Curriculum tracking and teacher evaluations of individual students: selection, adjustment or labeling?

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Abstract Past research into the consequences of tracking mainly documented on the impact of attending different tracks on students' achievement and behavior. Less attention has been paid to the impact of track positions on teachers' perceptions and expectations regarding students. By means of multi-level analysis of data of 6,545 students in 46 Flemish secondary schools with self-reported student measures and teachers' evaluations of students, this study examines if teachers' evaluations of secondary school students' cognitive capacity, effort in class and diligence in doing homework vary by track, and whether teachers' perceptions are informed (1) by the typical students' background features; (2) by the students' resistance to school; or (3) by labeling of students attending certain tracks. Teachers perceive lower track students as less able and less diligent in doing homework because of students' social and cognitive characteristics and anti-school behavior. Accounting for the latter, teachers even evaluate lower track students as paying slightly more effort. The implications for future research and social policy are discussed.

Keywords Tracking · Teacher perceptions · Teacher expectations · Labeling

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1 Introduction

Past research into the consequences of tracking mainly documented on the impact of attending different tracks on students' achievement and behavior (Berends 1995; Carbonaro 2005; Catsambis et al. 1999; Duru-Bellat and Mingat 1997; Friedkin and Thomas 1997; Hallinan and Kubitschek 1999). Less attention has been paid to the impact of track positions on teachers' perceptions and expectations regarding students—as noted recently by Kelly and Carbonaro (2012) in Social Psychology of Education. Still, it is shown that teachers in lower tracks tend to consider their students in general to be less teachable and therefore to trust the students less (Stevens and Vermeersch 2010; Van Houtte 2006a), which in its turn affects students' performance and sense of school belonging (Van Houtte 2004; Van Houtte and Van Maele 2012). Clearly, teachers judge the students in higher tracks more favorably than students in lower tracks, but what this kind of research does not make clear is how teachers develop such views. Kelly and Carbonaro (2012) provide a framework for investigating the complex sources of teacher expectations and perceptions in tracked learning environments. Firstly, how teachers evaluate their students might depend upon the social and cognitive background characteristics of students, or characteristics that students bring into school and are difficult to change. Because of how students are selected into different tracks, differences can be noted in terms of ability, but as well in terms of social background, related to their social class, gender, potential problems at home, peer group pressures etc. (Boone and Van Houtte 2013; Dauber et al. 1996; Jaeger 2009; Jonsson and Mood 2008; Lucas 1999; van de Werfhorst and Hofstede 2007; Vanfossen et al. 1987). Teachers' judgments of students might be based on these background characteristics, which, depending on the characteristics, may vary in terms of accuracy. Secondly, we know that students can respond to the status loss caused by being in a lower track by developing negative attitudes towards school (Ball 1981; Berends 1995; Catsambis et al. 1999; Finley 1984; Hargreaves 1967; Kelly 1976; Lacey 1970; Metz 1978; Oakes 1985; Page 1991; Rosenbaum 1976; Schafer and Olexa 1971; Schwartz 1981; Van Houtte and Stevens 2010; Wiatrowski et al. 1982). As such, teachers' perceptions of students might be an answer to these adjustments. Finally, a difference in perceptions of students irrespective of their background features and attitudinal differences, might indicate that being in a lower track is enough reason to be evaluated negatively. In that case, it seems that lower track students are labeled, which would mean that they are exposed to low teacher expectations not because of their own characteristics, but simply because they are enrolled in a system that induces low teacher expectations.

This study, based on a unique combined dataset of students' self-reports and classroom teachers' perceptions of these students' cognitive capacity, effort in class and diligence in doing homework, aims to establish the differential perceptions teachers have of students enrolled in different tracks, by examining whether classroom teachers' perceptions vary across school type, that is academic schools compared to technical/vocational schools. In addition, we will study the association between students' background characteristics, such as gender, socioeconomic status and ability, and the classroom teachers' perception of the students' cognitive capacity, effort in class and diligence in doing homework, and ascertain whether these characteristics

mediate an eventual association between school type and the classroom teachers' perceptions. Finally, we will investigate the association between students' adjustment in school in terms of study involvement, sense of belonging and school misconduct, and the classroom teachers' perceptions, and again determine whether these associations mediate an eventual association of school type with the classroom teachers' perceptions. If the background and/or the students' adjustment variables mediate the association between school type and the teachers' perceptions, then we can state that the teachers' perceptions are mostly accurate appraisals of their students. However, when the association between school type and the teachers' perceptions stands when accounting for students' background and adjustment characteristics, the teachers' perceptions are affected by the system in which they teach, meaning that teachers rely on social categories to define students, which might lead to less accurate perceptions. Before dealing with the research and the findings, we will briefly go into the relevance of teachers' beliefs and perceptions regarding students, and provide a short overview of the literature concerning tracking and teachers' perceptions and beliefs.

1.1 The importance of teachers' opinions about their students

Already since the 1960s, educational researchers agree that teachers' opinions about students can have a profound impact on students' educational growth (e.g., *USA*: Brophy and Good 1970; Jussim and Harber 2005; Rosenthal 2002; *France:* Trouilloud et al. 2002; *UK*: Rubie-Davies et al. 2006). Rosenthal and Jacobson (1968) were the first to present evidence regarding self-fulfilling prophecies in education. Specifically, they contended that students bring certain characteristics to the school context, which are—mostly unwittingly—used by teachers as an indication of their later educational success. Rosenthal and Jacobson's (1968) main contention was that teachers' expectations determine their behavior towards students, which can actually result in raising students' performance. Students whom teachers label as the "gifted" in class make the greatest progress, primarily because of differential treatment by teachers (Jussim 1986; Rubovits and Maehr 1971). The Pygmalion-study raised considerable controversy and originated much research on the effects of teacher expectations (e.g., Hinnant et al. 2009; Hughes et al. 2005), most of which focused on students' cognitive outcomes (for reviews, see Brophy 1983; Jussim and Harber 2005). A few studies focused on non-cognitive outcomes as well, such as school misconduct (Demanet and Van Houtte 2012) or attachment to school (Hallinan 2008).

Although many studies have focused on the effects of teacher expectations, less studies have been undertaken on the origin of teachers' opinions about students. However, a relevant concern in teacher expectancy effects is whether initial teacher expectations are accurate or not (Jussim and Harber 2005). When teacher expectations originate because of commonly held stereotypes, or cultural models—that is metaphors, images, schemas, and storylines that define what counts, for a given social or cultural group, as "normal" and "natural" (Caughlan and Kelly 2004: 27)—, for example on male or immigrant underperformance, several students in class are deemed as poor-achieving regardless of their actual performance. In such case, teacher expectancy

effects may be seen as a self-fulfilling prophecy, which is, in the words of Merton (1948, p. 195) 'in the beginning a false definition of the situation, evolving a new behavior which makes the originally false conception come true'. However, teacher expectations may simply be based upon the students' actual performance as well, in which case they are accurate (Jussim and Harber 2005). Accurate teacher expectations indeed predict later student outcomes, but they do not cause them. In order to counteract detrimental teacher expectancy effects, it is important to assess whether teacher expectations are either accurate or inaccurate, which renders research on the actual origin of teacher expectations all the more important. However, research on the origin of differential teacher expectations and perceptions in different educational tracks is rare to non-existent (Kelly and Carbonaro 2012). In the next section, we discuss how both accurate and inaccurate teacher perceptions may originate in lower tracks.

1.2 Tracking and teachers' perceptions of students

Tracking, as a form of ability grouping, is a practice of dividing students for instruction according to their purported capacities for learning (Gamoran et al. 1995). By grouping students like this, education can be tailored to be the most beneficial for students with different labor market trajectories. Students are offered distinctive, internally coherent programs of study congruent with their scholastic interest and competencies and fitted to their anticipated educational and vocational needs (Oakes 1985; Trautwein et al. 2006). Usually in secondary education a broad distinction is made between academic tracks, which prepare students for higher education, and technical and vocational tracks, which prepare students for manual labor (Brunello and Checchi 2007). In most European countries parents, along with their children, have to choose between mutually exclusive educational tracks at a fairly young age, leading to very different educational outcomes. As a result of the way in which the selection and allocation of students into different tracks is organized, differences can be noted in terms of ability, but as well in terms of social background (Boone and Van Houtte 2013; Dauber et al. 1996; Jaeger 2009; Jonsson and Mood 2008; Lucas 1999; van de Werfhorst and Hofstede 2007; Vanfossen et al. 1987). The emphasis laid on choice in most European education systems allows for self-selection to occur. Several studies conducted in various European countries have indeed shown that working class parents do less often opt for the more demanding—academic—tracks in secondary education than service class parents, even if their children achieved equally well throughout primary school (*Flanders*: Boone and Van Houtte 2013; *Germany*: Ditton and Krüsken 2006; *the Netherlands*: Kloosterman et al. 2009; *UK*: Jackson et al. 2007; *Denmark*: Jaeger 2009). This leads to highly homogenous educational tracks in terms of social background, as working class students are already overrepresented in less demanding tracks due to the fact that they perform less well on average (Tan 1998). As such, teachers' judgments of students in lower tracks might be based on background characteristics such as ability and socioeconomic status. When dealing with characteristics such as ability, these judgments might be fairly accurate, at least in terms of observed achievement at a given point in time.

In addition, teachers get different responses from their students in the respective tracks. The different tracks are commonly classified hierarchically in terms of level of abstraction and theorizing, placing technical and vocational tracks at the bottom of this ladder. In the present knowledge society the occupations for which students are prepared in technical/vocational tracks are usually little esteemed, notwithstanding that there is a profound need for well-skilled, specific craftspeople. The unemployment rate increases as the educational level decreases, offering technical/vocational students fewer post-educational opportunities. As a result, a technical or vocational training is usually not a truly positive choice, but rather a second choice because one does not meet the standards set by academic tracks (Ainsworth and Roscigno 2005; Jellab 2005). Technical and vocational tracks seem to suffer from a negative image, resulting from the social overvaluing of cognition and white-collar jobs at the expense of manual labor. From the end of the 1960s (starting with Hargreaves 1967; Lacey 1970; Rosenbaum 1976) it has been demonstrated repeatedly that students in lower tracks develop an anti-school culture to overcome the status deprivation resulting from being in a lower track (e.g., Abraham 1989; Ball 1981; Berends 1995; Catsambis et al. 1999; Oakes 1985; Page 1991; Van Houtte 2006a)—although it should be considered that these negative school attitudes may be the cause, rather than the effect, of being allocated to a low status track (Foster et al. 1996). Along with this anti-school culture, students in lower tracks, more specifically students attending technical/vocational schools, are shown to display lower levels of study involvement (Van Houtte and Stevens 2010), and higher levels of school misconduct (Van Houtte and Stevens 2008). Consequently, many teachers are not confident that students will meet their expectations with respect to educational performance (Van Houtte 2006b), leading to lower levels of sense of belonging in students attending technical/vocational schools (Van Houtte and Van Maele 2012).

When teachers end up in specific tracks characterized by a specific group of students, they need to adjust their general conceptions about teaching to the real context, which might deviate from what they learned in teacher training (Fang 1996). Over time, a colleague-group of teachers develops common ideas and views as an answer to the questions implicit in their circumstances and the problems peculiar to their work (Hargreaves 1992). To do this, they appeal to common stereotypes. As such, the allocation of students in tracks is a given for teachers. Teachers usually do not make an independent, individual evaluation of students, but start from the stereotype that lower-track students are academically lacking (Ball 1981; Rosenbaum 1976). In other words, even before they have met their classes, they have formed an image of their students' academic abilities and developed certain expectations, to which they adjust their educational goals and their interactions with students (Ball 1981; Finn 1972; Jussim 1986; McLaughlin 1993; Metz 1993; Midgley et al. 1988; Page 1991). Teachers share certain beliefs concerning the nature of the students, education, and school (Metz 1978). As such, within low track classrooms, teachers often demand less academically (Boaler et al. 2000; Delrue 2003; Evertson 1982; Goodlad 1984; Hargreaves 1967; Oakes 1985; Page 1991; Persell 1977; Schwartz 1981; Stevens and Vermeersch 2010). Generally speaking, the attitude of many teachers in higher tracks is more apt to promote learning than it is in lower tracks (Oakes 1985; Van Houtte 2004, 2006a), although there are also schools with apparently effective

instruction in low tracks, characterized by high expectations by teachers (see Gamoran 1993).

Taking all this together, we hypothesize that teachers' perceptions of students in different tracks might be informed (1) by the typical background features of students due to selection mechanisms; (2) by the students' resistance to school as an adjustment to status loss caused by attending a lower track; or (3) by stereotyped thinking about, or labeling of, students attending certain tracks, irrespective of their actual personal features, behavior and performance.

1.3 Tracking in Flanders

Before depicting the methodology of the study, it seems useful to describe briefly the particulars of Flemish education. First of all it should be kept in mind that every single school in Flanders is state subsidized. Usually, children go to nursery school from the age of two and a half onward. Education becomes compulsory when the child gets 6 years old. After 6 years of primary education, at the age of twelve, children transfer to secondary education. There are 6 years of secondary education divided into three grades, lasting 2 years each. In theory the first grade (years one and two) is an orientating grade officially divided into a core curriculum known as the A-stream and a B-stream preparing for vocational education. In practice, though, the kind of courses offered in the A-stream depends upon the main tracks offered in the school at hand. There are four main tracks: academic education preparing for higher education, technical education, vocational education and artistic education (which is a rather marginal track, in terms of number of students). Tracks are not only organized within but also, and mainly, between schools. A common differentiation is between schools offering academic education and schools offering technical and vocational education. This allows us to examine the sources of teachers' perceptions in a system of between-school tracking, as called for by Kelly and Carbonaro (2012: 289). Within each main track, different tracks are distinguished—e.g. economy-modern languages in academic education, electricity-mechanics in technical education, child care in vocational education—characterized by different subjects and accents. At the end of each year the students get a certificate indicating whether they can continue their current school career (A-certificate) or not (certificate B or C). In the case of the latter, a certificate B indicates that the student may pass to the next year but needs to join a lower track; a certificate C means that the student cannot pass to the next year and has to repeat the year. These certificates are based on the obtained GPA, there are no standardised tests (for example in the form of centrally administered and standardised examinations) (Stevens 2007). Each grade, i.e. in the third and the fifth year, the students need to refine their branch of studies. Secondary education is compulsory until the age of eighteen. There is a possibility to enrol in part-time vocational education from the age of sixteen, combining classes with experience at the shop floor. After 6 years of general, technical, or artistic education, or 7 years (6 years plus an extra year) of vocational education, the student receives a diploma of secondary education granting unlimited access to each form of higher education. Each student having a diploma of secondary education may start at university.

2 Data and methods

2.1 Data

We use data of 6,545 students in 46 schools for secondary education in Flanders. These schools form a selection from a broader sample of 85 schools encompassing 11,872 respondents. These are data gathered in the school year 2004–2005 as part of the Flemish Educational Assessment (FlEA). A multistage sampling was conducted. First we selected proportional-to-size postal codes, with the size for this purpose defined as the number of schools within the postal code, as gathered from the data of the Flemish Educational Department. Because of this strategy, postal codes of large municipalities—with a greater number of schools—had a greater chance of selection. From the 240 postal codes, we selected 48 with a desired slight overrepresentation of greater municipalities. Secondly, all regular secondary schools within these selected municipalities were asked to participate, yielding a positive response of 31 %. The small proportion of participating schools is due to the fact that Flemish schools are commonly swamped with such requests from investigators, generally resulting in a "first come, first served" outcome. As such, the participating schools did not differ from those that opted out in terms of school sector, size, curriculum or student composition. The 48 municipalities and 85 schools in this dataset are representative of the Flemish situation (see Van Houtte et al. 2005). Schools agreeing to participate did this with the parents' consent. Students completed the questionnaires in class in the presence of one or two researchers and a teacher. In the end, 11,945 students completed a questionnaire, of which 11,872 proved to be valid, which comes down to a response rate of 87 %. 6,081 students were in the third grade, and 5,791 were in the fifth grade (the 9th and 11th grade in the American educational system, respectively). The questionnaires were not anonymous, because we wanted to couple these data to other data such as the classroom teachers' opinions about the individual students. All names were removed as the data were assembled, so the final database and all analyses are completely confidential.

Given the research questions at hand, we selected from this sample of 85 schools those schools offering exclusively academic education (22 schools) and those schools offering exclusively technical/vocational education (28 schools). Four of these schools did not provide us with the classroom teachers' opinions about their students, so finally, the data consisted of 20 academic schools with 3,222 students, and 26 technical/vocational schools with 3,323 students. As classroom teachers could not be forced to cooperate, data of some classes within those 46 schools are missing too, as well as data on certain perceptions for some classes, resulting in missing data on perceptions for about one third of the students, depending upon the perception dealt with (see Variables). This proportion of missings is similar for academic and technical/vocational schools (see Table 1).

2.2 Design

Students in Flemish secondary education follow about ten courses a year, meaning that they are confronted with about ten different teachers each year. As it is not really

Table 1 Descriptive statistics for dependent and independent variables: frequencies (%), means and standard deviations (SD) and results of t tests comparing academic and technical/vocational schools

Variables	Total		Academic schools		Technical/ vocational		Mean difference or Cramer's V
	Mean or %	SD	Mean or %	SD	Mean or %	SD	
Cognitive capacity	3.32 ($n = 4070$)	0.88	3.45 ($n = 2048$)	0.86	3.18 ($n = 2022$)	0.88	0.276*** $t = 10.10$
Effort in class	3.27 ($n = 4211$)	0.95	3.29 ($n = 2136$)	0.95	3.24 ($n = 2075$)	0.95	0.054° $t = 1.84$
Diligence homework	3.43 ($n = 4047$)	0.96	3.57 ($n = 2027$)	0.94	3.29 ($n = 2020$)	0.96	0.287*** $t = 9.63$
Gender							
Female	46.9% ($n = 6529$)		51.8% ($n = 3218$)		42.4% ($n = 3311$)		0.094***
SES	5.24 ($n = 6162$)	2.11	6.15 ($n = 3144$)	1.70	4.29 ($n = 3018$)	2.09	1.860*** $t = 38.41$
Migrant status							
Immigrant	10.8% ($n = 6545$)		4.0% ($n = 3222$)		17.3% ($n = 3323$)		0.214***
GPA primary education	78.00 ($n = 5903$)	10.01	83.13 ($n = 3037$)	7.22	72.57 ($n = 2866$)	9.68	10.552*** $t = 47.26$
Study involvement	19.32 ($n = 6458$)	4.13	19.73 ($n = 3202$)	3.67	18.92 ($n = 3256$)	4.51	0.809*** $t = 7.93$
Sense of belonging	60.89 ($n = 6379$)	9.43	62.45 ($n = 3190$)	9.00	59.34 ($n = 3189$)	9.60	3.107*** $t = 13.34$
School misconduct	30.05 ($n = 6377$)	8.62	28.89 ($n = 3185$)	7.27	31.20 ($n = 3192$)	9.64	−2.304*** $t = -10.78$

° $p = 0.066$, *** $p < 0.001$

feasible in a large scale research as the present one to ask each subject teacher to judge each student, we asked the classroom teachers to evaluate the students of their class with respect to three characteristics, namely cognitive capacity, effort in class and diligence in doing homework. As classroom teachers act as a confidential advisor for the students in the class, and chair the teacher board which decides on students' final grades and certificates (see section "Tracking in Flanders"), we expect them to know each student quite well and their judgments to reflect the teachers' visions. The classroom teachers' perceptions of each student are coupled to the student's self-reported data, and as such become features of the student.

To determine the relation between school type (academic versus technical/vocational) and the classroom teachers' judgments of the individual students' cognitive capacity, effort in class and diligence in doing homework, we will start with a t test, comparing the mean judgements in the two types of schools. But given that we are dealing with a clustered sample of students nested within schools and with data

at different levels—namely school type as the main independent variable at school level and the classroom teachers' perceptions of students features as the dependent variable at student level—use of hierarchical linear modelling (HLM6, see Bryk and Raudenbush 1992) is most appropriate. First, for each of the three dependent variables, we will estimate an unconditional model to determine the amount of variance that occurs between schools, as is common in multilevel analyses. Next, for each judgment analyses are performed consisting of four models. First, school type is associated with each of the three judgments to examine whether students enrolled in technical/vocational schools are evaluated differently from students enrolled in academic schools. In a second model, student background characteristics, among which cognitive ability, are added to ascertain whether selection into different tracks is responsible for how students are judged. In a third model, the background variables are omitted, and three student features, namely study involvement, sense of belonging and self-reported school misconduct, are introduced to examine whether how students are judged by the classroom teachers can be considered as a response to the students' adjustments to enrolment in lower tracks. In a fourth and final model, school type, students' background, and students' adjustment to tracking are considered together to determine their relative impact on how students are evaluated by their classroom teacher.

All independent variables are grand mean centered, except for the dichotomous variables (school type, gender and migrant status) which are uncentered for reasons of interpretation, and the slopes are allowed to vary across schools.

2.3 Variables

As for the dependent variables, the classroom teachers were asked to evaluate each student in their class with respect to three characteristics, namely cognitive capacity, effort in class and diligence in doing homework. For each characteristic, there were five answering categories, ranging from *very weak* (score 1) to *very strong* (score 5). Regarding *cognitive capacity* the students in this study had a mean score of 3.32 ($SD = 0.881$; $N = 4,070$). As for *effort in class*, the students in this study had a mean score of 3.27 ($SD = 0.953$, $N = 4,211$). With respect to *diligence in doing homework*, the students in this study had a mean score of 3.43 ($SD = 0.959$, $N = 4,047$).

The main independent variable was *school type*. We distinguished between schools that offer academic education (coded 0, $N = 20$) and schools that offer technical and vocational education (coded 1, $N = 26$).

With respect to *gender* our sample was quite equally divided with about 47 % females (male $= 1$, female $= 2$). We should note, though, a slight underrepresentation of girls in technical/vocational schools (42.4 %; Table 1), but this corresponds well with the official figure stating that in 2004–2005 44 % of the students in technical/vocational education were females (Department of Education 2005).

We measured the *socioeconomic status* (SES) of origin of the students by means of the occupational prestige of the father and mother (inspired by Erikson et al. 1979)—the highest of both was used as an indicator of the SES of the family. The respondents had a mean SES of 5.24. On average, the students in technical/vocational schools had a

significantly lower SES ($M = 4.29$) than the students in academic schools ($M = 6.15$; see Table 1).

We distinguished between native and immigrant students. As common (Timmerman et al. 2002), the principal criterion was the birthplace of the students' maternal grandmothers. If these data were missing (only 1 % missing of the total sample, $N = 11, 872$) we considered their mothers' and fathers' nationalities, as most immigrant students are second- or third-generation and have Belgian nationality. Non-West European birthplaces and nationalities were considered as producing foreign descent. As such, we created a dichotomous variable (0 = native, 1 = immigrant). In the data at hand 10.8 % of the students were identified as from a foreign origin. As expected, we found more immigrant students in the technical/vocational schools than in the academic schools (see Table 1).

As a measure of *ability*, we used the grade point average at the end of the last year of primary education. There are no standardised tests (for example in the form of centrally administered and standardised examinations) in the Flemish educational system, which makes educational achievement very hard to compare across schools and across students (Stevens 2007). We need to rely on a self-reported GPA, yielding questions with respect to validity because of memory problems and cover up strategies. Recent research indicated, though, that self-reported grades are generally highly correlated with grades taken from students' transcripts, and that GPA has some desirable features relative to standardized test scores (Kelly 2008). The mean GPA in the last year of primary education in this data set was 78 % ($SD = 10,01$, $N = 5, 903$). On average, students in academic schools reported a significantly higher GPA ($M = 83.13$) than students in technical/vocational schools ($M = 72.57$; Table 1).

Study involvement was measured by means of a 6-item scale (shortened from Brutsaert 2001) assessing general feelings of study engagement, such as "I don't like to study". This instrument measured how concerned students were about going to school and studying in general. Each item had five answering categories from 'absolutely not agreed' to 'totally agreed' (range 1–5). Responses were imputed for missing values by way of item correlation substitution: a missing value for one item is replaced by the value of the item correlating most highly with that item (Huisman 2000). We worked with the sum of the item scores (total score range $= 6 − 30$; Cronbach's alpha $= 0.76$, $N = 11719$). The students in this study had a mean score of 19.32 ($SD = 4.13$; $N = 6, 458$). On average, students in academic schools had a significantly higher study involvement ($M = 19.73$) than students in technical/vocational schools ($M = 18.92$; see Table 1).

Sense of belonging at school was measured using a Dutch translation of the 18-item Psychological Sense of School Membership scale of Carol Goodenow (1993). There were five answering categories, ranging from *absolutely do not agree* (score 1) to *completely agree* (score 5). Missing values were handled by item correlation substitution (Huisman 2000). The scale had a Cronbach's alpha of .86 ($N = 11.548$). The scores for each item were summed, yielding a minimum score of 18 and a maximum score of 89. The students in this study had a mean score of 60.89 ($SD = 9.43$; $N = 6, 379$). On average, students in academic schools reported a significantly higher sense of belonging ($M = 62.45$) than students in technical/vocational schools ($M = 59.34$; Table 1).

School misconduct involved behaviors that were likely to be disruptive to the school environment or to engender punishments (Stewart 2003: 584) and was measured by a scale consisting of 17 items inspired by Stewart (2003: 602–604). These items formed a completion of the question "How often have you…" and covered a whole range of school misconduct, from "been late for school" to "smoked on school grounds" to "been suspended." The items could be answered by means of five categories from *never* (score 1) to *very often* (5). As Crosnoe et al. (2004) remarked, this self-report method for assessing delinquent behavior has its snags, but it remains the most common method for gathering such information. Responses were imputed for missing values by way of item correlation substitution (Huisman 2000; Cronbach's alpha $= 0.87$, $N = 11.566$). For the analyses, we made use of the respondents' total score, yielding scores from 17 to 85. The students in this study had a mean score of 30.05 ($SD = 8.62$; $N = 6,377$). On average, students in academic schools reported significantly less school misconduct ($M = 28.89$) than students in technical/vocational schools ($M = 31.20$; Table 1).

3 Results

3.1 Classroom teachers' perceptions of cognitive capacity

On average, students attending academic schools were perceived significantly more cognitive capable by their classroom teachers ($M = 3.45$) than students attending technical/vocational schools ($M = 3.18$; Table 1). The unconditional multilevel analysis indicated that 4.37 % ($\tau_0/(\tau_0 + \sigma^2)$), with $\sigma^2 = 0.746$, $\tau = 0.034$, $p < 0.001$) of the variance in perceived cognitive capacity was among schools, 95.63 % was among students.

School type showed a significant ($p < 0.001$), moderate association with perceived cognitive capacity (see Table 2, Model 1; standardized coefficient $y^* = -0.157$) confirming that students in technical/vocational schools were judged significantly less capable than students in academic schools.

In model two (Table 2), the classroom teachers' perception of the students' cognitive capacity was significantly and positively associated with the students' ability ($y^* = 0.206$, $p < 0.001$) and gender ($y^* = 0.036$, $p = 0.047$), and borderline significantly with SES ($y^* = 0.043$, $p = 0.074$). When taking into account these students' background characteristics, the association of school type with perceived cognitive capacity disappeared, indicating that selection mechanisms were responsible for the differential judgments: students attending technical/vocational schools were judged less capable, because on average they were less able, stemming from a lower SES-background and male.

Model three (Table 2) indicated that the classroom teachers' judgment of students' cognitive capacity indeed responded students' study involvement and sense of belonging, but the associations were small (resp. $y^* = 0.056$, $p = 0.012$ and $y^* = 0.096$, $p < 0.001$) and could not explain the association between school type and perception of cognitive capacity. School misconduct was not significantly related to perception of cognitive capacity.

Table 2 The association between school type and classroom teachers' perception of students' cognitive capacity

		Model 1	Model 2	Model 3	Model 4
Intercept		3.448***	3.173***	3.419***	3.204***
		(0.040)	(0.061)	(0.039)	(0.059)
School level					
School type	y	−0.276***	0.063	−0.215***	0.092*
	$y*$	−0.157	0.036	−0.122	0.052
		(0.047)	(0.049)	(0.045)	(0.044)
Student level					
Gender	y	/	0.064*	/	0.033
	$y*$		0.036		0.019
			(0.032)		(0.029)
SES	y	/	0.018°	/	0.021*
	$y*$		0.043		0.050
			(0.010)		(0.010)
Migrant status	y	/	−0.045	/	−0.057
	$y*$		−0.016		−0.020
			(0.062)		(0.059)
Ability	y	/	0.018***	/	0.018***
	$y*$		0.206		0.206
			(0.003)		(0.003)
Study involvement	y	/	/	0.012*	0.013**
	$y*$			0.056	0.061
				(0.005)	(0.005)
Sense of belonging	y	/	/	0.009***	0.008***
	$y*$			0.096	0.086
				(0.002)	(0.002)
School misconduct	y	/	/	−0.00002	−0.001
	$y*$			−0.0002	−0.010
				(0.002)	(0.002)
Variance components					
Intercept		0.014***	0.020	0.014***	0.024
Gender		/	0.005	/	0.004
SES		/	0.002*	/	0.001
Migrant status		/	0.047	/	0.035
Ability		/	0.0003***	/	0.0003***
Study involvement		/	/	0.0003	0.0003
Sense of belonging		/	/	0.00004	0.00003
School misconduct		/	/	0.00003	0.00006*

Results of stepwise multilevel analysis

Presented are the unstandardized (γ) and standardized ($\gamma*$) gamma coefficients, with the standard errors appearing in parentheses, and the variance components U

° $p = 0.074$, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Finally, the fourth model showed that the teachers' perceptions of cognitive capacity proved most strongly associated with the students' ability, pointing out that the classroom teachers' appraisal of the students' cognitive capacity was fairly accurate ($y^* = 0.206$, $p < 0.001$). Also associated significantly, but rather weakly, with perceptions of cognitive capacity were the students' SES ($y^* = 0.050$, $p = 0.033$), study involvement ($y^* = 0.061$, $p = 0.008$) and sense of belonging ($y^* = 0.086$, $p < 0.001$). All else being equal, students enrolled in technical/vocational schools were even judged slightly more cognitive capable than students enrolled in academic schools ($y^* = 0.052$, $p = 0.043$).

3.2 Classroom teachers' perception of students' effort in class

On average, students attending academic schools were only slightly ascribed more effort by their classroom teachers ($M = 3.29$) than students attending technical/vocational schools ($M = 3.24$), and the difference was only borderline significant ($p = 0.066$; Table 1). The unconditional multilevel analysis indicated that only 1.84 % ($\tau_0/(\tau_0 + \sigma^2)$, with $\sigma^2 = 0.89$, $\tau = 0.017$, $p < 0.001$) of the variance in perceived effort in class was among schools, 98.16 % being among students.

School type was not significantly ($p = 0.306$) associated with perceived effort in class (see Table 3, Model 1). The students' gender was weakly, but significantly, associated with the classroom teachers' evaluation of their effort in class ($y^* = 0.082$, $p < 0.001$). The same held for ability ($y^* = 0.085$, $p = 0.003$). Introducing the student background characteristics into the analysis, turned the association between school type and perceived effort in class significantly positive ($y* = 0.070$, $p = 0.020$; Table 3, Model 2), indicating that taking into account specific selection criteria such as students' ability, classroom teachers judged students enrolled in technical/vocational to display more effort in class than students in academic schools.

A favorable perception of effort in class was associated with higher study involvement ($y^* = 0.096$, $p < 0.001$) and sense of belonging ($y^* = 0.149$, $p < 0.001$), and a lower extent of school misconduct ($y^* = -0.100$, $p < 0.001$). Adding this students' school adjustment to the analysis (Table 3, Model 3), turned the association between school type and perceived effort in class positive as well, but it remained insignificant ($p = 0.674$). Finally, the classroom teachers' evaluation of the students' effort was most strongly associated with the students' attitudes and behavior in class, namely sense of belonging ($y^* = 0.159$, $p < 0.001$), school misconduct ($y^* = -0.100$, $p < 0.001$), and with school type ($y^* = 0.101$, $p = 0.005$) (Table 3, Model 4). Students' gender ($y^* = 0.045$, $p = 0.008$), migrant status ($y^* = -0.063$, $p = 0.026$) and ability ($y^* = 0.064$, $p = 0.015$) were significantly associated with perceived effort as well, but were clearly less important. Nevertheless, these associations, irrespective of students' attitudes and behavior in class, could point at the existence of prejudices against boys and migrant students, although it needs to be stressed that they are very small to negligible. All else being equal, school type appeared positively associated with the teachers' evaluation of students' effort in class: students enrolled in technical/vocational schools were judged to display even more

Table 3 The association between school type and classroom teachers' perception of students' effort in class

		Model 1	Model 2	Model 3	Model 4
Intercept		3.296***	2.996***	3.260***	3.072***
		(0.041)	(0.066)	(0.044)	(0.061)
School level					
School type	y	−0.052	0.133*	0.024	0.192**
	$y*$	−0.027	0.070	0.013	0.101
		(0.050)	(0.055)	(0.056)	(0.065)
Student level					
Gender	y	/	0.155***	/	0.086**
	$y*$		0.082		0.045
			(0.038)		(0.031)
SES	y	/	0.011	/	0.013
	$y*$		0.024		0.029
			(0.012)		(0.011)
Migrant status	y	/	−0.120	/	−0.192*
	$y*$		−0.039		−0.063
			(0.079)		(0.083)
Ability	y	/	0.008**	/	0.006*
	$y*$		0.085		0.064
			(0.002)		(0.002)
Study involvement	y	/	/	0.022***	0.022***
	$y*$			0.096	0.096
				(0.005)	(0.005)
Sense of belonging	y	/	/	0.015***	0.016***
	$y*$			0.149	0.159
				(0.002)	(0.002)
School misconduct	y	/	/	−0.011***	−0.011***
	$y*$			−0.100	−0.100
				(0.003)	(0.003)
Variance components					
Intercept		0.017***	0.028	0.024***	0.020
Gender		/	0.013	/	0.008
SES		/	0.002*	/	0.002*
Migrant status		/	0.069	/	0.117
Ability		/	0.0001*	/	0.0001
Study involvement		/	/	0.0004*	0.0004**
Sense of belonging		/	/	0.0001	0.0001
School misconduct		/	/	0.0001	0.0002

Results of stepwise multilevel analysis

Presented are the unstandardized (γ) and standardized ($\gamma*$) gamma coefficients, with the standard errors appearing in parentheses, and the variance components U

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

effort than students in academic schools ($y^* = 0.101$, $p = 0.005$), taking into account their background features, and attitudes and behavior in class.

3.3 Classroom teachers' perception of students' diligence in doing homework

Finally, students attending academic schools were perceived, on average, significantly more diligent in doing homework by their classroom teachers ($M = 3.57$) than students attending technical/vocational schools ($M = 3.29$) (see Table 1). The unconditional multilevel analysis indicated that 6.63 % ($\tau_0/(\tau_0 + \sigma^2)$), with $\sigma^2 = 0.873$, $\tau = 0.062$, $p < 0.001$) of the variance in perceived diligence in doing homework was among schools, 93.37 % was among students.

School type showed a significant ($p < 0.001$), negative association with perceived diligence in doing homework (see Table 4, Model 1; standardized coefficient $y^* = -0.170$) confirming that students in technical/vocational schools were judged significantly less diligent in doing homework than students in academic schools.

When taking into account the students' background characteristics (Table 4, Model 2), less able students and, especially, boys were perceived to be less diligent in doing homework (resp. $y^* = 0.147$, $p < 0.001$ and $y^* = 0.187$, $p < 0.001$). The association with school type disappeared, indicating that selection mechanisms were responsible for the differential judgments.

Model 3 showed that students were judged less diligent in doing homework, when they reported more school misconduct ($y^* = -0.252$, $p < 0.001$), and less study involvement ($y^* = 0.090$, $p < 0.001$) and sense of belonging ($y^* = 0.079$, $p = 0.001$). Adding students' adjustments to school to the analysis only slightly decreased the association of school type with perceived diligence in doing homework, but it remained significant ($y^* = -0.118$, $p = 0.001$).

In the final model, school misconduct appeared the strongest predictor of perceived diligence in doing homework ($y^* = -0.261$, $p < 0.001$), followed by ability ($y^* = 0.137$, $p < 0.001$) and gender ($y^* = 0.130$, $p < 0.001$). Study involvement ($y^* = 0.082$, $p < 0.001$) and sense of belonging ($y^* = 0.088$, $p < 0.001$) were associated significantly with perceived diligence in doing homework as well, but only very moderately. Taking into account these background and attitudinal and behavioral features, school type was no longer associated with the classroom teachers' perception of students' diligence in doing homework—which was due to the background variables, that is to selection processes.

4 Discussion

Previous research has been demonstrating that teachers in lower tracks tend to share negative views regarding the students—lower track students are deemed less able, more disruptive and less interested in schooling (Stevens and Vermeersch 2010), and therefore less teachable and less trustworthy (Van Houtte 2004, 2006a,b). However, there has been little quantitative research that aims to explain *why* teachers have such views (see also Kelly and Carbonaro 2012). Do these views simply reflect characteristics typically for students opting for and allocated in lower tracks? Or do

Table 4 The association between school type and classroom teachers' perception of students' diligence in doing homework

		Model 1	Model 2	Model 3	Model 4
Intercept		3.590***	2.925***	3.542***	3.056***
		(0.052)	(0.089)	(0.057)	(0.086)
School level					
School type	y	−0.327***	−0.028	−0.227***	0.021
	y*	−0.170	−0.015	−0.118	0.011
		(0.064)	(0.077)	(0.063)	(0.071)
Student level					
Gender	y	/	0.359***	/	0.250***
	y*		0.187		0.130
			(0.036)		(0.031)
SES	y	/	0.005	/	0.012
	y*		0.011		0.026
			(0.010)		(0.009)
Migrant status	y	/	−0.120	/	−0.146
	y*		−0.039		−0.047
			(0.075)		(0.085)
Ability	y	/	0.014***	/	0.013***
	y*		0.147		0.137
			(0.003)		(0.003)
Study involvement	y	/	/	0.021***	0.019***
	y*			0.090	0.082
				(0.005)	(0.005)
Sense of	y	/	/	0.008***	0.009***
belonging	y*			0.079	0.088
				(0.002)	(0.002)
School	y	/	/	−0.028***	−0.029***
misconduct	y*			−0.252	−0.261
				(0.002)	(0.002)
Variance components					
Intercept		0.032***	0.063*	0.037***	0.068*
Gender		/	0.010	/	0.007
SES		/	0.001*	/	0.001**
Migrant status		/	0.042	/	0.140**
Ability		/	0.0003***	/	0.0003***
Study involvement		/	/	0.0003	0.0003*
Sense of belonging		/	/	0.0001*	0.0001
School misconduct		/	/	0.00003	0.00002

Results of stepwise multilevel analysis

Presented are the unstandardized (γ) and standardized (γ*) gamma coefficients, with the standard errors appearing in parentheses, and the variance components U

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

these evaluations respond the students' adjustments to the status loss following from being enrolled in a lower track? Or do teachers label lower-track students just because they are in a lower track, irrespective of their personal features?

By means of multilevel-analyses on a unique combined dataset of students' self-reports and classroom teachers' perceptions of these students' cognitive capacity, effort in class and diligence in doing homework, this study showed that teachers' negative judgements of students in lower tracks, more specifically in technical/vocational schools compared to academic schools, can be ascribed to the students' background variables. When taking into account students' gender, SES, migrant status and, especially, their ability, the association of school type with the classroom teachers' perceptions disappears. That teachers' views of students are more negative in lower tracks is due to the fact that teachers base their judgment on exactly these student features which make students opt for the lower tracks in the first place (see Table 1). Hence, the analysis suggest that we are dealing with a selection-effect. In addition, and more importantly, as for perceived effort and cognitive capacity, when taking into account background as well as students' school adjustment, the association with school type even turns positive. Whereas this positive association is rather small for cognitive capacity, it is moderate and meaningful regarding effort. This finding indicates that when taking into account students' background and school resistance, teachers in lower tracks tend to judge students' effort even more favorable than in higher tracks. This confirms findings from recent ethnographic research carried out in English and Flemish (Belgian) secondary schools, in which Flemish teachers seemed to reward students perceived as having social, cognitive or health difficulties by allocating more scarce educational resources (such as: praise, in-class support, help in solving exam questions, help in awarding a pass-grade at the end of the school year) to these students if they are considered to be genuine *Stragglers*, that is students' who have social, cognitive or health problems but, at the same time show a willingness to succeed (Stevens 2011; Stevens and Van Houtte 2011). This research suggested that teachers who perceive students from lower tracks as less able, more disruptive and less interested in schooling compared to students in higher tracks, seem to adapt their pedagogy, curriculum and expectations in line with those perceptions. This way lower track students' efforts eventually get estimated higher than those of higher track students.

As any research, also this study has its limitations. Firstly, as we do not have longitudinal data, we cannot rule out that students' attitudes and behavior are in fact a response to the judgments of their teachers. When these judgments are track-based, we are still dealing with inaccurate perceptions. Secondly, we have only information on the classroom teachers' perceptions. It would be interesting to know whether various teachers' perceptions of the same student are alike or not, and whether and how perceptions are associated with background characteristics of teachers, years of experience, and courses taught. Thirdly, we are lacking a good measure of ability. In the end, we relied on the GPA at the end of primary education, but this GPA is determined by the primary school teacher based on tests developed by the teacher and, as a result, can in part be influenced by teachers' perception of their students. Standardized test-based measures of achievement are desirable, but are lacking in this dataset. Furthermore, the Flemish educational system does not have centrally administered standardized achievement tests.

We can conclude that the classroom teachers' judgment of students is in first instance associated with either the students' background or with their attitudes and behavior in class, depending upon which judgment is considered. Not surprisingly, students' effort in class, as evaluated by the classroom teacher, is mainly associated with the students' self-reported attitudes and behavior in class, while students' cognitive capacity as perceived by the classroom teacher, is most strongly associated with the students' ability. Students' diligence in doing homework, as perceived by the classroom teacher, is most strongly associated with students' self-reported school misconduct, and with ability and gender. These findings show that classroom teachers are fairly accurate when judging their students, with judgements reflecting actual attitudinal, behavioral and background features of the students. However, the finding that ascriptive traits, such as gender or migrant status, keep on playing a role—be it a small one—even when taking into account the students' attitudes and behavior in class, might point to the existence of prejudices as well. After all, boys are perceived to put less effort in class, and to be less diligent in doing homework than girls, even when taking into account their study involvement, sense of belonging and school misconduct—something which is worthwhile considering given the widely stated and researched underachievement of boys (e.g., Epstein et al. 1998; Younger and Warrington 2005). And migrant students are deemed to display less effort in class, irrespective of their study involvement, sense of belonging and school misconduct. Either these differences between teachers' and students' evaluations are proof of teachers' prejudice towards boys and ethnic minority youth, and/or of differences between these two groups and teachers in terms of what constitutes 'diligence in homework' and 'effort in class'. These findings indicate that more research is required in the Flemish context on the development of teachers' prejudice and less favorable perceptions. Furthermore, while this study shows important overlaps and discrepancies between teachers' and students' evaluations of student characteristics, qualitative research could further investigate how students and teachers construct notions of 'capacity', 'appropriate' classroom- and study-related behavior and expectations in particular contexts, namely in different tracks.

The finding that the classroom teachers' judgment of students is in first instance not associated with school type, contrasts with the research of Kelly and Carbonaro (2012), who find categorization effects very likely. They demonstrate that in a system of within-school tracking, track placements affect teacher expectations above and beyond student achievement and other characteristics. In concurrence with the earlier stated sharper sense of status-differentiation in within-school tracking systems (Van Houtte and Stevens 2009), the present study might indicate that in case of between-school tracking students' status labels among teachers are less salient. To get a clear grip on this, research is needed which compares how track positions affect teachers' perceptions and expectations of students in systems of between-school tracking versus systems of within-school tracking. Therefore, for instance, teachers' perceptions of students in different tracks in categorical schools (between-school tracking) could be compared with those in multilateral schools (within-school tracking) (see Van Houtte et al. 2012; Van Houtte and Stevens 2009).

Notwithstanding that the classroom teachers' perceptions of lower track students are based on students' background, attitudinal and behavioral features, and are in

that sense quite fair and accurate (provided that these are not prejudices, of course, see above), the consequences might still turn out negative in the end. After all, these judgments about the students become shared by teachers dealing with homogeneous groups of students with poor ability, poor social background and negative attitudes towards school, giving rise to pessimistic teacher cultures in lower tracks, characterized by little trust and the conviction that the students are little or not teachable (Van Houtte 2004, 2006a). In the Flemish context it has been shown that these negative teacher cultures in turn affect several outcomes in students and teachers (e.g. Van Houtte 2004, 2006b).

Certainly, in lower tracks, namely in technical/vocational schools, teacher cultures need to get less pessimistic. To accomplish this, the negative image of technical/vocational education needs to be addressed, in order to attract another type of student. Currently in Flanders, as in the US (see Rosenbaum 2001), education suffers from a kind of "college-for-all" myth, which is translated during secondary school into "academic-track-for-all". The choice for technical or vocational education is usually a second, negative choice, when students do not reach the cognitive standards for academic education. By making technical/vocational education a positive choice, the intake of students could change, as students' curriculum choices would be based on interest rather than on failure, resulting in a more heterogeneous student composition in the different tracks in terms of cognitive capacity and social background. Consequently, the students would hold less negative attitudes toward school and studying. Already decades ago, scholars such as Hargreaves (1967) and Rosenbaum (1976) reasoned that a differentiation of students into hierarchically ordered tracks leads to a polarization in their thinking about school. The anti-school culture in lower tracks emerges because students in lower tracks resist the system that makes them failures by creating their own status system in which there is no place for hard work and achieving. So it seems that to avoid the origin of such an anti-school culture, it is necessary to drop hierarchically ordered tracks or at least to stop thinking in terms of hierarchies. But it is obvious that this will take a long time.

Moreover, it should be stressed that merely abolishing tracks is not the solution. After all, the variety of tracks corresponds with students' different capacities and interests. The existence of different tracks allows students to receive training consonant with their talents and interests. Furthermore, tracks prepare students for different futures. Societies are as much in need of manual workers as of brainworkers (see also Rosenbaum 2001). At present, Flanders confronts a shortage of skilled manual workers such as nurses, gardeners, welders, butchers, carpenters, bricklayers, and so on. At the same time, there is a large group of unskilled unemployed people who dropped out of technical and vocational tracks partly due to their lack of a motivating culture. Also to resolve this discrepancy, the negative image of technical/vocational tracks needs to be addressed. There is a profound need for a social (re)appreciation of technical and vocational tracks and occupations. It is very important that everyone—students, parents, teachers, employers, policy makers—gets more aware of this and that these different futures are equally esteemed.

At any rate, teachers should become more aware of their response to students. Unfortunately, teacher education programs in Flanders mainly focus on didactics, and pay little attention to teachers' perceptions and expectations, and their consequences.

The research pointing at the benefits of high expectations for students as well as for teachers, does not seem to reach the teacher training. Still, becoming conscious of the differences in the way that the students are judged and handled may be a good starting point into the direction of change. Therefore we concur with Kelly and Carbonaro (2012: 209) that teacher expectations and perceptions deserve greater attention—both theoretically and empirically—than they have received and that more empirical research is needed on the association between the social organization of schools and teacher expectations, perceptions, and beliefs about students.

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