, children's aspirations were also positively related to their test scores. (Bond, Saunders, 1999, cited in Gutman, Akerman, 2008). These findings suggest that aspirations and ability to influence each other throughout the school years and therefore establishing causality between these two influences is difficult (Gutman, Akerman, 2008). Since we believe that both constructs, i.e. study aspirations and study prerequisites, are formed and modified by the effect of school education and the broader social environment, we strive in this paper to find out the distribution of the secondary school population according to its declared level of both constructs and quantify their intersection in this population.

### 2. Educational aspiration and study abilities in theory and research

Educational aspiration is a term that can be researched and explained using psychological, pedagogical and sociological theories. From a psychological point of view, we can consider it part of the performance motivation construct that we need to achieve. Students' achievement motivation is an important prerequisite for their engagement, overcoming study difficulties and, ultimately, completing their studies. The motivation to achieve goals leads individuals to pursue work they perceive to be valuable and

prompts them to compete with others (Covington, 2000). This drive may come from an internal or external source. Achievement motivation is intrinsic when interest or enjoyment sparks it in the task itself. It is organic to the person, not a product of external pressure. Achievement motivation can be instead extrinsic when it comes from outside the person. Common sources of extrinsic motivation among students are rewards like good marks or praise from parents and teachers (OECD, 2017).

From a pedagogical point of view, educational aspirations are seen as a characteristic of the learner, which can or even needs to be cultivated educationally. Quaglia and Cobb (1996, 131) believe that "Assuming that students' aspirations can be impacted in some way, and assuming that the best way to go about that is to do so indirectly via changes in whole group aspirations, there are enormous implications for schools (e.g., create an environment which fosters aspirations)". Professionals and volunteers who work closely with young people also have an essential role in helping them to develop and realise their aspirations. Evidence suggests that while increasing aspirations is a worthwhile goal, a national approach will be vital in helping all young people achieve their potential and meet challenging targets (Gutman and Akerman, 2008).

Gutman, Akerman (2008, 15) state that "numerous studies have found that aspirations are significant predictors of young people's educational and occupational attainment. However, there is less evidence concerning the causal nature of these associations in terms of whether aspirations predict later achievement, controlling for other individual and family characteristics. The authors add that "the influence of aspirations on outcomes may also vary according to the young people's characteristics. For certain groups, including females, economically disadvantaged young people and those from ethnic minorities, high aspirations may not necessarily predict higher educational and/or occupational achievement" (p.15). While data on educational aspirations is comparatively easily accessible, there is no common agreement on how the concept should be measured. Most commonly, survey participants are asked to choose between different educational alternatives in response to questions of the following form to collect information on their idealistic and realistic aspirations, for example, "What is the highest level of education you would like to get?" (Trebbels, 2015). In our research, we asked respondents to choose the answer to the question "Do you want to be successful at secondary school?" From the following options: a) definitely yes, b) rather yes, c) I do not know, d) rather not, and e) certainly not.

Study prerequisites are a set of knowledge, (key or transversal) competencies, (cognitive) abilities, talents, study ambitions and study motivations. The breadth of understanding of this concept depends primarily on why we deal with them and for what purpose we define them. That is usually the case in admission procedures at a secondary school or university, which require their transparent operationalisation into an effective tool for measuring them.

For many decades, the SAT (Scholastic Aptitude Test) has been one of the world's most widely used tools for selecting suitable university candidates. The test consists of three parts: reading, math, and writing, or ACT (American College Testing), used by up to 78% of American schools. Predictive validity as an essential feature of these tests expresses their ability to predict future success. Research shows that entrance tests and final exams or secondary school grades have their justification in university admission procedures. For all these predictors, we find studies confirming their ability to predict university achievement or successful completion of studies, and, indeed, the combination of these predictors predicts significantly better than the predictors alone. (Bartáková, Chvál, Martinková, 2018). Since 2015, a uniform entrance examination has been introduced in the Czech Republic for all secondary school study programs ending with a school-leaving examination. It consists of a test in mother tongue and mathematics, and its minimum weight in the admission procedure is 40%. It is criticised, among other things, because it does not work with the cut score. Our research examined study prerequisites in the form of their subjective reflection by interviewed secondary school students using a simple and understandable question "Do you think that you have the prerequisites for the chosen field of study?" Students chose one of the offered variants: a) definitely yes, b) rather yes, c) I don't know, d) rather no, and e) definitely no.

### 3. Research methodology

The research was carried out within the TAČR project at the Faculty of Education of the University of Ostrava. The data were collected using an author's questionnaire, which contained 29 items (20 closed and nine open or semi-open). Two items and their results are presented in this paper. Data collection was carried out from September 2020 to February 2021 on a deliberately selected research sample of 907 respondents (students of 6 technical secondary schools) in the Moravian-Silesian Region of the Czech Republic. The majority in the research group consisted of boys (884, i.e., 97, 46%), and only 21 (2.32%) respondents were girls. Three quarters (630, i.e., 69.4%) of respondents studied a four-year engineering field completed with a school-leaving examination, only a third of 266 (29.33%) respondents studied another field of study (non-engineering).

#### 4. Results

A positive finding is a significant predominance of students (81.48%) who have ambitions (answers *definitely yes* and *rather yes*) to be successful. A negligible share of 6.78% of students does not have these ambitions (answers *rather no* and *definitely no*). In absolute terms, there are 61 students who, for some reason (perhaps they do not study at the school of their choice), do not intend to aspire to the term "successful student". A particular explanation for this number may be that the secondary school students understood the term in the pursuit of good grades, which may not be of significant value to them at present. Thus, a negative opinion does not necessarily mean this group of students resign to professional knowledge and skills acquisition. More than a tenth of the respondents were unable or unwilling to assess their study ambitions (Table 1).

Table 1. Student expression of ambition to be a successful student.

Quantities	Student answers				
	Definitely yes	Rather yes	I don't know	Rather no	Definitely no
Absolute quantities	405	334	101	47	14
Relative quantity	44.65%	36.82%	11.14%	5.18%	1.54%
Cumulated absolute frequencies	739		101	61	
Cumulated relative frequencies	81.48%		11.14%	6.73%	

However, the result of student evaluations of one's preconditions for studying a selected field at a secondary school turned out to be somewhat surprising because only 60.2% of students subjectively perceive that they have (answers *definitely yes* and *rather yes*) these preconditions. About one in six students (15.77%) believe they do not have the prerequisites to study (answers *certainly no* and *rather no*). Almost a quarter of students chose the answer "I don't know". It might be reasonable to analyse these answers in terms of the year of study (Table 2).

Table 2. Student perception of preconditions for the selected field of study.

Quantities	Student answers				
	Definitely yes	Rather yes	I don't know	Rather no	Definitely no
Absolute quantities	151	395	215	104	39
Relative quantity	16.65%	43.55%	23.70%	11.47%	4.30%
Cumulated absolute frequencies	546		215	143	
Cumulated relative frequencies	60.20%		23.70%	15.77%	

Table 3. Distribution of students according to the subjectively evaluated level of prerequisites for study and the expressed degree of ambition to be a successful student.

	question Q34 - I have ambitions to be a good student	question Q34 - I have no ambition to be a good student	Q34 - I do not know if I have ambitions to be a good student
question Q7 - I have the prerequisites to study	473 students (52.15%)	26 students (2.87%)	46 students (5.07%)
Question Q7 - I have no prerequisites to study	94 students (10.36%)	20 students (2.21%)	27 students (2.98%)
Question Q7 - I don't know if I have the prerequisites to study	169 students (18.63%)	15 students (1.65%)	28 students (3.09%)

Table 3 shows the values for the intersection of the two investigated constructs. Due to the high frequency of "don't know" responses, the initially intended four-field table is processed with nine fields to use all the data obtained. For the first time, it is interesting to note that 52.15% of students believe that they have the prerequisites to study and at the same time want to be a good student. Of those students who believe that they have the prerequisites to study, up to 86.7% of students aspire to be good students. In the whole group, there are 10.36% of students who believe that they do not have the prerequisites to study and at the same time have ambitions to be good students. But the ambition to be a good student also has 66.66% of all those who think they do not have the prerequisites to study. Only a tiny proportion of all students

(2.87%) have no ambition to be a good student, even though they think they have the prerequisites to study. 20 (2.21%) students in the research group, who believe that they do not have the prerequisites to study and do not have the ambition to be a good student, and probably also 28 students who could not assess the level of any of their characteristics, deserve attention and perhaps targeted educational intervention.

The hypothesis expressed the main finding presented in Table 3 in the following wording: "Students who, in their opinion, have the prerequisites to study a selected (technical) field more often declare their ambitions to be a good student than students lacking (not) these prerequisites. Therefore, the values given in Table 4 allow this hypothesis to be accepted.

Table 4. Statistical significance of the distribution of students according to the subjectively evaluated level of preconditions for study and the expressed degree of ambition to be a successful student.

Pearson's chi-square = 32,720221		degree of freedom = 4		significance p= 0,0136285E-4	
Question 7		question Q34 - I have ambitions to be a good student	question Q34 - I have no ambition to be a good student	Q34 - I do not know if I have ambitions to be a good student	Line totals
I have the prerequisites to study		473(446,682)	26(37,021)	46(61,297)	545
I have no prerequisites to study		94(115,563)	20(9,578)	27(15,859)	141
I don't know if I have the prerequisites to study		169(173,755)	15(14,401)	28(23,844)	212
Column totals		736	61	101	898

It was thus proved that there is a statistically significant difference in declaring ambitions to be a good student among students with different self-assessments of their prerequisites to study the field.

## 5. Discussion and conclusions

Although there is a growing interest in researching study aspirations, more attention is paid to their racial, gender or socio-economic factors (Behjoo, 2013, Hong, 2022) or their relationship to educational outcomes (Gutman and Akerman, 2008). Aspiration is the variable that acquires values based on the subjective perception of one's study, learning or career desires and/or ideas. The second variables are then objectively measurable or categorical variables (age, gender, race, socio-economic status of the respondent's family). In the case of our research, both variables were based on respondents' subjectively perceived and evaluated personal characteristics, and the results of other research are not available for comparison with the results we present. The partial results of the study are that 81.48% of the total number of students admit the ambition to be a successful student, 60.2% of students subjectively perceive that they have the prerequisites to study the field. More than half of students (52.15%) also state that they are ambitious to study successfully and consider that they have the appropriate study prerequisites. The difference in declaring ambitions to be a good student among students with different self-esteem prerequisites for studying the field failed to prove statistical significance.

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