Lost in transition: unravelling teachers' allocation process of pupils

A study on teacher expectations and their impact on teacher track recommendations

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Chapter 1

General introduction and research objectives

Children are confronted with different changeovers in their educational careers. One of the most crucial turning points in education is the transition between primary and secondary education (Terwel, 2006). Choosing a specific educational pathway is a complex decision-making process, in which pupils, their parents and teachers are the key actors. At the doorstep of secondary education, children are, often for the first time in their lives, actively involved in this decision-making process (Fallon & Bowles, 1998; Gorard, 1999). However, given the fairly young age of children at the time of transition to secondary education, their parents and teachers jointly bear the final responsibility for the children's educational choices. Consistent with the social-cognitive perspective as one of the dominant theoretical viewpoints on educational decision-making (Pinxten, De Fraine, Van Den Noortgate, Van Damme, & Anumendem, 2012), this process can be considered as the result of a complex interplay between certain attributes (i.e. characteristics, skills and abilities) of pupils such as their occupational interests, and contextual variables, including parental influences such as their approval or refusal of specific educational pathways (Barg, 2013). Additionally, alongside parental influences, teachers also inevitably influence the educational choices of their pupils through their allocation practices and more specifically through their track recommendations (i.e. recommended study curricula) regarding pupils' enrolment in secondary education. Within this triangular relationship between pupils, parents and teachers, the research focus of the current dissertation is the teacher's role in educational decision-making. As such, this study aims at unravelling primary school teachers' allocation process of pupils and teachers' decision-making of track recommendations (also referred to as transition decisions), that is, the how and why of allocation by teachers, at the time of transition to secondary education. As we will discuss below, this research focus entails four general research objectives originating from specific research gaps, in particular with respect to (1) teacher track recommendations and the communication thereof in relation to parents, (2) the expectations held by teachers of pupils' future abilities and potential that shape teacher track recommendations, (3) bias in teacher expectations and (4) the impact of teacher expectations and pupil background characteristics on teacher track recommendations.

Worldwide, educational systems show a great diversity in how pupils are allocated to secondary education and, consequently, in the teachers' role in this regard (Ireson & Hallam, 2001; LeTendre, Hofer, & Shimizu, 2003; Van de Werfhorst & Mijs, 2010). Meritocratic, nationally standardised educational systems, such as the United States and Great Britain, can be considered less teacher-led, given that allocation is (exclusively) based on pupils' previous performance in standardised tests. On the contrary, less meritocratic educational systems, such as Germany and France, are more loosely organised and very open to teachers' individual decision-making. In this way, the critical role of teachers and their expectations of

pupils is emphasised (Eurydice, 2011; Gorard & Smith, 2004). Drawn from the teacher expectancy research tradition, teacher expectations refer to the judgements made by teachers about pupils' future abilities and potential or, in other words, about pupils' future educational progress (Brophy, 1983). As such, teacher expectations are a key component of teachers' cognitive decision-making processes regarding pupils' enrolment in secondary education. As expressed in the track recommendations of teachers, these expectations are traditionally discussed with parents during formal teacher-parent conferences at the end of primary education (Alasuutari & Markstrom, 2011; Elbers & de Haan, 2014; Kotthoff, 2015; Lemmer, 2012). In some of the less meritocratic educational systems, such as the Netherlands, allocation is based on a combination of teacher track recommendations and pupils' standardised test results. In others, such as Flanders, the Northern Dutch-speaking part of Belgium, pupils and their parents can formally only rely on teacher track recommendations, given that there are no binding, nationwide standardised tests at the end of primary education (Boone & Van Houtte, 2013b; Penninckx, Vanhoof, & Van Petegem, 2011; Van Petegem, 2005). Clearly, especially in these educational systems, teacher track recommendations, shaped by teacher expectations of pupils' future abilities and potential, are crucial for allocation. Thus, to gain insight into the how and why of allocation by teachers, it is of great importance to address the track recommendations of teachers and the communication thereof within the teacher-parent interaction. Nevertheless, given that, in the past, research has primarily focused on the consequences of allocation in terms of pupils' academic achievement (Van Houtte, 2011), there is a lack of insight into the mechanisms of allocation by teachers. Moreover, strikingly, even less is known about how allocation by teachers exactly occurs in direct relation to parents. Therefore, in an attempt to address these research gaps, our *first research objective* is to explore teacher track recommendations regarding pupils' enrolment in secondary education and the communication thereof by teachers during teacher-parent conferences.

Already for many decades, teacher expectations of pupils are a key topic of interest for educational researchers. Since Rosenthal and Jacobson's (1968) pioneering Pygmalion study, it has been acknowledged that teacher expectations, irrespective of the accuracy of these expectations (Jussim, 1989, 1991), may shape subsequent differential teacher behaviour and pupils' educational outcomes and, in turn, allocation by teachers (Brophy & Good, 1970; Jussim & Harber, 2005; Rosenthal, 1973, 2002). In the teacher expectancy research tradition, teacher expectations are defined as the inferences made by teachers about pupils' future abilities and potential, based on teachers' knowledge base about their pupils (Brophy & Good, 1974; Good, 1987). Knowing this, one might wonder exactly what information, perceptions or personal impressions of teachers shape their expectations of

pupils' future educational progress and, subsequently, form the basis of their track recommendations. Following upon Rosenthal and Jacobson (1968), previous research into teacher expectations is traditionally restricted to a single focus on perceived cognitive pupil attributes (i.e. pupils' academic abilities). However, as stated by Farrington et al. (2012) and Farkas (2003), just as important are non-cognitive, achievement-related or appropriate behavioural attributes of pupils, as perceived by teachers, in shaping their expectations of pupils' future abilities and potential. Nonetheless, as more recently argued by Timmermans, de Boer, and van der Werf (2016), little is known about attributes other than cognitive pupil attributes that shape teacher expectations of pupils and subsequent teacher track recommendations. In addition, despite the acknowledged contextualised and dynamic nature of teacher expectations suggesting that attributes other than that of the pupils also need to be considered while investigating the how and why of allocation (Fang, 1996; Fives & Buehl, 2012), prior research into teacher expectations has paid only little attention to the contextual influences of teacher expectations. Considering the triangular relationship between pupils, their parents and teachers in the context of allocation, logically, alongside the pupils themselves, these contextual influences lie within their parents and teachers. Therefore, our *second research objective* is to identify the expectations held by teachers of pupils' future abilities and potential that are perceived by teachers as influencing their track recommendations regarding pupils' enrolment in secondary education, more specifically in terms of their underlying (pupil, parental and teacher) attributes.

As illustrated by the large amount of research into the consequences of educational differentiation (i.e. tracking, streaming, stratification or other forms of ability grouping), in which pupils are sorted into different groups, classes and schools as they enter secondary education (Bol, Witschge, Van de Werfhorst, & Dronkers, 2014), the early educational choices recommended by teachers have a profound impact on pupils' academic trajectories and future educational and occupational opportunities (Belfi, Goos, De Fraine, & Van Damme, 2012; Dockx, De Fraine, & Stevens, 2016; Johnston & Wildy, 2016; Levin, 2009; van Rooijen, Korpershoek, Vugteveen, & Opdenakker, 2017). Given these far-reaching implications of teacher track recommendations, it is of profound importance that the expectations that form the basis of these recommendations are fair and unbiased. Unfortunately, although there is a general consensus that teacher expectations of pupils are fairly accurate (Jussim, 2017), a substantial amount of research points to the biased nature of these expectations, both in general and regarding subgroups of pupils based on their background characteristics (Machts, Kaiser, Schmidt, & Möller, 2016; Ready & Wright, 2011; Südkamp, Kaiser, & Möller, 2012). In fact, nowadays, teacher expectancy research findings are frequently applied to argue the role of biased teacher expectations in the reproduction of educational inequality (Bol et al., 2014;

Jackson, Jonsson, & Rudolphi, 2012; Van de Werfhorst & Mijs, 2010). In particular, teacher expectation bias is found to be related to pupils' socioeconomic status (SES) background, ethnicity and gender (Ready & Wright, 2011). Since research into teacher expectation bias often produces inconsistent findings and the extent to which these expectations are (un)biased still remains unclear, our *third research objective* is to examine (general and specific) bias in teacher expectations, taking into account pupil background characteristics. Logically, biased teacher expectations may result in biased teacher track recommendations. Research has shown that, regardless of pupils' level of achievement, children of low(er) educated parents, referring to low SES pupils and/or ethnic minorities, are more likely to receive a recommendation from the teacher to enrol in less academic tracks of secondary education, compared to their counterparts (Boone & Van Houtte, 2013b; Glock, Krolak-Schwerdt, Klapproth, & Bohmer, 2013; Timmermans, Kuyper, & van der Werf, 2015). Therefore, our *fourth and final research objective* is to investigate the impact of teacher expectations of pupils' future abilities and potential on teacher track recommendations at the time of pupils' transition to secondary education, taking into account pupil background characteristics.

The structure of this dissertation is as follows. In Chapter 2, we will present a general framework on the topic of allocation by teachers at the transition from primary to secondary education, in which the nature and power of teacher expectations, bias in teacher expectations and their impact on teacher track recommendations are discussed. At the end of Chapter 2, we will elaborate on the specific conceptual framework that is the basis of this dissertation. In order to clarify the specific structure of the educational system under investigation and the nature of teacher track recommendations in this educational context, we will provide a picture of the Flemish educational system in Chapter 3. The outline of this dissertation will be sketched out in Chapter 4, in which we pay attention to the specific research focus of the different empirical studies as well as to the research questions that are put forward in each study. Chapter 5 will provide an overview of the methodological framework of this dissertation. The four empirical studies will be presented in Chapters 6 to 9. Lastly, Chapter 10 will provide final reflections, in which findings from all four empirical studies are brought together. Also, we will discuss both strengths and limitations of the empirical studies as well as important implications of this dissertation for future studies and educational policy and practice.

Chapter 2

Theoretical framework

The nature and power of teacher expectations

Since the 1980s, educational researchers' interests have shifted from solely teacher behaviour and its effects (i.e. the relationship between teacher behaviour, pupil behaviour and pupil learning) to teacher thinking (Ashton, 2015; Fang, 1996). Influenced by the developments in cognitive psychology, this paradigm shift was grounded in the growing understanding how human action is affected by one's cognitions (Clark & Peterson, 1986). Thus, in order to investigate the allocation process of teachers and their transition decisions, we need to address teachers' cognitive thought processes. Despite the lack of clear definitions, in which concepts such as cognitions, expectations and beliefs are inconsistently used, numerous researchers agree on the role of teacher cognitions as filters that shape the interpretation of information, frameworks for decision-making and guides for action (Fives & Buehl, 2012). In line with the teacher expectancy research tradition, we will employ the term 'teacher expectations' as essential features of teachers' cognitive thought processes or decision-making regarding pupils' enrolment in secondary education.

The profound impact of teacher expectations of pupils in education has been studied in a long tradition, starting with the Pygmalion study of Rosenthal and Jacobson (1968). In that experimental study, it was demonstrated that when teachers expected pupils to perform at a high level, these false expectations became true, also known as the self-fulfilling prophecy or Pygmalion effect (Jussim, 2017; Jussim & Harber, 2005). Hence, through teachers' differential behaviour that confirmed their expectations, for instance in terms of giving more positive feedback to high expectancy pupils, the expectations of teachers had truly led to pupils' intellectual growth (Brophy & Good, 1970; Rosenthal, 1973, 2002). Subsequent research has shown that, alongside pupils' cognitive academic performance, also non-cognitive pupil outcomes, such as motivation, self-esteem and self-concept of ability, are influenced by teacher expectations (de Boer, Bosker, & van der Werf, 2010; Jussim, 1989; Trouilloud, Sarrazin, Martinek, & Guillet, 2002). As demonstrated by the findings of the Pygmalion study, within the tradition of teacher expectancy research, teacher expectations are defined as "primarily cognitive phenomena, inferential judgements that teachers make about probable future achievement and behaviour based upon the pupil's past record and his present achievement and behaviour'' (Brophy & Good, 1974, p. 129). While some parts of these expectations of pupils are shaped by actually observable attributes, other more 'hidden' parts are estimated by teachers based on, for instance, their personal experiences, personal systems of knowledge and beliefs about education, and stereotypical assumptions (Tobisch & Dresel, 2017).

Bias in teacher expectations

Teacher expectations are inevitably vulnerable to cognitive biases. Although bias is rarely explicitly defined in studies into teacher expectations, Ready and Wright (2011) consider teacher expectations of certain attributes of pupils to be biased only to the degree that they over- or underestimate the actual attributes. This definition thus indicates discrepancies between teacher expectations and measured pupil attributes, for instance in terms of pupils' achievement test scores (Hoge & Coladarci, 1989; Machts et al., 2016; Südkamp et al., 2012) and pupils' self-assessments (Panadero, Brown, & Strijbos, 2016; Topping, 2003). Ready and Wright (2011) further state that bias can occur in two ways. First, teacher expectations can be systematically too high or too low for most of the pupils (i.e. general bias). Second, teacher expectations can be systematically too high or too low for specific subgroups of pupils, based on their background characteristics (i.e. specific bias). This type of bias refers to teachers' generalised beliefs about the attributes of social groups, or, in other words, to stereotyping (Fiske & Neuberg, 1990). Stereotypes affect teacher expectations of subgroups of pupils, as they create judgement standards against which members of different social groups are evaluated (cf. shifting standards theory) (Biernat, Manis, & Nelson, 1991; Holder & Kessels, 2017). Finally, teacher expectations that vary in a non-systematic and random manner are called inaccurate (but unbiased). Thus, biased teacher expectations are inevitably inaccurate, but inaccurate teacher expectations are not necessarily biased. Analogous to what is common in teacher expectancy research, we will employ the term 'expectation bias' in the remainder of this dissertation. We use this term to refer to the systematic (general or specific) over- or underestimation of teacher expectations, when compared with measured attributes.

In the educational context, three widely shared stereotypes may lead to bias in teacher expectations of pupils' future abilities and potential. According to the social stereotype and the ethnic stereotype, teachers tend to have lower expectations regarding the academic performance and abilities of low SES and ethnic minority pupils, compared to high SES and ethnic majority pupils (Kaiser, Südkamp, & Möller, 2017; Rubie-Davies, Hattie, & Hamilton, 2006; Tenenbaum & Ruck, 2007; Tobisch & Dresel, 2017). As a result, regardless of pupils' level of achievement, high SES and ethnic majority pupils are more likely to receive a recommendation from the teacher to enrol in more academic tracks of secondary education, compared to their counterparts (Boone & Van Houtte, 2013b; Glock & Krolak-Schwerdt, 2013; Timmermans et al., 2015). Additionally, the gender stereotype suggests that boys perform better in maths and STEM (i.e. science, technology, engineering and maths) than girls and that girls perform better in language than boys (Hofer, 2015; Li, 1999; Mechtenberg, 2009; Ready & Wright, 2011; Timmermans et al., 2015). From this perspective, as stated by

Nurnberger, Nerb, Schmitz, Keller, and Sutterlin (2016), boys are more likely to be recommended to enrol in maths/science-oriented secondary schools whereas girls are more likely to be advised enrolment in language-oriented secondary schools. In accordance with these stereotypes in education, in this study, we address pupils' SES, ethnicity and gender as crucial background characteristics within the interplay between (biased) teacher expectations and teacher track recommendations.

Teacher track recommendations and their influencing teacher expectations

The teacher's role in the allocation process of pupils is most apparent in the information provided by teachers about pupils' aptitude for specific educational pathways in secondary education or, in other words, in the teacher's track recommendation (Bonizzoni, Romito, & Cavallo, 2016). Teacher track recommendations – either binding or not – constitute the official advice given to pupils and their parents on behalf of the primary school, that is, the educational options of secondary education that teachers would recommend, more specifically in terms of an educational track or study curriculum.

Despite its contextualised nature, generally speaking, prior research into teacher expectations has paid only little attention to the contextual influences of teacher expectations. Nevertheless, as stated by Fang (1996) and Fives and Buehl (2012), teacher expectations are modified by and result from interactions with the context in which teachers operate. In acknowledgement of the strong involvement of teachers, pupils and parents in the allocation process, as discussed in the introduction of this dissertation, logically, attributes related to these three key actors should be included when studying the teacher expectations that drive teacher track recommendations. Similar conclusions were drawn by research into assessment and allocation by teachers. The multi-level model of Fulmer, Lee, and Tan (2015) pointed out distinguishable levels of contextual factors affecting teachers' assessment practices (i.e. teachers' use of assessment methods in the classroom) and, in turn, allocation of pupils. These contextual factors encompass influences in the immediate context of the classroom (i.e. the micro-level), including individual factors of teachers and pupils, as well as social factors related to teacher-pupil interactions. In addition, these contextual factors encompass influences outside of the classroom but with a direct impact upon the classroom (i.e. the meso-level), such as parental influences, and broad influences that only indirectly impact upon the classroom (i.e. the macro-level), for instance national educational policies.

Following upon Brophy and Good's (1974) definition of teacher expectations, it is generally assumed that teachers use various information sources, perceptions or personal impressions

to shape their expectations of pupils' future abilities and potential, and subsequent track recommendations (Good, 1987). Firstly, these information sources or perceptions may include attributes of pupils, more specifically cognitive pupil attributes (i.e. academic abilities and performance) and non-cognitive pupil attributes (i.e. achievement-related behaviours) (Farkas, 2003; Farrington et al., 2012). In line with Kornblau's (1982) concept of pupils' teachability, which refers to the attributes that characterise 'idealised teachable' pupils and indicate teachers' ideas about pupils' abilities to meet educational expectations (Van Houtte, 2004), these pupil attributes can be categorised as cognitive-motivational behaviours (e.g. intelligence), school-appropriate behaviours (e.g. alertness in the classroom) and personal-social behaviours (e.g. honesty). Secondly, the influencing information sources of teacher expectations may include contextual variables, such as the degree of supportive teacher-pupil relationships and the extent of parental involvement in education within the teacher-parent interaction. Research has shown that teacher expectations of pupils' future abilities and potential are higher for those pupils for whom they perceive a positive relationship and for those pupils who are viewed as coming from families that are less favourable for academic development in terms of parental support for education and their encouragement for learning (Hauser-Cram, Sirin, & Stipek, 2003; Hughes, Gleason, & Zhang, 2005; Riley & Ungerleider, 2012; Rubie-Davies et al., 2006; Rubie-Davies, 2010). Additionally, in line with Kelchtermans' personal interpretative framework (1993, 2009), teacher expectations and subsequent teacher track recommendations may be shaped by perceptions held by teachers about themselves as teachers (i.e. a teacher's professional self-understanding, including one's personality beliefs) and about teaching and education in general (i.e. a teacher's subjective educational theory, including one's professional know-how and personal convictions).

Finally, according to research into teacher expectation bias, background characteristics of pupils and their families are crucial in studying the influencing teacher expectations of teacher track recommendations. As such, as stated by Timmermans et al. (2016), SES, ethnicity and gender are the most common investigated background variables in relation to (biased) teacher expectations. However, Boone and Van Houtte (2013b) suggested that rather than taking pupils' SES consciously into account when shaping their expectations regarding pupils' future abilities and potential, teachers unconsciously emphasise specific non-cognitive attributes of pupils, which are considered to be important for school success and to be unequally distributed across social classes. This way, as stated by Farkas (2003), low SES pupils might be disadvantaged, because these non-cognitive attributes, such as punctuality, seem typical of middle class pupils (Bourdieu & Passeron, 1977). Similarly, as concluded by Timmermans et al. (2016), bias in teacher expectations towards boys and girls primarily stems from differences

in non-cognitive attributes of pupils (i.e. work habits), as perceived by teachers, which also can be considered to significantly differ across gender.

To conclude, these findings designate attributes of pupils – both cognitive and non-cognitive attributes as well as background characteristics – attributes of parents and attributes of teachers as important information sources of teacher expectations of pupils' future educational progress and subsequent teacher track recommendations. Additionally, these findings point to the possibility that pupil background characteristics exert a rather indirect influence on teacher track recommendations, that is, through the (mediated) impact of expectations held by teachers about pupils' future abilities and potential.

Conceptual model of this dissertation

Building on the research objectives (RO) of this study, we present the conceptual model of this dissertation in Figure 1. As teachers influence pupils' and parents' educational choices through (the communication of) their track recommendations discussed at teacher-parent conferences, central in the study of the how and why of allocation by teachers are teacher track recommendations (cf. RO1). Considering the crucial role of teacher expectations of pupils' future abilities and potential in shaping these recommendations, it is of particular importance to identify influencing expectations of teachers, together with their underlying attributes (cf. RO2), as well as how these expectations impact upon teacher track recommendations (cf. RO4). Additionally, given the – presumably indirect – impact of the backgrounds of pupils and their families on teacher track recommendations, also pupil background characteristics need to be taken into account in order to gain insight into the ways in which track recommendations are formed, as well as the exact pathways of their influence exerted (i.e. direct or indirect, of which the former is presented by a dotted line in Figure 1) (cf. RO4). In sum, we claim that teacher track recommendations are shaped predominantly in two ways: through teachers' perceived attributes of pupils (e.g. pupils' cognitive and non-cognitive attributes), of parents (e.g. parental involvement in education) and of teachers (e.g. teachers' personality and the quality of their relationships with pupils) – referred to as influencing teacher expectations of teacher track recommendations – and through pupil background characteristics (e.g. SES, ethnicity and gender). Furthermore, as the latter has been found to influence the development of (specific) bias in teacher expectations, the extent of expectation bias may not be ignored when studying the interplay between pupil background characteristics, teacher expectations and teacher track recommendations (cf. RO3). With teacher expectation bias, we refer to discrepancy between the more 'subjective' understandings of teachers (i.e. teacher expectations of pupils' future abilities and potential)

and more ‘objective’ measures of the attributes in question (e.g. pupils’ achievement test scores and self-assessments).

No lines are displayed in Figure 1 that refer to the interrelations between pupil background characteristics, ‘objective’ measures of attributes and teacher track recommendations, since these are not dealt with in this dissertation. However, it should be noted that, within the achievement gap literature, researchers point to social class differences (referring to pupil background characteristics) in pupils’ academic achievement (referring to ‘objective’ measures of pupils’ cognitive attributes) due to naturally occurring genetic variations in intelligence (cf. the genetic-deficiency perspective on academic achievement) (Wiggan, 2007). Furthermore, it should be noted that teachers are expected to take into account pupils’ academic achievement in terms of tests results (referring to ‘objective’ measures of pupils’ cognitive attributes) in deciding on track recommendations regarding pupils (Boone & Van Houtte, 2013b). Therefore, we should remain mindful of the potential influence of pupil background characteristics on academic achievement on the one hand, and of pupils’ academic achievement on teacher track recommendations on the other hand.

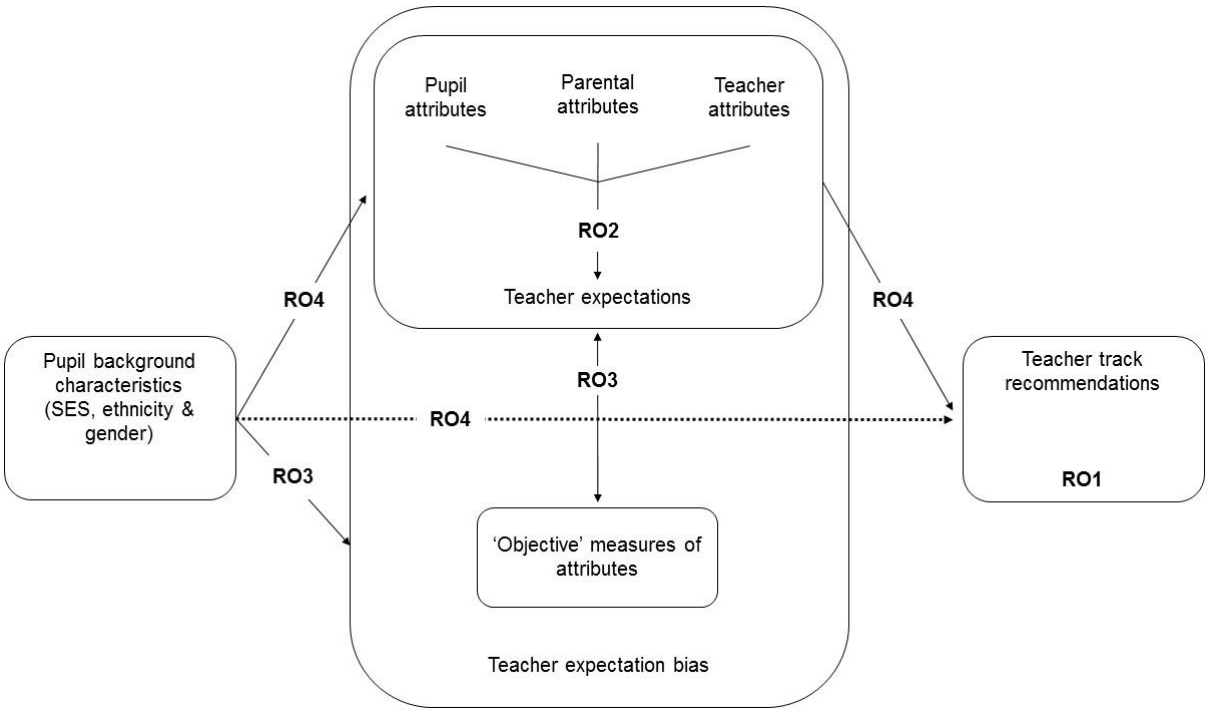


Figure 1: Conceptual model of this dissertation

Chapter **3**

The research context: the educational system of Flanders

In Flanders, teachers enjoy a lot of autonomy in areas such as the assessment and allocation of pupils at the time of transition to secondary education. The process of allocation is very loosely organised and teachers are offered few guidelines on how to formulate a track recommendation (Boone & Van Houtte, 2013b; Penninckx et al., 2011; Van Petegem, 2005). Although not legally binding, in the highly decentralised and liberal Flemish educational system, teacher track recommendations are most certainly crucial for allocation. As such, the educational system of Flanders provides a particularly interesting setting to study the role of the primary school teacher in allocation.

Structure of the Flemish educational system

The Flemish educational system consists of four educational levels (Department of Education and Training, 2008). Between the ages of 2.5 and 3 years, children can start in (1) nursery education. Education becomes compulsory at the age of 6 years, when children typically enrol in (2) primary education. After six years of primary education, they transfer to (3) secondary education, usually by the age of 12, which is particularly early compared to other educational systems (e.g. Finland: age 16; France: age 15; Italy: age 14) (OECD, 2013). Afterwards, students generally attend (4) higher education, including professional education and academic education (theoretically 18 to 25 years). Besides mainstream education, there also exists special needs (nursery, primary and secondary) education, organised for children who need temporary or permanent special help because of a disability or severe learning problems (Department of Education and Training, 2008). Given that the focus of this dissertation is on mainstream education, special needs education will not be considered in the remainder of this dissertation.

Teacher track recommendations in the Flemish educational system

At the onset of secondary education, teacher recommendations encompass a specific educational track or study curriculum, that is, a fixed set of different subjects. Pupils and parents may also be advised to enrol in a specific secondary school, which offers the recommended educational track by teachers. In Flanders, pupils and parents can freely choose to enrol in the secondary school of their choice (Department of Education and Training, 2008). Due to the socio-religious compartmentalisation of the Flemish educational system, secondary schools strongly vary in their pedagogical project and offered studies. As such, a recommendation of the teacher in terms of a specific educational track is in fact often an (implicit) school recommendation. Hence, school choice and track choice cannot be seen

separately from one another (Boone & Van Houtte, 2010; Creten, Douterlungne, Verhaeghe, & De Vos, 2000).

Unlike primary education, in Flanders, secondary education is tracked. In this way, secondary education is divided into three grades (each of two years) characterised by increasing levels of differentiation (for an overview, see Pustjens, Van de gaer, Van Damme, & Onghena, 2008). In the first grade, pupils are recommended to enrol in the A- or B-stream, which are considered to be broad and comprehensive. In order to prepare pupils for the more specific educational tracks of the second and third grade, they are introduced to as many subjects as possible. The A-stream proposes a common curriculum supplemented with optional courses to prepare pupils for an academic education. The B-stream provides education for pupils who are considered to be less suitable for academic tuition and for those who did not obtain a primary education certificate (in case of unsuccessfully completing primary education), in preparation for vocational secondary education (Department of Education and Training, 2008).

Within the A-stream, pupils can be recommended to choose at least four specific optional courses. Schools themselves determine how to fill up these optional courses, mainly in terms of extra courses of classical languages not included in the common curriculum (e.g. Latin), extra theoretical courses (e.g. modern sciences) or extra courses of technology and expression (e.g. arts). The optional courses can be considered as forerunners for the different educational tracks in the second and third grade, more specifically general secondary education (GSE; broad curriculum), technical secondary education (TSE; technical subjects), artistic secondary education (ASE; art practices) and vocational secondary education (VSE; vocational-oriented), as well as for the different study fields within each educational track (e.g. economics-mathematics within GSE). Latin and modern sciences are perceived to prepare for the general track, technology would prepare for technical education and arts for artistic education. As a result, pupils' first track choices at age 12 already comprise diverse educational opportunities that define future educational choices, against official efforts to offer a comprehensive and broad curriculum in the first grade (Department of Education and Training, 2008).

The educational tracks, as well as the preceding optional courses, are commonly valued differently. Compared to TSE and ASE, which occupy an intermediate position, a relatively higher status is associated with GSE and a relatively lower status with VSE. Pupils attending GSE are more likely to attend higher education and enter 'high'-status occupations. Theoretically, it is possible to switch backwards and forwards between the different educational tracks. In practice, however, pupils mostly 'fall back' from GSE to TSE or ASE to

VSE, resulting in a cascade system (Department of Education and Training, 2008). Because of a large variation in the educational tracks and study fields offered by secondary schools, many schools offer only one or two tracks, leading to the existence of academic schools, technical/vocational schools and vocational schools (Van Houtte, Demanet, & Stevens, 2012). Moreover, related to the specific educational policy of freedom of school choice is the level of socioeconomic and ethnic school segregation, which is found to be exceptionally high in Belgium, compared to other Western countries (OECD, 2006).

Chapter 4

Outline of this dissertation

The central aim of this dissertation is to advance our understanding of primary school teachers' allocation process of pupils and their transition decisions regarding pupils' enrolment in secondary education. We will elaborate on this research aim through four individual studies, which will be discussed in the following chapters. Table 1 provides an overview of the empirical studies and how they are related to the four research objectives (RO) that have been put forward in the introduction of this dissertation. The sequence of the studies is not random, given that the later studies build on conclusions of the previous ones. Specific angles for each of the studies as well as the research questions that are put forward in each study are elaborated on in the next paragraph.

Table 1: Overview of this dissertation

Study	Chapter	Title	RO 1: Exploring (the communication of) teacher track recommendations during teacher-parent conferences	RO 2: Identifying influencing teacher expectations of teacher track recommendations	RO 3: Examining teacher expectation bias	RO 4: Examining the impact of teacher expectations and of pupil background characteristics on teacher track recommendations
1	6	Pupils' transition to secondary education: an exploratory study of teachers' recommendations discussed at teacher-parent conferences	x	x		
2	7	The impact of primary school teachers' expectations of pupils, parents and teachers on teacher track recommendations		x		
3	8	Bias in primary school teachers' expectations of pupils? A study of general and specific bias towards SES, ethnicity and gender			x	
4	9	Primary teachers' perceptions that impact upon track recommendations regarding pupils' enrolment in secondary education: a path analysis			x	x

Study 1: Pupils' transition to secondary education: an exploratory study of teachers' recommendations discussed at teacher-parent conferences

Study 1 provides a first empirical exploration of teachers' allocation process of pupils, more specifically in terms of teacher track recommendations as outcomes of this process and teachers' communication of these recommendations in relation to parents. Given that, in

Flanders, teachers enjoy a lot of autonomy when it comes down to the allocation of pupils to secondary education, very little is known about how teachers exactly handle allocation, that is, how track recommendations are formed and communicated by teachers. Furthermore, despite the active and joint involvement of pupils and especially parents in allocation, very little is known about these topics in the specific context of teacher-parent conferences, in which teacher track recommendations are formally discussed with parents. Therefore, this study describes how teachers communicate their track recommendations at teacher-parent conferences and explores which teacher expectations of pupils' future abilities and potential are perceived by teachers as influencing their track recommendations, as expressed at the conferences. Following upon the multi-level model of Fulmer et al. (2015), in which the contextual factors that affect teachers' assessment and allocation of pupils at three levels were demonstrated, we intended to explore the influencing teacher expectations, together with the information sources or perceptions of teachers that underlie these expectations (i.e. the underlying attributes), at the micro-, meso- and macro-level. Data were collected by means of semi-structured observations of 36 teacher-parent conferences, which were held at the end of the sixth grade of primary education. Observing teachers 'live' at these teacher-parent conferences was necessary in order to be able to answer to the following research questions that are put forward:

> Research Question 1: How do teachers communicate their recommendations at teacher-parent conferences in the form of its content?
>
> Research Question 2: What perceptions held by teachers form the basis of their recommendations, as expressed by teachers at teacher-parent conferences?

Study 2: The impact of primary school teachers' expectations of pupils, parents and teachers on teacher track recommendations

Based on the findings of Study 1, we had a clear picture of the nature of teacher track recommendations, as expressed at teacher-parent conferences. This was very important for the purpose of the following studies, given that a teacher's track recommendation is the overall dependent variable throughout the empirical studies. As such, the findings of the first study made it possible to operationalise teacher track recommendations in the subsequent studies. Although the emphasis of Study 1 was on teachers' communication of their track recommendations in relation to parents, this study also provided initial indications of what teachers consider important when formulating their track recommendations. However, the need was felt to make a more in-depth exploration of the teacher expectations of pupils' future

abilities and potential that form the basis of teacher track recommendations, which was the central aim of Study 2. In line with the approach of Study 1, the intention of Study 2 was to broadly explore the range of influencing teacher expectations of teacher track recommendations. Therefore, partly based on the results of Study 1, this study questions teachers about the importance of their expectations regarding pupils and their parents, and, additionally, about the importance of their expectations regarding themselves as teachers as well as their teaching (based upon pupil, parental and teacher attributes). Whereas the observation method did not made it possible to intervene and question teachers about their practices and experiences with respect to allocation, face-to-face discussions were suitable to access teachers' 'thick descriptions' of the research topic under investigation. We collected data by means of semi-structured interviews with 15 sixth-grade teachers, of which the majority was also involved in Study 1. The following research questions are addressed:

> Research Question 3: What teacher expectations of pupils and parents do teachers identify as influencing their track recommendations?
>
> Research Question 4: What expectations held by teachers about themselves and about teaching impact upon their track recommendations?

Study 3: Bias in primary school teachers' expectations of pupils? A study of general and specific bias towards SES, ethnicity and gender

After having identified the teacher expectations that are perceived by teachers as influencing their track recommendations, the question remained to what extent these expectations are accurate, that is, to what extent these expectations correspond to pupils' more 'objective', measured attributes (i.e. pupils' achievement test scores and self-assessments). This is essentially a question about the occurrence of bias in teacher expectations, as addressed in Study 3. First, we investigated the occurrence of general bias in teacher expectations. By means of correlation analysis and the use of new indicator of expectation bias in terms of over- or underestimation of teacher expectations, this study investigates if teacher expectations of pupils' cognitive attributes (i.e. maths skills and language skills) and non-cognitive attributes (i.e. the ability to plan, motivation to learn, alertness and independence, as school-appropriate behaviours), of teachers' relationships with their pupils and of parental involvement in the education of their children are generally biased. Second, by performing multivariate analysis of variance (MANOVA), this study investigates if teachers specifically differ in their expectation bias towards pupils' SES, ethnicity and gender. We collected survey data of 535 sixth-grade pupils. The following research questions are put forward:

Research Question 5: To what extent are teacher expectations of pupils' cognitive and non-cognitive attributes, of teacher-pupil relationships and of parental involvement in education biased?

Research Question 6: Does teacher expectation bias with respect to pupils' cognitive and non-cognitive attributes, teacher-pupil relationships and parental involvement in education systematically differ, based on pupils' SES, ethnicity and gender?

Study 4: Primary teachers' perceptions that impact upon track recommendations regarding pupils' enrolment in secondary education: a path analysis

Bringing the results of the previous studies together, in Study 4, we investigated the impact of teacher expectations of pupils' future abilities and potential on teacher track recommendations. When making the comparison with Study 3, comparable teacher expectations were included in Study 4, yet supplemented with other variables. As such, this study addresses the impact of teacher expectations of pupils' cognitive attributes (i.e. maths skills, language skills and technical skills) and non-cognitive attributes (i.e. the ability to plan, motivation to learn, alertness, independence, the extent to which pupils follow teachers' directions and maturity – as school-appropriate behaviours – and honesty, friendliness and the extent to which pupils are considerate of others – as personal-social behaviours), of teacher-pupil relationships and of parental involvement in education. Additionally, in acknowledgement of the importance of pupil background characteristics in view of specific teacher expectation bias, as shown in Study 3, Study 4 includes pupils' SES and ethnicity within the interplay between teacher expectations and teacher track recommendations. Path analysis, using structural equation modelling (SEM), was used to study the interrelations between pupil background characteristics, teacher expectations and teacher track recommendations. We gathered survey data for 1014 sixth-grade pupils. The following research questions are put forward:

Research Question 7: What is the impact of teachers' perceptions of pupils' cognitive and non-cognitive attributes and of teachers' perceptions of their relationships with pupils on teacher track recommendations?

Research Question 8: What is the impact of teachers' perceptions of parental involvement in education and parents' social and cultural backgrounds on teacher track recommendations, and to what extent is the impact of these teacher perceptions and parental background characteristics mediated by the other teacher perceptions?

Chapter 5

Methodological framework

Sample and data collection

The empirical studies of this dissertation are part of a broader research project called Transbaso. Funded by the Flemish Research Foundation, Transbaso is a large-scale interuniversity research and valorisation project that studied educational decision-making with respect to all three key actors: pupils, their parents and teachers. The research goal of Transbaso was to investigate the underlying processes and mechanisms of transition decisions from mainstream primary to secondary education in Flanders.

Data were collected in 36 primary schools in two Flemish cities: Antwerp and Ghent. These two cities were chosen because of their urban character and the high variation in levels of social and ethnic diversity in their schools. As a reflection of today's multicultural society and the high level of socioeconomic and ethnic school segregation in Belgium, Flanders counts a large number of schools with a high incidence of low SES and ethnic minority pupils (OECD, 2006). Moreover, since Transbaso was particularly interested in studying educational transition decisions of these specific subgroups of pupils, it was important to select schools with a diverse socioeconomic and ethnic composition. Using multistage sampling, the primary schools were selected based on their school denomination (i.e. public or private) and their proportion of low SES pupils. Information on these two criteria for all schools in Antwerp and Ghent was based on official information of the Flemish Department of Education and Training (2015). First, the primary schools were divided into state schools (i.e. publicly run and publicly funded education) and private schools (i.e. privately run and publicly funded education, mainly consisting of Catholic schools) within each city. All schools in Flanders are state-funded, but the majority are private, Catholic schools. We then divided the schools per city and per denomination into three equally sized groups according to their proportion of low SES pupils, based on the percentage of pupils whose mother is poorly educated. As such, three groups of schools were created per city and per denomination: schools in the lowest 33%, schools in the average 33% and schools in the highest 33%. Finally, three schools were randomly selected out of each of these three groups. The final sample contained 18 schools within each city (36 schools in total), consisting of nine public and nine private schools. Of these 18 schools per denomination, six schools included the lowest proportion of low SES pupils, six schools represented the middle proportion, and six schools included the highest proportion of low SES pupils.

The 36 selected primary schools were asked to participate in the research project. In case of refusal, a corresponding school from a second sample was contacted. Four random samples were drawn in Ghent and five in Antwerp. In total, 76 schools were contacted in order to reach

the intended number of 36 schools for the research project. Thus, the response rate of all contacted schools was 47.37%. In Antwerp, 37 schools were contacted, of which 19 rejected. In Ghent, 39 schools were contacted, of which 21 rejected. The response rate for Antwerp and Ghent was 48.65% and 46.15%, respectively. Rejection to participate in the research project was mostly due to the high number of requests to urban schools for participating in research projects and to the high workload for teachers and school principals in general. In all participating schools, after asking parents' informed consent, written questionnaires were distributed among the sixth-grade teachers, sixth-grade pupils and their parents.

Research design

Due to the specific nature of the research objectives that have been put forward in the introduction, we used a combination of qualitative and quantitative research methods. This multi-method research design enabled us to create a unique, rich picture of the how and why of allocation by teachers, in which the qualitative and quantitative research methods complemented each other. Figure 2 provides an overview of the four research objectives and the research methods on which they were approached.

Our research proceeded in two stages. Because of the emerging nature of the knowledge base on the allocation process of teachers, the first two research objectives (RO 1 and RO 2) were exploratory in nature. We deliberately choose to start our research with a qualitative approach, in order to gather authentic, 'insider' knowledge about the research topic under investigation. Additionally, in accordance with an emic approach, we found it very important to generate meanings of teachers through induction, in order to be able to develop our theoretical framework (Arthur, Waring, Coe, & Hedges, 2012). Moreover, building on the conceptual framework of the teachers being researched is strongly in favour of the overall validity of our research. The qualitative data were collected through observations of and in-depth interviews with teachers, and were consistently analysed in terms of coding and content analysis using the computer-based software programme NVivo.

In the second stage, as demonstrated by the two subsequent research objectives (RO 3 and RO 4), we aimed at examining and testing the relationships between teacher expectations and teacher track recommendations, as well as group differences based on pupil background characteristics. As such, a quantitative approach was ideally suited for addressing these research objectives, in which more complex statistical analyses could be performed. In addition to the qualitative, in-depth data that had already been collected, we used quantitative research methods in order to gather larger-scale, generalizable data about teachers' allocation

process. Survey data were collected and analysed by means of correlation analysis, analysis of a new indicator of expectation bias in terms of over- or underestimation of teacher expectations, multivariate analysis of variance (MANOVA) and structural equation modelling (SEM, more specifically path analysis).

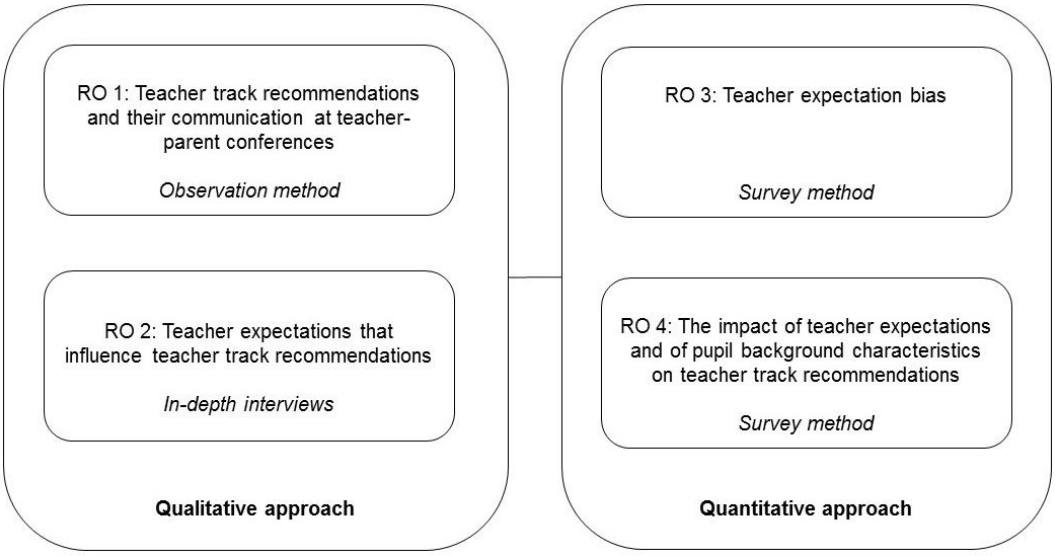


Figure 2: Multi-method research design of this dissertation

This dissertation is based on four empirical studies or papers submitted to or published in scholarly journals, which will be presented in the following chapters. As every chapter is written to be read on its own, overlap across chapters may occur. At the same time, differences with respect to the used terminology across chapters may occur. These differences originate from a lack of a clear-cut theoretical framework of teacher expectations at the start of our research project. Due to the overall complexity of teacher thinking research and teacher expectation research and due the lack of consistent definitions in these research traditions, we have travelled a long way in theoretically framing teacher expectations. In that way, many of our insights have evolved throughout our research.

Chapter **6**

Pupils' transition to secondary education: an exploratory study of teachers' recommendations discussed at teacher-parent conferences

Introduction[1]

Children are confronted with different turning points in their educational careers. Educational systems worldwide show a great diversity in how pupils are allocated to educational pathways at their transition to secondary education (for a review, see Ireson & Hallam, 2001; LeTendre et al., 2003; Van de Werfhorst & Mijs, 2010). In meritocratic educational systems, such as the United States and Great Britain, allocation is based on pupils' performances in standardised tests. In contrast, less meritocratic educational systems (e.g. Germany and France) are more loosely organised and teacher-led, highlighting the importance of teachers' recommendations to parents regarding pupils' enrolment in secondary education (e.g. Eurydice, 2011; Gorard & Smith, 2004). In some of these educational systems, such as the Netherlands, teachers' recommendations are combined with the results of standardised tests. In others, such as Flanders (the Dutch-speaking region of Belgium), parents can only formally rely on the teacher's recommendation due to a lack of standardised tests. Moreover, educational systems vary in the extent to which the recommendations are legally binding (e.g. Boone & Van Houtte, 2013b). In sum, less meritocratic educational systems are very open to individual decision-making, emphasising the essential role of teachers' thought processes, which are also referred to as teachers' perceptions or personal impressions. As a result, we can assume a large heterogeneity regarding the allocation practice in general, and teachers' recommendations in particular. For that reason it is important to gain insights into how teachers handle these challenges and how allocation precisely occurs.

This certainly applies to the highly decentralised and liberal Flemish educational system, in which pupils are allocated to secondary education on the basis of teachers' perceptions of pupils' academic abilities and potential, as expressed in the teacher's recommendation (e.g. Boone & Van Houtte, 2013b; Penninckx et al., 2011). Although these recommendations are not legally binding, in Flanders teachers' perceptions of pupils are clearly essential. For many decades, researchers agree on the determining role of teachers' perceptions for behaviour and classroom practices (for a review, see Ashton, 2015; Fang, 1996). Indeed, since Rosenthal and Jacobson's (1968) Pygmalion study, which can be seen as the starting point of the long tradition of teachers' expectancy research, we know that teachers' expectations of

[1] This chapter is based on:

Sneyers, E., Vanhoof, J., & Mahieu, P. (2017). Pupils' transition to secondary education: An exploratory study of teachers' recommendations discussed at teacher-parent conferences. *Pedagogische Studiën*, 94, 459-477.

pupils may shape subsequent teachers' behaviour and pupils' academic performances (i.e. the self-fulfilling prophecy effect of teachers' expectations) and, in turn, teachers' allocation of pupils (Brophy & Good, 1970; Rosenthal, 2002). Knowing this, one might wonder exactly what perceptions of pupils shape teachers' expectations of pupils' aptitude for specific educational pathways and which subsequently form the basis of their recommendations.

Unfortunately, despite the acknowledged importance of teachers' recommendations and perceptions for allocation, a lack of knowledge on this topic still exists. In the past, mainly within the field of educational differentiation or tracking, research into the consequences of allocation rather than the processes of allocation has been at the forefront. As such, the profound impact of early educational choices on pupils' (future) educational and occupational outcomes has been demonstrated (e.g. Belfi et al., 2012; Dockx et al., 2016; Levin, 2009; Van Houtte, 2004; van Rooijen et al., 2017). Moreover, little research has specifically inquired into the allocation practice within the specific interplay between teachers and parents. In doing so, the unique character of the current study becomes apparent. Given the fairly young age of children at the time of transition to secondary education in Flanders (when pupils are aged 12), teachers and parents are jointly and actively involved in making educational choices regarding secondary education of their children (e.g. Fallon & Bowles, 1998; Gorard, 1999). Parents' engagement is also reflected in the usual way in which the transition to secondary education is discussed, more specifically at formal teacher-parent conferences at the end of primary education (e.g. Alasuutari & Markstrom, 2011; Elbers & de Haan, 2014; Kotthoff, 2015; Lemmer, 2012). Parents' engagement can be seen as a logical consequence of their participation in their children's overall development, referring to the extent of parental involvement in education, which strongly impacts upon children's school success (e.g. Castro et al., 2015; Epstein, 1987). However, social and cultural class differences are noticeable with respect to parental involvement (e.g. Driessen, Smit, & Sleegers, 2005; Fleischmann & de Haas, 2016; Kim, 2009), for which explanations are commonly sought in parents' social and cultural capital (cf. the cultural reproduction theory and the social capital theory; for an overview, Boone & Van Houtte, 2013a). Within the context of teacher-parent conferences, research has shown, for instance, that there are more disagreements between teachers and parents with a low socioeconomic status background (SES) as well as migrant parents regarding teachers' recommendations (e.g. Elbers & de Haan, 2014; Weininger & Lareau, 2003). Hence, given that both teachers and parents are the key actors of the allocation practice, the importance of studying teachers' allocation in interaction with parents is pointed out. Moreover, considering both the impact of parental involvement on children's school success and the possible impact of social and cultural class differences with respect to parental involvement at teacher-parent conferences, one might wonder whether, alongside

teachers' perceptions of pupils, other perceptions such as those of parents influence the recommendations.

To sum up, little is known about teachers' allocation practices, that is, how allocation exactly occurs and how teachers communicate their recommendations to parents. Also, little is known about the mechanisms by which allocation occurs, that is, how teachers form their recommendations or upon which perceptions held by teachers the recommendations are based. However, warranted in view of the consequences of teachers' expectations and tracking, as discussed above, inquiry of this kind is needed. Furthermore, in acknowledgement of the strong involvement of parents in allocation, we believe that the most prominent approach to studying teachers' allocation is within the context of teacher-parent conferences. Therefore, during formal teacher-parent conferences in Flanders at the time of transition to secondary education, the present study addresses the following two research questions:

(1) How do teachers communicate their recommendations at teacher-parent conferences in the form of its content?

(2) What perceptions held by teachers form the basis of their recommendations, as expressed by teachers at teacher-parent conferences?

Teachers' recommendations, as an outcome of the allocation process, are scrutinized. With respect to the first research question, we focus on the extent of heterogeneity regarding the recommendations. In this way, we are interested in which elements related to the content of the recommendations are distinguished (e.g. whether a distinction is made between secondary study choice and school choice options), while discussing the recommendations with parents. Based on the second research question, we investigate how teachers explain or argue their recommendations to parents at teacher-parent conferences, in which we intend to explore the broad range of teachers' perceptions that influence the recommendations. In this manner, the strong inductive nature of this study is emphasised.

Theoretical framework

Teachers' recommendations at the transition to secondary education in Flanders

In Flanders, children typically enrol in secondary education by the age of 12, preceded by nursery education (theoretically 2.5 to 6 years) and primary education (theoretically 6 to 12 years). Afterwards, students generally attend tertiary education, including professional and

academic education (theoretically 18 to 25 years). Besides mainstream education, there also exists special needs (nursery, primary and secondary) education, which is organised for children who need temporary or permanent special help because of a disability or severe learning problems. At the onset of secondary education, pupils' and parents' educational choices and, by extension, primary school teachers' recommendations encompass a specific study curriculum (i.e. a fixed set of different subjects) as well as a secondary school (Department of Education and Training, 2008).

Study choice recommendations

The specificity of the educational system under investigation is decisive for the different study choice options in secondary education. Unlike primary education, in Flanders, secondary education is tracked. In this way, secondary education is divided into three grades (each of two years) characterised by increasing levels of differentiation (for an overview, see Pustjens et al., 2008). In the first grade, pupils are recommended to enrol in the A- or B-stream, which are considered to be broad and comprehensive. In order to prepare pupils for the more specific study choice options in the second and third grade, they are introduced to as many subjects as possible. The A-stream proposes a common curriculum supplemented with optional courses to prepare pupils for an academic education. The B-stream provides education for pupils who are considered to be less suitable for academic tuition and for those who did not obtain a primary education certificate (in case of unsuccessfully completing primary education) in preparation for vocational secondary education (Department of Education and Training, 2008).

Within the A-stream, pupils can be recommended to choose specific optional courses. Schools themselves determine how to fill up these optional courses, mainly in terms of extra courses of classical languages not included in the common curriculum (e.g. Latin), extra theoretical courses (e.g. modern sciences) or extra courses of technology and expression (e.g. arts). The optional courses can be considered as forerunners for the different tracks in the second and third grade, more specifically general secondary education (GSE: broad curriculum), technical secondary education (TSE: technical subjects), artistic secondary education (ASE: art practices), and vocational secondary education (VSE: vocational-oriented), as well as for the different study fields within each track (e.g. economics-mathematics within GSE). The tracks, as well as the preceding optional courses, are commonly valued differently. Compared to TSE and ASE, which occupy an intermediate position, a relatively higher status is associated with GSE and a relatively lower status with VSE. Pupils attending GSE are more likely to attend tertiary education and enter 'high' status occupations. Theoretically, it is possible to switch

backwards and forwards between the different tracks. In practice, however, pupils mostly 'fall back' from GSE to TSE or ASE to VSE, resulting in a cascade system. Because of a large variation in the tracks and study fields offered by secondary schools, pupils may be required to move to another school after the first grade(s) of secondary education (Department of Education and Training, 2008).

School choice recommendations

The Flemish educational system is characterised by freedom of school choice, indicating that pupils and parents can freely choose to enrol in the secondary school of their choice (Department of Education and Training, 2008). Related to the specific educational policy of freedom of school choice is the level of socioeconomic and ethnic school segregation, which is found to be exceptionally high in Belgium compared to other Western countries (OECD, 2006).

When choosing a secondary school, various choice motives can be weighed against each other. International research on school choice stresses a model of three motives (Gorard, 1999), which was also found to be applicable to the Flemish educational system (Boone & Van Houtte, 2010; Creten et al., 2000). More specifically, the perceived quality of education in schools (determined by, for example, the schools' image), schools' philosophies and geographical accessibility are priorities in pupils' and parents' school choice. Likewise, the schools' study offers are of great interest, since pupils' interests and personal educational goals in the longer term need to be satisfied by their school choice. Indeed, due to the socio-religious compartmentalisation of the Flemish educational system, secondary schools vary greatly in their pedagogical project and offered studies. As a result, school choice and study choice cannot be seen separately from one another (Department of Education and Training, 2008). Moreover, the majority of pupils and parents simultaneously choose a school as well as a specific study curriculum (Boone & Van Houtte, 2010; Creten et al., 2000). Although past research has already provided some insights into the choice motives of pupils and parents, far less is known about what teachers perceive as important when recommending a secondary school.

The impact of teachers' perceptions on allocation

In order to investigate how allocation by teachers occurs and upon which perceptions their recommendations are based, we need to address teachers' thought processes. Indeed, since the 1980s, researchers' interests have shifted from solely teachers' behaviour and its effects

(i.e. the relationship between teachers' classroom behaviour and pupils' classroom behaviour and achievements) to teachers' thinking (for a review, see Ashton, 2015; Fang, 1996). Influenced by developments in cognitive psychology, this paradigm shift was grounded in the growing understanding of how human action is affected by one's cognitions (Clark & Peterson, 1986). Despite the lack of clear definitions in the literature, in which terms such as perceptions, cognitions and beliefs are inconsistently used, numerous researchers agree on the role of teachers' perceptions as filters that shape the interpretation of information, frameworks for decision-making and guides for action (for a review, see Fives & Buehl, 2012). In accordance with the acknowledged association between teachers' perceptions and behaviour and classroom practices, we hypothesise that the allocation practice, and more specifically teachers' recommendations as an outcome of this practice, are influenced by teachers' perceptions.

Following the long tradition of expectancy research (for a review, see Jussim & Harber, 2005), we hypothesise the crucial role of teachers' perceptions of pupils and their cognitive attributes for teachers' recommendations. In their Pygmalion study, Rosenthal and Jacobson (1968) were the first to identify the impact of teachers' expectations of pupils' intellectual abilities on teachers' subsequent assessments. However, as stated by Farkas (2003) and Farrington et al. (2012), just as important are teachers' perceptions of pupils' non-cognitive attributes. In their exploratory study on allocation by Flemish teachers, for instance, Boone and Van Houtte (2013b) stated that teachers take into account pupils' non-cognitive characteristics that are important for school success such as the ability to plan when allocating pupils. Hence, we further hypothesise the crucial role of teachers' perceptions of pupils' non-cognitive attributes for teachers' recommendations. Nonetheless, as argued more recently by Timmermans et al. (2016), little is known about perceptions other than that of pupils' cognitive attributes that may shape teachers' expectations and, subsequently, teachers' allocation.

Moreover, in line with the contextual nature of teachers' perceptions, we can assume that perceptions other than those of the pupils are also important for teachers' recommendations. According to Bandura's social cognitive theory (1986), which is a framework for understanding human functioning, humans do not operate as autonomous agents. Human functioning is socially situated and can be considered to be a product of a triadic, reciprocal interaction between intrapersonal, behavioural and environmental determinants. Logically, the same holds for teachers and how they operate within their profession. As stated by Fives and Buehl (2012), teachers' perceptions are modified by and result from interactions with the context in which teachers operate, indicating the contextualised nature of teachers' perceptions. Earlier Fang (1996) also acknowledged that teachers' perceptions are shaped by many factors such

as social influences. At the same time, Fulmer et al. (2015) pointed out distinguishable levels of contextual factors affecting teachers' assessment and allocation practices. These contextual factors encompass influences in the immediate context of the classroom (micro-level: e.g. individual factors of pupils), influences outside of the classroom but with a direct impact upon the classroom (meso-level: e.g. individual factors of parents), and broad influences that only indirectly impact upon the classroom (macro-level: e.g. national educational policies). In sum, in line with the contextual nature of both teachers' perceptions and assessment practices, we intend to explore the broad range of factors influencing teachers' perceptions at the micro-, meso- and macro-level, including teachers' perceptions of pupils and parents.

Methodology

Research design

Between February and June 2015, we conducted 36 observations of teacher-parent conferences in the final school year of primary education, indicating a qualitative research design. Each conference lasted about 15 minutes. Both the teacher and (one of) the parents were present at the conferences (both parents attended 13/36 conferences and only one parent, mostly the mother, attended 23/36 conferences), and in only one case also the pupil concerned. There are no formal rules with respect to the presence of pupils at the conferences; consequently, this is strongly dependent on the preferences of the teachers as well as of the parents and pupils. To overcome the absolute absence of pupils at the conferences, some teachers have one-on-one conversations with their pupils about their enrolment in secondary education prior to the conferences. Informed consent of the parents was orally obtained.

As part of the project Transbaso, six primary schools in the cities of Antwerp and Ghent were involved because of their significant cultural and social diversity. We used a 'three school type x two teachers x six teacher-parent conferences' design based on stratified purposive sampling, in which the research units were divided and purposively selected based on specific selection criteria (Cohen, Manion, & Morrison, 2011). Firstly, in order to pursue a natural variation, the six schools were selected based on their ethnic and socioeconomic composition. As a reflection of today's multicultural society and the high level of socioeconomic and ethnic school segregation in Belgium, Flanders has a large number of schools with a high incidence of low SES pupils and ethnic minorities. The selection of schools resulted in three 'types of schools' with a low, average and high incidence of low SES and minority pupils. Table 2 presents an overview of the school types. Each school's average of pupils' SES is used as an

indicator for its socioeconomic composition (ranging from 29.8% to 60.6%). Theoretically, this percentage can range from 0% to 100%, indicating lower- and higher-class pupils respectively (Ganzeboom, Degraaf, Treiman, & Deleeuw, 1992). The ethnic composition of a school is based on the mean percentage of ethnic minority pupils in the sixth grade (i.e. pupils of Belgian or North-Western European origin and pupils of another origin, mainly from Eastern Europe, Maghreb and Turkey). Although we only had access to data concerning the sixth grade pupils, they can be considered to reflect the reality of the schools as a whole. In order to keep the observations manageable, we further randomly selected two teachers of the final school year (out of the total group of teachers who were willing to voluntarily participate) per school type (six teachers in total), followed by a random selection of six observed teacher-parent conferences per teacher. At that point, empirical saturation was reached.

Table 2: Overview of socioeconomic and ethnic composition of the schools

Incidence of low SES pupils & ethnic minorities	Socioeconomic composition	Ethnic composition	
		Belgian or North-Western European origin	Another origin
Low incidence			
School 1	55.9%	92.9%	7.1%
School 2	59.8%	64.4%	35.6%
Average incidence			
School 3	60.6%	71.4%	28.6%
School 4	53.3%	61.1%	38.9%
High incidence			
School 5	29.8%	9.1%	90.9%
School 6	57.1%	68.0%	32.0%

Research methods

Since the teacher-parent conferences offered the opportunity to observe 'live' teachers' allocation in their natural context and in social interaction with parents, observations were conducted. Moreover, this research method enabled 'thick descriptions' of the topic under investigation that went beyond the explicit perceptions of teachers, which is strongly in favour of the (ecological) validity and authenticity of the gathered data (Yin, 2011). As stated by Fives and Buehl (2012), teachers' perceptions can be implicit (i.e. perceptions of which the teachers are unaware) and explicit (i.e. perceptions of which the teachers are conscious). In line with the inductive nature of this study, it was our intention to explore the broad range of teachers' perceptions that form the basis of their recommendations. Therefore, through the analysis of actual teachers' behaviour and talk (i.e. observations of teacher-parent conferences), we intended to infer both the implicit and explicit perceptions of teachers. Since only explicit

perceptions can be grasped through the personal reflective practice of the teachers, other qualitative research methods such as interview protocols would have been insufficient.

Taking into account the different dimensions of observation, the observations conducted were semi-structured in nature. In addition, considering the researcher's role in the observations, the role of observer-as-participant was fulfilled. The researcher was present at the teacher-parent conferences, which were held in the teachers' classrooms (i.e. naturalistic observations) (Cohen et al., 2011). Observation is a process, moving from descriptive observation (introduction to the setting) to focused and selected observation. In the latter phases, the relevant is discerned from the irrelevant and the researcher's focus is progressively narrowed to those aspects of concern (Spradley, 1980). In accordance with the research questions, our units of focus were: (1) teachers' communication of their recommendations, referring to its content and distinguished elements, and (2) teachers' perceptions that formed the basis of the recommendations, as expressed by the teachers at the teacher-parent conferences. The units of focus are shown in Table 3.

Table 3: Units of focus in view of the data analysis (not exhaustive)

Units of focus	Specification
Communication of the recommendations	Secondary school choice recommendations Secondary study choice recommendations First grade: A- or B-stream & optional courses Second & third grade: educational tracks & study fields Other longer-term choice options (e.g. tertiary education or profession)
Teachers' perceptions that formed the basis of the recommendations	Teachers' perceptions of pupils (at micro-level) Pupils' cognitive attributes Pupils' non-cognitive attributes Teachers' perceptions of parents (at meso-level) Other teachers' perceptions (at micro-, meso-, and/or macro-level)

Data analysis

The results of the observational data were written in field notes and observation schedules. During the observations, scratch notes were taken including information about the researcher's location (i.e. behavioural mapping). Immediately after the observations, these notes were refined and completed with notes consisting of interpretative aspects (i.e. analytic notes) and reflections (Cassell & Symon, 2004). In order to be able to, as it were, fully reconstruct the conversations and the specific context in which they took place, the teacher-parent conferences were broadly observed. Alongside the specific units of focus, as discussed

above, the observation schedules included information about the actors present at the conferences, the duration of the conferences and the global concerns of the teachers with respect to their recommendations. Table 4 shows an example of a completed observation schedule. The observation schedules formed the basis from which we derived the specific units of focus in view of the data analysis.

Particularly challenging to the observation research method is the delayed registration of observations. Indeed, it is impossible to observe and take notes simultaneously while capturing everything that is relevant. Other frequently demonstrated risks are, amongst others, the selective memory of the researcher. In response to these issues, which possibly affect the validity and reliability of the observations, the teacher-parent conferences were audio-recorded and transcribed afterwards by means of the verbatim principle. The combination of the written and audio-recorded data enabled us to extract numerical data from the rich qualitative data set.

In accordance with an emic approach aiming at the generation of 'insider' knowledge and meanings through induction, the data analysis was based on the conceptual framework of the teachers being researched rather than on the conceptual framework of the researcher. The observational data were qualitatively analysed by means of coding and content analysis, based on the computer-based software program NVivo. All the information was encoded using open coding to label and sort the information. A basic coding scheme, based on the observation schedules, was used and adjusted with the creation of codes during the coding process itself. Furthermore, the concepts in the study were defined and the codes were further refined and deepened using axial and selective coding (Cohen et al., 2011).

Table 4: Example of a completed observation schedule

Teacher's & pupil's identity	IDXX	
Duration of the conference	18 minutes	
Present actors	Teacher Parent(s): mother	
Discussion of the recommendation: content & arguments	Teacher	Parent(s)
	1) The social sector is meant to be: - the pupil indicates this interest herself; - also, the other pupils in the classroom recognise her talent to take care of others, to be helpful.	2) Mother has doubts about the study choice for her daughter.
	4) Start immediately in TSE: - the pupil has to work very hard and her results are only moderate, she has already come a long way, she puts great pressure on herself; - being with her girlfriends (who will enrol in TSE) is very important for her wellbeing; - it is important for her to experience success; - it is important for her to be able to continue practicing her hobbies.	3) An immediate start in TSE, or first two general years with the necessary support?
	5) I would advise school X. It is a good school, I only hear good things about this school. I think she will feel at home in this school.	6) School X is an option, or perhaps School Y, where I come from. But school X is nearby and this school is known for its good reputation.

Other perceptions of the pupil expressed by the teacher	- A change of school choice after the first two years of GSE would not be good for the pupil, as she will have to leave the classroom and her friends at that time. This would affect her wellbeing. It is very important that the other pupils in the classroom can get to know her and that she can be closely monitored. - The pupil works very hard, sometimes too hard. - The pupil is someone who persists and she will continue to work hard and do her best, also in secondary education. - The pupil is extremely interested in education and in child care, which is very obvious. - The teacher is currently working on the pupil's plan-based skills.
Global concerns expressed by the teacher	The teacher recognises that the process of making educational choices is very stressful for the mother. Choosing a study option that would be too difficult for the pupil (i.e. GSE) also affects the wellbeing of the mother. The best thing for your child is not necessarily GSE, not necessarily a high diploma.
Scratch notes	- The teacher and the mother sit at the same table, face-to-face. I sit at another table; - Female teacher, middle-aged; - Small primary school with approximately 250 pupils; - The teacher does not use any working instruments or documents as a guide to the conferences; - The teacher indicates playing a very active role in the school: many informal contacts with parents, member of the parent committee and coordinator of the school's Facebook page.

Note. The identity of the teachers involved in the conferences and of the pupils concerned, were systematically anonymised by using ID numbers. With respect to the discussion of the recommendations, we intended to write down which elements of the recommendations were expressed in which order and by whom (i.e. the teacher or parent(s)), in order to be able to fully understand the final recommendations of the teachers and all the preceding reactions.

Results

The analysis of the observational data focused on two main aspects. Firstly, in order to answer the first research question concerning teachers' communication of their recommendations at the teacher-parent conferences, the content of the recommendations was analysed. We examined if teachers made a distinction between different choice options with regard to secondary education, with a focus on the content of the study choice recommendations. Secondly, as expressed by the teachers at the conferences, we searched for indications of the perceptions held by the teachers that influence their recommendations, in view of the second research question.

Teachers' communication of the recommendations to parents

Study choice and school choice recommendations

In the majority of the teacher-parent conferences (in 31/36 conferences), both secondary school choice and study choice options were simultaneously discussed. Lucy (Teacher 3), for example, mentioned the following in a conversation with a parent:

> *"It is good that he will start in the A-stream* [study choice – A-stream in the first grade]. *But eventually… He is very interested in programming. I think that you should keep in mind that it can be interesting for him to, it might sound strange, follow TSE* [study choice – educational track from the second grade]. *There are a lot of schools that offer technical education at a very high level. From this perspective, I think School X is a good choice* [school choice]."

However, more attention was paid to the choice for a specific study curriculum. Whereas only one teacher did not discuss the study choice of the pupil concerned (study choice recommendations were given by the teachers in 35/36 conferences), four teachers did not mention school choice (school choice recommendations were given by the teachers in 32/36 conferences). This also became clear when looking at the teachers' concrete recommendations. While all of the teachers who discussed pupils' study choice also expressed a particular study choice recommendation at the conference, not all of the teachers gave personal recommendations with regard to school choice (pupils' school choice was discussed in 23/32 conferences). At a conference with Dana (Teacher 1), for instance, parents explicitly asked the teacher about her opinion regarding a secondary school for their daughter. Although this topic was discussed, the teacher did not give a personal, final recommendation:

"I always say try to visit as much schools as you possibly can. Let the children watch for themselves. Recently we visited School X with the pupils and everyone was very impressed by the high walls of the school [referring to a large school with a reputation for discipline]*. We also visited School Y, of which the appearance and the culture were totally different. One child will love a more authoritarian school culture and the other one will not. If your child likes certain schools, make sure you visit these schools."*

Distinguished elements of the study choice recommendations

Table 5 shows the results of the analysis of the content of the teachers' study choice recommendations, as expressed by the teachers. For every teacher involved in the study (six teachers), we describe which and how many elements he or she distinguished when discussing the study choice recommendations at the teacher-parent conferences (six teacher-parent conferences per teacher). As described below, some teachers included only one element in their recommendations with regard to each pupil, compared to other teachers who expressed multiple elements.

Table 5: Distinguished elements of the study choice recommendations and number of times expressed by the teachers

	Dana	Warren	Lucy	Jennifer	Karol	Lennard
First grade						
A- or B-stream	2	0	0	1	1	1
Optional courses	1	5	4	5	4	0
Second & third grade						
Educational tracks	1	0	1	1	4	7
Study fields	1	1	3	0	1	1
Tertiary education	0	0	0	0	1	0
Profession	0	0	0	0	2	3
Recommendation in non-specific terms	1	0	0	0	0	0

Note. We used fictitious teachers' names.

When teachers expressed their recommendations concerning pupils' study choice for secondary education, both short-term and longer-term choice options were discussed. Teachers not only had ideas about pupils' potential and preferences regarding (the onset of) secondary education (i.e. first, second and third grade choice options), they also mentioned future educational (i.e. tertiary education) and professional expectations with regard to the pupils. Furthermore, one teacher expressed her study choice recommendation in a rather vague, non-specific way by stating *"the luxury you* [referring to the parents] *have is that she* [referring to the pupil] *can handle everything"* (Dana: Teacher 1).

Approximately a two-thirds majority of the teachers (in 24/35 conferences in which teachers gave study choice recommendations) expressed a single study choice recommendation in each individual conference consisting of only one element (e.g. one of the educational tracks from the second grade), compared to a minority of the teachers (in 12/35 conferences) who incorporated multiple study choice options within their recommendations (varying from two to five options as a combination of the aspects described in Table 5). The following study choice recommendation of Karol (Teacher 5), for example, illustrates this:

> *"I rather see him in the social sector* [profession]*. Now, you can always start in 1A* [A-stream in the first grade] *with modern courses* [optional courses in the first grade]*. If you notice after the first year that it is not going well, it is possible to change to 1A with a few hours of technology* [optional courses in the first grade]*. That is why I think, yeah, let him try GSE* [educational track from the second grade]*, that should work […]. Computers, that is why I thought of Industrial Sciences* [tertiary education] *and history. These are the things that interest him the most."*

According to the specificity of the Flemish educational system, pupils have to make study choices within each of the three grades of secondary education, starting with the first grade. In line with this structure and as shown in Table 5, the greater part of the teachers recommended a (single) study choice in terms of the optional courses in the first grade (in 19/35 conferences), followed by the educational tracks from the second grade of secondary education (in 14/35 conferences). Latin (i.e. an optional course recommended in 9/19 conferences) and TSE (i.e. an educational track recommended in 8/14 conferences) were recommended the most, although teachers also often recommended GSE (i.e. an educational track recommended in 6/14 conferences). Warren (Teacher 2), for example, explained to one of his pupils *"I think that you are able to follow Latin"*, while Lennard (Teacher 6) recommended to a pupil "*when we looked together at what you want to do next school year, we discussed TSE. If you keep doing your best and if you keep improving, it can become GSE".* Remarkably, other optional courses besides Latin (i.e. art, technology, language, modern courses and science) were mentioned to a far lesser extent (each in a maximum of 2/19 conferences), and ASE and VSE (i.e. educational tracks) were not advised at all by the teachers. Although enrolment in the A- or B-stream is the first study choice that pupils have to make at the onset of secondary education, few teachers actually included this choice option in their recommendations (in 5/35 conferences). Nobody was recommended to enrol in the B-stream.

Teachers' perceptions that form the basis of the recommendations

School achievements in view of study choice recommendations

A two-thirds majority of the teachers (in 22/35 conferences in which teachers gave study choice recommendations) considered pupils' perceived school achievements when discussing the study choice recommendations. How well or badly pupils performed in general or in specific school subjects was decisive in this regard. In particular, pupils' performances in different languages and maths seemed to be important for the more academic secondary education choice options such as Latin (i.e. an optional course in the first grade) and GSE (i.e. an educational track from the second grade). Warren (Teacher 2), for example, explained the following:

> *"His school results are higher than normal, higher than the average. He is very strong in maths. I have decided that he is a very strong pupil and I agree with his choice for Latin. Also because… if we do a dictation in the classroom or something with spelling and I ask who has everything right? Yes, mostly he has, and then I say, look, these are the pupils for Latin, those who can do that perfectly."*

Half of the teachers (in 18/35 conferences) also mentioned pupils' perceived interests and personal motivation in light of the recommended study choice. The same was true for pupils' perceived work or learning attitude (in 16/35 conferences). Examples such as *"if you think of GSE for next school year, that is questionable for me, because you do not meet our expectations when you have to study seriously"* (Lennard: Teacher 6), and *"we should really work on his learning attitude and independently doing his homework, and we should follow his planning of school work"* (Jennifer: Teacher 4) illustrate which aspects are essential for teachers in this regard (next to pupils' working speed, concentration, persistence and the extent to which they work precisely). Furthermore, pupils' self-image was expressed by the teachers as an important factor in the study choice recommendations, but to a lesser degree (in 4/35 conferences). Considerations such as being able to deploy talents and experience success, and to have sufficient time for things outside of school (e.g. hobbies), were included in the study choice recommendations. The importance of both pupils' work and learning attitude and self-image can be underlined, since teachers also mentioned these aspects more generally as important areas of concern in light of the transition to secondary education.

A single teacher (in 1/35 conferences) took the wellbeing of a pupil's parents into account when discussing the study choice recommendation. In particular, the teacher recommended

TSE, whereas the mother initially preferred GSE. Because of a perceived imbalance between the pupil's school results and the amount of effort needed to achieve those results, which had already created a lot of stress for the mother, the teacher recommended a less demanding academic track.

A long-lasting school career in view of school choice recommendations

When recommending a specific school, a quarter of the teachers (in 9/32 conferences in which teachers gave school choice recommendations) looked at the possibility of pupils to complete their school career in the school of their choice. Two main aspects were important in this perspective. Firstly, teachers found it desirable for pupils to be able to continue the study choice made in the first grade after the first two years of secondary education in the same school. Therefore, the recommended school needed to offer a similar package of study curricula throughout the three grades of secondary education. Secondly, the possibility for pupils to change their study choice in the school of their choice after the first grade was crucial. Dana (Teacher 1), for example, expressed such concerns when discussing an optional school with parents:

> *"Which choice do you have to make? If you choose School Y, then she will have possibilities to redirect. If you conclude in November it is really not going well you can still give her another chance until the Christmas holidays* [in view of the first examination period which then takes place]*. If she fails her exams, she can possibly change her study curriculum within the school. In case of School X, that is not a possibility."*

Furthermore, the school choice recommendations were based on teachers' perceptions about the care, guidance and support of pupils (in 8/32 conferences) as well as the precise study offer of secondary schools (in 7/32 conferences). Reactions such as *"School X has a good care programme"* (Dana: Teacher 1) and *"your daughter needs continued guidance in working with her resources* [as a result of a learning disability], *but School Y is a good choice in that perspective"* (Jennifer: Teacher 4) illustrate this. With respect to the schools' study offer, as large as possible as well as rather specific study offers (e.g. the offer of sports) were pursued in order for pupils to *"search for their talents and preferences"* (Lucy: Teacher 3). To a lesser degree, teachers also mentioned the schools' reputation (determined by the perceived quality of education, the schools' degree of discipline and others' satisfaction about the schools) (in 6/32 conferences) and geographical accessibility (in 4/32 conferences). Lastly, some teachers were convinced by the importance of the schools' common way of assessing pupils (e.g. a

system of continuous assessment instead of regular examination periods) (in 2/32 conferences) and size of the school (in 1/32 conferences).

In addition to these perceived school characteristics, a minority of teachers (in 6/32 conferences) mentioned perceptions with respect to the pupils. From this point of view, the school had to respond to the pupils' wellbeing (e.g. the school as a familiar and 'safe' environment due to a brother or sister that was also going to the same school) as well as to their personal motivations (i.e. the school had to be the school of their choice).

Recommendations resulting in positive and negative study choices of pupils

Since perceived school characteristics were the most crucial influence on perceptions when discussing optional schools, the teachers' recommendations about schools were a rather neutral message. However, with regard to the different study choice options in which pupils' perceived attributes dominated as influencing perceptions, teachers communicated in favourable and unfavourable ways. A small number of teachers (in 6/35 conferences in which teachers gave study choice recommendations) communicated an exclusively negative message with regard to their study choice recommendations, whereby negative work and learning attitude and pupils' weaker school results were important. However, almost half of the teachers (in 16/35 conferences) gave an absolutely positive study choice recommendation on the basis of only positive perceptions. In these cases, the recommendations were argued especially as being in line with pupils' interests and motivation, followed by their strong school results and achievements, positive work and learning attitude and self-image. In addition, one third of the teachers (in 10/35 conferences) took a combination of both favourable and unfavourable perceived pupils' attributes into consideration. In the following example, Lucy (Teacher 3) reflected on the pupil's work and learning attitude and personal interests as a reaction to the parents' question concerning the possibility of GSE (i.e. an educational track from the second grade) for their daughter:

> *"In terms of capacity she might have more to offer than she always shows. Her working speed is the main difficulty here and maybe also her motivation to study. In this perspective, I think that additional general courses* [optional courses in the first grade considered by the teacher as a forerunner of GSE] *probably are not the best option for her. Because, not looking at her capacities, but at her own motivation, she would be able to do that. But I think that doing something artistically with those optional courses really fits her like a glove."*

Conclusion and discussion

In the present study, we investigated Flemish primary school teachers' recommendations regarding pupils' enrolment in secondary education, as discussed at formal teacher-parent conferences. Based on the results of the observations of the conferences, we were able to gain insights into how allocation exactly occurs (i.e. the teachers' communication of their recommendations to parents in terms of its content; cf. Research Question 1), and how recommendations are formed (i.e. the influence of teachers' perceptions upon which the recommendations are based; cf. Research Question 2).

Regarding the first research question, we conclude that there is a large variation in teachers' recommendations. As reflected in its content, the teachers made a distinction between school choice and study choice recommendations while discussing pupils' transition to secondary education, although teachers' study choice recommendations were more at the centre of the conversations. In line with the specific structure of the Flemish educational system (Department of Education and Training, 2008), teachers mostly communicated a single study choice recommendation particularly in terms of the short-term study choice options in the first and second grade of secondary education. The teachers also integrated longer-term study choice options in secondary education in their study choice recommendations with regard to the pupils' future educational and professional careers. This wide range of study choice options, demonstrating a large heterogeneity with respect to the teachers' recommendations, is consistent with the recognised essential role of teachers and their individual decision-making processes for the allocation of pupils in less meritocratic educational systems (e.g. Eurydice, 2011; Gorard & Smith, 2004). This clearly applies to the Flemish educational system as well.

Firstly, the large heterogeneity is related to the content of the recommendations as well as to the frequency of the elements integrated in the recommendations. In a sense, the teachers skipped the first grade of secondary education in their study choice recommendations by not (explicitly) mentioning the distinction between the A- and B-stream at the onset of secondary education. None of the teachers recommended that any pupil should enrol in the B-stream. This finding is partially in line with what we would expect, given that in Flanders the larger part of the pupils are recommended to enrol in the B-stream based on their age. When pupils reach the age of 15 years before the end of primary education, they are obliged to proceed to secondary education (Department of Education and Training, 2008). Based on our results, it seems unlikely that the B-stream, in contrast to the A-stream and its optional courses, would be a study curriculum that pupils, parents and teachers consciously and positively choose or

recommend, for instance on the basis of pupils' actual interests in a vocational education. Otherwise, Latin (i.e. an optional course in the first grade) and TSE and GSE (i.e. educational tracks from the second grade) were recommended the most by the teachers. In line with the hierarchical, tracked nature of the Flemish educational system, these are exactly the study choice options that are valued the most in our society and that are considered to prepare pupils for more academic education (Department of Education and Training, 2008). Given that the majority of the teachers gave exclusively positive study choice recommendations based on positive teachers' perceptions, it may be that they generally perceive their pupils as doing well at school and, consequently, that they positively assess the pupils' aptitude for enrolment in the more academic study choice options in secondary education. As such, teachers' decision-making regarding allocation may be nested in hierarchical thinking, with a risk of confirmation and reinforcement of the existing cascade system in Flanders. This raises questions about primary school teachers' knowledge of the Flemish educational system and their conceptions of pupils' allocation and transition. Logically, the same holds for other educational systems that are considered to be tracked. Secondly, differences with regard to the teachers' recommendations were noticeable not only with respect to each individual teacher, but also between the various teachers included in this study. Now the question arises as to whether allocation is in fact a process shaped by the individual teacher and/or by the school (policy). Also, one might wonder whether these interpersonal differences can be explained by teachers' (background) characteristics such as gender and social and cultural backgrounds. Due to the exploratory scale of this study, we were not able to investigate this in more detail. In order to draw even more powerfully supported conclusions concerning allocation by teachers, examining this topic on a larger scale would add value to our current knowledge base.

Regarding the second research question, our first and main conclusion is that in agreement with the long tradition of teachers' thinking research (e.g. Ashton, 2015; Fang, 1996) and teachers' expectancy research (e.g. Jussim & Harber, 2005; Rosenthal & Jacobson, 1968) teachers' perceptions are crucial for teachers' behaviour and classroom practices, and in particular for teachers' allocation practices of pupils (e.g. Fulmer et al., 2015). The teachers included in this study expressed multiple perceptions at the teacher-parent conferences related to pupils, secondary schools and, to a lesser degree, parents in order to argue their recommendations. Thus, in line with the contextual nature of both teachers' perceptions (e.g. Bandura, 1986; Fives & Buehl, 2012) and assessment practices of pupils (e.g. Fulmer et al., 2015), these results indicate that perceptions other than that of the pupils (at the micro-level) also exert an influence on the teachers' recommendations. Although the teachers also considered school characteristics (at the macro-level), we found only limited indications for

the importance of teachers' perceptions of parents in view of their recommendations (at the meso-level). Future qualitative research that enables study of these contextual influences and their possible impact in-depth may provide more insight. Following Fives and Buehl (2012) who state that teachers' implicit perceptions cannot be grasped through reflective practices, perhaps a combination of observations and in-depth interviews with teachers are the most effective, in this regard.

Differences were noticeable between the influencing perceptions of the teachers' school choice and study choice recommendations. In contrast to perceived school characteristics that dominated teachers' school choice recommendations, the teachers primarily focused on pupils' attributes when discussing their study choice recommendations with parents. In line with the international three motives model of pupils' and parents' school choice (Gorard, 1999), our results indicate the importance of the schools' reputation and geographical accessibility, as perceived by the teachers. Nonetheless, other teachers' perceptions were more important, more specifically the perceived opportunity for pupils to continue but also change their initial chosen study curriculum in the school of their choice, the schools' care, guidance and support of pupils and the schools' study offer. The importance of the study choice options offered for school choice is thus highlighted, questioning the finding of Boone and Van Houtte (2010) and Creten et al. (2000) that school choice and study choice are made simultaneously and are essentially the same.

In view of the teachers' study choice recommendations, they especially considered pupils' school achievements. Thus, consistent with the Pygmalion study of Rosenthal and Jacobson (1968), the teachers' recommendations are predominantly based on pupils' perceived cognitive attributes. Nevertheless, as stated by Farkas (2003), Farrington et al. (2012) and Boone and Van Houtte (2013b), teachers' perceptions of pupils' non-cognitive attributes are also important for teachers' recommendations; in the present study teachers expressed views about pupils' perceived interests and personal motivations for certain study choice options and work or learning attitude. As such, following Timmermans et al. (2016), this study makes a valuable contribution to the evidence base of teachers' perceptions of pupils' non-cognitive attributes that influence their recommendations. However, the question remains on what information the teachers' perceptions were actually based: teachers' personal impressions or 'objective' pupils' assessments? This is essentially a question about the accuracy of teachers' perceptions and, in turn, of teachers' recommendations. As Timmermans et al. (2015) state, bias with regard to teachers' recommendations can occur in two ways. Whereas general bias refers to recommendations that are systematically too high or too low for most pupils, specific bias refers to recommendations that are systematically too high or too low for specific

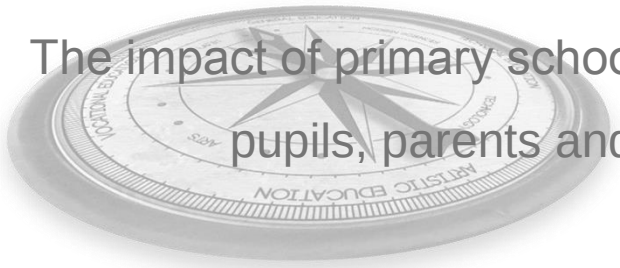
(subgroups of) pupils. As a matter of fact, research in various countries has demonstrated the socially biased nature of teachers' recommendations, in which the impact of pupils' and parents' SES is emphasised (e.g. Boone & Van Houtte, 2013b; Ditton & Krusken, 2006; Duru-Bellat, 2015; Elbers & de Haan, 2014; Glock et al., 2013; Timmermans et al., 2015). From this perspective, regardless of pupils' level of achievement, children from low SES parents are more likely to receive a recommendation to enrol in less academic tracks of secondary education, compared to their counterparts with high social backgrounds. Important policy-related implications can be found in these consequences. In this way, it is very important for (student) teachers to become (more) aware of their allocation practices, that is, how and why recommendations are formed or upon which perceptions the recommendations are based and the possible impact of their recommendations.

Notwithstanding the unique strength of observation as a very authentic method of data collection, observation studies are not without their critics (Cohen et al., 2011). One of the ethical dilemmas that needs to be considered is the risk of bias in terms of the researcher's own position during the observations and the influence of the researcher's presence on what is taking place during the observations (i.e. observer effects). Given that the observations in the present study were direct (i.e. the researcher was present at the observations) and overt (i.e. the role of the observer as researcher was known), one might wonder to what extent the teachers and parents observed may have changed their behaviour and communication because they knew that they were being observed. Although observer effects are inevitable in this type of observation, we consciously took several appropriate measures to, to the best of our ability, overcome the risks of reactivity of the participants. First, the teachers and parents included in this study voluntarily choose to take part after being informed about the nature of this study and after it being explicitly explained that an anonymous processing of the data is guaranteed. By asking for informed consent, we can assume that the participants did think about the researcher's presence and its possible consequences. Second, the observations took place in the teachers' natural environments. Also, for parents it is self-evident that teacher-parent conferences, in which pupils' transition to secondary education is discussed, take place in the school of their children. In this way, the participants operated in their familiar environments, which makes them less susceptible to influences exerted by the researcher, at the very least with respect to the context in which the observations took place.

Finally, as also described by Cohen et al. (2011), as a traditional characteristic of observation, the researcher intended not to intervene in the teacher-parent conferences and not to participate in the conversations in any way. In this manner, the researcher was presented only a snapshot of the daily reality of the teachers. Consequently, as a restriction of the observation

method used in the current study, no additional information about the parents and pupils concerned was collected. Nonetheless, considering the impact of pupils' and parents' social background on the recommendations given by teachers (e.g. Boone & Van Houtte, 2013b; Ditton & Krusken, 2006; Duru-Bellat, 2015; Elbers & de Haan, 2014; Glock et al., 2013; Timmermans et al., 2015), questions concerning differential allocation practices of teachers regarding subgroups of pupils may arise. Future research could investigate the extent to which teachers' perceptions of pupils are biased, while considering pupils' demographic background characteristics. Similarly, no additional information about the effects of the teachers' recommendations, that is, after enrolment in secondary education, was collected. In the knowledge that the teachers' recommendations are not legally binding in Flanders, it would be interesting to investigate whether pupils and parents actually follow these recommendations. This question is relevant in the context of school effectiveness research and deserves further clarification through future (longitudinal) research.

Chapter 7



The impact of primary school teachers' expectations of pupils, parents and teachers on teacher track recommendations

Introduction [2]

Children are confronted with different turning points in their educational careers, of which the transition to secondary education is a crucial changeover (Terwel, 2006). In alignment with the worldwide tracked nature of educational systems (cf. streaming, stratification, ability grouping, or other forms of educational differentiation), pupils are sorted into different groups, classes and schools during this transition (Ireson & Hallam, 2001; LeTendre et al., 2003; Van de Werfhorst & Mijs, 2010). Given the profound impact of pupils' early educational choices on their academic trajectories and future educational and occupational opportunities (Belfi et al., 2012; Dockx et al., 2016; Levin, 2009; van Rooijen et al., 2017), the importance of primary school teachers' allocation process of pupils and teachers' decision-making, in this regard, is highlighted.

This particularly applies to less meritocratic educational systems (e.g. Germany and France), in which pupils are commonly allocated based on teacher track recommendations (Eurydice, 2011; Gorard & Smith, 2004). These recommendations – whether legally binding or not – can be considered as the expressions of teacher expectations of pupils' (future) abilities and potential (Boone & Van Houtte, 2013b), which are traditionally discussed with parents during formal teacher-parent conferences at the end of primary education (Alasuutari & Markstrom, 2011; Elbers & de Haan, 2014; Kotthoff, 2015; Lemmer, 2012). Hence, contrary to meritocratic educational systems (e.g. the United States and Great Britain), in which pupils' allocation is exclusively based on their previous performance in standardised test, less meritocratic educational systems are more loosely organised and teacher-led. In some of these educational systems (e.g. the Netherlands), teacher track recommendations are still combined with the results of standardised tests. In others, such as Flanders, the Dutch-speaking region of Belgium, parents can only formally rely on the teacher's track recommendation due to a lack of binding, nationwide standardised tests at the end of primary education (Boone & Van Houtte, 2013b). Clearly, especially in less meritocratic educational systems, including the highly liberal educational system of Flanders, teacher expectations of pupils' (future) abilities and potential, as embodied in their track recommendations, are essential for allocation. Moreover, as stated by Elbers and de Haan (2014) and Weininger and Lareau (2003), within the context of institutionalised teacher-parent conferences, in which the rules and conditions have been prescribed by the schools, teachers occupy a superior and authoritarian position

[2] This chapter is based on:

Sneyers, E., Vanhoof, J., & Mahieu, P. (under review). The impact of primary school teachers' expectations of pupils, parents and teachers on teacher track recommendations.

in relation to parents, of which the legitimacy is less questioned by parents with a low socioeconomic background (SES) status, comparted to their counterparts. As such, teacher track recommendations are not only important, but also very powerful.

Knowing this, one might wonder exactly what information, perceptions or personal impressions of teachers shape their expectations of pupils' aptitude for educational pathways in secondary education and, subsequently, form the basis of their track recommendations. Nevertheless, despite the acknowledged importance of teacher expectations in view of allocation, a lack of knowledge on this topic still exists. In the past, research into the consequences of allocation (more specifically of tracking) has been at the forefront rather than the processes and mechanisms of allocation (i.e. how teachers form their track recommendations) (Van Houtte, 2011) Furthermore, past research that did deal with the processes and mechanisms of allocation, mainly within the field of teacher expectancy research, is traditionally rather restricted to a single focus on (the impact of) teacher expectations of pupils. In the Pygmalion study as the pioneering work, Rosenthal and Jacobson (1968) were the first to identify the impact of teacher expectations of pupils' intellectual abilities (i.e. cognitive attributes) on the assessment and, in turn, allocation by teachers (i.e. the Pygmalion or self-fulfilling prophecy effect) (Jussim, 2017; Jussim & Harber, 2005). However, as stated by Farkas (2003) and Farrington et al. (2012), just as important are pupils' non-cognitive attributes in shaping teacher expectations of pupils' (future) abilities and potential. Also, in their study, Boone and Van Houtte (2013b) concluded that teachers especially take into account pupils' non-cognitive attributes that are considered to be important for school success, when recommending a track. Nonetheless, as argued more recently by Timmermans et al. (2016), still little is known about attributes other than pupils' cognitive attributes that may shape teacher expectations and subsequent teacher track recommendations. Additionally, Boone and Van Houtte (2013b) found that teachers assess pupils differently according to parents' SES, since these non-cognitive pupil attributes, such as the ability to plan, are considered to be unequally distributed across social classes (cf. the cultural reproduction theory of Bourdieu (Bourdieu & Passeron, 1977)). As a matter of fact, research in various countries has demonstrated the socially biased nature of both teacher expectations and subsequent teacher track recommendations, in which the impact of parents' social background is emphasised (Ditton & Krusken, 2006; Duru-Bellat, 2015; Ready & Wright, 2011; Timmermans et al., 2015; Tobisch & Dresel, 2017).

Thus, in line with the findings of teacher thinking research and teacher expectancy research, as discussed below, these results indicate the necessity to address the contextual nature of teacher expectations, in which not only the impact of pupil attributes needs to be considered.

In the context of allocation, logically, alongside the pupils themselves, these social influences lie within their parents and teachers. Indeed, given the fairly young age of children at the time of transition to secondary education, teachers and parents are jointly and actively involved in the educational decision-making process (Fallon & Bowles, 1998; Gorard, 1999). Moreover, they bear the final responsibility for the children's educational choices.

In summary, although past research already provided some insights into the interplay between teacher expectations and allocation by teachers, there are still many shortcomings. Therefore, by means of inductive reasoning, the aim of this study is to identify primary school teachers' expectations related to the key actors of allocation (i.e. pupils, parents and teachers) and their decisive attributes (i.e. characteristics, skills and abilities), that impact upon allocation. First, we explore the broad range of influencing teacher expectations of pupils and parents. Next, we opt to identify the expectations held by teachers about themselves and about teaching that underlie the allocation process. Teacher track recommendations as an outcome of the allocation process are scrutinized, as is reflected in the following research questions: (1) What teacher expectations of pupils and parents do teachers identify as influencing their track recommendations?; and (2) What expectations held by teachers about themselves and about teaching impact upon their track recommendations?

Theoretical background

Teacher track recommendations in the Flemish educational system

Before we turn to the conceptual framework of (the impact of) teacher expectations, we will start with an elaboration of the Flemish educational system. Children typically enrol in secondary education by the age of 12, preceded by nursery education (theoretically 2.5 to 6 years) and primary education (theoretically 6 to 12 years). Afterwards, students generally attend higher education, including professional education and academic education (theoretically 18 to 25 years) (Department of Education and Training, 2008). At the onset of secondary education, pupils' educational choices and, by extension, teacher recommendations encompass a specific educational track or study curriculum (i.e. a fixed set of different subjects). Due to the socio-religious compartmentalisation of the Flemish educational system, secondary schools strongly vary in their pedagogical project and offered studies. As a result, school choice and study choice cannot be seen separately from one another. Furthermore, the Flemish educational system is characterised by freedom of school choice, indicating that pupils and parents can freely choose to enrol in the secondary school of their choice (Department of Education and Training, 2008). Related to this specific

educational policy of freedom of school choice is the level of socioeconomic and ethnic school segregation, which is found to be exceptionally high in Belgium, compared to other Western countries (OECD, 2006).

The specificity of the educational system under investigation is decisive for the different choice options in secondary education. Unlike primary education, in Flanders, secondary education is tracked. In this way, secondary education is divided into three grades (each of two years) characterised by increasing levels of differentiation (for an overview, see Pustjens et al., 2008). In the first grade, pupils are recommended to enrol in the A- or B-stream, which are considered to be broad and comprehensive. In order to prepare pupils for the more specific tracks in the second and third grade, they are introduced to as many subjects as possible. The A-stream proposes a common curriculum supplemented with optional courses (e.g. Latin, moderns sciences, technology and arts) to prepare pupils for an academic education. The B-stream provides education for pupils who are considered to be less suitable for academic tuition and for those who did not obtain a primary education certificate (in case of unsuccessfully completing primary education) in preparation for vocational secondary education (Department of Education and Training, 2008).

The optional courses can be considered as forerunners for the different tracks in the second and third grade, more specifically general secondary education (GSE: broad curriculum), technical secondary education (TSE: technical subjects), artistic secondary education (ASE: art practices) and vocational secondary education (VSE: vocational-oriented), as well as for the different study fields within each track (e.g. economics-mathematics within GSE). The tracks, as well as the preceding optional courses, are commonly valued differently. Compared to TSE and ASE, which occupy an intermediate position, a relatively higher status is associated with GSE and a relatively lower status with VSE. Pupils attending GSE are more likely to attend higher education and enter “high” status occupations. Theoretically, it is possible to switch backwards and forwards between the different tracks. In practice, however, pupils mostly “fall back” from GSE to TSE or ASE to VSE, resulting in a cascade system (Department of Education and Training, 2008).

The impact of teacher expectations on teacher track recommendations

In order to investigate the information upon which teacher track recommendations are based, we need to address teachers’ cognitive thought processes. Indeed, since the 1980s, researchers’ interests have shifted from solely teacher behaviour and its effects to teacher

thinking (Ashton, 2015; Fang, 1996). Influenced by the developments in cognitive psychology, this paradigm shift was grounded in the growing understanding how human action is affected by one's cognitions (Clark & Peterson, 1986). Despite the lack of clear definitions, in which concepts such as cognitions, expectations, perceptions, judgements and beliefs are inconsistently used, numerous researchers agree on the role of teacher cognitions as filters that shape the interpretation of information, frameworks for decision-making and guides for action (Fives & Buehl, 2012). In line with teacher expectancy research, we will employ the term "teacher expectations" to refer to the outcomes of teachers' cognitive thought processes or decision-making regarding pupils' enrolment in secondary education.

Within this research tradition, teacher expectations are defined as the inferences made by teachers about pupils' (future) abilities and potential, based on teachers' knowledge base about their pupils (Good, 1987). As stated by Tobisch and Dresel (2017), some parts of these expectations are shaped by actually observable attributes of pupils, while other more "hidden" parts are estimated by teachers based on, for instance, their personal experiences and personal systems of knowledge and beliefs. These findings are in line with Kelchtermans' personal interpretative framework (1993, 2009), in which two strongly interwoven sets of cognitions or expectations of teachers are distinguished, that affect teachers' professional behaviour. As such, teachers have certain conceptions of themselves as teachers, that is, a professional self-understanding (e.g. one's self-image, self-esteem and job motivation) as well as personal systems of knowledge and beliefs about teaching and education, that is, a subjective educational theory (e.g. teachers' professional know-how in terms of experiential knowledge about pupils and their parents).

Despite their contextualised nature, generally speaking, prior research into teacher expectations has paid only little attention to the social influences of these expectations. Nevertheless, as stated by Fang (1996) and Fives and Buehl (2012), teacher expectations are modified by and resulting from interactions with the context in which teachers operate (cf. the Social Cognitive Theory of Bandura (1986) and his concept of reciprocal determinism of human functioning). In acknowledgement of the strong involvement of teachers, pupils and parents in the allocation process, we can assume an impact of teacher expectations related to the attributes of these three key actors on allocation. Similar conclusions were drawn by research into assessment and allocation by teachers. As such, the multi-level model of Fulmer et al. (2015) pointed out distinguishable levels of contextual factors affecting teachers' assessment and, in turn, allocation practices. These contextual factors encompass, amongst others, influences in the immediate context of the classroom (i.e. the micro-level), including individual factors of teachers and pupils as well as social factors related to teacher-pupil

interactions, and influences outside of the classroom but with a direct impact upon the classroom (i.e. the meso-level), such as parental influences.

By way of conclusion, teacher expectations can take many forms. Regardless of the forms they take, teacher expectations impact upon teaching. In acknowledgement of this association between teacher thinking and teacher behaviour, we hypothesise that allocation by teachers, and more specifically teacher track recommendations, as outcomes of the allocation process (i.e. teacher behaviour), are influenced by teacher expectations (i.e. teacher thinking). In line with the contextualised nature of both teacher expectations and teachers' assessment practices, we must consider the influencing expectations held by teachers about pupils, their parents and the teachers themselves as well as teaching.

Methodology

Research design and method

Face-to-face discussions are traditionally used to access respondents' "thick descriptions" of the research topic under investigation, enabling the researcher to examine situations, experiences and meanings true the respondents' eyes (Cohen et al., 2011; Rubin & Rubin, 2012). As argued by Cohen et al. (2011), these authentic, context-specific and rich data are strongly in favour of the internal or theoretical validity and dependability (i.e. their notion of reliability in the specific context of qualitative research). As such, when studying allocation by teachers and teachers' cognitive thought processes or decision-making, in this regard, a qualitative research design is particularly suitable. More specifically, the influencing teacher expectations of teacher track recommendations were examined by means of 15 in-depth interviews with primary school teachers (i.e. sixth grade teachers). The interviews were conducted in the period from May to June 2015 and generally lasted one hour to an hour and a half. As part of the Transbaso project, 11 primary schools in two Flemish cities (i.e. Antwerp and Ghent) were involved. As a reflection of today's multicultural society and the high level of socioeconomic and ethnic school segregation in Belgium, Flanders counts a large number of schools with a high incidence of low SES and immigrant pupils. As such, the results of the present study can be considered to be representative of the context of Flemish urban, high multicultural schools.

As a key feature of purposive sampling (i.e. non-probability sampling), the research units were chosen for a specific purpose based on specific selection criteria (Cohen et al., 2011). First, the selection of schools was based on their socioeconomic and ethnic composition.

Information on this criterion was based on official information of the Flemish Department of Education and Training (2015). In accordance with the large amount of multicultural schools in Flanders, our goal was to address schools with a high social and cultural diversity. At the same time, due to the inductive research approach of this study, we pursued a natural variation with respect to the pupils and their parents included. Therefore, we purposively selected three types of schools in terms of their incidence of low SES and immigrant pupils. This resulted in a representation of 11 primary schools with a low (one school, three teachers), average (six schools, seven teachers) and high (four schools, five teachers) incidence of low SES and immigrant pupils. Next, by means of voluntary response sampling, all sixth grade teachers of the selected schools were asked to participate in the study, in order to access those who are responsible for, and have in-depth knowledge about, pupils' allocation to secondary education. Fifteen teachers were willing to participate. Moreover, empirical saturation was reached at that point (i.e. theoretical sampling) (Cohen et al., 2011).

Data collection

Similar to the interview guide approach, as one of the distinguished interview types by Patton (1980), we conducted semi-structured interviews. Open-ended questions were used, in which the interviewee's response was minimally restricted (Cohen et al., 2011). Considering the research objective aiming at exploring or generating theories concerning the influencing teacher expectations of teacher track recommendations, three main interview topics were specified in advance in the form of an interview guideline, though the sequence and wording of the questions could be dealt flexibly. The choice for these main interview topics depended on the specific research questions of the present study: (1) What teacher expectations of pupils and parents do teachers identify as influencing their track recommendations?; and (2) What expectations held by teachers about themselves and about teaching impact upon their track recommendations? In line with these research questions, our interview topics were: (1) teacher expectations of pupils (cf. Research Question 1), (2) teacher expectations of parents (cf. Research Question 1) and (3) teacher expectations about the teachers themselves and about teaching (cf. Research Question 2), and their experienced influence on the track recommendations of teachers.

Data analysis

The in-depth interviews were audio recorded and transcribed by means of the verbatim principle. Based on the computer-based software programme NVivo, the data were qualitatively analysed through coding and content analysis. All of the information was encoded

by using open coding to label and sort the information. In accordance with the inductive nature of the data collection, a basic coding scheme was used and adjusted with the creation of codes during the coding process itself. The codes were further refined and deepened using axial and selective coding, moving from specific to general theory building (Cassell & Symon, 2004; Cohen et al., 2011). Additionally, the data analysis was approached from an emic point of view. The data analysis was based on the conceptual framework of the teachers being researched, rather than on the conceptual framework of the researcher (i.e. etic approach), in order to be able to generate theories concerning the influencing teacher expectations of teacher track recommendations (cf. inductive approach) (Arthur et al., 2012). Although face-to-face interviews are interpersonal and therefore inevitably subject to bias, an emic data analysis approach benefits the internal validity and dependability of the gathered data. Furthermore, by giving the respondents the opportunity to check the transcriptions of the in-depth interviews and to add further information (i.e. respondent validation) (Cohen et al., 2011), we consciously took measures to minimise validity threats.

Results

In order to explore the broad range of primary school teachers' expectations that influence their track recommendations, the participating teachers are asked which attributes of pupils, their parents and themselves as teachers as well as the teaching practice are taken into account when allocating pupils to secondary education and in what way. In line with the inductive nature of the data collection, the influencing attributes are questioned both spontaneously and explicitly. This results in an identification of crucial pupil, parental and teacher attributes, as decisive factors of the teacher expectations related to these actors.

When the participating teachers are asked, *"which actors and/or factors do you think play an important role for your track recommendations?"*, pupil, parental and teacher attributes are spontaneously mentioned, though not to the same extent. As one might expect, all of the teachers indicate that they especially consider pupil attributes when deciding on their track recommendations. In contrast, only one teacher spontaneously indicates to consider his or her own attributes. Parental attributes are further found to be important by half of the teachers. In comparison with the findings, as described above, different results are found when the participating teachers are explicitly asked to identify which pupil, parental and teacher attributes are influencing their track recommendations. Table 6 describes the number of times each participating individual teacher expresses pupil, parental and teacher attributes. Pupil attributes remain the most frequently mentioned (mentioned 56 times in total) and also parental attributes are considered by a substantial number of teachers (mentioned 20 times

in total). Surprisingly, when looking at the teacher attributes, a different picture occurs. Teacher attributes are considerably more taken into account (mentioned 32 times in total), when questioning its influence on teacher track recommendations explicitly. We can thus conclude contradictions in findings concerning the influencing character of teacher attributes depending on the spontaneous versus explicit phrasing of the question. Consequently, the extent to which the teachers are aware of, or recognise, their own impact on pupils' allocation, can be questioned.

Table 6: Number of influencing pupil, parental and teacher attributes of teacher track recommendations, as expressed by teachers

Teachers[a]	Pupil attributes	Parental attributes	Teacher attributes	Total
Lily	2	0	2	4
Daniel	5	2	4	11
Logan	4	3	2	9
Evelyn	4	1	2	7
Matthew	4	1	2	7
Jennifer	5	1	3	9
Vivian	3	0	2	5
Patricia	3	2	1	6
Gloria	4	1	2	7
Melanie	4	3	1	8
Sandra	4	1	1	6
Wesley	2	0	2	4
Kate	5	2	2	9
Kirsten	3	2	3	8
Jack	4	1	3	8
Total	56	20	32	108

Note. [a]We used fictitious teacher names.

When focusing on the specific nature of the influencing pupil, parental and teacher attributes, seven different pupil attributes are distinguished by the teachers in view of their track recommendations, compared to five parental attributes and five teacher attributes. The attributes, which are discussed below, are shown in Table 7 and listed in order of their perceived importance, based on the number of times expressed by the teachers.

Table 7: Identification of influencing pupil, parental and teacher attributes of teacher track recommendations and number of times expressed by teachers

Attributes	Expression
Pupil attributes	
Motivation or interests	13
Learning attitude	13
School achievements	11
Well-being	8
Talents or strengths	7
Intelligence	2
Maturity	2
Parental attributes	
Support of schoolwork	10
Parental involvement	5
Availability of resources	2
Expectations of the child's educational career	2
Family structure	1
Teacher attributes	
Educational beliefs	13
Personality beliefs	6
Experience with orientation	3
Relationships with pupils	3
Confidence and perceived role regarding allocation	2

Influencing pupil attributes

Both cognitive and non-cognitive attributes of pupils are considered by the teachers in view of their track recommendations, of which the latter to a slightly greater extent than the first-mentioned. Thirteen out of the fifteen participating teachers indicate the influencing nature of pupils' *motivation or interests* for certain choice options of secondary education, referring to *"the educational tracks that pupils prefer"* (Jack, Teacher 15) *and "what pupils want to be when they grow up"* (Matthew, Teacher 5). The same is true for pupils' *learning attitude*, referring to, amongst others, their effort and participation in the classroom and the extent to which they work independently. Furthermore, pupils' *school achievements* are mentioned by approximately a two-thirds majority of the teachers. Pupils' *well-being* and *talents or strengths* are taken into account by roughly half of the teachers, followed by a few teachers who indicate to consider pupils' *intelligence* and *degree of maturity*. The following reaction of Matthew (Teacher 5) illustrates the perceived importance of several of the above-mentioned attributes and the extent to which they are decisive for his track recommendations:

> *I put the school report* [school achievements] *at the top, that is the most important thing for me. Then, the interests of the pupils, what they like* [motivation or interests]*, and of course also their talents, what are their strengths* [talents or strengths]*, because pupils are not necessarily good at what they like. Also very*

> *important is the work attitude or how the child studies* [learning attitude]*. These are the most important aspects for me*.

Also Daniel (Teacher 2) explains the perceived importance of pupils' motivation or interests for certain choice options of secondary education as well as pupils' talents or strengths:

> *I think that, above all, two aspects are very important, more specifically what is a pupil good at* [talents or strengths] *and what does he or she like* [motivation or interests]*. Pupils should choose an educational track based on their strengths or their personal preferences, preferably based on both. If a pupil should have to choose either one, then I would prefer the latter.*

Lastly, Kate (Teacher 13) comments on the importance of pupils' intelligence or cognitive abilities in view of her track recommendations regarding pupils' enrolment in secondary education:

> *One's intelligence* [intelligence] *is something else than one's school results* [school achievements], *something broader than only performances. Currently, I have a pupil in the classroom who is very worldly and open-minded. He can talk about everything. But there are also other pupils who are, for example, very practically oriented. That is also intelligence. I would recommend both pupils a different track, not because the one is more or less intelligent than the other, but because they are both intelligent in their own, different way.*

With respect to the pupils' well-being, examples such as *"pupils' position in a group, are they leaders, are they followers or are they outsiders?"* (Evelyn, Teacher 4) and *"a child will not succeed if he or she does not feel at home"* (Kirsten, Teacher 14), illustrate the emphasis the teachers lay on pupils' social functioning, self-image and need for care support or guidance.

Influencing parental attributes

When deciding on track recommendations, a two-thirds majority of the teachers consider the *extent to which parents support their children in their schoolwork* at home. By this, the teachers refer to, for example, the supervision of schoolwork and offering help with studying. Patricia (Teacher 8), for instance, considers parental support in the light of her track recommendations:

> *In secondary education, pupils get a lot of homework and the subject matter becomes more difficult* [compared to primary education]*. I want to avoid advising, for instance, GSE* [considered as the most demanding educational track in the second and third grade] *to a pupil that has to work very hard and which I suspect that he or she will not get any support at home. However, if the pupil will get support, he or she is less likely to fail and to lose his or her interest in school.*

Additionally, one third of the teachers express the importance of *parental involvement* with respect to school and education. Compared to the support offered by parents, parental involvement is rather situated at the emotional or psychological level and encompasses more than just assistance with pupils' schoolwork. A minority of teachers further mention the extent to which parents can make important (financial and cultural) *resources* available for their child (e.g. access to the internet) and the specific *family structure* (i.e. searching for a compromise regarding track recommendations in case of divorced parents). The conversation with Logan (Teacher 3) illustrates the importance he attaches to the occurrence of financial resources and the involvement of pupils' parents:

> *How is the financial situation at home? When pupils make the transition to secondary education, they will need a computer when doing their homework and for that, you need access to the internet. Can parents realise that financially, and can they handle money wisely* [resources]*? But also, do the children get support from their parents and can they talk to their parents? What I find very important, is whether parents are interested in what happens at school* [parental involvement]*.*

Furthermore, a minority of teachers express their perceived importance of *parental expectations concerning their children's educational career*. As such, the teachers indicate a connection with *parents' sociocultural background*, which they strongly emphasise. Particularly immigrant parents have high and often unrealistic expectations, as experienced by the teachers. Specific beliefs about how the future of their child should look like and preconceptions regarding the Flemish educational system, in which certain track options of secondary education are more valued than others, are held responsible for this. It further appears that the child's cognitive school results are highly valued by immigrant parents, as the basis on which they make choices with respect to secondary education (and thus without or insufficiently taking into account the child's preferences). The following example of Melanie (Teacher 10) illustrates her experiences, in this respect:

> *Most of the time, my track recommendation corresponds with the choice of the child's parents. But there are still a lot of parents, especially immigrant parents, who have very high expectations and who do not always have a realistic view of the school results and the qualities of their child. They then want to aim too high* [referring to choosing one of the most demanding educational tracks in secondary education]*, resulting in an unhappy child. […] One of my pupils is not going to obtain his primary education certificate at the end of the school year. If I had known in advance that his parents would make a wise choice* [regarding enrolment in secondary education]*, I would have let him graduate. But I know that his parents prefer a secondary school that is unrealistic for him, so I have decided to force him into the B-stream* [one of the oriented streams within the first grade of secondary education for those pupils who did not obtain their primary education certificate].

Next to the teachers who consider parents' expectations concerning their child's educational career in relation to sociocultural background, four other teachers express similar experiences. They also acknowledge the importance of this parental attribute, however, they do so without allowing it to be of any influence for their track recommendations. Irrespective of the fact that the teachers do, or do not, experience an impact of parents' sociocultural background on pupils' allocation, it was much debated. Wesley (Teacher 12), for instance, underlines that he is, in a sense, powerless in comparison to immigrant parents and the educational choices they make:

> *There is a large difference between immigrant parents and native parents. I have certain immigrant parents in mind who refuse to send their son to a technical secondary school* [referring to the study offer of mainly TSE and/or VSE] *because they believe that a general secondary school* [referring to the study offer of mainly GSE] *is superior. I, however, do not consider parents' and pupils' sociocultural background in view of my track recommendations. I simply want the best for my pupils, but some immigrant parents have a different opinion than mine and there is nothing that I can do in order to change this.*

Influencing teacher attributes

Both expectations related to the teachers themselves (cf. a teacher's professional self-understanding) and to teaching or education in general (cf. a teacher's subjective educational theory) are found to influence teacher track recommendations. As such, the majority of teachers report various *educational expectations*. Two main groups can be distinguished in

this respect: (1) expectations concerning the Flemish educational system and its specific structure, and (2) expectations concerning the compatibility between pupil attributes and their educational choices. Looking at the first group, Matthew (Teacher 5) demonstrates that, *"I try to pass on to my pupils that every track option is equally good and that it does not matter what you choose, as long as it is something you are comfortable with".* In addition to the equality of the different track options of secondary education in the Flemish educational system, the changeable and non-predictive nature of the initial track choice of pupils is also emphasised. Wesley (Teacher 12), for example, states that, *"I say to my pupils that they will not be attached to the track choice made at the start of secondary education. Look at me; six years of TSE followed by something completely different in higher education"*. In line with the previous findings regarding the influencing pupil attributes of teacher track recommendations, the teachers of the second group believe that pupils' track choices of secondary education need to be compatible with certain pupil attributes. Next to pupils' motivation or interests and learning attitudes, *"pupils should definitely employ their strengths* [talents or strengths]*, when deciding on a track choice"*, as illustrated by Jack (Teacher 15).

Approximately one third of the teachers also report a perceived influence of their *personality* on teacher track recommendations. Examples, such as the impact of a very positive approach to life on the attached importance to pupils' self-confidence and self-image, are mentioned. Also Jennifer (Teacher 6) explains the perceived impact of a very performance-oriented attitude on pupils' global self-fulfilment:

> *As a child, I was very performance-oriented. Even now, I still push my pupils to achieve their potential. The choice for a specific track in secondary education may not be a "lazy" choice. I have already learned that a child can perform at different levels and that the best track choice is not always the most intelligent or demanding one. A child can also stand out in a different way. But it is still true that I want to help my pupils to become the best possible version of themselves. This inevitably has an impact on how I allocate my pupils.*

In addition, Lily (Teacher 1) talks about the importance she attaches to the pupils' well-being as a result of her being very empathetic:

> *I strongly pay attention to the children's well-being and where they are going to feel at home. I think that is just a part of who I am, that I very much try to empathise with the children and focus on the care of pupils. Pupils, for example, who think studying is horrible… you cannot advise them to enrol in Latin* [an optional course

of the A-stream in the first grade that can be considered as forerunner for GSE from the second grade]. *I do think I allow such feelings to take part in the allocation of pupils*.

Lastly, some teachers state that their *experience with pupils' allocation* and *the extent to which they feel confident to allocate* (e.g. feeling very confident in deciding on track recommendations and also defending it with great vigour towards parents) are important issues in view of teacher track recommendations. The same is true for *teachers' relationships with pupils*. The teachers point to certain aspects of these relationships that exert an influence on the extent to which they "earn" pupils' respect and really get to know them, which is, in turn, important to be able to allocate pupils in a good way. Examples, such as *"an open and friendly atmosphere, in which pupils experience no obstacles to ask me things or to tell me things"* (Vivian, Teacher 7) and *"pupils who know the real me and vice versa*" (Kirsten, Teacher 14), are mentioned, in this respect.

Conclusions and discussion

Considering the crucial role of teachers' individual decision-making regarding pupils' enrolment in secondary education, a contribution to the inquiry into the processes and mechanisms of allocation is made by addressing the influencing teacher expectations of teacher track recommendations. Given the lack of knowledge on this research topic, an inductive approach was used in order to explore the broad range of influencing expectations held by teachers about pupils and their parents (cf. Research Question 1), and about the teachers themselves as well as about teaching (cf. Research Question 2). This results in an identification of decisive pupil, parental and teacher attributes that influence teacher track recommendations.

In line with the traditional focus in teacher expectancy research on pupil attributes (i.e. cognitive abilities) (Jussim, 2017; Jussim & Harber, 2005; Rosenthal & Jacobson, 1968), our first conclusion is that the teachers, above all, take attributes of pupils into consideration, when deciding on a track recommendation. As such, pupils' perceived motivation or interests for choices options of secondary education and their perceived learning attitude are found to be the most decisive, followed by their school achievements (cf. Research Question 1). Thus, in line with the findings of Farkas (2003), Farrington et al. (2012) and Boone and Van Houtte (2013b), teachers consider non-cognitive pupil attributes to be slightly more influential in comparison to cognitive attributes. As such, following the plea of Timmermans et al. (2016) for more insight into the impact of pupils' perceived non-cognitive attributes, this study makes

a valuable contribution to the evidence-base of teacher expectations of pupils' non-cognitive attributes that influence teacher track recommendations.

Secondly, in line with the contextual nature of both teacher expectations (Fang, 1996; Fives & Buehl, 2012) and teachers' assessment of pupils (Fulmer et al., 2015), our results indicate that teacher expectations other than that of the pupils (at the micro-level) also exert an influence on teacher track recommendations. These results are particularly innovative, as they provide exploratory evidence for the impact of teacher attributes and, to a lesser extent, parental attributes, on top of pupil attributes, which enlarges our current vision and knowledge base about the research topic under investigation. In accordance to the distinguished teacher expectations by Kelchtermans (1993, 2009), the teachers of the present study expressed the importance of attributes related to themselves (cf. a professional self-understanding) (predominantly in terms of their perceived personality), as well as to teaching in general (cf. a subjective educational theory) (e.g. in terms of the specific structure of the Flemish educational system) in view of their track recommendations (cf. Research Question 2). Additionally, alongside teacher attributes (at the micro-level), the teachers also consider parental attributes, particularly in terms of perceived parental support, when deciding on track recommendations (at the meso-level) (cf. Research Question 1).

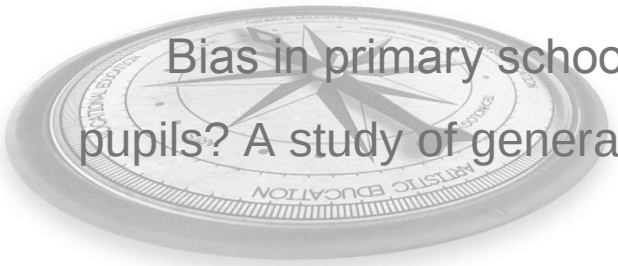
However, questions can be raised about the extent to which the teachers are aware of, or recognise, the influence they can exert on allocation, given that the importance of their own attributes only become apparent when explicitly questioning this issue. The same is true for the influence that teacher expectations of parents can exert on teacher track recommendations (referring to the teachers' negative experiences with respect to (immigrant) parents' expectations of their children's educational career and whether or not they allow it to impact upon their track recommendations). In line with Boone and Van Houtte (2013b) stating that the impact of parents' SES is rather indirect, the teachers might unconsciously consider parents' SES through their expectations of pupils' non-cognitive attributes, such as the learning attitude. Furthermore, despite teachers' positions of great power in education (Elbers & de Haan, 2014; Weininger & Lareau, 2003), the teachers of the present study rather experience feelings of powerlessness with respect to (immigrant) parents – presumably associated with the non-binding character of teacher track recommendations in Flanders – which might also play a role in the teachers' perceived interplay between parents' SES and teacher track recommendations.

Considering the profound impact of tracking on pupils' (future) educational and occupational trajectories (Belfi et al., 2012; Dockx et al., 2016; Levin, 2009; van Rooijen et al., 2017), it is

very important for (student) teachers to become (more) aware of the ways in which they allocate pupils and the ways in which their track recommendations are shaped (in terms of the influencing teacher expectations), especially in less meritocratic and tracked educational systems, such as Flanders. Important opportunities for future research can be found in these policy-related implications. In order to fully understand the influencing teacher expectations of teacher track recommendations, further in-depth research is needed that goes beyond the exploratory. Firstly, future research into this study field should ideally integrate the traditional single approach of teacher expectations of pupils with a contextual approach, in which attributes other than that of the pupils are also included. Secondly, there is an urgent need for more research addressing the impact of teacher expectations about the teachers themselves as well as about teaching and about parents, given that teachers' awareness of its impact is found to be limited. Nevertheless, in today's multicultural society, in which phenomena like educational inequality manifest itself, it is crucial that teachers are aware of the possible influence of parental background characteristics on allocation. Following Fives and Buehl (2012) who state that only teachers' explicit expectations (i.e. expectations of which the teachers are conscious) can be grasped through reflective practices, special attention should be given to unravelling teachers' implicit expectations (i.e. expectations of which the teachers are unaware), perhaps through real-life observations.

Despite the valuable data found in this study, there are also a number of limitations and other suggestions for future research. The influencing pupil, parental and teacher attributes of teacher track recommendations are marked by a large heterogeneity with respect to each individual teacher (referring to the number of attributes expressed), but also between the various participating teachers (referring to the content of the attributes). After having identified the influencing expectations of teacher track recommendations, the need for an explanatory model concerning this heterogeneity arises. In this perspective, and in response to the restrictions of this qualitative, exploratory study, examining this research topic on a larger scale would add value to our current knowledge base. The heterogeneity between the participating teachers of different schools raises the question of whether allocation is, in fact, a process shaped by the individual teacher and/or by the school (policy). Consequently, we also need research that investigates the influencing teacher expectations of teacher track recommendations within the school context, transcending the individual teacher level.

Chapter **8**



Bias in primary school teachers' expectations of pupils? A study of general and specific bias towards SES, ethnicity and gender

Introduction[3]

The long tradition of teacher expectancy research provides clear evidence for the impact of teacher expectations of pupils on pupils' educational outcomes (e.g. de Boer et al., 2010; Jussim & Harber, 2005; Rosenthal & Jacobson, 1968), irrespective of the accuracy of these expectations (Jussim, 1989, 1991). Teacher expectations can subsequently drive teachers' assessment and allocation practices at key transition points and can also have far-reaching implications for pupils' educational and occupational trajectories. For that reason, as stated by Ready and Wright (2011), one of the main aspects of teachers' professionalism is the ability to judge pupil attributes (i.e. their characteristics, skills and abilities) accurately. Particularly the transition to secondary education is a key transitory moment in this regard, as tracking has progressed most significantly in secondary education (e.g. Ireson & Hallam, 2001; LeTendre et al., 2003). According to Good (1987), teacher expectations are defined as the inferences made by teachers about pupils' (future) abilities and potential, based on teachers' current knowledge base about their pupils. Teachers can use various information sources to shape their expectations, including pupils' cognitive attributes (e.g. academic abilities and performance) as well as non-cognitive attributes (e.g. achievement-related behaviours), pupil background characteristics (e.g. social and ethnic background and gender) and contextual or relationship variables (e.g. the quality of the teacher-pupil relationship and the extent of parental involvement in education within the teacher-parent relationship) (Hughes et al., 2005; Riley & Ungerleider, 2012; Rubie-Davies et al., 2006; Rubie-Davies, 2010).

Given the (longer-term) implications of teacher expectations on pupils' academic trajectories, it is of profound importance that these expectations are unbiased. Unfortunately, although there is a general consensus that teacher expectations are fairly accurate (Jussim, 2017), a substantial amount of research points to the biased nature of these expectations, both in general (i.e. bias regarding most of the pupils) and regarding (subgroups of) pupils based on their background characteristics (e.g. Machts et al., 2016; Ready & Wright, 2011; Südkamp et al., 2012). In fact, nowadays, teacher expectancy research findings are frequently used to address the role of biased expectations in the reproduction of educational inequality (e.g. Bol et al., 2014; Jackson et al., 2012; Van de Werfhorst & Mijs, 2010). As such, teacher expectation bias is found to be related in particular to pupils' socioeconomic status (SES), ethnicity and gender (Ready & Wright, 2011). In summary, research into teacher expectation

[3] This chapter is based on:

Sneyers, E., Vanhoof, J., & Mahieu, P. (under review). Bias in primary school teachers' expectations of pupils? A study of general and specific bias towards SES, ethnicity and gender.

bias often produces inconsistent findings and the extent to which these expectations are (un)biased still remains unclear. Therefore, the aim of the present study is to contribute to the body of knowledge on the extent to which teacher expectations of pupils are biased or not and, additionally, whether expectation bias is related to pupil background characteristics.

Theoretical framework

Teacher expectation bias

Teacher expectations of certain attributes of pupils are considered to be biased only to the degree that they over- or underestimate the actual attributes, indicating discrepancies between teacher expectations and pupils' measured attributes (Ready & Wright, 2011). Ready and Wright further state that bias can occur in two ways. Whereas general bias refers to teacher expectations that are systematically too high or too low for most of the pupils, specific bias refers to teacher expectations that are systematically too high or too low for specific (subgroups of) pupils, based on their background characteristics. Teacher expectations that vary in a non-systematic and random manner are called inaccurate (but unbiased). Thus, biased teacher expectations are inevitably inaccurate, but inaccurate teacher expectations are not necessarily biased.

The definition of Ready and Wright (2011) implies that, in order to decide whether teacher expectations are biased, these expectations need to be compared to other, more 'objective' measures of the pupil attributes under investigation. As demonstrated in the meta-analyses of Hoge and Coladarci (1989), Südkamp et al. (2012) and Machts et al. (2016) on teacher expectation bias with respect to pupils' cognitive attributes, these more 'objective' measures are usually represented by pupils' performances on achievement tests. In this regard, overall, moderate to high correlations between teacher expectations of pupils' academic performance and their achievement test scores are reported (i.e. mean effect sizes of r = .66, .63 and .43 in the meta-analyses of Hoge and Coladarci (1989), Südkamp et al. (2012) and Machts et al. (2016), respectively). However, given that much less is known about teacher expectation bias related to attributes other than cognitive attributes, such as pupils' non-cognitive attributes and contextual variables (Timmermans et al., 2016), we did not wish not to reduce this research to teacher-rated pupils' cognitive attributes and their correspondence with pupils' achievement test scores. Therefore, in addition to these test scores, we made use of pupils' self-assessments as expressions of the more 'objective' measures of pupils' non-cognitive attributes and contextual variables.

Influencing information sources of teacher expectations

Pupils' cognitive and non-cognitive attributes

Although the importance of pupils' cognitive attributes in shaping teacher expectations of pupils has been acknowledged, just as important are pupils' non-cognitive attributes (Farkas, 2003; Farrington et al., 2012). From this perspective, multiple attributes, such as work habits and motivation to learn, have been studied in relation to teacher expectations (e.g. Boone & Van Houtte, 2013b; Kelly & Carbonaro, 2012; Timmermans et al., 2016). Clearly, these findings suggest the importance of pupils' non-cognitive attributes in terms of achievement-related or appropriate behavioural aspects. In order to define the crucial cognitive and non-cognitive attributes of pupils in the context of teacher expectation bias, we build on Kornblau's (1982) conceptual framework of teachability. This concept refers to teachers' perceptions about how "teachable" their pupils are. It seems reasonable that teachers consider pupils' teachability when shaping their expectations of pupils' (future) abilities and potential. More recently, several studies have demonstrated lower teachers' teachability expectations regarding low SES and ethnic minority pupils, compared to their counterparts (e.g. Van Houtte & Demanet, 2016; Van Maele & Van Houtte, 2011; Vervaet, D'Hondt, Van Houtte, & Stevens, 2016).

In this study, we address teacher expectations of pupils' cognitive attributes in terms of two core academic skills (i.e. maths skills and language skills) (cf. cognitive-motivational behaviours). We further address teacher expectations of four non-cognitive attributes categorised as school-appropriate behaviours (Kornblau, 1982), being pupils' ability to plan schoolwork, learning independence, alertness or attention in the classroom and motivation to learn. We selected these specific non-cognitive attributes based on our hypothesised importance of pupils' achievement-related or appropriate behaviours, as mentioned previously. As a counterbalance of teacher expectations of pupils' cognitive attributes, we made use of pupils' scores on two standardised achievement tests (i.e. the OVSG-test and the interdiocesan test). In Flanders, these tests are often used to measure pupils' academic performance at the end of primary education.

Additionally, in order to determine teacher expectation bias with respect to pupils' non-cognitive attributes, we address pupils' self-assessed school-appropriate behaviours. In order to do so, we build on the theoretical concepts of approaches to learning (Furnham, 2012) and academic self-efficacy (Bandura, 1990). As both concepts refer to pupils' skills, behaviour and approaches with respect to learning, they have a close similarity to pupils' perceived school-

appropriate behaviours, as defined by Kornblau (1982). Pupils' learning approach consists of work-related skills, such as learning independence and attention in the classroom (Furnham, 2012). Next, derived from Bandura's (1977) general theoretical concept of self-efficacy, pupils' academic self-efficacy points to pupils' beliefs in their capabilities to regulate their own learning and to master different subject matters, including planning of schoolwork (Bandura, 1990). In sum, based on both theoretical concepts and in correspondence with pupils' non-cognitive attributes included in the study, we address pupils' self-assessed planning of schoolwork, independence, attention and eagerness to learn.

Teacher-pupil relationships

The relationships between teachers and pupils can be considered as one of the most important mediators through which teacher expectations exert an influence on pupils' educational outcomes (Brophy & Good, 1970; Harris & Rosenthal, 1985). Brophy (1983) and Jussim and Harber (2005) stated that teachers are typically emotionally warmer and more supportive in their attitudes to high expectancy pupils. Such conclusions had led to the affect-effort theory (Rosenthal, 1973, 2002), indicating that teacher expectations are manifested in differential affect or climates (i.e. the tendency to provide a warm socio-emotional climate for high expectancy pupils) and effort or input (i.e. the tendency to teach more material to high expectancy pupils) towards pupils. As concluded by Brophy and Good (1970) and Harris and Rosenthal (1985), the differences in teacher behaviour are in quality rather than in quantity, underlining the importance of the socio-emotional climate or the teacher-pupil relationship. Indeed, research has shown that the perceived quality of teacher-pupil relationships affects teacher expectations of pupils' future academic performance (e.g. Hughes et al., 2005; Rubie-Davies, 2010; Timmermans et al., 2016). Therefore, in order to determine (biased) teacher expectations, we investigate teacher expectations of the overall quality of their relationships with pupils as well as pupils' self-assessed overall relationships with teachers.

Parental involvement in education

It has been well documented that parental involvement influences pupils' academic performance (e.g. Castro et al., 2015; Hill & Tyson, 2009; Ma, Shen, Krenn, Hu, & Yuan, 2016). Parental involvement can be considered as the active participation of parents in all aspects of their children's social, emotional and academic development (Castro et al., 2015). Parental involvement has been associated with several indicators of school success, such as lower retention rates, and with achievement-related psychological processes and attributes, such as motivation (Hoover-Dempsey et al., 2005). Comparable to the above-mentioned

pupils' cognitive and non-cognitive attributes and the outcomes of supportive teacher-pupil relationships, we hypothesise that teachers, when shaping their expectations of pupils' future academic performance, also take features of parental involvement into consideration. In fact, research has indeed shown that teacher-rated parental involvement is related the expectations of teachers regarding pupils' future academic performance (Hughes et al., 2005). Rubie-Davies (2010), for instance, stated that teachers hold lower expectations regarding pupils who are viewed as coming from families that are less favourable for academic development in terms of parental support for education and their encouragement for learning. Similarly, Hauser-Cram et al. (2003) demonstrated lower teacher expectations regarding pupils whose parents are perceived as having different educational-related values, such as with respect to parental involvement.

Pupil background characteristics

In many European countries with early tracking systems, research has demonstrated inequality in educational decision-making related to pupil background characteristics (e.g. Bol et al., 2014; Jackson et al., 2012; Van de Werfhorst & Mijs, 2010). In this study, we consider pupils' SES, ethnicity and gender, which are the most commonly investigated background variables in relation to teacher expectation bias (Timmermans et al., 2016). Teachers tend to judge the academic achievement and abilities of low SES and ethnic minority pupils less favourably, compared to high SES and ethnic majority pupils (e.g. Glock & Krolak-Schwerdt, 2013; Kaiser et al., 2017; Rubie-Davies et al., 2006; Tenenbaum & Ruck, 2007; Tobisch & Dresel, 2017). As a result, regardless of pupils' level of achievement, low SES and ethnic minority pupils are more likely to receive a recommendation from the teacher to enrol in less academic tracks of secondary education, compared to their counterparts (e.g. Boone & Van Houtte, 2013b; Glock et al., 2013). Additionally, alongside the social and ethnic stereotype, the gender stereotype is also widely shared as influencing teacher expectations of pupils, suggesting that boys perform better in maths than girls and that maths is more appropriate for boys than for girls (e.g. Li, 1999; Timmermans et al., 2015). More recently, research into the gender stereotyping has extended its focus from only maths to STEM (i.e. science, technology, engineering and maths) (e.g. Hofer, 2015; Mechtenberg, 2009) and language (e.g. Nurnberger et al., 2016; Ready & Wright, 2011), favouring boys and girls, respectively.

In their study, Boone and Van Houtte (2013b) suggested that rather than taking pupils' SES consciously into account when shaping their expectations regarding pupils' future academic performance, teachers emphasise specific non-cognitive attributes of pupils, which are considered to be important for school success and to be unequally distributed across social

classes. As such, low SES pupils might be disadvantaged, because these non-cognitive attributes, such as punctuality, seem typical of middle class pupils (Farkas, 2003). Similarly, as concluded by Timmermans et al. (2016), bias in teacher expectations towards boys and girls primarily stems from differences in teacher-rated non-cognitive attributes of pupils (i.e. work habits), which also can be considered to significantly differ across gender. These results emphasise the necessity to address, alongside contextual variables, the interplay between pupils' cognitive and non-cognitive attributes and background characteristics when studying teacher expectation bias.

The present study

The aim of the present study is to contribute to the body of knowledge on the extent to which teacher expectations are (un)biased. More specifically, expectation bias is investigated in the context of pupils' allocation by primary school teachers at the transition to secondary education. In Flanders (the Flemish speaking part of Belgium), pupils are commonly allocated to secondary education based on teachers' individual recommendations, which can be considered as the expressions of their judgements of pupils' (future) abilities and potential (e.g. Penninckx et al., 2011). Hence, in Flanders, teacher expectations of pupils are crucial in view of allocation. Because little is known about the role of attributes other than pupils' cognitive attributes in shaping (biased) teacher expectations and because previous research is generally restricted to a single focus on one particular attribute of teacher expectations instead of multiple attributes that are being studied simultaneously (Rubie-Davies et al., 2006; Timmermans et al., 2016), we address multiple cognitive as well as non-cognitive attributes of pupils and contextual variables, on top of pupil background characteristics. As such, the unique character of the current study becomes apparent. The following two research questions are addressed:

(1) To what extent are teacher expectations of pupils' cognitive and non-cognitive attributes, of teacher-pupil relationships and of parental involvement in education biased?

(2) Does teacher expectation bias with respect to pupils' cognitive and non-cognitive attributes, teacher-pupil relationships and parental involvement in education systematically differ, based on pupils' SES, ethnicity and gender?

Methodology

Sample and data collection

Within a quantitative research design, the analyses were conducted on data gathered in May 2016 from a sample of 36 Flemish primary schools. Two cities in Flanders were chosen because of the high level of social and cultural diversity in their schools. As such, sufficient variation in school composition in the total sample was ensured. The collection of data was part of the Transbaso project.

In total, we gathered data for 535 sixth-grade pupils (when pupils are aged 12), who were assessed by their primary school teachers (sixth-grade teachers) by means of a written questionnaire. The teachers were asked to judge each of their pupils in terms of (1) specific cognitive and non-cognitive attributes, (2) their relationships with the teacher and (3) the involvement of the pupils' parents in education. At the same time, a written questionnaire was completed by the sixth-grade pupils, in order to gather information about (4) their self-assessed non-cognitive attributes and (5) their social and cultural backgrounds and gender. Previously, the pupils' parents were informed by means of a consent letter. In addition, we gathered data for all 535 sixth-grade pupils about (6) their achievement tests scores on the OVSG-test and the interdiocesan test.

Instruments

Given that in many educational systems teachers enjoy considerable autonomy in areas of assessment and allocation, the processes in which expectations are shaped are not necessarily based on a deliberate and systematic approach of collection and analysis of the information available to the teacher. On the contrary, teachers are expected to build on a lot of spontaneous and immediately derived experiences and knowledge with respect to their pupils when shaping their expectations (Klein, 2008; Vanlommel, Van Gasse, Vanhoof, & Van Petegem, 2017). Therefore, in an attempt to grasp these spontaneous and immediate expectations of teachers, general and individual items were used, which are discussed below in more detail.

Pupils' cognitive attributes

Building on the Teachable Pupil Survey of Kornblau (1982) (cf. cognitive-motivational behaviours), all teachers were asked to judge the following two items separately with regard

to each of their pupils: “maths skills” and “language skills”. The teachers could nuance their answers, as they were given five answer categories, measured on a 5-point Likert scale ranging from (1) very weak to (5) very strong. Additionally, we used the pupils’ achievement test scores on the OVSG-test or the interdiosecan test for maths and Dutch language. Theoretically, these test scores could range from 0 to 100, indicating low and high academic performances of pupils at the end of primary education, respectively (Janssen, Van Nijlen, De Mulder, & Ameel, 2017).

Pupils’ non-cognitive attributes

Building on the Teachable Pupil Survey of Kornblau (1982) (cf. school-appropriate behaviours), all teachers were asked to judge the following four items separately with regard to each of their pupils: “ability to plan”, “motivation to learn”, “alert” and “independent”. Again, the teachers’ answers were measured on a 5-point Likert scale ranging from (1) very weak to (5) very strong. Also, all pupils were asked to self-assess their non-cognitive attributes by means of four separate corresponding items. First, based on the Approaches to Learning Scale as a subscale of the Social Rating Scale (SRS) – which is adapted from the Social Skills Rating System (SSRS) (Crosby, 2011; Gresham & Elliot, 1990) – we included the following three items: “I show eagerness to learn new things” (cf. perceived motivation to learn), “I pay attention well in the classroom” (cf. perceived alertness) and “I can easily work independently in the classroom” (cf. perceived independence). Second, derived from the Academic Self-Efficacy Scale as one of the Children’s Perceived Self-Efficacy (CPSE) scales (Bandura, 1990; Pastorelli et al., 2001), we included a fourth item: “I can plan my school work” (cf. perceived ability to plan). The answers to the four items were collected on a 5-point Likert scale ranging from (1) not at all to (5) totally.

Teacher-pupil relationships

All teachers were asked to judge the following item with regard to each of their pupils: ‘‘I have a good relationship with the pupil”. The teachers were given five answer categories, measured on a 5-point Likert scale, ranging from (1) totally disagree to (5) totally agree. As for the pupils’ self-assessed relationships with teachers, all pupils were asked to judge the following corresponding item: “I get along well with my teacher”, which was measured on a 5-point Likert scale ranging from (1) totally disagree to (5) totally agree.

Parental involvement in education

All teachers were asked to judge the following item with regard to each of their pupils: “involvement of parents”, by means of five answer categories measured on a 5-point Likert scale ranging from (1) very weak to (5) very strong. Next, all pupils were asked to judge the following corresponding item measured on a 5-point Likert scale ranging from (1) totally disagree to (5) totally agree: “My parents always try to help me when I have questions about what I learn at school (subject matter)”.

Pupils’ SES

The pupils’ SES was based on their parents’ professional occupation at the time of the survey or, in cases where they were unemployed, what their previous occupation was. These parental occupations were recoded according to the classification of Erikson, Goldthorpe, and Portocarero (1979). Scores could range from one to eight, representing (1) unskilled manual labour, (2) specialised manual labour, (3) skilled manual labour, (4) employees, (5) self-employed craftsman and agriculture, (6) lower middle management, (7) higher middle management, and (8) managers, professionals and company holders. To obtain the measurement for family SES, the highest score out of the two parents was used. To provide a more informative picture, we recoded SES in four categories, in which one represented working class (regrouping categories one to three), two represented lower middle class (regrouping categories four and five), three represented middle class (regrouping category six), and four represented upper middle class (regrouping categories seven and eight). Both working class (28.2%) and lower middle class (27.2%) pupils as well as middle class (29.6%) and upper middle class (15%) pupils, were included in the sample.

Pupils’ ethnicity

The pupils’ ethnicity was based on the birthplace of the pupil’s maternal grandmother (e.g. Jacobs, Rea, & Teney, 2009; Timmermans, Hermans, & Hoornaert, 2002). If the pupil’s maternal grandmother was born in Belgium, or another North-Western European country, the pupil was given value 0; if she was not, the pupil was given value 1. Our sample consisted of 58.4% pupils of Belgian or North-Western European origin and 41.6% of pupils of another origin (mainly from Eastern Europe, Maghreb and Turkey).

Pupils' gender

In our sample, girls were given value 0 and boys were given value 1. 48.4% and 51.6% of the pupils were boys and girls, respectively.

Results

General teacher expectation bias

By means of correlation analysis, we, firstly, investigated the linear relationships between teacher expectations and pupils' achievement test scores, self-assessed non-cognitive attributes and self-assessed contextual variables (see Table 8). Since we made use of ordinal level data, the Spearman Rank Order Correlation coefficients (r_s) are presented. Analogous to Cohen's (1988) interpretation of the strength of correlations, a large and medium statistically significant, positive correlation is found between teacher expectations of pupils' maths skills and language skills and their achievement test scores on maths (r_s = .64) and Dutch language (r_s = .47). The correlation coefficients suggest that the expectations of teachers are closely related to the academic performance of the pupils. A somewhat lower, yet still statistically significant, positive correlation is observed between teacher-rated and pupil-rated independence (r_s = .29). Lastly, teacher expectations of the teacher-pupil relationships, pupils' alertness, parental involvement in education, pupils' motivation to learn and pupils' ability to plan are also found to significantly and positively correlate with the pupils' self-assessments (r_s = .25, .22, .20, .17 and .16, respectively). However, the small correlation coefficients suggest that the strength of the relationships between teacher expectations and pupils' self-assessed non-cognitive attributes (with an exception of pupils' independence) and contextual variables is rather weak.

Table 8: Bivariate correlations among teacher expectations and measured pupil attributes

	r_s	p
Pupils' achievement test scores		
Maths skills	.64	.00
Language skills	.47	.00
Pupils' self-assessed non-cognitive attributes		
Independence	.29	.00
Alertness	.22	.00
Motivation to learn	.17	.00
Ability to plan	.16	.00
Pupils' self-assessed relationship variables		
Teacher-pupil relationships	.25	.00
Parental involvement in education	.20	.00

Based on the correlation analysis, our first conclusion is that the relationships between the variables are positive: the higher the expectations of teachers, the higher pupils' achievement test scores and self-assessments. However, these findings do not inform us about the extent to which teacher expectations and the more 'objective' measures of the attributes included correspond or diverge. Considering our definition of teacher expectation bias, we are especially interested in the extent to which the expectations of teachers over- or underestimate the 'objective' attributes. Therefore, we additionally calculated a measure of teacher expectation bias by subtracting each 'objective' measure of the attributes from the corresponding teacher expectations. It was necessary to rescale the continuous pupils' achievement test scores into discrete data with the same range in accordance with the measuring scales of the teacher-rated and pupil-rated cognitive and non-cognitive attributes and contextual variables. Hence, when interpreting the results, one must keep this rescaling in mind. Positive and negative values on the subtracted variables indicate teacher expectation bias in terms of, respectively, an overestimation (i.e. the teachers' judgements are higher compared to those of the pupils) and underestimation (i.e. the teachers' judgements are lower compared to those of the pupils) of the attributes. Furthermore, the closer they were to zero, the more correspondence there was between teacher expectations and pupils' achievement test scores or self-assessments.

Descriptive statistics of the teacher expectation bias are shown in Table 9. On average, all teacher expectations are biased to some extent (i.e. over- or underestimated). The largest bias occurs with respect to pupils' language skills (M = 0.87), followed by their maths skills (M = 0.78) and parental involvement in education (M = -0.60). These results indicate that there is only little correspondence between teacher expectations and pupils' achievement test scores on the one hand and between teacher expectations and pupils' self-assessed parental involvement in education on the other hand. Although the teachers overestimate the pupils' language skills and maths skills, parental involvement in education is, on average, judged higher by the pupils compared to the teachers. To a lesser extent, bias occurs in teacher expectations of pupils' non-cognitive attributes and of teachers' relationships with pupils, with an overestimation of the teacher-pupil relationships (M = 0.15) and pupils' independence (M = 0.10), and an underestimation of the pupils' motivation to learn (M = -0.22), alertness (M = -0.06) and ability to plan (M = -0.01). The lowest expectation bias occurs with respect to the latter, indicating a fairly close correspondence between teacher expectations of pupils' ability to plan and pupils' self-assessed ability to plan. Furthermore, looking at the standard deviations and the range of scores varying from -4 to 4, we can conclude that there are very large individual differences in teacher expectation bias with respect to all the variables included.

Table 9: Descriptive statistics of teacher expectation bias

	M	Min	Max	SD
Bias in maths skills	0.78	-3.00	4.00	1.12
Bias in language skills	0.87	-3.00	4.00	1.31
Bias in independence	0.10	-4.00	4.00	1.21
Bias in alertness	-0.06	-4.00	4.00	1.16
Bias in motivation to learn	-0.22	-4.00	4.00	1.30
Bias in ability to plan	-0.01	-4.00	4.00	1.48
Bias in teacher-pupil relationships	0.15	-4.00	4.00	1.15
Bias in parental involvement in education	-0.60	-4.00	4.00	1.37

Specific teacher expectation bias

In order to determine specific teacher expectation bias regarding the pupils' SES, ethnicity and gender, we opted for a multivariate analysis of variance (MANOVA) (Tabachnick & Fidell, 2014). We investigated SES differences (i.e. four SES groups: working class, lower middle class, middle class and upper middle class pupils), ethnicity differences (i.e. two ethnicity groups: pupils of Belgian or North-Western European origin and pupils of an origin other than Belgian or North-Western European) and gender differences in the set of eight dependent variables.

According to the results of the multivariate tests of significance using the Wilks' Lambda statistics, there are statistically significant differences in teacher expectation bias based on pupils' SES (F(24, 1486) = 2.26; p = .000; Wilks' Lambda = .90) and gender (F(8, 512) = 3.54; p = .001; Wilks' Lambda = .95). Table 10 presents the results when considering the main effects of SES and gender on the dependent variables separately. We found no statistically significant differences in teacher expectation bias based on pupils' ethnicity (F(8, 512) = 1.53; p = .146; Wilk's Lambda = .98) and, therefore, ethnicity differences are excluded from Table 10. Partial Eta Squared indicates the effect sizes or, in other words, the proportion of the variance in the bias indicators that can be explained by the independent grouping variables.

Firstly, the results indicate that there are statistically significant differences between the SES groups on teacher expectation bias with respect to parental involvement in education (F(3, 519) = 6.19; p = .000; Partial Eta Squared = .04), pupils' motivation to learn (F(3,519) = 3.73; p = .011; Partial Eta Squared = .02) and their language skills (F(3, 519) = 2.84; p = .037; Partial Eta Squared = .02). Also, statistically significant differences are found between boys and girls on teacher expectation bias regarding pupils' motivation to learn (F(1, 519) = 8.13; p = .005; Partial Eta Squared = .02), their ability to plan (F(1, 519) = 6.66; p = .010; Partial Eta Squared = .01) and teachers' relationships with pupils (F(1, 519) = 5.30; p = .022; Partial Eta Squared = .01). However, looking at the sizes of these effects, the impact of SES and gender on teacher

expectation bias regarding the attributes concerned, can be considered small. As indicated by Partial Eta Squared, only 3.5%, 2.1% and 1.6%, respectively, of the variance in bias in parental involvement in education, pupils' motivation to learn and pupils' language skills, is explained by SES. Similarly, gender explains 1.5%, 1.3% and 1.0% of the variance in bias in pupils' motivation to learn, pupils' ability to plan and teacher-pupil relationships, respectively. We found no statistically significant differences between the SES and gender groups on teacher expectation bias with respect to pupils' maths skills, alertness and independence.

Table 10: Detailed model results of MANOVA

Group differences on the dependent variables	F	p	Partial Eta Squared
SES			
Bias in maths skills	1.49	.215	.009
Bias in language skills	2.84	.037	.016
Bias in ability to plan	1.78	.150	.010
Bias in motivation	3.73	.011	.021
Bias in alertness	2.31	.075	.013
Bias in independence	1.13	.338	.006
Bias in teacher-pupil relationships	2.13	.095	.012
Bias in parental involvement in education	6.19	.000	.035
Gender			
Bias in maths skills	0.02	.883	.000
Bias in language skills	2.55	.111	.005
Bias in ability to plan	6.66	.010	.013
Bias in motivation	8.13	.005	.015
Bias in alertness	1.00	.329	.002
Bias in independence	1.90	.169	.004
Bias in teacher-pupil relationships	5.30	.022	.010
Bias in parental involvement in education	0.41	.523	.001

Post-hoc comparisons using the Tukey HSD test (by means of univariate one-way between-groups analyses of variance) revealed that working class pupils (*M* = -1.08; *SD* = 1.55) are significantly more underestimated by the teachers in terms of parental involvement in education, compared to all the other SES groups (lower middle class pupils: *M* = -0.70; *SD* = 1.29, middle class pupils: *M* = -0.19; *SD* = 1.15 and upper middle class pupils: *M* = -0.22; *SD* = 1.21). Also, lower middle class pupils are significantly more underestimated by the teachers, in this regard, compared to middle class and upper middle class pupils. Post-hoc comparisons further reveal that working class (*M* = -0.52; *SD* = 1.40), as well as lower middle class pupils (*M* = -0.30; *SD* = 1.30), each significantly differ from middle class (*M* = -0.03; *SD* = 1.16) and upper middle class pupils (*M* = 0.13; *SD* = 1.17) in terms of a larger underestimation by the teachers of pupils' motivation to learn for the lower SES groups. What is more, teacher expectations of the upper middle class pupils' motivation to learn are overestimated by the teachers. Similarly, teacher expectations of pupils' language skills are overestimated for all the SES-groups, but a significantly larger overestimation occurs in the case of working class

pupils (*M* = 1.14; *SD* = 1.30), compared to middle class (*M* = 0.74; *SD* = 1.37) and upper middle class pupils (*M* = 0.66; *SD* = 1.17).

Our analysis of the mean scores for the gender groups points to an underestimation of boys and an overestimation of girls by the teachers in terms of their ability to plan (males: *M* = -0.25; *SD* = 1.46, females: *M* = 0.22; *SD* = 1.47) and motivation to learn (males: *M* = -0.51; *SD* = 1.31, females: *M* = 0.06; *SD* = 1.23). As regards bias in teacher expectations of teacher-pupil relationships, the results show a statistically significant difference in terms of an overestimation by the teachers for boys (*M* = 0.19; *SD* = 1.20) and for girls (*M* = 0.12; *SD* = 1.08), but with a significantly higher mean score for boys, compared to their counterparts.

Conclusions and discussion

The present study investigated (1) whether teacher expectations of pupils' cognitive as well as non-cognitive attributes and of contextual variables are biased (cf. Research Question 1), and (2) whether teachers systematically differ in their expectation bias with respect to these attributes based on pupils' SES, ethnicity and gender (cf. Research Question 2).

General teacher expectation bias in terms of both over- and underestimation by teachers

In order to answer the first research question, we used two different methods. First, we performed a correlation analysis between teacher expectations and 'objective' measures of the attributes under investigation, in terms of pupils' achievement test scores (aligned with teacher-rated pupils' cognitive attributes) and self-assessments (aligned with teacher-rated pupils' non-cognitive attributes and contextual variables). The results show statistically significant, positive correlations for all the attributes included, indicating an overall correspondence between teacher expectations and pupils' achievement test scores and self-assessments. In line with the meta-analyses of Hoge and Coladarci (1989), Südkamp et al. (2012) and Machts et al. (2016) on teacher expectation bias towards pupils' academic performance, our findings suggest that teacher expectations of pupils' cognitive attributes closely correspond to their achievement test scores. However, the teacher-rated and self-assessed pupils' non-cognitive attributes, as well as contextual variables, correspond rather weakly.

A different picture occurs based on the results of the second method, in which we created an indicator of teacher expectation bias by subtracting the 'objective' measures of the attributes

from the corresponding teacher expectations. In doing so, we were able to gather additional information about the extent of bias in terms of over- and underestimation of teacher expectations. We conclude that there is an overall bias in teacher expectations in terms of both over- and underestimation, in which, above all, teacher expectations of pupils' cognitive attributes are found to be biased. Teacher expectations of pupils' language skills (i.e. overestimation), maths skills (i.e. overestimation) and parental involvement in education (i.e. underestimation) are found to be considerably biased. Teachers only slightly misestimate pupils' non-cognitive attributes, as well as their relationships with pupils. Additionally, the descriptive statistics of teacher expectation bias suggest a large variation between teachers in their expectation bias against the attributes included. This raises the question as to whether specific characteristics of teachers are associated with expectation bias. In their meta-analysis, Südkamp et al. (2012) drew similar conclusions by stating that, although the large variability in teachers' ability to judge their pupils' academic performance is well documented, research into teacher characteristics that determine expectation bias is scarce. Following their plea, future research could focus on the relationship between teacher characteristics, such as teaching experience (Hofer, 2015), and teacher expectation bias.

In sum, our findings point to discrepancy between teacher expectations and pupils' achievement test scores, as well as self-assessments. These results are especially important in an educational context where teacher expectations of pupils are crucial for allocation to secondary education, as is the case in Flanders. Given that the realisation of an optimal allocation in secondary education and equal educational opportunities for pupils heavily depends on the accuracy of teacher expectations, it is critical that these expectations are unbiased. Pupils whose attributes are overestimated by teachers may experience difficulties in performing according to the expected academic level of the secondary education track, in which they enrolled. At the same time, pupils whose attributes are underestimated by teachers may experience difficulties in terms of, for instance, being insufficiently cognitively challenged. In both cases, if pupils are not in the "right" place in secondary education, that is, not in accordance to their actual abilities and skills, this can logically have major implications not only for pupils' academic achievement but also for their overall well-being and school functioning.

Specific teacher expectation bias towards pupils' SES and gender

As regards the second research question, we conclude that there is a specific bias in teacher expectations towards pupils' gender and SES, although the effects are found to be rather small. In the case of gender, firstly, bias is found in teacher expectations of the supportive

relationships with pupils in terms of an overestimation for both boys and girls, but with a significantly higher overestimation for boys. Secondly, teacher expectations of pupils' motivation to learn and ability to plan are biased in terms of an underestimation for boys and an overestimation for girls. In line with research into pupils' self-assessments of academic competence (i.e. skills, attitudes and behaviours that contribute to school success) stating that boys and girls tend to increasingly over- and underestimate their academic performance during childhood and adolescence, respectively (e.g. Cole, Martin, Peeke, Seroczynski, & Fier, 1999), it is not surprising that the motivation to learn and ability to plan are self-assessed higher by boys and lower by girls, compared to the assessments of the teachers.

In the case of SES, biased teacher expectations are found for parental involvement in education, pupils' motivation to learn and their language skills. Overall, both teacher expectations of parental involvement in education and of pupils' motivation to learn are biased in terms of a larger underestimation for the lower SES groups (i.e. working class and lower middle class pupils), compared to the higher SES groups (i.e. middle class and upper middle class pupils). In line with what Farkas (2003) called non-cognitive traits and behaviours, Boone and Van Houtte (2013b) suggested that, rather than taking pupils' SES consciously into account, teachers focus on specific non-cognitive attributes of pupils when shaping their expectations of pupils' (future) abilities and potential. Given that these non-cognitive attributes are considered to be unequally distributed across social classes and to be rather typical of middle class pupils (Farkas, 2003), this might point to a possible explanation for the expectation bias towards SES related to pupils' motivation to learn.

Additionally, even though teacher expectations of pupils' language skills are, on average, biased in terms of an overestimation for all the SES groups, this bias is significantly higher for lower SES pupils than for higher SES pupils. Considering the widely shared social stereotype suggesting that teachers have higher expectations of the academic performance of high SES pupils, compared to low SES pupils (e.g. Boone & Van Houtte, 2013b; Timmermans et al., 2015; Tobisch & Dresel, 2017), we would rather expect to have found the opposite result. It is not immediately clear why, in the present study, the teachers overestimate their pupils' language skills, especially in the case of low SES pupils. A possible explanation may be that in the specific context of Flemish urban, highly multicultural schools with a large social diversity, teachers anticipate their classroom behaviour because they are well aware of the danger of social stereotyping. However, given that, based on our results, this does not seem to be the case for the other biased teacher expectations related to SES, there is still much scope for improvement with regard to teachers in terms of stereotyped thinking and expectation bias. These findings also raise the question of whether the teachers might have

responded in a socially desirable way when completing the questionnaire, by wanting to give the impression that they judge low and high SES pupils in the same way. Therefore, future research could consider (additional) observations in order to verify teachers' actual awareness and behaviour regarding social stereotyping. Either way, it is crucial, especially in tracked educational systems, that (student) teachers are (more) aware of the possibility of general and specific bias in their expectations regarding pupils' (future) abilities and potential, of the attributes that are important in this regard, and of the possible (longer-term) impact of expectation bias through the assessment and allocation of pupils.

Limitations of the present study

The limitations worth mentioning are related to the methodologies used in the present study. Firstly, the correlation analysis showed a weak correspondence between teacher-rated and pupil-rated non-cognitive attributes of pupils and contextual variables, in contrast to a close correspondence between teacher-rated cognitive attributes of pupils and pupils' achievement test scores. As such, questions may arise about the use of pupils' self-assessments as appropriate 'objective' measures of attributes, alongside achievement test scores. In agreement with the model of Brophy and Good (1970) explaining the mechanisms through which teacher expectations exert an influence, pupils' behaviour and self-image are inseparably linked to (differential) teacher expectations. Hence, similar to teacher expectations, pupils' self-assessments might be biased as well and might therefore be considered less 'objective' than achievement test scores. However, in agreement with Panadero et al. (2016) and Topping (2003) who stated that the accuracy of pupils' self-assessments must be determined by the alignment of these assessments with the judgements of appropriate content experts, such as teachers, it seems reasonable that this principle also applies in the other direction; in order to determine the accuracy of teachers' assessments of pupils, these assessments must be aligned with the judgements of the pupils themselves, as they are the 'obvious' experts when it comes down to their own academic functioning. Future research could take into account pupils' ability to accurately assess their own academic functioning.

Secondly, for the use of the subtraction method, we transformed the measurement scale of pupils' achievement test scores from continuous to discrete data, in order to obtain comparable measurements as for the teacher expectation bias. However, important information is lost doing so, more specifically in terms of the variance originally present in the continuous achievement test scores of pupils. Hence, it is possible that the results of the subtraction method are influenced by the rescaling of data. Furthermore, after rescaling, the

new, discrete values have received a different meaning and the question arises as to what extent they can be interpreted in the same way as the original, continuous values. Therefore, our findings with respect to general teacher expectation bias in terms of over- and underestimation of teacher expectations, and in particular with respect to the alignment of teacher expectations of pupils' cognitive attributes with pupils' achievement test scores, should be interpreted with caution. It goes without saying that the findings of the present study deserve further clarification through future studies, with special attention to the used methodologies as well as their limitations, in which multiple research methods can complement one another and can develop a more comprehensive understanding of teacher expectation bias.

Chapter **9**

Primary teachers' perceptions that impact upon track recommendations regarding pupils' enrolment in secondary education: a path analysis

Introduction[4]

For many decades it has been claimed that teacher cognitions, also referred to as teacher perceptions, impact upon teacher behaviour, including teachers' assessment and allocation of pupils at key transition points (e.g. Ashton, 2015; Fang, 1996; Fives & Buehl, 2012). This particularly applies to the educational system of Flanders (the Dutch-speaking region of Belgium) at the transition to secondary education, considering the crucial role of teachers' perceptions, as expressed in their track recommendations, at this transition. Knowing this, one can wonder exactly what perceptions form the basis of teachers' advice regarding pupils' enrolment in secondary education. Unfortunately, a lack of knowledge on this topic still exists. Little research has specifically inquired into the perceptions upon which teacher track recommendations are based. Moreover, existing research on this topic is characterised by some major restrictions. Previous research into teacher perceptions, mainly within the field of expectancy research (cf. the Pygmalion Study of Rosenthal and Jacobson (Rosenthal and Jacobson, 1968)), is traditionally restricted to a single focus on teachers' perceptions of pupils and, in particular, of cognitive pupil attributes (i.e. academic performance and abilities) (e.g. Jussim, 2017; Jussim & Harber, 2005). Nonetheless, as more recently argued by Timmermans et al. (2016), despite the acknowledged importance of teachers' perceptions of non-cognitive pupil attributes (e.g. Farkas, 2003; Farrington et al., 2012), little is known about the impact of these perceptions on allocation. Hence, in order to capture the wide range of influencing teachers' perceptions of pupils in the context of allocation, we must consider teachers' perceptions of both cognitive and non-cognitive pupil attributes.

Next, generally speaking, prior research has paid only a little attention to the contextual nature of teacher perceptions. Nevertheless, Fang (1996) and Fives and Buehl (2012) stated that teacher perceptions are resulting from interactions with the context in which teachers operate, indicating their contextualised nature. At the same time, Fulmer et al. (2015) pointed out levels of contextual factors affecting teachers' assessment practices, suggesting that teacher perceptions other than that of the pupils also need to be considered in the context of allocation. First, within the immediate context of the classroom (i.e. micro-level), alongside pupils' individual attributes, the model points to the influence of social factors related to teacher-pupil relationships. Second, at the meso-level (i.e. outside of the classroom), the model points to

[4] This chapter is based on:

Sneyers, E., Vanhoof, J., & Mahieu, P. (2018). Primary teachers' perceptions that impact upon track recommendations regarding pupils' enrolment in secondary education: a path analysis. *Social Psychology of Education.* doi: 10.1007/s11218-018-9458-6

the influence of parents' characteristics, such as their involvement in education and background characteristics. Although there is a general consensus that teachers' expectations of pupils are fairly accurate (Jussim, 2017), a substantial amount of research points to the biased nature of these expectations towards family SES and ethnicity (e.g. Machts et al., 2016; Ready & Wright, 2011; Südkamp et al., 2012). Logically, biased teacher expectations may result in biased teacher track recommendations. Boone and Van Houtte (2013b), for instance, suggest that rather than taking parents' SES consciously into account, teachers emphasise specific non-cognitive pupil attributes that are considered to be unequally distributed across social classes, when advising pupils. This way, working class pupils are generally disadvantaged, because these non-cognitive attributes, such as punctuality, seem typical of middle class pupils (cf. the cultural reproduction theory of Bourdieu (Bourdieu & Passeron, 1977)). Furthermore, knowing that also parental involvement is found to be related to social class, the association between parents' background characteristics and involvement cannot be ignored (e.g. Bakker, Denessen, & Brus-Laeven, 2007; Hoover-Dempsey et al., 2005; Lareau, 2000; Wiggan, 2007). Consequently, it is not surprising that working class pupils whose parents generally are less involved in their children's education would be, for instance, less punctual with regard to school work. In brief, we also must consider the impact of teachers' perceptions of parental involvement in education and parents' SES and ethnicity on allocation by teachers. Moreover, we must consider the possibility that these teacher perceptions and parents' background characteristics affect teacher track recommendations indirectly, that is, through the impact of teachers' perceptions of pupils.

To sum up, the present study addresses the influencing teacher perceptions of teacher track recommendations regarding pupils' transition to secondary education in Flanders. In doing so, the present study adds to the body of knowledge on the mechanisms of teachers' allocation processes and their interrelatedness with teacher perceptions. We hypothesise an impact of teachers' perceptions of pupils' cognitive and non-cognitive attributes on teacher track recommendations. In acknowledgement of the contextual nature of both teacher perceptions and assessment practices, we further hypothesise an impact of teacher-pupil relationships and parental involvement, as perceived by the teachers, and of parents' SES and ethnicity. The present study aims at unravelling these interrelationships, as described in the following two research questions:

(1) What is the impact of teachers' perceptions of pupils' cognitive and non-cognitive attributes and of teachers' perceptions of their relationships with pupils on teacher track recommendations?

(2) What is the impact of teachers' perceptions of parental involvement in education and parents' SES and ethnicity on teacher track recommendations, and to what extent is the impact of these teacher perceptions and parental background characteristics mediated by the other teacher perceptions?

Conceptual framework

In this section, we will explore the central concepts discussed in the introduction in more detail. A visual representation of the hypothesised relationships between the concepts is presented in Figure 3.

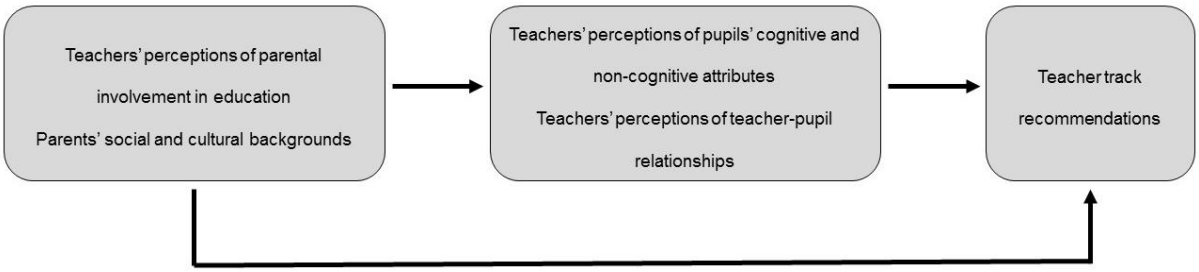


Figure 3: Conceptual model

Teacher track recommendations in the Flemish educational system

Contrary to meritocratic educational systems (e.g. the United States and Great Britain), in which pupils' allocation is based on their previous performance in standardised tests, Flanders makes no use of binding, nationwide standardised tests at the end of primary education. As a result, pupils are commonly allocated to secondary education on the basis of teachers' perceptions of pupils' academic abilities and potential, as expressed in the teacher's track recommendation (e.g. Eurydice, 2011; Gorard & Smith, 2004; Penninckx et al., 2011; Van Petegem, 2005). Clearly, in the highly decentralised and liberal educational system of Flanders, teachers' perceptions of pupils, in terms of track recommendations, are crucial for allocation (e.g. Boone & Van Houtte, 2013a, 2013b; Van Houtte, Demanet, & Stevens, 2013).

In Flanders, most pupils make the transition to secondary education at the age of 12. The tracking structure is officially regulated and manifests itself at an early stage. Secondary education is divided into three grades (each of two years) characterised by increasing levels of differentiation (for an overview, see Pustjens et al., 2008). In the first grade, pupils can choose between two streams that are considered to be broad and comprehensive. The majority of pupils enter the A-stream, which proposes a common curriculum supplemented

with optional courses to prepare pupils for an academic education. The B-stream provides education for pupils who are considered to be less suitable for academic tuition and for those who did not obtain a primary education certificate, in preparation for vocational secondary education (Department of Education and Training, 2008). In this study, in line with the structure of the Flemish educational system, we address teacher track recommendations in terms of the first study choice options at the beginning of secondary education. Therefore, we consider whether teachers recommended their pupils to enrol in the A-stream or the B-stream and, within the A-stream, whether teachers recommended enrolment in more academically (i.e. Latin and modern sciences) or less academically (i.e. technology and arts) oriented optional courses.

Schools themselves determine how to fill up these optional courses, mainly in terms of extra courses of classical languages not included in the common curriculum (e.g. Latin), extra theoretical courses (e.g. modern sciences) or extra courses of technology and expression (e.g. arts). The optional courses of the A-stream can be considered as forerunners for the different educational tracks in the second and third grade: general secondary education (GSE: broad curriculum), technical secondary education (TSE: technical subjects), artistic secondary education (ASE: art practices) and vocational secondary education (VSE: vocational-oriented) (Department of Education and Training, 2008). The tracks, as well as the preceding optional courses, are commonly valued differently. Compared to TSE and ASE, which occupy an intermediate position, a relatively higher status is associated with GSE and a relatively lower status with VSE. Pupils attending GSE are more likely to attend higher education and enter "high"-status occupations. Theoretically, it is possible to switch backwards and forwards between the different tracks. In practice, however, pupils mostly "fall back" from GSE to TSE or ASE to VSE, resulting in a cascade system. Furthermore, as mentioned earlier, also the preceding optional courses of the A-stream are commonly considered to vary from less to more academically oriented (Department of Education and Training, 2008).

Teacher perceptions influencing teacher track recommendations

Teachers' perceptions of pupils' cognitive and non-cognitive attributes

Following the long tradition of teacher expectancy research (e.g. Jussim, 2017; Jussim & Harber, 2005), we hypothesise an impact of teachers' perceptions of pupils' cognitive attributes on teacher track recommendations. Also, according to Farrington et al. (2012) and Farkas (2003) stating that teachers' perceptions of pupils' non-cognitive attributes are just as important, we hypothesise an impact of these teacher perceptions on teacher track

recommendations. In their exploratory study on allocation by Flemish teachers, Boone and Van Houtte (2013b) concluded that teachers take into account non-cognitive characteristics of pupils that are important for school success, such as the ability to plan, when advising pupils. In order to define the crucial cognitive and non-cognitive attributes of pupils in the context of allocation, we build on Kornblau's (1982) conceptual framework of pupils' teachability. This theoretical concept refers to the perceptions held by teachers about the attributes that characterise "idealised teachable" pupils, which, in turn, indicate teachers' ideas about pupils' abilities to meet educational expectations (Kornblau, 1982; Van Houtte, 2004). Captured in the Teachable Pupil Survey as developed by Kornblau (1982), 33 pupil attributes were identified and categorised in the following three dimensions: pupils' cognitive-motivational behaviours (e.g. bright and rational thinking), school-appropriate behaviours (e.g. able to begin and complete classroom tasks) and personal-social behaviours (e.g. empathetic and honest).

In this study, we address the impact of teachers' perceptions of pupils' cognitive attributes on teacher track recommendations in terms of three core academic skills (i.e. "maths skills", "language skills" and "technical skills") (cf. cognitive-motivational behaviours). These skills make up an important part of the final attainment levels of primary education in Flanders, which are the minimum goals that the Flemish government considers necessary and achievable at the level of primary education (Flemish Department of Education and Training, 2017). Additionally, we address the impact of teachers' perceptions of nine non-cognitive attributes of pupils on teacher track recommendations, categorised as school-appropriate behaviours (i.e. "ability to plan", "independent", "alert", "motivation to learn", "follows teachers' directions" and "mature") and personal-social behaviours (i.e. "honest', "friendly" and "considerate of others"). We selected these specific non-cognitive attributes based on the fact that they received the most agreement among the teachers included in the Kornblau (1982) study in terms of "teachable" pupils. In other words, as perceived by the teachers, both pupils' school-appropriate and personal-social behaviours seem the most desirable in this regard.

Teachers' perceptions of teacher-pupil relationships

Supportive relationships between teachers and their pupils become increasingly important as pupils progress through school (McGrath & Van Bergen, 2015). In particular at the transition to secondary education, supportive teacher-pupil relationships are crucial, given the challenges presented by secondary schools compared to primary schools (e.g. less personal and more evaluative structures) (Davis, 2006). Three theoretical perspectives on teacher-pupil relationships are dominant in the study field (Davis, 2003). Whereas the attachment

perspective approaches teacher-pupil relationships as extensions of parent-child relationships (cf. the attachment theory of Bowlby and Ainsworth, as cited in Bretherton (1992)), the socio-cultural perspective approaches teacher-pupil relationships as a reflection of the interpersonal culture of classrooms, schools and society (cf. the developmental systems theory of Ford and Lerner (1992) and Sameroff (1995)). Unlike these two viewpoints, the motivational perspective highlights teacher-pupil relationships as embedded in the educational context. Supportive teacher-pupil relationships promote pupils' motivation and learning through supportive instructional and affective classroom contexts driven by the teacher, in which the pupils' need for autonomy, competence and relatedness is satisfied (cf. the self-determination theory of motivation of Deci and Ryan (1985)).

Each approach holds a unique conception of what constitutes a supportive relationship between teachers and pupils and of its effects. Taking the three approaches together, there is ample evidence that the quality of teacher-pupil relationships is fundamental for various pupils' educational outcomes, that is, the social, emotional, behavioural and academic development (e.g. McGrath & Van Bergen, 2015; Pianta, Hamre, & Stuhlman, 2003). Similar to the cognitive and non-cognitive pupil attributes, as discussed above, these outcomes are assumed to play a role in teachers' decisions regarding pupils' enrolment in secondary education. Therefore, we hypothesise an impact of teachers' perceptions of teacher-pupil relationships on teacher track recommendations. Building on all three dominant theoretical approaches, we do this by focusing on the perceptions held by teachers of the overall quality of their relationships with pupils.

Teachers' perceptions of parental involvement in education

Alongside pupils and teachers, parents actively and jointly take part in the process of making educational choices regarding the secondary education of their children (e.g. Fallon & Bowles, 1998; Gorard, 1999). Parents' engagement can be seen as a logical consequence of their participation in the overall development of their children, referring to the extent of parental involvement in education (Castro et al., 2015). Given the fairly young age of children at the time of transition to secondary education, having parents who are positively involved can be of great importance. It has in fact been well documented that the educational involvement of parents influences their children's school success, more specifically in terms of pupils' academic achievement (e.g. Castro et al., 2015; Hill & Tyson, 2009; Ma et al., 2016). Moreover, parental involvement has been associated with other indicators of school success, such as lower retention rates, and with pupils' psychological processes and attributes that support school achievement, such as pupils' motivation (Hoover-Dempsey et al., 2005).

Comparable to the earlier mentioned pupils' cognitive and non-cognitive attributes and the outcomes of supportive teacher-pupil relationships, we can assume that these outcomes of parental involvement in education are also taken into consideration by teachers when allocating pupils. Therefore, we hypothesise an impact of teachers' perceptions of parental involvement in education on teacher track recommendations. According to the typology of Epstein (1987), which is a theoretical model often used to describe the main types of parental involvement, teachers can be informed about the extent of parental involvement through parents' participation in the school (e.g. participation in decision-making processes), parents' communication with the school (e.g. attendance of teacher-parent conferences) and home-based behaviours and educational activities (e.g. helping with homework). Logically, the latter are less visible to teachers and, as stated by Bakker et al. (2007), teachers' perceptions of this type of parental involvement are mostly deducible from information on parents' participation in and communication with the school.

The literature shows us the multifaceted and multidimensional nature of the concept, involving conceptual difficulties for researchers. Generally speaking, parental involvement can be considered as the active participation of parents in all aspects of their children's social, emotional and academic development (Castro et al., 2015). In line with the multidimensionality of the concept, we consider this broad definition, adopting a holistic view on parental involvement, to be the most accurate. Consequently, this study addresses the perceptions held by teachers about parental involvement in general.

Parents' SES and ethnicity affecting teacher track recommendations

In many European countries with early tracking systems, research has shown that the transition to secondary education is influenced by the social and cultural backgrounds of pupils and their parents (e.g. Boone & Van Houtte, 2013a; Ditton & Krusken, 2006; Duru-Bellat, 2015; Jackson et al., 2012; Jaeger, 2009; Kloosterman, Ruiter, de Graaf, & Kraaykamp, 2009). In this study, we consider the impact of parents' SES and ethnicity on teacher track recommendations as social and cultural background measures. Irrespective of their achievement, children from working class parents are over-represented in less academic tracks of secondary education. Moreover, the social class impact is the strongest at the first major transition to secondary education, as stated by Hansen (1997).

The causes of inequality in educational opportunity can be seen as twofold. First, working class pupils and parents opt less often for the more academic tracks in secondary education, compared to high SES pupils and parents. From a sociological point of view, explanations for

these class differentials in education are generally sought in the cultural reproduction theory, social capital theory and rational action theories (for an overview, see Boone & Van Houtte, 2013a). Second, teacher track recommendations, influenced by teachers' expectations of pupils' future educational progress, are considered to be biased. From this perspective, teachers tend to have lower expectations regarding working class pupils and ethnic minorities, compared to high SES pupils and ethnic majorities (e.g. Jussim & Harber, 2005; Wiggan, 2007). Also, regardless of pupils' level of achievement, children from working class parents are more likely to receive a recommendation to enrol in less academic tracks of secondary education, compared to their counterparts with high social backgrounds (e.g. Boone & Van Houtte, 2013b; Ditton & Krusken, 2006; Duru-Bellat, 2015; Glock et al., 2013; Timmermans et al., 2015). Parents' SES and ethnicity presumably affect teacher expectations and track recommendations through teachers' perceptions of pupils' cognitive and non-cognitive attributes, and teachers' perceptions of their relationships with pupils. Boone and Van Houtte (2013b) suggest that teachers' judgements of pupils' non-cognitive attributes are particularly important in this regard, since these pupil qualities are unequally distributed across social classes. Following their recommendation for further inquiry into this research area, we are especially interested in understanding how SES and ethnicity as parental background characteristics exert an influence on teacher track recommendations, that is, direct or indirect through teacher perceptions. In contrast to Boone and Van Houtte (2013b), who sought clarification by means of exploratory qualitative research methods, our intention is to study the (mediating) relationships between parents' SES and ethnicity, teacher perceptions and teacher track recommendations on a larger scale through quantitative research methods.

Research methodology

Sample and data collection

The present study opts to generate insights concerning the impact of teacher perceptions on teacher track recommendations that are representative in the context of Flemish urban, high multicultural schools and that can be generalised to other educational contexts. Therefore, a quantitative research design was used, in which we were able to question systematically respondents on a large scale. The data were gathered in May 2016, from a sample of 36 Flemish primary schools. Two cities in Flanders were chosen because of the high level of social and cultural diversity in their schools. The collection of data is part of the project Transbaso.

In total, we gathered data for 1014 sixth-grade pupils (when pupils are aged 12), who were assessed by their primary school teachers (sixth-grade teachers) by means of a written questionnaire. Sixty-six teachers were asked to judge each of their pupils in terms of (1) specific cognitive and non-cognitive attributes, (2) teachers' relationships with pupils and (3) the involvement of pupils' parents in education. In addition, the teachers were asked to indicate (4) their track recommendation regarding each of their pupils at the time. In line with the population data of Flemish primary school teachers (Flemish Department of Education and Training, 2016), 71.2% of the teachers were women and 28.8% were men. The average age was 37.5 years (SD = 9.46) (with a minimum and maximum of 23 and 60 years) and the teachers had an average of 14 years of teaching experience (SD = 9.12) (with a minimum and maximum of .5 and 37 years). At the same time, a written questionnaire was completed by a total of 1157 sixth-grade pupils, in order to gather information about (5) their parents' SES and ethnicity. Previously, the pupils' parents were informed by means of a consent letter. We used structural equation modelling (SEM) in order to test for the existence and strength of the relationships represented in the conceptual model. The explanatory analyses were carried out on cases that had a valid value for each of our selected variables, which resulted in data for 1014 pupils.

Instruments

Teacher track recommendations

All teachers were asked to indicate their track recommendation regarding each of their pupils. They were given the following two answer categories: a non-academically oriented track in terms of the B-stream or in terms of the A-stream with technology or arts – coded as 0 – and an academically oriented track in terms of the A-stream with Latin or modern sciences – coded as 1. While 64.3% of the pupils in our sample are recommended an academically oriented track by their teachers, only 35.7% of the pupils are recommended a non-academically oriented track. Teacher track recommendations in terms of the B-stream are not considered as a separate category, since it was recommended to only a very small group of pupils (9%).

Pupils' cognitive attributes

All teachers were asked to judge the following items separately with regard to each of their pupils: "maths skills", "technical skills" and "language skills". Teachers could nuance their answers, as they were given five answer categories, measured on a 5-point Likert scale ranging from (1) very weak to (5) very strong. In our sample, pupils' cognitive attributes are

judged by the teachers above the scale midpoint. The pupils are generally perceived as performing the best in terms of language skills (mean = 3.64; SD = 1.07), followed by technical skills (mean = 3.61; SD = .85) and maths skills (mean = 3.53; SD = 1.16).

Pupils' non-cognitive attributes

All teachers were asked to judge the following items with regard to each of their pupils: "ability to plan", "motivation to learn", "follows teachers' directions", "independent", "alert", "mature", "honest', "friendly" and "considerate of others". Again, for the first four items, the teachers' answers were measured on a 5-point Likert scale ranging from (1) very weak to (5) very strong. For the remaining items, the teachers' answers were measured on a 5-point Likert scale ranging from (1) totally disagree to (5) totally agree. Also the non-cognitive attributes of the pupils in the present study are judged by the teachers above the scale midpoint, with a higher average score for their personal-social behaviours (mean = 3.96; SD = .82) compared to their school-appropriate behaviours (mean = 3.69; SD = .84). Since the items are partly based on the existing scales of the Teachable Pupil Survey (Kornblau, 1982) and we wished to understand the structure of the items, they were subjected to principal component analysis (PCA). Prior to performing PCA, the suitability of the data was assessed. The Kaiser-Meyer-Olkin measure verifies the sampling adequacy for the analysis, KMO = .89, exceeding the recommended value of .6 (Hutcheson & Sofroniou, 1999). PCA with oblique rotation (direct oblimin) reveals the presence of two factors with eigenvalues exceeding 1. The two-factor solution explains 69.35% of the variance. Table 11 shows the factor loadings after rotation. The interpretation of the two factors is consistent with previous research on the Teachable Pupil Survey (Kornblau, 1982), with school-appropriate behaviours loading strongly on Component 1 and personal-social behaviours loading strongly on Component 2. The results of this analysis support the use of the school-appropriate behaviour items and the personal-social behaviour items as separate scales. Both scales have good internal consistency, with a Cronbach alpha coefficient of .89 for the School-Appropriate Behaviours Scale and a Cronbach alpha coefficient of .85 for the Personal-Social Behaviours Scale.

Table 11: Summary of PCA with oblimin rotation of two factor solution

Items	Rotated factor loadings	
	School-appropriate behaviours scale	Personal-social behaviours scale
Ability to plan	**.785**	.108
Independent	**.888**	-.123
Alert	**.802**	.031
Motivation to learn	**.656**	.274
Follows teacher's directions	**.552**	.414
Mature	**.774**	-.095
Honest	.046	**.855**
Friendly	-.054	**.887**
Considerate of others	.030	**.843**

Major loadings for each item are in bold type

Teachers' relationships with pupils

All teachers were asked to judge the following item with regard to each of their pupils: ''I have a good relationship with the pupil". Teachers could nuance their answers, as they were given five answer categories, measured on a 5-point Likert scale ranging from (1) totally disagree to (5) totally agree. In our sample, the quality of teachers' relationships with their pupils is assessed above the scale midpoint (mean = 3.93; SD = .85).

Parental involvement in education

All teachers were asked to judge the following item with regard to each of their pupils: "involvement of parents". Teachers could nuance their answers, as they were given five answer categories, measured on a 5-point Likert scale ranging from (1) very weak to (5) very strong. In our sample, the involvement of pupils' parents in education is assessed above the scale midpoint (mean= 3.62; SD = 1.22).

Parents' social backgrounds

Parents' SES is based on their professional occupation at the time of the survey or, in cases where they were unemployed, what their previous occupation was. These parental occupations were recoded according to the International Socioeconomic Index of Occupational Status (ISEI) (Ganzeboom et al., 1992). Both the impact of the required educational level associated with parents' occupations and the income level that accompanies parents' occupations are taken into account by this measure, in which occupation can be seen as an intervening activity that converts education into income. To obtain the measurement for

family SES, the highest score out of the two parents is used. In our sample, the mean SES score is 49.73 (SD = 22.83). Looking at the range of the scores (with a minimum and maximum of 11.74 and 88.96), both working class and middle class pupils and parents as well as higher class pupils and parents are included.

Parents' cultural backgrounds

Parents' ethnicity is based on the birthplace of the pupil's maternal grandmother, which is commonly used in Flemish and Dutch research (e.g. Jacobs et al., 2009; Timmermans et al., 2002). If the pupil's maternal grandmother was born in Belgium or another North-Western European country, the pupil was given value 0; if she was not, the pupil was given value 1. Our sample consists of 58.4% pupils with parents of Belgian or North-Western European origin and 41.6% of pupils with parents of another origin (mainly from Eastern Europe, Maghreb and Turkey).

Results

Using structural equation modelling, we looked at whether or not the hypothesised relationships between teacher perceptions, parents' social and cultural backgrounds and teacher track recommendations fit the empirical data (Muthén & Muthén, 1998-2015). We opted for a path analysis due to its ability to test models overall rather than individual coefficients and because it allows to account for the possible impact of the hierarchic structure in our data (model = complex, with "teacher" as the cluster variable). The analysis was conducted using the software package Mplus version 8. The level of analysis was the individual pupil. When testing the model, we used a probit estimator, more specifically the weighted least squares parameter (WLSMV) estimator. We further used the root mean square error of approximation (RMSEA) and the comparative fit index (CFI) as fit indices (Tabachnick & Fidell, 2014). RMSEA provides an indication of the model fit with the real situation in the population, should that be known. A value of less than .05 indicates a good fit, while values between .08 and .10 are acceptable (Browne & Cudeck, 1993; Hu & Bentler, 1999). CFI compares the assumed model with a model without assumed relationships. It has an upper bound of 1 and any value greater than .95 is considered to be an adequate level of model fit (Hu & Bentler, 1999). The model was refined based on modification indices.

The final path model with standardised parameter estimates and levels of significance is presented in Figure 4. The correlations which our analyses revealed not to be statistically significant are not included in the final path model. More detailed information about the model

results is included in Table 12, summarising (1) the standardised regression coefficients, (2) standard errors and (3) P-values indicating the levels of significance. For reasons of completeness, in addition, (4) the unstandardised regression coefficients are included. The fit indices indicate that the model is a good fit (RMSEA: .05; pclose:.47; CFI: .98).

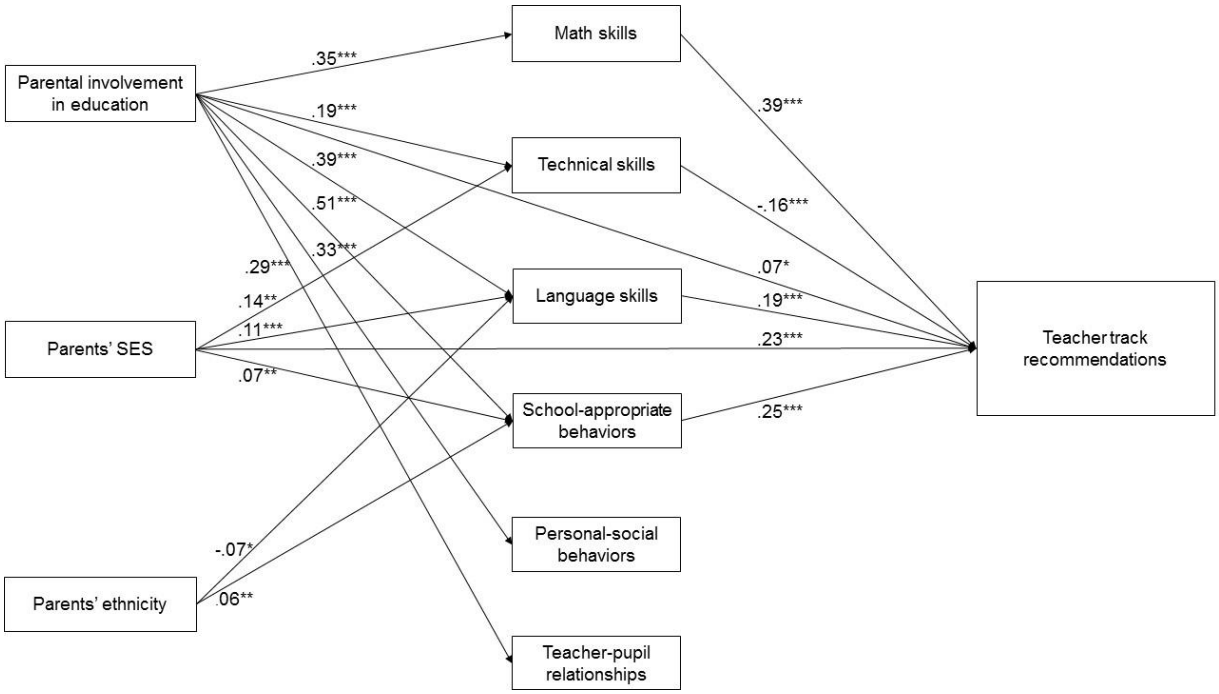


Figure 4: Path model with standardised parameter estimates and levels of significance
Note: *significant at p < .10 level; **significant at p < .05 level; *** significant at p < .001 level

Table 12: Detailed model results of path analysis

Regression paths	Standardised coefficient	Standard error	*P* value	Unstandardised coefficient
Teacher track recommendations ON				
Maths skills	.39	.040	.000	.41
School-appropriate behaviours	.25	.038	.000	.35
Parents' SES	.23	.044	.000	.01
Language skills	.19	.041	.000	.21
Technical skills	-.16	.043	.000	-.22
Parental involvement in education	.07	.041	.076	.07
Maths skills ON				
Parental involvement in education	.35	.033	.000	.32
Language skills ON				
Parental involvement in education	.39	.031	.000	.34
Parents' SES	.11	.032	.000	.01
Parents' ethnicity	-.07	.041	.080	-.15
Technical skills ON				
Parental involvement in education	.19	.034	.000	.13
Parents' SES	.14	.043	.002	.01
School-appropriate behaviours ON				
Parental involvement in education	.51	.029	.000	.35
Parents' SES	.07	.034	.048	.00
Parents' ethnicity	.06	.029	.039	.10
Personal-social behaviours ON				
Parental involvement in education	.33	.027	.000	.22
Teacher-pupil relationships ON				
Parental involvement in education	.29	.038	.000	.20

Our first research goal was to identify the impact of teachers' perceptions of pupils' cognitive and non-cognitive attributes and of teachers' perceptions of their relationships with pupils on teacher track recommendations. The path model demonstrates that perceived pupils' cognitive attributes each have a direct, statistically significant effect on teacher track recommendations, after controlling for the other predictors. Teachers' judgements of pupils' maths skills are the most important predictor (parameter estimate .39). Using the Z table, in which we can find the probability that a statistic is observed below, above, or between values on the standard normal distribution (Moore & McCabe, 2009), the value .39 corresponds to a probability of .6517. This means that a one-unit increase in perceived maths skills of pupils increases the likelihood of an academically oriented track recommendation of the teacher by 65.17%. The perceived language skills and technical skills of pupils have a small to medium direct effect (.19 and .-16, respectively) (analogous to Cohen's (1988) distinctions between "small", "medium" and "large" effects). A one-unit increase in perceived language skills of pupils increases the chance of an academically oriented track recommendation by 57.53%. Moreover, in contrast, the effect of perceived technical skills is negative, indicating that a one-unit increase in perceived technical skills of pupils decreases the chance of an academically oriented track recommendation of the teacher by 43.64%. Secondly, looking at perceived

pupils' non-cognitive attributes, we found that only pupils' perceived school-appropriate behaviours moderately and directly affect the variance in teacher track recommendations (.25). The likelihood of an academically oriented track recommendation increases by 59.87% in cases of a one-unit increase in pupils' perceived school-appropriate behaviours. In contrast, there appears to be no direct, statistically significant effect of perceived pupils' personal-social behaviours on teacher track recommendations after controlling for the other variables in the model. Finally, the same holds for the perceptions held by teachers about their relationships with pupils.

Our second research question examined the possible impact of teachers' perceptions of parental involvement in education and parents' social (i.e. SES) and cultural (i.e. ethnicity) backgrounds on teacher track recommendations. Our first finding is that both teachers' perceptions of parental involvement in education and parents' SES have a direct, statistically significant effect on teacher track recommendations (.07 and .23, respectively). While the effect of parents' SES is small to moderate, the corresponding regression coefficient of teachers' perceptions of parental involvement in education reveals that this effect is limited. However, in both cases, the higher the perceived involvement of parents in education by teachers and the higher parents' SES, the more likely it is for pupils to be given an academically oriented track recommendation. A one-unit increase in perceived parental involvement in education and in parents' SES increases the chances of an academically oriented track recommendation by 52.79% and 59.10%, respectively. Our second finding is that the variance in teacher track recommendations is not directly, statistically significantly predicted by parents' ethnicity.

Additionally, in line with the second part of Research Question 2, the path model shows some indirect or mediated effects with respect to teachers' perceptions of parental involvement in education and parents' background characteristics, which are all limited to small. Alongside the direct, positive effect of perceived parental involvement in education on teacher track recommendations (.07), this effect is also partly mediated by pupils' perceived maths skills (.35 x .39 = .14), school-appropriate behaviours (.51 x .25 = .13), language skills (.39 x .19 = .07) and technical skills (.19 x -.16 = -.03). Next, teacher track recommendations are directly and positively affected by parents' SES (.23), but also indirectly through perceived language skills (.11 x .19 = .02), school-appropriate behaviours (.07 x .25 = .02) and technical skills (.14 x -.16 = -.02) of pupils. Lastly, despite the absence of a direct statistically significant effect of parents' ethnicity on teacher track recommendations, the path model shows a mediation of the effect of parents' ethnicity by pupils' perceived school-appropriate behaviours (.06 x .25 = .02) and language skills (-.07 x .19 = -.01).

Conclusion and discussion

Worldwide educational stakeholders agree on the essential role of teacher perceptions for the classroom practices and decision-making processes of teachers (e.g. Ashton, 2015; Fang, 1996; Fives & Buehl, 2012), including the practice of pupils' allocation at transitory moments (e.g. Eurydice, 2011; Fulmer et al., 2015; Gorard & Smith, 2004). Like other less meritocratic educational systems, this certainly applies to the educational system of Flanders at the time of transition to secondary education, in which the allocation of pupils is loosely organised. As a result, pupils and parents depend heavily on teacher track recommendations, as an expression of their perceptions of pupils' academic abilities and potential (e.g. Boone & Van Houtte, 2013a, 2013b; Penninckx et al., 2011). By means of structural equation modelling (path analysis), the present study investigated the perceptions held by teachers that impact upon teacher track recommendations regarding pupils' enrolment in secondary education.

Our first and main conclusion is that, generally speaking, perceptions held by teachers are clearly crucial for teacher track recommendations, both in a direct and indirect manner. In an attempt to reduce the effects of confounding variables by controlling for other predictors, all the statistically significant effects we found are small to medium. The variables that directly predict teacher track recommendations are (in decreasing order): teachers' perceptions of maths skills, teachers' perceptions of school-appropriate behaviours (i.e. ability to plan, independence, alertness, motivation to learn, the extent to which pupils follow teachers' directions and maturity), parents' SES, teachers' perceptions of language skills, teachers' perceptions of technical skills and teachers' perceptions of parental involvement in education. Consistent with Fulmer et al. (2015) and their multilevel-model of contextual factors of teachers' assessment practices, these results indicate that predominantly perceptions regarding individual factors of pupils (at the micro-level) impact upon teacher track recommendations. Pupils' perceived cognitive attributes, more specifically maths skills, are the most important predictor. However, we were not able to confirm our hypotheses concerning the impact of teachers' perceptions of pupils' personal-social behaviours and of teachers' perceptions of their relationships with pupils on teacher track recommendations. This means that perceptions held by teachers about pupils' personal-social behaviours, such as the extent to which pupils are considerate of others, and about teachers' relationships with pupils appear not to influence the track recommendations of teachers. It is not immediately clear why, but it is striking that both variables refer to social aspects, to the extent to which teachers and pupils interact with each other and to the extent to which teachers may or may not like their pupils. Future research, perhaps qualitative research, that enables study of these social factors and their possible impact in-depth, may provide more insight.

The direction of the significant effects is in line with what we would expect. The higher pupils' perceived maths skills, school-appropriate behaviours and language skills, the more likely for pupils to be recommended an academically oriented track. The same is true for perceived parental involvement in education and parents' SES. On the other hand, the opposite is true for pupils' perceived technical skills, of which the likelihood of an academically oriented track decreases as perceived technical skills increase. In line with the hierarchical, tracked nature of the Flemish educational system, "strong" pupils generally achieving well at school are expected to enrol in more academically oriented tracks (i.e. Latin and modern sciences), while for pupils with high perceived technical skills less academically oriented tracks, such as technology, are considered to be more appropriate (Department of Education and Training, 2008). In tracked educational systems, pupils' early study choices in secondary education have major implications for their educational outcomes, future educational pathways and occupational opportunities (e.g. Belfi et al., 2012; Ireson & Hallam, 2001; Levin, 2009; Van Houtte, 2004). Our findings, however, reveal that tracking is, as it were, already initiated in primary education, more specifically in terms of what is happening within primary school teachers' minds or thought processes. The "stronger" the pupils are perceived by their teachers, the more likely that they will receive an academically oriented track recommendation. Considering the consequences of educational differentiation, it is very important for (student) teachers to become more aware of their own perceptions, how and why they arise and the impact of these perceptions on the way teachers allocate pupils to secondary education and the way they decide upon their track recommendations. Important opportunities for future research can be found in these policy-related implications.

The present study further reveals that teacher track recommendations are indirectly affected as well. In agreement with, amongst others, Boone and Van Houtte (2013b), alongside a clear direct effect of parents' SES on teacher track recommendations, the present study also demonstrates an indirect impact of parents' SES. As such, our results confirm the socially biased nature of teacher track recommendations (e.g. Boone & Van Houtte, 2013b; Ditton & Krusken, 2006; Duru-Bellat, 2015; Glock et al., 2013; Timmermans et al., 2015). As stated by Ready and Wright (2011), bias can occur in two ways. Whereas general bias refers to teacher track recommendations that are systematically too high or too low for most of the classroom pupils, specific bias refers to teacher track recommendations that are systematically too high or too low for specific (subgroups of) pupils. In this case, the higher the parents' SES, the more likely for pupils to receive an academically oriented track recommendation from their teachers, indicating a systemic bias for pupils who vary in social background. In line with what Farkas (2003) calls non-cognitive traits and behaviours, Boone and Van Houtte (2013b) suggest that this mediation occurs through teachers' specific focus on non-cognitive characteristics of

pupils, which we conceptualised and defined as school-appropriate behaviours in this study. However, our results show that cognitive attributes, and more specifically pupils' perceived technical skills and language skills, are equally important in the mediation of the impact of parents' SES on teacher track recommendations. As such, this study is a valuable contribution to the evidence base of the direction and the strength of the relationship between parents' SES and teacher track recommendations. Surprisingly, pupils' perceived maths skills do not seem to play a role in this mediation. It may be that school subjects like language and technology require a greater mastery of the native language than mathematics, which can be considered to be less linguistic. From this perspective, working class pupils and ethnic minorities are possibly more disadvantaged compared to pupils of high social backgrounds and native speakers. Following on from these results, parents' ethnicity impacts upon teacher track recommendations through pupils' perceived language skills and also through pupils' school-appropriate behaviours. Why is it that some parental background characteristics (SES) directly impact upon teacher track recommendations, while others (ethnicity) only indirectly? And why is it that certain teacher perceptions of pupils seem more important in the mediation of the effects of parental background characteristics on teacher track recommendations than others? It goes without saying that each of these unexpected relationships deserves further clarification through future studies.

Lastly, the effect of teachers' perceptions of parental involvement in education on teacher track recommendations is found to be mediated by all the other teacher perceptions included in this study. Moreover, the effects of perceived parental involvement in education on the other teacher perceptions are substantial, in particular the large effect on pupils' perceived school-appropriate behaviours. These results are consistent with the well documented impact of parental involvement in education on pupils' school success, in terms of school achievement and in terms of other psychological processes that support achievement (e.g. Castro et al., 2015; Hoover-Dempsey et al., 2005; Ma et al., 2016). An example of the latter is pupils' motivation to learn, captured in the present study in pupils' school-appropriate behaviours (see Table 11). The large impact of perceived parental involvement in education on pupils' perceived cognitive and non-cognitive attributes and teachers' relationships with pupils, may be due to the fact that all these variables are measured by teachers' self-report, in contrast to parents' SES and ethnicity as objective measured background characteristics. This way, it seems that, in the minds of teachers, these variables are connected to each other. A positive assessment by teachers on certain levels possibly manifests itself in a global positive assessment and vice versa. Therefore, another relevant issue for further research is the (in)accuracy of teacher perceptions that predict teacher track recommendations, by adding objective measures of pupils' academic functioning in the interplay between teacher

perceptions and teacher track recommendations. Although, for instance, Jussim (2017), Jussim and Harber (2005) and Südkamp et al. (2012) argue that teachers' expectations of pupils are fairly accurate, a lot of controversy on this topic exists, hence it still remains unclear (e.g. Holder & Kessels, 2017; Ready & Wright, 2011; Tenenbaum & Ruck, 2007).

Another issue for further research is the extent to which our results may be generalised, which is directly related to the limitation of the particular context in which this study is conducted. The present study intended to investigate the influencing teacher perceptions of teacher track recommendations at the transition to secondary education in Flanders. In other words, our findings are particular to the Flemish context as well as to levels of primary education. Therefore, the results of the present study need validation in other educational contexts and/or during other important transitory moments that determine pupils' educational pathways and future opportunities. Because research on the influence of teacher perceptions in the context of allocation is scarce, we believe that our results may serve as a valuable starting point for future research in other contexts.

Revisiting the research questions of this study, we can conclude that perceptions held by teachers about pupils' maths skills as a cognitive attribute are the most important predictor of teacher track recommendations. However, also pupils' perceived school-appropriate behaviours as a non-cognitive attribute and parents' SES substantially predict teacher track recommendations. Besides these direct effects, teacher track recommendations are also indirectly affected by perceived parental involvement in education, parents' SES and parents' ethnicity.

Chapter 10

Conclusions and discussion

Many educational systems are characterised by a large autonomy when it comes down to how education is organised (Iftene, 2014), including the practice of pupils' allocation by teachers at transitory moments. In less meritocratic educational systems, the role of the primary school teacher as 'gatekeeper' in the transition to secondary education is being stressed (Eurydice, 2011; Gorard & Smith, 2004). In these educational systems, above all, pupils and parents rely on the information provided by teachers about their pupils' aptitude to enrol in specific pathways in secondary education, that is, the teacher's track recommendation (i.e. recommended study curricula of secondary education), which is traditionally discussed during formal conferences with parents (Alasuutari & Markstrom, 2011; Elbers & de Haan, 2014; Kotthoff, 2015; Lemmer, 2012). This certainly applies to the highly decentralised and liberal educational system of Flanders, the Northern Dutch-speaking part of Belgium, in which teacher track recommendations are shaped by expectations held by teachers about their pupils' future abilities and potential (Boone & Van Houtte, 2013b; Penninckx et al., 2011; Van Petegem, 2005). Through their track recommendations, teachers launch pupils on educational trajectories that they are likely to follow throughout their educational careers and that might have far-reaching implications for pupils' future occupational trajectories (Belfi et al., 2012; Dockx et al., 2016; Johnston & Wildy, 2016; Levin, 2009; van Rooijen et al., 2017). Warranted in view of the consequences of educational differentiation or tracking, this dissertation contributes to our understanding of primary school teachers' allocation process of pupils at the time of transition to secondary education and the ways in which teacher track recommendations are formed.

In studying the how and why of allocation by teachers, we build on teacher expectancy research, highlighting the profound impact of teacher expectations on subsequent teacher track recommendations (Brophy & Good, 1970; Jussim & Harber, 2005; Rosenthal & Jacobson, 1968). Within this research tradition, teacher expectations of pupils refer to the judgements of teachers about pupils' future abilities and potential, or, in other words, pupils' future educational progress (Brophy, 1983; Brophy & Good, 1974). Despite the acknowledged vital role of teachers and their expectations for allocation, our understanding of teachers' allocation process is far from complete. Due to an overall focus on the implications of allocation in terms of pupils' educational outcomes, research has neglected the teacher's perspective, in this regard (Van Houtte, 2011). Consequently, little was known not only about how teachers exactly handle allocation, in particular in interaction with parents, but also about how teacher track recommendations are formed. Furthermore, research that does address this research topic is often characterised by major limitations, such as a general lack of attention to contextual influences of teacher expectations and their impact on teacher track recommendations (Fives & Buehl, 2012; Timmermans et al., 2016). We claimed that teacher

expectations of pupils are not only shaped by perceived pupil attributes (e.g. pupils' cognitive attributes in terms of their academic abilities and performance, and pupils' non-cognitive attributes in terms of achievement-related behaviours), but that also perceived parental and teacher attributes (e.g. the extent of parental involvement in education and teachers' relationships with pupils) underlie teacher expectations of pupils' future abilities and potential. Another limitation of research into the mechanisms of allocation by teachers involves the often produced inconsistent findings, for instance with respect to the accuracy of teacher expectations or, in other words, the occurrence of bias in these expectations (Jussim, 2017; Machts et al., 2016; Ready & Wright, 2011; Südkamp et al., 2012). Consequently, the question arises as to whether teachers systematically differ in their expectations in such a way that is inconsistent with more 'objective' measures of the attributes in question, both in general and regarding subgroups of pupils based on their background characteristics (Ready & Wright, 2011). Originating from these specific research gaps, four general research objectives were put forward:

> Research Objective 1: Exploring teacher track recommendations and the communication thereof by teachers during teacher-parent conferences.
>
> Research Objective 2: Identifying the expectations held by teachers of pupils' future abilities and potential that are perceived by teachers as influencing their track recommendations, more specifically in terms of their underlying (pupil, parental and teacher) attributes.
>
> Research Objective 3: Examining (general and specific) bias in teacher expectations, taking into account pupil background characteristics.
>
> Research Objective 4: Examining the impact of teacher expectations and of pupil background characteristics on teacher track recommendations.

In order to answer these general research objectives, four empirical studies were set up, drawing upon a variety of methodological approaches. Given the exploratory and explanatory nature of the first and last two research objectives, respectively, we combined qualitative (i.e. observation data and in-depth interview data) and quantitative (i.e. survey data) research methods, which have led to the main findings of this dissertation. This multi-method research design made it possible to gather both in-depth and generalizable data about the how and why of allocation by teachers. In what follows, we will present the main findings of the empirical studies in reference to the four research objectives. Afterwards, we will critically discuss both

strengths and limitations of our research, and reflect on interesting directions for future research. We end this dissertation with a translation of the main findings into important implications for educational policy and practice.

Main findings of the empirical studies

Teacher track recommendations and the communication thereof during teacher-parent conferences

The main focus of Study 1 was an empirical exploration of teacher track recommendations regarding pupils' enrolment in secondary education, as outcomes of the allocation process, more specifically in terms of teachers' communication of these recommendations during conferences with parents. Qualitative analyses of observation data of 36 teacher-parent conferences were used in order to answer the following two research questions: *'How do teachers communicate their recommendations at teacher-parent conferences in the form of its content?'* (Research Question 1); and *'What perceptions held by teachers form the basis of their recommendations, as expressed by teachers at teacher-parent conferences?'* (Research Question 2). Given the focus of Study 1 on teachers' communication of track recommendations (cr. Research Question 1), our findings contributed to the conceptual exploration of the nature of teacher track recommendations in the Flemish educational system. This was very valuable for the operationalisation of teacher track recommendations in the subsequent studies.

Teachers primarily express track recommendations towards parents

When discussing pupils' enrolment to secondary education with parents, teachers primarily addressed pupils' choice options for a specific educational track or study curriculum in secondary education. Although some teachers made a distinction between track recommendations and school recommendations, a thorough discussion of pupils' secondary school choice options and school recommendations was not common. Instead, parents were predominantly recommended track choices of secondary education by teachers. As also discussed in the introduction of this dissertation, these findings support the fact that, in Flanders, track choice and school choice cannot be separated from each other and that a school recommendation is often inherently contained in a track recommendation (Boone & Van Houtte, 2010; Creten et al., 2000). Due to the high fragmentation and segregation of the educational system in Flanders, schools strongly vary in their offered educational tracks (Department of Education and Training, 2008). As such, in Flanders, a distinction can be made

between secondary schools that only offer academic tracks and secondary schools that only offer technical and vocational tracks (Van Houtte et al., 2012).

Also educational systems other than Flanders are characterised by a large autonomy and potentially by large differences in the educational tracks offered by secondary schools. As stated by Iftene (2014), there is a clear trend of decentralization and self-government of educational systems among many European countries, such as with respect to the teaching methods used and the philosophy or pedagogical view on which the education is based. This large autonomy may lead to differences in the track options offered by secondary schools, which, in turn, complicates the educational decision-making process of pupils, their parents and teachers. We feel that teacher recommendations that solely consist of an educational track insufficiently respond to this complexity. It seems that parents themselves are expected to translate the track recommendations of teachers into a secondary school choice. Therefore, warranted in view of 'accurate' educational choices as well as stable and continuous secondary school careers for pupils without unnecessary school transfers and possible harmful experiences (Welsh, 2017), it is important for teachers to consider and discuss with parents which secondary schools do and do not offer the recommended educational tracks. Hence, the distinction between track recommendations and school recommendations could be made more explicit than is currently the case in Flanders.

Teacher track recommendations are characterised by a large heterogeneity

The expression of teacher track recommendations towards parents was characterised by a large heterogeneity related to the content of the recommendations (i.e. the track options integrated in the recommendations). Teachers, above all, took into account pupils' aptitude for specific educational tracks at the early start of secondary education, as was reflected by teacher track recommendations consisting of short-term track options (e.g. track options of the first grade(s) of secondary education). However, teachers also expressed pupils' perceived abilities, potential and preferences focused on their future educational and even occupational opportunities (e.g. teacher track recommendations in terms of higher education choice options and professional choice options), whether or not in combination with the recommended short-term track options. These findings thus suggest that while some teachers considered pupils' short-term educational careers, other teachers (only) considered pupils' educational pathways in the longer term. Additionally, the large variation in teacher track recommendations was noticeable not only between the various teachers included but also with respect to each individual teacher.

These findings are consistent with the recognised key role of teachers and their individual decision-making regarding pupils' enrolment in secondary education, especially in less meritocratic educational systems (Boone & Van Houtte, 2013b; Eurydice, 2011; Gorard & Smith, 2004). Now the question is raised as to why teachers tend to differ in their (communication of) track recommendations; as to why some teachers tend to reason on the short term while other teachers tend to reason on the longer term. Given that our findings emphasise the fact that allocation is primarily an act shaped by the individual teacher, answers to these questions must presumably be sought at the individual teacher level (rather than, for instance, at the school level). More specifically, building on teacher expectancy research, we sought clarification in (differential) expectations held by teachers about pupils' future abilities and potential, as the basis upon which teacher track recommendations are formed (cf. Research Objective 2), from which Study 2 has emerged.

Teacher expectations of pupils' future abilities and potential that influence teacher track recommendations

Although Study 1 provided exploratory indications of what teachers consider important when communicating their track recommendations during conferences with parents, it was the main focus of Study 2 to investigate more in-depth the information, perceptions or personal impressions of teachers that inform their expectations of pupils' future abilities and potential, and shape subsequent teacher track recommendations. By means of qualitative analyses of interview data with 15 sixth-grade teachers, we pinpointed the underlying pupil, parental and teacher attributes (i.e. characteristics, skills and abilities) of these expectations, as is reflected in the following research questions: *'What teacher expectations of pupils and parents do teachers identify as influencing their track recommendations?'* (Research Question 3); and *'What expectations held by teachers about themselves and about teaching impact upon their track recommendations?'* (Research Question 4). Teachers were both spontaneously and explicitly questioned about the role of these key attributes in view of their track recommendations. As such, we were able to identify the expectations of teachers that are perceived by teachers as influencing their track recommendations.

Pupil attributes as the main sources of influence

It seems logical that, in the context of pupils' allocation to secondary education, teachers, before anything else, take into account attributes of pupils that inform them about their future abilities and potential. As one might expect, our findings were in the same line. Consistent with Fulmer et al. (2015) and their multilevel-model of contextual factors of teacher assessment,

when teachers were spontaneously and explicitly asked which (f)actors play a role in the decision-making of track recommendations, it became clear that expectations held by teachers about their pupils (at the micro-level) were the most important. Both perceived non-cognitive attributes of pupils (i.e. pupils' achievement-related behaviours) as well as cognitive attributes of pupils (i.e. pupils' academic abilities and performance, more specifically their school results and perceived intelligence) were considered by teachers to influence their track recommendations, of which the latter to a slightly lesser extent.

These results are in line with teacher expectancy research, highlighting the impact of teacher expectations of pupil attributes, and more specifically cognitive pupil attributes (i.e. intellectual abilities), on the assessment and, in turn, allocation by teachers (Jussim & Harber, 2005; Rosenthal & Jacobson, 1968). As this is the dominant research focus within this research tradition, our findings contribute to the existing knowledge base by showing the extent to which also non-cognitive attributes of pupils, as perceived by teachers, shape teacher expectations of pupils' future educational progress and subsequent teacher track recommendations. This way, teachers predominantly considered pupils' perceived motivation or interests for certain track options of secondary education (e.g. pupils' personal preferences for enrolment in a specific educational track), as well as their perceived learning attitude including, for instance, the extent to which they work independently. Other important attributes of pupils that were taken into account by teachers when deciding on a track recommendation, were pupils' perceived overall well-being (e.g. pupils' need for care support, their social functioning among peers and their self-image), talents or strengths (i.e. what pupils are good at) and degree of maturity.

As pupils' non-cognitive, achievement-related behavioural attributes were found to be at least equally important for teacher track recommendations than pupils' cognitive attributes, the importance to investigate the extent of bias in teacher expectations is emphasised (cf. Research Objective 3). Pupils' cognitive attributes in terms of school results can be considered a much more 'objective' criterion used by teachers when recommending an educational track of secondary education, compared to teachers' perceived non-cognitive attributes of pupils. Moreover, as stated by Tobisch and Dresel (2017), some of these attributes are more visible to teachers than others. Hence, questions can be raised about the measurability of non-cognitive pupil attributes. How should teachers exactly assess these attributes and decide whether the extent to which a pupil possesses certain attributes is sufficient? In contrast to the assessment of school results in terms of 'passed' or 'failed', this is far less straightforward in the case of the assessment of pupils' non-cognitive attributes.

Parental and teacher attributes as rather unconscious sources of influence

The allocation of pupils at the transition to secondary education is not an isolated teaching practice, it is subject to influences from the context in which it takes place (Fang, 1996; Fives & Buehl, 2012; Fulmer et al., 2015). In this dissertation, within the triangular interplay between pupils, their parents and teachers, we have pointed to parental and teacher attributes as important contextual influences. In our research, we found exploratory and innovative evidence of the perceived impact of expectations held by teachers about themselves as teachers and about their teaching, and, to a lesser extent, about pupils' parents.

Teachers predominantly experienced personal beliefs about education in general and about their teaching as influencing their track recommendations, such as the conviction that pupils' initial track choices are not all decisive for future educational choices and opportunities. Other influencing attributes were, amongst others, teachers' perceived personality and relationships with pupils. In the context of teacher thinking research, these findings are in line with Kelchtermans (1993, 2009) who stated that teachers' professional self-understanding (i.e. teachers' conceptions of themselves as teachers) and subjective-educational theory (i.e. teachers' knowledge and belief systems about teaching and education), as two interwoven domains of teacher cognitions or beliefs, impact upon teachers' professional behaviour. Additionally, teachers indicated to be primarily affected in their track recommendations by the perceived extent to which parents are engaged in educational activities at home, referring to the theoretical construct of parental (home-based) involvement (Epstein, 1987; Hill & Tyson, 2009). The knowledge that teacher expectations of parents and of the teachers themselves as well as their teaching affect teacher track recommendations, on top of the expectations held by teachers about pupils, deepens the existing knowledge base on teachers' allocation process of pupils and its claimed contextual nature (Fang, 1996; Fives & Buehl, 2012; Fulmer et al., 2015). The main message is that, as also stated by Kelchtermans (2009), it matters who the teacher is. The fact that personal attributes of teachers are perceived as influencing teacher track recommendations, may be a possible explanation for the large differences we found with respect to teachers' (communication of) track recommendations in Study 1. This is a research path that is worth exploring further. Additionally, we argue that it also matters who the parents are. Hence, it is very important for teachers to be fully aware that the way in which their transition decisions are being shaped and the way they look at their pupils (i.e. their expectations of pupils' future abilities and potential) may be influenced by the way teachers understand themselves, both personally and professionally, and the way teachers understand pupils' parents. However, according to our findings, this is precisely where the sticking point is.

Although teachers were very clear about the fact that pupil attributes are consciously taken into account when deciding on track recommendations, we are doubtful about the extent to which teachers consciously consider influencing teacher and parental attributes, for two main reasons. First, regarding the teacher attributes, there was an obvious difference depending on the phrasing of the question. As such, the perceived influence of teacher attributes only became apparent when explicitly questioned. Second, regarding the parental attributes, teachers' negative experiences with respect to one particular parental attribute raised questions, more specifically the extent to which teachers take into account parental expectations of their children's educational career and teachers' perceived association with parents' sociocultural background. According to the teachers, especially ethnic minority parents often tend to have high and unrealistic expectations about their children's academic abilities and competences, affecting parents' educational preferences. To a certain extent, this parental attribute also affected the track recommendations of teachers, as they considered it important not to go along with the perceived biased expectations and educational preferences of parents. Moreover, teachers pointed to feelings of frustration and powerlessness towards the educational choices that parents make. Notwithstanding the fact that the majority of teachers indicated not to allow this parental attribute to actually affect their track recommendations, it was very much debated during the in-depth interviews with teachers, underlining its clear importance. Given the possible sensitive or even threatening nature of this topic, teachers' experiences, in this regard, might have been biased due to the desire of 'social acceptable' responses. We therefore must consider the possibility that the influence of teacher and parental attributes is likely to be even greater than as perceived by teachers themselves. Considering the possible bias in parental expectations of their children's educational career (i.e. high and unrealistic expectations) and its interrelatedness with parental background, as perceived by teachers, one might wonder to what extent expectations of teachers about pupils' future abilities and potential are fair and accurate (cf. Research Objective 3). As such, the major outline of Study 3 was established.

Teacher expectation bias

Study 3 contributed to the research objective of examining bias in teacher expectations of pupils' future abilities and potential. Fuelled by the results of the previous studies, in which we identified important pupil, parental and teacher attributes as the information upon which teacher expectations of pupils are based, Study 3 addressed bias in teacher expectations of pupils' cognitive attributes (i.e. maths skills and language skills) and non-cognitive attributes (i.e. the ability to plan, motivation to learn, alertness and independence, as school-appropriate behaviours) (cf. pupil attributes), of teachers' relationships with their pupils (cf. teacher

attributes) and of parental involvement in education (cf. parental attributes). As pupils are the 'obvious' experts when it comes down to their own academic achievement and functioning, in order to determine the accuracy of teacher expectations, we aligned these expectations with more 'objective' measures of the attributes included in terms of pupils' self-assessments and achievement test scores. Panadero et al. (2016) and Topping (2003) argued the need to align pupils' assessments with the assessments of appropriate content experts including teachers, in order to determine the accuracy of pupils' self-assessments. It seems reasonable that this principle also applies in the other direction. Correlational analysis and an additional analysis using a new measure of expectation bias on a (survey) data set of 535 sixth-grade pupils were used to examine the occurrence of general expectation bias (i.e. bias towards all pupils). Additionally, through multivariate analysis of variance (MANOVA), we investigated if teachers systemically differed in their expectation bias towards specific subgroups of pupils, based on their SES, ethnicity and gender, as background characteristics. In sum, the following two research questions were put forward*: 'To what extent are teacher expectations of pupils' cognitive and non-cognitive attributes, of teacher-pupil relationships and of parental involvement in education biased?'* (Research Question 5); and *'Does teacher expectation bias with respect to pupils' cognitive and non-cognitive attributes, teacher-pupil relationships and parental involvement in education systematically differ, based on pupils' SES, ethnicity and gender?'* (Research Question 6).

Teacher expectations are generally biased in terms of both over- and underestimation

Teacher expectation bias is traditionally examined by means of correlation analysis between teacher expectations and 'objectively' measured attributes (Ready & Wright, 2011), with a focus on pupils' academic performance (as a cognitive pupil attribute) (Hoge & Coladarci, 1989; Machts et al., 2016; Südkamp et al., 2012). Study 3 can be considered as innovative within this research field for two particular reasons. First, based on empirical evidence obtained in the previous studies, we took into account pupils' non-cognitive attributes, on top of cognitive pupil attributes, as well as teacher-pupil relationships and parental involvement in education, as two contextual variables. As a consequence, alongside pupils' achievement test-scores as 'objective' measures of comparison, we also included pupils' self-assessments to align with teacher expectations of pupils' non-cognitive attributes and with teacher expectations of the contextual variables.

Second, we used two complementary research methods in order to examine teacher expectation bias. First, the results of the correlation analysis (using Spearman Rank Order Correlation coefficients (r_s)) showed statistically significant, positive correlations for all the

pupil attributes included, indicating an overall correspondence between the teacher expectations and the 'objective' measures (i.e. pupils' achievement test scores and self-assessments). Particularly teacher expectations of pupils' cognitive attributes (i.e. pupils' language skills and maths skills) were found to closely correspond to pupils' achievement test scores (i.e. pupils' test scores on Dutch language and maths) (r_s = .64 and .47, respectively). The teacher-rated and self-assessed non-cognitive pupil attributes (i.e. pupils' independence, alertness, motivation to learn and ability to plan), as well as contextual variables (i.e. teacher-pupil relationships and parental involvement in education), seemed to correspond rather weakly (with r_s ranging from .29 to .16). These findings are in line with the meta-analyses of Hoge and Coladarci (1989), Südkamp et al. (2012) and Machts et al. (2016), in which they pointed to overall moderate to high correlations between teacher expectations of pupils' academic performance and their achievement test scores.

Based on the results of the correlation analysis, we know that teacher expectations of pupils and pupils' achievement test scores or self-assessments were positively related to each other. However, positive or negative relationships between teacher expectations and 'objective' measures do not fully inform us about the extent to which teacher expectations and 'objective' measures correspond or diverge. After all, a statistically significant correlation between, for instance, teacher-rated alertness of pupils and pupil-rated or self-assessed alertness does not necessarily mean that both parties judge or assess this attribute the same in absolute terms. Therefore, in line with the definition of expectation bias of Ready and Wright (2011), we obtained an additional measure of teacher expectation bias in order to be able to determine the extent of bias in terms of over- and underestimation by teachers. We did this by subtracting each 'objective' measure of the attributes included from the corresponding teacher expectations. The results indicated an overall bias in teacher expectations in terms of both overestimation (i.e. higher teacher ratings compared to those of the pupils) and underestimation (i.e. lower teacher ratings compared to those of the pupils). The largest bias occurred with respect to pupils' language skills and maths skills (in terms of overestimation by teachers), followed by parental involvement in education (in terms of underestimation). On the contrary, teacher expectations of pupils' non-cognitive attributes and of their relationships with teachers were found to be biased to a far lesser extent (in terms of both over- and underestimation).

Study 3 was set-up in the interest of the often inconsistent findings produced by research into teacher expectation bias (Jussim, 2017). Our findings pointed to discrepancy between teacher expectations and pupils' achievement test scores as well as self-assessments, which is extremely important in an educational context in which optimal placements of pupils in

secondary education heavily depend on the accuracy of teacher expectations. Furthermore, our findings stress the importance to carefully and critically overthink the way in which teacher expectation bias is defined. As such, one has to ask oneself whether one is interested in measuring the correlation between teacher expectations and 'objective' measures of these expectations, or the extent of over- or underestimation of the teacher expectations, given that both are not the same. Additionally, our findings stress the importance to carefully and critically overthink the research method(s) used when studying teacher expectation bias and to consider data triangulation, as it enables to develop a more comprehensive understanding of the phenomenon of teacher expectation bias.

Teacher expectations are specifically socially and gender biased

It is inevitable for humans to form impressions of people based on certain attributes and to generalise these beliefs so that also others are categorised in one's created social categories (Fiske & Neuberg, 1990). In the educational context, three such stereotypes are dominant (Timmermans et al., 2016). Whereas the social and ethnic stereotype suppose that teachers academically expect less from low SES pupils and ethnic minorities, compared to high SES pupils and ethnic majorities, also the gender stereotype presumes that teachers have differential expectations regarding the academic performance of boys and girls (i.e. boys are expected to perform better in maths- and science-oriented tracks and girls in language-oriented tracks) (Holder & Kessels, 2017; Kaiser et al., 2017; Tobisch & Dresel, 2017). Although we were not able to confirm the existence of the ethnic stereotype among teachers, we did found empirical evidence for differences in teacher expectation bias towards pupils' SES and gender. However, the impact of these background characteristics on teacher expectation bias was found to be rather small.

Specific expectation bias towards boys and girls occurred in the expectations held by teachers of pupils' motivation to learn, their ability to plan and teachers' relationships with pupils (Partial Eta Squared = .02, .01 and .01, respectively). Girls were found to be overestimated by teachers in terms of the two non-cognitive pupil attributes, compared to an underestimation in the case of boys. Teacher expectations of their relationships with pupils were overestimated by teachers for both boys and girls, but with a statistically significantly higher overestimation for boys. Furthermore, specific teacher expectation bias towards pupils' SES was related to teacher expectations of parental involvement in education, pupils' motivation to learn and their language skills (Partial Eta Squared = .04, .02 and .02, respectively). Teachers underestimated parental involvement in education and the motivation to learn of lower SES pupils (i.e. working class and lower middle class pupils) to a significantly higher extent than

was the case for higher SES pupils (i.e. middle class and upper middle class pupils). Hence, lower SES pupils were generally disadvantaged, which is in line with the well-acknowledged social stereotype in education (Tobisch & Dresel, 2017).

Overall, in the development of specific teacher expectation bias towards pupils' SES and gender, teacher expectations of non-cognitive attributes of pupils, and especially the motivation of pupils to learn, seemed of particular importance. This finding is in accordance with the determined influential role of pupils' motivation and interests in view of (the communication of) teacher track recommendations, as demonstrated in Study 2. Our findings further underline that also teacher expectations of pupils' cognitive attributes (more specifically pupils' language skills) and of contextual variables (i.e. teacher-pupil relationships and parental involvement in education) may play a part in the development of teachers' biased expectations of pupils' future abilities and potential. Study 3 did not allow us to tie these findings with teacher track recommendations. In order to investigate the role of pupil background characteristics within the interplay of teacher track recommendations and their influencing teacher expectations, Study 4 was launched.

The impact of teacher expectations and pupil background characteristics on teacher track recommendations

Although the previous studies enabled us to explore and identify teachers' communication of track recommendations (cf. Study 1) and the role of (biased) teacher expectations and pupil background characteristics (cf. Study 2 and 3), so far their mutual relationships were not addressed. Study 4 was set up to examine the impact of teacher expectations and pupil background characteristics on teacher track recommendations. More specifically, the following research questions were put forward: *'What is the impact of teachers' perceptions of pupils' cognitive and non-cognitive attributes and of teachers' perceptions of their relationships with pupils on teacher track recommendations?'* (Research Question 7); and *'What is the impact of teachers' perceptions of parental involvement in education and parents' social and cultural backgrounds on teacher track recommendations, and to what extent is the impact of these teacher perceptions and parental background characteristics mediated by the other teacher perceptions"*? (Research Question 8). An explanatory path analysis, using structural equation modelling (SEM), on a (survey) data set of 1014 sixth-grade pupils was used to study the impact of teacher expectations of pupils' maths skills, language skills and technical skills (as cognitive attributes), and of pupils' school-appropriate behaviours (i.e. pupils' ability to plan, motivation to learn, alertness, independence, the extent to which they follow teachers' directions and maturity) and personal-social behaviours (i.e. pupils' honesty, friendliness and

the extent to which they are considerate of others) (as non-cognitive attributes). Additionally, this study addressed the impact of teacher expectations of teacher-pupil relationships and of parental involvement in education (as contextual variables), and the impact of SES and ethnicity (as pupil background characteristics).

'Strong', high-achieving pupils are more likely to be recommended an academically oriented track

Of all predictors included in the path model, our findings demonstrated that teacher expectations of pupils' personal-social behaviours and of teachers' relationships with pupils appeared do not influence the track recommendations of teachers, neither directly nor indirectly. Teacher track recommendations were moderately and directly predicted by teacher expectations of, above all, pupils' maths skills and school-appropriate behaviours, after controlling for the other predictors (standardised regression coefficient = .39 and .25, respectively). The higher these perceived attributes, the higher the likelihood for pupils to be recommended an academically oriented track (i.e. in terms of the A-stream with Latin or modern sciences, as optional courses). These findings indicate that teachers' decision-making of track recommendations may be nested in hierarchical thinking, in which teachers expect 'strong' and generally well-achieving pupils at school to enrol in more academically oriented tracks, with a risk of confirmation and reinforcement of the hierarchical structure of tracked educational systems. Moreover, although most research on tracking is conducted in and focused on the context of secondary education, our research revealed that tracking is, as it were, already initiated in primary education, more specifically in terms of what is happening within primary school teachers' minds and their decision-making.

As teacher expectations of pupils' school-appropriate behaviours and maths skills were found to be the most important predictors of teacher track recommendations, these findings correspond to the results of Study 2. Pupils' non-cognitive attributes (predominantly in terms of pupils' motivation or interests and learning attitude) and cognitive attributes (predominantly in terms of pupils' school results) were clearly not only identified by the teachers themselves as being crucial for their track recommendations, their perceived impact could also be determined on the basis of quantitative, explanatory analyses. Additionally, when looking at the main findings of Study 3, caution should be exercised by teachers in deciding on track recommendations with respect to the determined effect of especially teacher expectations of pupils' school-appropriate behaviours. Where teacher expectations of pupils' maths skills were found not to play a part in the development of (specific) teacher expectation bias, this was the

case for teacher expectations of particularly pupils' motivation to learn, as a non-cognitive attribute.

The socially and ethnically biased nature of teacher track recommendations

Beside the direct effects of teacher expectations of pupils' future abilities and potential, our findings demonstrate that teacher track recommendations were indirectly affected as well by parents' sociocultural background, though the effects were found to be limited to small. As such, these findings are in line with the determined biased nature of teacher track recommendations (Boone & Van Houtte, 2013b; Glock et al., 2013; Timmermans et al., 2015) and the overrepresentation of low SES pupils and ethnic minorities in less demanding tracks of secondary education (Jackson et al., 2012; Jaeger, 2009; Kloosterman et al., 2009). Additionally, we found an indirect impact – as well as a limited direct impact (standardised regression coefficient = .07) – of teacher expectations of parental involvement in education on teacher track recommendations, in which particularly pupils' school-appropriate behaviours appeared important for the mediation (standardised regression coefficient = .51 x .25 = .13). These findings are consistent with the well-documented influence of parental involvement in education on pupils' academic achievement and psychological processes that support achievement (Ma et al., 2016), including, amongst others, their motivation to learn (as a non-cognitive attribute).

Alongside a direct, positive but rather small effect of parents' SES on teacher track recommendations (standardised regression coefficient = .23), this effect was also partly mediated by teacher expectations of pupils' language skills, technical skills and school-appropriate behaviours (standardised regression coefficient = .11 x .19 = .02; .07 x .25 = .02 and .14 x -.16 = -.02, respectively). Complementary to the findings of Study 3, teachers not only appeared to systemically differ in their expectations of pupils' future abilities and potential based on pupils' SES, also the track recommendations of teachers were found to be affected by SES. Our findings are in line with Boone and Van Houtte (2013b) who suggested that, rather than taking pupils' SES consciously into account, teachers unconsciously focus on non-cognitive pupil attributes when deciding on track recommendations, which we conceptualised as school-appropriate behaviours. As stated by Farkas (2003), these non-cognitive attributes can be considered to be unequally distributed across social classes and to be rather typical of middle class pupils. Interestingly, according to our findings, teacher expectations of cognitive pupil attributes, and more specifically pupils' technical skills and language skills, were equally important in the mediation of the impact of SES on teacher track recommendations. As such, this study is a valuable contribution to the evidence base of the association between SES and

teacher track recommendations. However, although our findings suggest the importance of both pupils' cognitive and non-cognitive attributes in this association, it should be noted that the effects we found were limited.

Next, despite the absence of a direct effect of pupils' ethnicity on teacher track recommendations, this background characteristic was found to indirectly impact upon teacher track recommendations through teacher expectations of pupils' school-appropriate behaviours and language skills (standardised regression coefficient = .06 x .25 = .02 and -.07 x .19 = -.01, respectively). Hence, although the findings of Study 3 did not point to a systematic difference in teacher expectations of pupils' future abilities and potential towards pupils' ethnicity, the track recommendations of teachers were found to be affected by ethnicity, though to a limited extent. The fact that this impact manifests itself in an indirect manner is consistent with the findings of Study 2, in which, overall, teachers indicated not to allow their judgements of parental expectations of their children's educational career and teachers' perceived association with parents' ethnicity to interfere with their track recommendations. However, as this clearly appeared to be a matter of great concern to teachers, we have already expressed our doubts concerning this assumed rather limited impact as well as concerning teachers' awareness of this impact. As we did determine an effect of pupils' ethnicity on teacher track recommendations, we have found confirmation for our presumption that its impact is likely to be even greater than as perceived by teachers. Moreover, the fact that this impact is indirect in nature supports and possibly explains our presumed limited awareness of teachers about the potential influence of pupils' ethnicity (as associated with teachers' perceived parental expectations of their children's educational career) on teacher track recommendations.

Towards a more integrated theoretical framework on (biased) teacher expectations and their impact on teacher track recommendations

Based on the insights acquired throughout the empirical studies, in this section, we will discuss how our findings contribute to the current knowledge base regarding teachers' allocation process and their decision-making of track recommendations. Our reasoning, in this respect, is twofold, resulting in two main suggestions for theory.

An integrated approach on teacher expectations in terms of sources of influence

First, let us recall the conceptual model that guided us throughout our research (see Figure 1), presented at the beginning of this dissertation. Building on teacher expectancy research,

we argued that teacher track recommendations are shaped by the expectations held by teachers about pupils' future abilities and potential. Additionally, we argued that three possible areas of influence, that is, pupils, their parents and teachers, underlie these teacher expectations. As teacher expectancy research, in the extension of the well-known Pygmalion study (Rosenthal & Jacobson, 1968), traditionally focusses on the role of pupil attributes, and more specifically cognitive pupil attributes (e.g. pupils' academic abilities and performance), the empirical evidence for an association between perceived non-cognitive pupil attributes as well as contextual variables (i.e. parental and teacher attributes) and teacher expectations was rather limited. As such, it was our intention to further explore and identify which non-cognitive attributes of pupils and contextual variables are important in shaping teacher expectations and subsequent teacher track recommendations (cf. Research Objective 2), and to verify its hypothesised impact (cf. Research Objective 4). Based on the personal views of teachers (cf. Study 2) as well as large-scale, quantitative explanatory analyses (cf. Study 4), we pointed to the (perceived) impact of non-cognitive attributes of pupils, more specifically in terms of school-appropriate behaviours, referring to, amongst others, pupils' learning attitude. Additionally, we pointed to the (perceived) impact of parental and teacher attributes, including parental involvement in the education of their children and the quality of teachers' relationships with pupils.

Hence, our findings stress the need to adopt an integrated approach when studying teacher expectations, taking into account attributes of pupils (single approach), both cognitive and non-cognitive, as well as parental and teacher attributes (contextual approach). Moreover, as these attributes were found to be important in the development of (general and specific) bias in teacher expectations of pupils, this integrated approach is also required in the specific study of teacher expectation bias.

An integrated approach on teacher track recommendations in terms of pathways of influence

Our second theoretical contribution concerns the exact pathways of influence exerted by teacher expectations and pupil background characteristics on teacher track recommendations. A substantial amount of research has demonstrated the biased nature of teacher expectations and teacher track recommendations, emphasising the importance of pupil background characteristics with a particular focus on the sociocultural background (i.e. SES and ethnicity). Due to stereotyped thinking, bias in teacher expectations of pupils and, consequently, in teacher track recommendations may occur. This reasoning implies that teacher track recommendations are predicted in both a direct (i.e. through teacher expectations of pupils' future abilities and potential) and indirect (i.e. through pupil background

characteristics) way. However, previous research usually dealt with single pathways (i.e. the effect of pupil background characteristics on teacher expectations, the effect of teacher expectations on teacher track recommendations or the effect of pupil background characteristics on teacher track recommendations), leading to inconclusive findings. Therefore, it was our intention to disentangle the direct and indirect influences on teacher track recommendations through an integration of the multiple pathways (cf. Research 4). Based on our results, we were able to confirm the hypothesised direct impact of teacher expectations of pupils' future abilities and potential on teacher track recommendations (cf. Study 4). In addition, our results pointed to direct and indirect influences of pupil background characteristics on teacher track recommendations, overall in favour of higher SES pupils and ethnic majorities (cf. Study 4). SES was found to both directly and indirectly impact upon teacher track recommendations. Whereas previous research suggested a mediation of the impact of SES through pupils' non-cognitive or achievement-related behavioural attributes, our findings showed that also pupils' cognitive attributes (i.e. their perceived language skills and technical skills) are important in this mediation. The same applies to ethnicity, for which we only found indirect effects on teacher track recommendations.

To conclude, in studying the ways in which teacher track recommendations are formed, these findings stress the need to adopt an integrated approach, in which pupil background characteristics and teacher expectations of pupils' future abilities and potentials, as pathways of influence, are simultaneously taken into account. Moreover, regarding the association between pupil background characteristics and teacher track recommendations, it is important to adopt a holistic viewpoint on pupils, considering the possible mediating role of both pupils' cognitive and non-cognitive attributes.

Strengths, limitations and suggestions for future research

Next to the provided answers to the general research objectives of this dissertation, we will reflect on some limitations of our research, together with several new questions and suggestions for future research. But first, we would like to highlight the great strength of this research. We invested in a combination of qualitative and quantitative research methods in order to unravel primary school teachers' allocation process of pupils and teachers' decision-making of track recommendations. Doing so was particularly rewarding, as it enabled us to, firstly, inductively explore and develop theory with respect to teachers' allocation process and its underlying mechanisms, and, secondly, apply and test this theory on a larger scale (i.e. an emic research approach). As a result, we were able to collect both rich, in-depth data

originating from the experts in allocation of pupils at the transition to secondary education, that is, the sixth-grade teachers, and larger-scale, generalizable data. This combination resulted in a very unique data set, based on teachers' personal view about the how and why of allocation of pupils, more specifically within the context of Flanders at the transition from primary to secondary education.

However, we also need to acknowledge some limitations of our research. In order to gain insight into the mechanisms of teacher track recommendations, alongside observations of teacher-parent conferences, in-depth interviews with sixth-grade teachers were conducted. In doing so, we were able to identify which teacher expectations of pupils' abilities and potential, as well as their underlying attributes (i.e. pupil, parental and teacher attributes), are perceived by teachers as influencing their track recommendations (cf. Study 2). As the subsequent studies built on these conclusions, we used a certain set of teacher expectations throughout the later studies, with which we investigated teacher expectation bias (cf. Study 3) and the impact of teacher expectations, together with pupil background characteristics, on teacher track recommendations (cf. Study 4). In response to the teachers' personal experiences, as expressed during the in-depth interviews, in this set of teacher expectations, more attention was paid to teacher expectations of pupils and their underlying pupil attributes (i.e. cognitive and non-cognitive attributes), compared to teacher expectations of contextual variables shaped by parental attributes (i.e. parental involvement in education) and teacher attributes (i.e. teachers' relationships with pupils). Based on our results, in contrast to the pupil attributes, we suggested that teachers' awareness of the potential influence exerted by pupils' parents and the teachers themselves was rather limited. Hence, one might wonder to what extent we actually grasped all expectations that are perceived by teachers as influencing their track recommendations. As stated by Fives and Buehl (2012), teacher expectations can be implicit (i.e. expectations of which teachers are unaware) and explicit (i.e. expectations of which teachers are conscious). In this respect, it seems that, by means of the in- depth interviews, we predominantly captured those influencing expectations that teachers are aware of, more specifically expectations of pupils' attributes. However, in order to fully understand teachers' allocation process and their decision-making of track recommendations, it is equally important to grasp implicit expectations of teachers that impact upon their transition decisions, including expectations related to contextual variables that transcend the teacher-pupil interactions at micro-level (Fulmer et al., 2015). To conclude, future research could focus on disentangling teachers' explicit and implicit expectations of pupils' future abilities and potential, as well as their underlying attributes, and their impact on teacher track recommendations. Our findings suggest that the sole use of in-depth interviews with teachers is rather insufficient to bring implicit expectations to the surface. In the knowledge that this is a very difficult task, we believe

that a combination of different research methods would be the most suitable to that end. Interview data could be triangulated with, for instance, data based on reflective methods, which particularly focus on unravelling teachers' cognitive processes (e.g. think aloud methods).

An additional limitation concerns the conceptualisation and operationalisation of the teacher expectations that were expected to influence teacher track recommendations in the quantitative studies (i.e. Study 3 and 4). According to teacher expectancy research, teachers have various information sources available which may inform them about pupils' future abilities and potential (i.e. the underlying pupil, parental and teacher attributes), and, which may, in turn, shape their track recommendations regarding pupils (Good, 1987; Tobisch & Dresel, 2017). Given that in many educational systems teachers enjoy considerable autonomy in areas of assessment and allocation (Eurydice, 2011; Gorard & Smith, 2004), the process in which teacher expectations are shaped is not necessarily based on a deliberate and systematic process of collection and analysis of the information available to teachers. On the contrary, teachers are expected to build on a lot of spontaneous and immediately derived experiences and knowledge with respect to their pupils when shaping their expectations, which accumulate over time (Klein, 2008; Vanlommel et al., 2017). Take, for example, a pupil's motivation to learn. This construct can be theoretically approached in a rather complex way by distinguishing between different kinds of motivation (cf. the self-determination theory of Deci and Ryan (1985)). However, it was our assumption that when a teacher is asked to assess a pupil's motivation to learn, he or she will not necessarily make a thorough analysis by distinguishing between, for instance, intrinsic and extrinsic motivation of the pupil. In other words, the teacher is expected not to take into account the theory behind it. Consequently, it was not our intention to measure that theory. Therefore, in an attempt to grasp these spontaneous and immediate expectations of teachers, a general conceptualisation and operationalisation with primarily one-item measures was found to be the most appropriate (in line with the Teachable Pupil Survey of Kornblau (1982)). Nevertheless, although we feel that we used suitable measures for what we aimed to measure, that is, general, spontaneous and immediate expectations of teachers, the (content and construct) validity of future research outcomes would most likely benefit from using reliable multi-item measures of more complex theoretical constructs. Future research can build on our theoretical and methodological approaches in the search for what is the most appropriate way to conceptualise and operationalise teacher expectations that influence teacher track recommendations.

A final limitation is that the research design of this dissertation was cross sectional. Teachers were observed and questioned about their allocation practices of pupils at only on time point,

more specifically by the end of the sixth grade of primary education (i.e. in the period from February/May to June of the school year). This issue may have particular relevance to the results with respect to teacher expectation bias (cf. Study 3). In their study on teacher expectation bias, Ready and Wright (2011) found that teacher expectations of pupils and pupils' academic achievement (as 'objective' measures) became more closely linked during kindergarten. They concluded that teacher expectations may become more accurate as the school year progresses and as teachers get to know their pupils. Indeed, as teacher expectations can be viewed as context dependent and thus resulting from interactions with the context in which teachers operate (Fang, 1996; Fives & Buehl, 2012), we have to acknowledge the possible dynamic nature of teacher expectations. This applies especially to young adolescents, who are faced with many development challenges and who can therefore be expected to strongly evolve during a school year. As a consequence, in studying teacher expectation bias, future longitudinal research could consider the dynamic nature of teacher expectations of pupils' future abilities and potential, in which indicators of expectation bias are observed repeatedly over time and growth in teacher expectations and expectation bias can be estimated (e.g. through the use of latent growth modelling).

Last, while not necessarily a limitation but rather a suggestion for future research, we did not investigate the effects of teacher track recommendations or the extent to which parents and pupils actually followed them. However, in the educational context in which this research was conducted, being the educational system of Flanders, teacher educational recommendations towards parents are not legally binding (Department of Education and Training, 2008). Therefore, it would be very interesting for future research to address pupils' educational trajectories in secondary education, after the transition from primary education, and to investigate how teacher track recommendations turn out. Furthermore, in studying the impact of teacher expectations of pupils' future abilities and potential, as well as pupil background characteristics, on teacher track recommendations (cf. Study 4), we did not consider the potential role of teacher background characteristics. This is mainly due to the fact that considerably less teacher data were collected than pupil data (although each class of the sixth grade consists of multiple pupils, it consists of only one teacher). Yet, teacher characteristics have been found to be associated with (biased) teacher expectations (Ready & Wright, 2011; Südkamp et al., 2012). The study of Hofer (2015), for instance, showed that the occurrence of bias in teacher expectations towards pupils' gender decreased as the teachers' job experience increased. Similarly, as teachers are part of and influenced by the broader context of schools, associations have been found between class and school characteristics, such as their socioeconomic and ethnic composition, and teacher expectations. This way, teachers have been found to have lower expectations regarding the performance of pupils in classes and

schools with a high proportion of low SES pupils and ethnic minorities (Agirdag, Van Avermaet, & Van Houtte, 2013; Thys & Van Houtte, 2016). Future research looking into these teacher, class and school characteristics and their impact on (biased) teacher expectations and teacher track recommendations (using multilevel modelling), would be very valuable for expanding our current knowledge base about the how and why of allocation by teachers.

Implications for educational policy and practice

It is our hope that the results of our studies are not only of interest to the field of researchers, but will also be regarded as relevant for educational policy-makers and practitioners. In the following paragraphs, we will present four suggestions for educational policy and practice.

Invest in the professionalization of (student) teachers in the field of allocation in order to enhance teachers' notion and awareness of their individual allocation practices

Throughout our research, we identified some critical questions that stress the importance for teachers to gain more insight into and become (more) aware of their individual allocation practices. Our findings emphasised the very complex nature of the mechanisms through which teacher track recommendations are formed, in which both direct and indirect or mediated effects of teacher expectations of pupils' future abilities and potential, and of their sociocultural backgrounds played a part. Additionally, it is clear that teachers' decision-making of track recommendations is not an isolated act between the teacher and his/or pupils, but that also contextual influences are important. This way, our results pointed to a (perceived) impact of, alongside pupil attributes, multiple parental and teacher attributes, such as the extent of parental involvement in the education of their children and general beliefs of teachers about education and their teaching. Nevertheless, our findings suggested that teachers' awareness of the influence that teacher and parental attributes may exert on teacher expectations of pupils' future abilities and potential, and subsequent teacher track recommendations, as perceived by teachers, is rather limited. As such, questions arise about teachers' notion of allocation in general and about their insight into the ways in which they personally handle the allocation of pupils.

Therefore, our first suggestion to educational policy-makers and practitioners is to invest in professional development opportunities aimed at enhancing teachers' awareness of and insight into allocation in general and into their individual allocation practices. Teachers should be able to obtain a clear picture of how and why expectations of pupils' future abilities and potential arise, referring to the underlying influences (pupil, parental and teacher attributes),

and how and why these expectations impact upon teacher track recommendations. Special attention should be given to enhancing teachers' awareness of and insight into the possible impact of expectations regarding themselves as teachers and their teaching, and about pupils' parents. In order to do so, it would be required to introduce (student) teachers in the teacher expectancy theory, which could become a part of the curriculum in teacher education.

Adopt a multi-informant approach in order to avoid the pitfalls of bias in teacher expectations and teacher track recommendations

Tracked educational systems are associated with greater inequality in children's academic performance and educational opportunities than comprehensive educational systems, primarily because tracking magnifies the impact of SES on academic achievement (Bol et al., 2014; Van de Werfhorst & Mijs, 2010). Research had indeed pointed to bias in the expectations held by teachers about pupils' academic abilities, and, subsequently, in the track recommendations of teachers, both in general as well as regarding traditionally disadvantaging children (Ready & Wright, 2011). Our results support these findings by emphasising the crucial role of pupils' SES, ethnicity and gender in shaping biased teacher expectations and biased teacher track recommendations. Warranted in view of educational equality, it is very important for secondary schools and teachers to be able to prevent the pitfalls of bias in teacher expectations and teacher track recommendations in the best possible way, and to respond accurately to these pitfalls when assessing and allocating pupils.

One way of doing this for teachers is by comparing their expectations of pupils' future abilities and potential with the assessments of appropriate 'experts', including fellow teachers and pupils' parents (Panadero et al., 2016; Topping, 2003). Our findings point to the particular importance of alignment with pupils' self-assessments, given that these assessments were found to, to a substantial extent, diverge from the expectations or assessments of teachers. These findings alone should be sufficient reason for teachers to look at their expectations with a critical eye and to seek verification from multiple perspectives. The intention here is not to eliminate individual differences between the views of teachers and other stakeholders. As 'subjective' understandings and expectations of teachers were found to be vital in shaping track recommendations, allocation is by definition a personal act. It is very important, however, that each individual track recommendation is equally valid and resulting from a well-thought, conscious and deliberate decision-making process, in which these different stakeholders are actively and jointly involved.

Therefore, our second suggestion for educational policy and practice is that, in order for teachers to verify or validate their expectations and to provide as complete a picture as possible of pupils' future abilities and potential, they should systematically align their expectations with the experiential 'expert' knowledge and assessments of pupils from different, important stakeholders. This multi-informant approach should become a way of doing things in primary schools, for which a wider support and a common ground has to be created among the different members of school teams. In this respect, an important role is reserved for school leaders, school boards and educational policy-makers.

Adopt a process-oriented approach in which teachers and parents cooperate constructively

Next to teachers and the pupils themselves, the most important stakeholders in the field of allocation are pupils' parents. However, the 'rules' of education and allocation are prescribed by schools and teachers, leading to unequal positions for teachers and parents (Elbers & de Haan, 2014; Weininger & Lareau, 2003). Overall, teachers occupy a powerful, superior position in relation to parents. As indicated by our findings, this can be a source of concern for teachers, in particular with respect to low SES and ethnic minority parents. As such, primarily due to the occurrence of cultural differences (e.g. differences in cultural expectations between parents and teachers), our research showed that teachers were found to experience difficulties and feelings of powerlessness with respect to (the communication of) their transition decisions towards children of low SES and ethnic minority parents. Our findings showed that teachers often felt they had to 'compete' against unrealistic parental expectations of their children's academic abilities and competences and against 'wrong' educational choices of parents, hampering the children's future educational opportunities. These negative experiences may not only influence the well-being and self-efficacy of teachers, but also those of parents.

These findings are presumably directly related to the fact that, in Flanders, track recommendations of teachers are not legally binding and the final responsibility regarding pupils' enrolment in secondary education lies with the parents. Knowing that parents will choose whatever they want anyway, regardless of the track recommendation of teachers, may strengthen teachers' negative experiences and feelings towards parents. Moreover, teachers may question the necessity and relevance of their track recommendations. One might wonder whether introducing mandatory track recommendations would provide successful solutions, in this regard. However, we are not convinced that binding track recommendations would necessarily lead to teachers and parents being on the same line. Additionally, we do not believe that binding track recommendations would fully prevent 'wrong' educational choices

form being made, given that teachers' were found to be biased in their expectations of pupils' future abilities and potential, and in subsequent track recommendations.

Therefore, much more important than introducing a binding character for teacher track recommendations, is a constructive, longer-term cooperation between teachers and parents. Already from the beginning of the sixth grade, parents should be actively involved in the decision-making process of pupils' enrolment in secondary education, pointing to the need of adopting a process-oriented approach on allocation. This would allow teachers and parents to exchange information, expectations and aspirations regularly (cf. our second suggestion for policy and practice) and to jointly reach a transition decision. This would also avoid that the teacher's track recommendation would come as a surprise to parents. To that end, our third suggestion for educational policy and practice is to take appropriate measures to create a culture of cooperation in primary schools and to actively involve parents, for instance through regular teacher-parent conferences and by involving parents in multidisciplinary staff meetings. Furthermore, we suggest that teacher education includes training of (student) teachers' communication skills in relation to parents so that constructive dialogues can be established, with special attention to cultural differences between teachers and parents with different sociocultural backgrounds.

Let teacher track recommendations be the result of teachers' individual assessments of pupils supplemented with pupils' standardised test results

As argued previously, the levels of inequality in educational systems are effected by educational institutional features, such as tracking. Additionally, also the extent to which educational systems are nationally standardised is found to be associated with greater educational equality (Bol et al., 2014; Van de Werfhorst & Mijs, 2010). Therefore, warranted in view of equal educational opportunities for all pupils, a certain extent of systematics or standardisation with respect to pupils' allocation to secondary education and teachers' transition decisions should be installed. To that end, alongside the personal assessments of teachers in terms of their expectations of pupils' future abilities and potential, we argue the importance of integrating pupils' standardised test results in the teacher's track recommendation. By using nationwide, standardised school leaving tests, all pupils' academic achievement and functioning would be measured in the same way, leading to 'objective' criteria as the basis upon which teacher track recommendations are formed. This would, in turn, reduce the chance of (specific) bias in teacher track recommendations towards subgroups of pupils based on their background characteristics. As schools would be held accountable for their performance, they would be stimulated to invest in an 'objective'

allocation of pupils and in all pupils (not only those pupils who are expected to belong in more academically educational tracks). Over the past years, synchronous with the development of this dissertation, the situation in Flanders, in this regard, has evolved. It is only recently that the Flemish government has required the mandatory use of nationwide, standardised school leaving tests (e.g. the OVSG-test and the interdiocesan test), as of the end of the school year 2017 – 2018 (Janssen et al., 2017). Therefore, the question is not so much whether we want to use such tests, which we are in favour of, but rather what these tests should measure. As we have determined the (perceived) impact of cognitive attributes (i.e. pupils' academic abilities and performance) as well as non-cognitive attributes (i.e. pupils' achievement-related behaviours) of pupils on teacher expectations of pupils' future abilities and potential, and, in turn, teacher track recommendations, we strongly believe that both aspects should be included in standardised school leaving tests (Penninckx, Vanhoof, Quintelier, De Maeyer, & Van Petegem, 2017). This would require teachers to show some creativity and to step away from the traditional approach in which solely pupils' cognitive attributes, in terms of test results on different school subjects such as maths and language, are measured. Of course, tests have their limitations. This way, it will be much more difficult, if not impossible, to map, non-cognitive attributes of pupils, such as their learning attitude, and attributes other than those of pupils, such as the extent of parental involvement in the education of their children. With these other attributes, we refer to the contextual variables which were also found to impact upon teacher expectations and subsequent teacher track recommendations, and which could hinder a successful score on a school leaving test. That is exactly why the personal judgements of teachers regarding their pupils (i.e. teacher expectations of pupils' future abilities and potential) are so important and should remain one of the key components of the teacher's track recommendation.

To conclude, our fourth suggestion for educational policy and practice is to install teacher track recommendations that result from a combination of teachers' 'subjective' expectations of pupils' future abilities and potential and pupils' 'objective' standardised test results. Both components would complement each other, given the limitations that each component has to deal with separately. To meet the subjectivity of teacher expectations, these would be supplemented with pupils' 'objective' standardised test results. At the same, to meet the rather narrow focus of standardised tests, these would be supplemented with information provided by teachers about, for instance, less visible non-cognitive, achievement-related behaviours of pupils and information about important (f)actors in pupils' immediate environment (cf. contextual variables).

Strengthened in transition

We hope to have showed academics, educational policy-makers, school leaders and teachers the value of our findings in terms of understanding primary school teachers' allocation process of pupils and their decision-making of track recommendations. Furthermore, the theoretical and empirical findings and implications that are discussed in this dissertation, can serve as a point of departure for many to take a close and critical look at the practices of allocation of pupils by teachers, and to keep improving these practices. From lost in transition to strengthened in transition.

Chapter 11

Nederlandstalige samenvatting (Dutch summary)

De globale onderzoeksfocus van dit proefschrift richt zich op het proces waarin leerlingen worden georiënteerd door hun leerkrachten basisonderwijs tijdens de transitie naar het secundair onderwijs. Deze studie levert belangrijke inzichten in het hoe en waarom van oriëntering, of met andere woorden in hoe leerkrachten oriëntering vormgeven in termen van het advies en waarom leerkrachten tot een specifiek advies komen ten aanzien van een leerling. In deze samenvatting bespreken we eerst het belang van onderzoek naar oriëntering en de achterliggende mechanismen ervan. Daaropvolgend vatten we de kernconclusies van dit proefschrift samen.

Het belang van onderzoek naar het oriënteringsproces door leerkrachten

Onderwijssystemen variëren sterk in de wijze waarop leerlingen worden georiënteerd tijdens de transitie van het basis- naar het secundair onderwijs (Ireson & Hallam, 2001; LeTendre et al., 2003; Van de Werfhorst & Mijs, 2010). In sommige onderwijssystemen is, door het gebruik van bindende, nationale gestandaardiseerde eindtoetsen, de oriënterende studiekeuze uitsluitend gebaseerd op de academische prestaties van leerlingen. Andere onderwijssystemen, zoals het Vlaamse onderwijs, kennen een grotere rol toe aan de leerkracht basisonderwijs en diens individueel beslissingsproces aangaande de transitie van leerlingen naar het secundair onderwijs (Eurydice, 2011; Gorard & Smith, 2004). Op het einde van het basisonderwijs resulteert dit beslissingsproces in een advies van leerkrachten ten aanzien van leerlingen, dat doorgaans wordt besproken met ouders tijdens formele oudercontacten (Alasuutari & Markstrom, 2011; Elbers & de Haan, 2014; Kotthoff, 2015; Lemmer, 2012).

Gebaseerd op inzichten uit onderzoek naar cognitieve psychologie en leerkrachtverwachtingen binnen het onderwijs, is het uitgangspunt van dit proefschrift dat de verwachtingen die leerkrachten hebben over de toekomstige academische capaciteiten en het potentieel van leerlingen de basis vormen van het advies. Uitgaande van deze onderzoekstradities weten we dat leerkrachtverwachtingen, als essentiële verschijnselen van cognitieve denkprocessen (Fives & Buehl, 2012), een sterke impact kunnen uitoefenen op de beslissingen en gedragingen van leerkrachten ten aanzien van leerlingen en zodoende op het schools functioneren en presteren van leerlingen (Brophy & Good, 1974; Good, 1987; Jussim & Harber, 2005; Rosenthal & Jacobson, 1968). Naast louter ‘objectieve’ (cognitieve) academische prestaties van leerlingen, spelen ook andere (non-cognitieve) prestatiegerelateerde factoren, zoals gedragsmatige factoren en contextuele aspecten, een rol in het tot stand komen van leerkrachtverwachtingen (Farkas, 2003; Farrington et al., 2012; Hauser-Cram et al., 2003; Hughes et al., 2005; Kelchtermans, 2009).

Net in deze persoonlijke, minder 'objectieve' inschattingen van leerkrachten schuilt het gevaar van vertekening of bias. Bovendien kunnen vertekende leerkrachtverwachtingen zich, als gevolg van stereotiep denken, in het bijzonder richten tot bepaalde groepen van leerlingen op basis van hun achtergrondkenmerken (Ready & Wright, 2011). Vertekende leerkrachtverwachtingen kunnen leiden tot vertekende adviezen van leerkrachten (Boone & Van Houtte, 2013b; Glock et al., 2013; Timmermans et al., 2015), die op hun buurt bepalend zijn voor de verdere (school)loopbaan van leerlingen (Belfi et al., 2012; Dockx et al., 2016; Johnston & Wildy, 2016; Levin, 2009; van Rooijen et al., 2017). Het is dus van cruciaal belang dat de verwachtingen van leerkrachten over leerlingen die de basis vormen van het advies, accuraat zijn.

Samenvattend kunnen we stellen dat het advies van leerkrachten en de (al dan niet accurate) leerkrachtverwachtingen die hieraan de basis liggen, de kern vormen van het oriënteringsproces. Echter, omdat onderwijskundig onderzoek veelal focust op de consequenties van oriëntering in termen van leeruitkomsten van leerlingen, zijn onze huidige inzichten met betrekking tot oriëntering en de achterliggende mechanismen ervan vanuit leerkrachtperspectief eerder beperkt (Van Houtte, 2011). Dit proefschrift is daarom opgebouwd rond de volgende vier onderzoeksdoelen: (1) het verkennen van het advies van leerkrachten dat wordt besproken tijdens oudercontacten, (2) het identificeren van de leerkrachtverwachtingen die, zoals gepercipieerd door leerkrachten, bepalend zijn voor het advies, (3) het nagaan van vertekening in leerkrachtverwachtingen met aandacht voor achtergrondkenmerken van leerlingen en, tot slot, (4) het in kaart brengen van de impact van leerkrachtverwachtingen en achtergrondkenmerken van leerlingen op het advies van leerkrachten.

Belangrijkste onderzoeksbevindingen

Bovenstaande onderzoeksdoelen werden vertaald in specifieke onderzoeksvragen, die we onderzochten aan de hand van vier empirische studies. We maakten meer specifiek gebruik van een combinatie van kwalitatieve en kwantitatieve data (i.e. observatiedata, diepte-interviewdata en surveydata) ter beantwoording van de onderzoeksvragen. In wat volgt vatten we de voornaamste bevindingen uit deze studies beknopt samen.

Adviezen van leerkrachten kenmerken zich door een grote heterogeniteit

Het onderzoeksdoel dat het vertrekpunt vormde van dit proefschrift was exploratief van aard. Vooraleer dieper in te kunnen gaan op de mechanismen van oriëntering, of met andere

woorden hoe adviezen van leerkrachten ten aanzien van leerlingen worden gevormd, was het belangrijk om eerst te verkennen hoe oriëntering exact plaatsvindt en wat we juist kunnen verstaan onder 'het advies'. De focus lag hier dus op het advies van leerkrachten als einduitkomst van het oriënteringsproces. We voerden 36 observaties uit van formele contacten tussen leerkrachten en ouders op het einde van het 6e leerjaar in het basisonderwijs. Tijdens deze oudercontacten stond een bespreking van de transitie van leerlingen naar het secundair onderwijs en van het advies van de leerkracht ten aanzien van leerlingen centraal.

Op basis van deze studie konden we een grote inhoudelijke variatie met betrekking tot de adviezen van leerkrachten concluderen. Hoewel er, afgaande op hun communicatie, eensgezindheid onder de geobserveerde leerkrachten bestond over de studiekeuze van leerlingen aangaande het secundair onderwijs als de centrale component van het advies eerder dan de schoolkeuze, waren er grote verschillen merkbaar tussen de leerkrachten met betrekking tot de inhoudelijke invulling van het studieadvies. Analoog aan de specifieke structuur van het Vlaamse onderwijssysteem, werden alle mogelijke studiekeuzeopties in het secundair onderwijs aangehaald door de leerkrachten tijdens de bespreking van het studieadvies. Opvallend was dat sommige leerkrachten een studieadvies formuleerden in termen van studiekeuzeopties in het secundair onderwijs op korte termijn (i.e. de A- of B-stroom en optionele vakken binnen de A-stroom in de eerste graad, en de onderwijsvormen en studierichtingen die worden aangeboden vanaf de tweede graad), terwijl andere leerkrachten (enkel) spraken in termen van studiekeuzeopties op langere termijn (i.e. opleidingen binnen het hoger- en/of universitair onderwijs en beroepskeuzes).

Deze resultaten leverden ons belangrijke inzichten op die bepalend waren voor de uiteenzetting van de vervolgstudies in dit proefschrift. Omdat, tijdens de oudercontacten, het studieadvies van leerkrachten beduidend sterker op de voorgrond trad in vergelijking met het schooladvies, maakten we de keuze om in de vervolgstudies 'advies' gelijk te stellen aan 'studieadvies' en bijgevolg te operationaliseren in termen van studiekeuzeopties in het secundair onderwijs. Op basis van de grote inter- en intrapersoonlijke verschillen inzake de communicatie van het studieadvies door leerkrachten, konden we daarnaast concluderen dat oriëntering in hoofdzaak een individueel gegeven is. Een studie naar de mechanismen van oriëntering dient bijgevolg benaderd te worden vanuit leerkrachtperspectief, eerder dan bijvoorbeeld vanuit collectief schoolperspectief. In het zoeken naar hoe adviezen ten aanzien van leerlingen worden gevormd, is het met andere woorden belangrijk om de individuele leerkracht als uitgangspunt te nemen.

Het belang van gepercipieerde leerling-, leerkracht- en ouderkenmerken voor het studieadvies van leerkrachten

De assumptie die aan de basis ligt van dit proefschrift is dat verwachtingen die leerkrachten hebben over de toekomstige academische capaciteiten en het potentieel van leerlingen bepalend zijn voor het studieadvies. Maar over welke leerkrachtverwachtingen gaat het dan juist en welke factoren spelen hierin een bepalende rol? Het tweede onderzoeksdoel, dat tevens eerder exploratief van aard was, richtte zich op het in kaart brengen van de factoren die aan de basis liggen van leerkrachtverwachtingen over de toekomstige academische capaciteiten en het potentieel van leerlingen, om zodoende de leerkrachtverwachtingen die bepalend zijn voor het studieadvies te kunnen identificeren. We voerden 15 diepte-interviews uit met leerkrachten uit het basisonderwijs (6^{e} leerjaar). Tijdens deze gesprekken werd de leerkrachten de algemene vraag gesteld welke (f)actoren een rol spelen in het tot stand komen van het studieadvies. Ook werd hen specifiek gevraagd naar de rol van factoren met betrekking tot de leerlingen, hun ouders en zichzelf als leerkracht.

Zoals we zouden kunnen verwachten in de context van oriëntering van leerlingen, duidden de resultaten van deze studie op het primaire belang van leerlingkenmerken, zoals gepercipieerd door leerkrachten, in het tot stand komen van het studieadvies. We konden hierbij een onderscheid maken tussen twee groepen van leerlingkenmerken, waarvan de laatste groep in iets grotere mate werd bestempeld door de leerkrachten tijdens de gesprekken als zijnde van invloed op het studieadvies. Daar waar het in de eerste groep ging om gepercipieerde cognitieve kenmerken, meer bepaald de academische prestaties van leerlingen en hun cognitieve capaciteiten of algemene intelligentie, omvatte de tweede groep gepercipieerde non-cognitieve, gedragsmatige kenmerken, met in eerste instantie de motivatie of interesse van leerlingen voor een bepaalde studiekeuze en hun studiehouding (onder meer verwijzend naar de mate waarin leerlingen zelfstandig werken). Deze resultaten wierpen vragen op in verband met de (in)accuraatheid van leerkrachtverwachtingen. Non-cognitieve, gedragsmatige kenmerken van leerlingen zijn immers niet zo eenvoudig waar te nemen en te beoordelen door leerkrachten in vergelijking met bijvoorbeeld de academische prestaties van leerlingen in termen van ‘objectieve’ toetsresultaten (cognitief kenmerk).

Daarnaast toonden de resultaten ook het belang aan van gepercipieerde leerkracht- en ouderkenmerken in het tot stand komen van het studieadvies, zoals persoonlijke opvattingen die leerkrachten hebben over onderwijs in het algemeen en de eigen onderwijspraktijk, hun eigen persoonlijkheid en relaties met leerlingen, en de mate waarin, volgens de leerkrachten, ouders thuis betrokken zijn bij de onderwijsactiviteiten van hun zoon of dochter (zoals toezicht

houden op huiswerk). Echter, we plaatsten enige vraagtekens bij de mate waarin de bevraagde leerkrachten zich echt bewust zijn van de rol van gepercipieerde leerkracht- en ouderkenmerken voor het tot stand komen van het studieadvies, en bij de mate waarin we de werkelijke gepercipieerde impact van deze kenmerken hebben kunnen vatten. Dit heeft te maken met vastgestelde afwijkende ervaringen van leerkrachten naargelang de vraagstelling tijdens de gesprekken, dat is, de spontane versus specifieke bevraging van beïnvloedende factoren van het studieadvies, en met het plausibele risico op sociaal wenselijke antwoorden van leerkrachten.

Leerkrachtverwachtingen zijn niet vrij van vertekening

Aan de hand van het derde onderzoeksdoel wilden we nagaan of en in welke mate leerkrachtverwachtingen over de toekomstige academische capaciteiten en het potentieel van leerlingen accuraat dan wel vertekend zijn. Voortbouwend op de resultaten uit de voorgaande studies, werden verwachtingen van leerkrachten over leerlingkenmerken (i.e. wiskundige en taalvaardigheden – als cognitieve kenmerken – en het vermogen om te plannen, de motivatie om te leren, alertheid in de klas en onafhankelijkheid – als non-cognitieve, gedragsmatige kenmerken), leerkrachtkenmerken (i.e. de relatie tussen leerkrachten en de leerlingen) en ouderkenmerken (i.e. ouderlijke betrokkenheid in onderwijs) opgenomen. Om de mate van vertekening na te gaan, vergeleken we deze leerkrachtverwachtingen met meer 'objectieve' maten in termen van zelfpercepties van leerlingen (als 'objectieve' tegenhanger van de leerkrachtverwachtingen over non-cognitieve, gedragsmatige leerlingkenmerken, leerkrachtkenmerken en ouderkenmerken) en gestandaardiseerde toetsresultaten (als 'objectieve' tegenhanger van de leerkrachtverwachtingen over cognitieve leerlingkenmerken). We gebruikten survey data van 535 leerlingen uit het 6^{e} leerjaar in het basisonderwijs.

Middels correlatieanalyses gingen we vertekening na in de leerkrachtverwachtingen ten aanzien van alle leerlingen in de klas (i.e. algemene vertekening). De resultaten toonden aan dat alle leerkrachtverwachtingen en hun 'objectieve' tegenhangers statistisch significant en positief met elkaar correleerden. Dit betekent dat hoe hoger de inschatting van de leerkrachten van bijvoorbeeld de wiskundige vaardigheden van leerlingen, hoe hoger de toetsresultaten van de leerlingen op wiskunde. Men zou kunnen stellen dat deze positieve samenhang weinig vertekening in leerkrachtverwachtingen impliceert, maar in wezen zeggen deze resultaten niet alles over de mate waarin de leerkrachtverwachtingen en de 'objectieve' tegenhangers afwijken van elkaar of net overeenstemmen. Om meer genuanceerde uitspraken te kunnen doen over hoe groot de vertekening in leerkrachtverwachtingen is, was het echter wel nodig om gegevens over de mate van discrepantie of overeenstemming tussen de

leerkrachtverwachtingen en de ‘objectieve’ tegenhangers te bekomen. Daarom voerden we bijkomende analyses uit met een nieuwe maat van vertekening, meer bepaald in termen van over- of onderschatting van leerkrachtverwachtingen. We bekwamen deze maat door telkens het verschil te berekenen tussen elke leerkrachtverwachting en haar ‘objectieve’ tegenhanger. Een inschatting van de leerkracht die hoger was dan de ‘objectieve’ tegenhanger verwees naar een overschatting door de leerkracht (en omgekeerd). Op basis van de resultaten stelden we, globaal genomen, enige vertekening vast in de leerkrachtverwachtingen in termen van zowel over- als onderschatting. De grootste vertekening in leerkrachtverwachtingen deed zich voor in termen van een overschatting door de leerkrachten van de cognitieve leerlingkenmerken (i.e. de gepercipieerde wiskundige en taalvaardigheden van de leerlingen) en in termen van een onderschatting van de gepercipieerde ouderlijke betrokkenheid in onderwijs.

Middels multivariate variantieanalyses (MANOVA) gingen we ook vertekening na in de leerkrachtverwachtingen ten aanzien van groepen van leerlingen op basis van hun socio-economische status (SES), etniciteit en geslacht (i.e. specifieke vertekening). De analyses toonden aan dat de leerkrachten statistisch significant verschilden wat vertekening in hun verwachtingen betreft ten aanzien van jongens en meisjes enerzijds en ten aanzien van leerlingen met een hoge(re) en lage(re) SES anderzijds. De specifieke vertekening deed zich voor met betrekking tot de leerkrachtverwachtingen over de motivatie van leerlingen om te leren, hun vermogen om te plannen, de taalvaardigheden van leerlingen, de relatie tussen leerkrachten en hun leerlingen en, tenslotte, ouderlijke betrokkenheid in onderwijs. Meisjes werden bijvoorbeeld overschat door de leerkrachten wat betreft hun motivatie om te leren, terwijl jongens werden onderschat op dit vlak. Kijkend naar leerlingen die verschillen in SES, waren, algemeen gezien, de leerlingen met een lage(re) SES benadeeld. Hoewel zowel leerlingen met een hoge(re) als lage(re) SES werden onderschat door de leerkrachten in termen van bijvoorbeeld hun motivatie om te leren, gebeurde deze onderschatting in een aanzienlijk hogere mate voor de leerlingen met een lage(re) SES.

Kortom, hoewel de gevonden effecten van achtergrondkenmerken van leerlingen op vertekening in leerkrachtverwachtingen eerder klein waren, doen ze er wel degelijk toe als het aankomt op het tot stand komen van leerkrachtverwachtingen en vertekening hierin. Met deze bevinding in handen restte ons ‘enkel’ nog de vraag in hoeverre dit ook het geval is voor het studieadvies van leerkrachten. Met andere woorden, wat is de impact van achtergrondkenmerken, en van leerkrachtverwachtingen, op het studieadvies van leerkrachten?

De directe en indirecte impact van leerkrachtverwachtingen en achtergrondkenmerken van leerlingen op het studieadvies van leerkrachten

Het laatste onderzoeksdoel van dit proefschrift beoogde het in kaart brengen van de onderlinge relaties tussen leerkrachtverwachtingen, achtergrondkenmerken van leerlingen en studieadviezen van leerkrachten. Aan de hand van een padanalyse toegepast op survey data van 1014 leerlingen van het 6e leerjaar in het basisonderwijs, wilden we de impact nagaan van leerkrachtverwachtingen en achtergrondkenmerken van leerlingen, als predictoren, op het studieadvies van leerkrachten. Deels in overeenstemming met de voorgaande studies uit dit proefschrift, werden de verwachtingen van leerkrachten over leerlingkenmerken (i.e. wiskundige, taal-, en technische vaardigheden – als cognitieve kenmerken – en het vermogen om te plannen, de motivatie om te leren, alertheid in de klas, onafhankelijkheid, de mate waarin leerlingen aanwijzingen van de leerkracht opvolgen, maturiteit, eerlijkheid, vriendelijkheid en de mate waarin leerlingen rekening houden met anderen – als non-cognitieve, gedragsmatige en persoonlijke kenmerken), leerkrachtkenmerken (i.e. de relatie tussen leerkrachten en de leerlingen) en ouderkenmerken (i.e. ouderlijke betrokkenheid in onderwijs) opgenomen. Ook SES en etniciteit als achtergrondkenmerken van leerlingen werden opgenomen in de analyse.

De resultaten gaven aan dat het studieadvies van leerkrachten zowel direct als indirect beïnvloed wordt door de predictoren opgenomen in het padmodel (i.e. leerkrachtverwachtingen en achtergrondkenmerken van leerlingen). Wat de directe invloeden op het studieadvies betreft, ging de grootste impact uit van de verwachtingen die leerkrachten hebben over de wiskundige vaardigheden van leerlingen en hun non-cognitieve, gedragsmatige kenmerken. Dit betekent dat hoe hoger de inschattingen van leerkrachten over deze leerlingkenmerken, hoe hoger de kans voor de leerlingen op een academisch georiënteerd studieadvies van de leerkracht (i.e. een studieadvies in termen van de A-stroom in de eerste graad met Latijn of moderne wetenschappen als optionele vakken; in tegenstelling tot een niet-academisch georiënteerd studieadvies in termen van de A-stroom in de eerste graad met technologie of kunst als optionele vakken, of in termen van de B-stroom in de eerste graad). Daarnaast bleek ook de SES van leerlingen een directe doch kleine impact te hebben op het studieadvies, waarbij de kans op een academisch georiënteerd studieadvies toeneemt naarmate ook de SES van leerlingen toeneemt.

Indirecte invloeden op het studieadvies van leerkrachten gingen uit van de leerkrachtverwachtingen over ouderlijke betrokkenheid in onderwijs en van de SES en etniciteit van leerlingen. Meer specifiek oefenden deze factoren een weliswaar beperkte

impact uit op het studieadvies via zowel de cognitieve als non-cognitieve, gedragsmatige kenmerken van leerlingen.

Conclusie

Het in de diepte bestuderen van het oriënteringsproces door leerkrachten basisonderwijs leverde zeer belangrijke en relevante inzichten op voor (toekomstige) onderwijsonderzoekers, beleidsmakers en leraren. Zo blijken leerkrachten, naast de cognitieve, academische prestaties van leerlingen die traditioneel hoog in het vaandel worden gedragen met het oog op de beoordeling en oriëntering van leerlingen tijdens transitiemomenten, ook andere non-cognitieve, gedragsmatige leerlingkenmerken in overweging te nemen. Daarenboven doet het er ook toe wie de leerkrachten en de ouders van leerlingen zijn, zoals blijkt uit het aangetoonde belang van contextuele leerkracht- en ouderkenmerken voor het tot stand komen van het studieadvies. Het grote belang van leerkrachtverwachtingen over deze leerling-, leerkracht- en ouderkenmerken blijkt tevens niet enkel uit de diepte-interviews met leerkrachten, ook grootschalige, kwantitatieve analyses duiden op een statistisch significante impact van deze factoren en dit zowel direct als indirect. Voorzichtigheid is echter geboden, daar we vaststellen dat niet alle leerkrachtverwachtingen even accuraat zijn. Achtergrondkenmerken van leerlingen blijken cruciaal te zijn voor het ontstaan van vertekening in leerkrachtverwachtingen, wat tevens geldt voor het tot stand komen van vertekende studieadviezen van leerkrachten.

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