Student teachers' practical knowledge, discipline strategies, and the teacher-class relationship

Romi de Jong

Student teachers' practical knowledge, discipline strategies, and the teacher-class relationship

ICLON, Leiden University Graduate School of Teaching

This research was carried out in the context of the *Dutch Interuniversity Centre for Educational Research*.

Title: Student teachers' practical knowledge, discipline strategies, and the teacher-class relationship
Titel: Praktijkkennis, disciplineringsstrategieën en de leerkracht-leerling-relatie bij leerkrachten-in-opleiding

ICLON PhD Dissertation Series

Print:	Mostert en van onderen! Leiden
Cover design / lay-out:	Heinz & Marmite Productions ©
ISBN/EAN:	978-94-90383-08-4

Student teachers' practical knowledge, discipline strategies, and the teacher-class relationship

Proefschrift

Ter verkrijging van

de graad van Doctor aan de Universiteit Leiden,

op gezag van Rector Magnificus prof. mr. dr. C.J.J.M. Stolker,

volgens besluit van het College voor Promoties

te verdedigen op donderdag 11 april 2013

klokke 15.00 uur

door

Romina Janny de Jong

geboren te 's Gravenhage

in 1975

Promotiecommissie

Promotores
Prof. dr. N. Verloop
Prof. dr. J.W.F. van Tartwijk
Prof. dr. T. Wubbels

Overige leden
Prof. dr. W.F. Admiraal
Prof. dr. J.M.G. Brekelmans (Universiteit Utrecht)
Prof. dr. J.H. van Driel

Ik ben dan wel de oudste
maar weet niet beter
dan dat jij er altijd was

Contents

List of figures

List of Tables

Chapter 1

1.
General introduction

> *"I wanted to have a bond with them, what I said before [about this class with subdued students, how they were quietly at work in the classroom], that it is not how I want it to be, I really dislike it. I don't want to just be there, with them working and me doing nothing; to me that's just not it. With my other class, it was absolutely the opposite, they were very spontaneous and enthusiastic, I loved that, that they just said things and told things about themselves and that they dared to do things."*
>
> (Darryl, a 27 year old student teacher)

Research has shown that the classroom climate is a significant determinant of student learning (Fraser, 1994): students perform better and have more positive attitudes toward the subject taught when they perceive the classroom climate positively (den Brok, Fisher, Rickards, & Bull, 2006). Pianta and Hamre (2006) summarized a number of studies in which it was demonstrated that variance in student outcomes was in large part explained at a classroom level. As they put it: it is classrooms, and teachers, that matter (Pianta & Hamre, 2009). The focus on social aspects of the classroom climate has its roots in the premise that teaching and learning are inherently social processes (Goodenow, 1991; Pianta, 2006). The teacher-class relationship, but also classroom discipline are fundamental elements of these processes (Pianta, 2006; Pianta & Hamre, 2009). In this thesis, the teacher-class relationship and classroom discipline are considered as components of classroom climate.

The importance of the teacher-class relationship for learning achievement and motivation of students has been emphasised and demonstrated by several educational researchers (Cornelius-White, 2007; Davis, 2003; Pianta, 2006;

Pianta & Hamre, 2009; Wubbels, Brekelmans, den Brok, & van Tartwijk, 2006). There are other benefits of this relationship as well, such as for teachers' wellbeing. Spilt, Koomen and Thijs (2011) found for example that the teacher-class relationship could have a negative impact on the wellbeing of the teacher. Unfortunately, according to the large scaled longitudinal study of Brekelmans, Wubbels and van Tartwijk (2005) by the time student teachers graduate from the teacher education programme, the majority of them have not been successful in establishing a positive teacher-class relationship.

Besides the teacher-class relationship, also classroom discipline is fundamental for the experience of the classroom climate, from both students' and teachers' perspective (Pianta, 2006). According to Woolfolk Hoy and Weinstein (2006) classroom management is often used as an umbrella term for the different teaching functions of classroom management (actions taken to elicit a productive learning environment), discipline (actions taken to elicit changes in students' behaviour) and socialization (actions to help students fulfil their responsibilities). In this thesis the focus is on classroom discipline, more specifically on discipline strategies with which the teacher aims to prevent or restrain students' misbehaviour. Unlike Darryl, the student teacher with whom we started this chapter, many student teachers experience problems with classroom discipline. Strikingly, among the most cited and highest ranked reasons for leaving the profession are problems with classroom discipline (Evertson & Weinstein, 2006; Walker, 2009). Rates of teacher attrition in secondary education are alarmingly high: 87% of teachers leave the profession before they have ten years' experience (Pianta & Hamre, 2009), with 50% of beginning teachers leaving the field within the first five years (Walker, 2009). Not only is teacher attrition problematic, but for teachers who start the profession, classroom discipline is a crucial and often precarious matter. Research has repeatedly shown that student and beginning teachers list maintaining classroom discipline and building positive and constructive teacher-class relationships among their major concerns (Fuller & Bown, 1975; Ghaith & Shaaban, 1999; Liston, Whitcomb, & Borko, 2006; Veenman, 1984).

Besides concerns, student teachers have differentiated beliefs about classroom management, discipline and socialization (Woolfolk Hoy

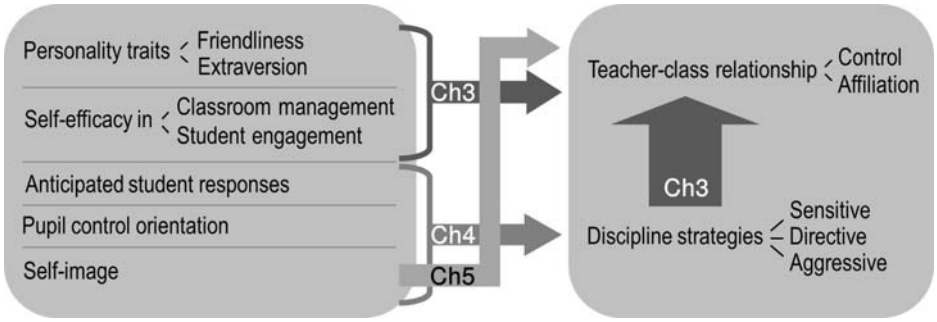
&Weinstein, 2006). For knowledge and beliefs about classroom discipline we have chosen to use the umbrella term of practical knowledge, defined as all knowledge at the disposal of the teacher and underlying his or her actions (Carter, 1990). Teacher practical knowledge in the broadest sense of the word interacts reciprocally with teacher practice: teachers' knowledge influences teacher actions but is also itself influenced by teacher actions and reflection upon these actions (Verloop, Van Driel, & Meijer, 2001). This reciprocity between teacher practical knowledge and teacher practice makes the investigation of teacher practical knowledge worthwhile. As it has become clear that most of teacher practical knowledge is related to specific domains or contexts (Verloop et al., 2001), in the case of this thesis the focus is on classroom discipline. Generally, when it comes to sources of teacher knowledge and beliefs about classroom management, three categories of experiences (Richardson, 1996) are distinguished: personal experiences; experiences with school; and experience with formal knowledge. Experiences with formal knowledge include knowledge on academic or pedagogical knowledge, as usual encountered in formal teacher preparation programmes. In this thesis formal knowledge is not included, since none of our respondents had any formal education into teaching and just started the teacher education programme. Personal experiences include beliefs about self and others, in this thesis operationalised as relational schemas (Moskowitz, 2005). School experiences include Lortie's (1975) "apprenticeship of observation", providing student teachers with beliefs about what it means to teach, manage and learn. In this thesis, we investigated specific teacher practical knowledge based on personal experiences and school experiences, and of relevance in connection to the teacher-class relationship and classroom discipline.

1.1 Research aim and design

The aim of this thesis is to gain more understanding of the classroom climate as it is established by student teachers. The relation between student teachers' characteristics and the quality of the classroom climate is still largely unexplored. Some research has been done on the relations between teacher

characteristics, such as personality traits and self-efficacy, and aspects of the teacher-class relationship (Mainhard, Brekelmans, Wubbels, & den Brok, 2008), but these studies were about in-service teachers, not student teachers as in this thesis. With the teacher-class relationship and discipline strategies as important contributors to the classroom climate, the general question of this thesis was how student teachers' characteristics, in particular their practical knowledge, is connected to discipline strategies and the teacher-class relationship.

Figure 1.1. Overview of the study



In Figure 1.1, the box on the left portrays teacher characteristics, and the box on the right depicts classroom climate. The arrows indicate the specific relations as they have been investigated in the course of this thesis.

To answer the general question we conducted two studies. The first, not represented in Figure 1.1, concerned an exploratory study in which 46 teachers in secondary education responded to a newly developed open ended questionnaire with which teachers' interpersonal expectations were measured (**chapter 2**).

In the second study, over 100 student teachers answered several questionnaires (**chapter 3 and 4**, respectively the arrows "Ch3" and "Ch4" in Figure 1.1). Some of these questionnaires had to be translated; others had already been adapted by others to the Dutch educational context. Also, the questionnaire that was developed in the first study was adapted to a questionnaire with fixed answer categories so it could be used in a larger scaled study (**chapter 4**). Of the student teachers in this sample, 35 were willing to

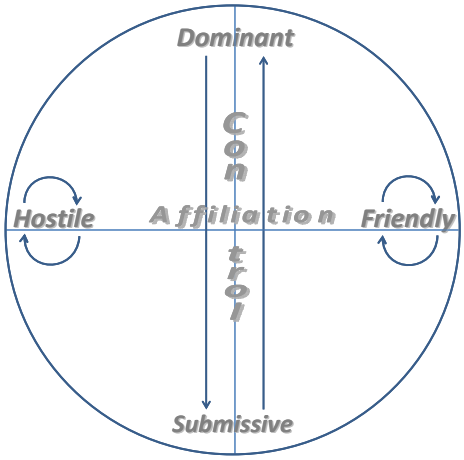
participate in the study at two moments in the education programme, namely the beginning and end of the internship (**chapter 5**, the arrow "Ch5" in Figure 1.1). Their participation entailed that they answered questionnaires, and that the students of one of their classes answered a questionnaire.

In the remainder of this chapter, we will first describe the two concepts of which classroom climate is comprised (the right box in Figure 1.1). Then, whilst describing the subsequent chapters, the concepts in the left box will be introduced.

1.2 The teacher-class relationship

In the work presented in this thesis, the teacher-class relationship is conceptualised based on interpersonal theory (Leary, 1957; Kiesler, 1987). Interpersonal relationships can be described with two dimensions: control, involving dominance versus submission; and affiliation, involving hostility versus affection (Fiske, Cuddy, & Glick, 2007). Interpersonal theorists (Kiesler, 1983; Tracey, 1994) posited that these two dimensions are both necessary and sufficient to describe the interpersonal meaning of all human behaviour and interaction. The dimensions have been given various but comparable names but we refer to these dimensions with 'control' and 'affiliation' since these are most commonly used (Dryer & Horowitz, 1997; Moskowitz, Ringo Ho, & Turcotte-Tremblay, 2007; Tiedens & Jimenez, 2003). The word pairs submissive-dominant and hostile-friendly are generally used in psychological literature (Tiedens & Fragale, 2003) as well as in educational literature (Wubbels et al., 2006). In the Netherlands, Créton and Wubbels (1984) developed the model of interpersonal teacher behaviour (Wubbels & Levy, 1991; Wubbels et al., 2006) that includes a *control* dimension (the extent to which the teacher determines what happens in the classroom, on a scale ranging from submissive to dominant) and an *affiliation* dimension (the emotional distance between teacher and students, scale ranging from hostile to friendly).

Figure 1.2. Interpersonal circle, straight arrows indicating complementarity on control and circular arrows indicating complementarity on affiliation



The dimensions can also be represented in an orthogonal co-ordinate system: the interpersonal circle (Leary, 1957; Kiesler, 1983), in which the teacher-class relationship can be plotted with a position on the y-axis for the value of control and on the x-axis the value of affiliation (see Figure 1.2).

Research has revealed specific interaction patterns that are created by the fact that the particular interpersonal significance of behaviour rewards or constrains the reactions of the other person in a specific manner (Carson, 1969; Tracey, 2004). Generally, behaviour on the affiliation dimension was found to invite similar responses: friendly behaviour, for instance, triggers a friendly reaction, and hostile behaviour evokes a hostile reaction. Behaviour on the control dimension on average invites opposite responses: dominant behaviour, for instance, invites a submissive reaction, and submissive behaviour invites the other person to take control (Dryer & Horowitz, 1997; Markey, Funder, & Ozer, 2003). Sequences of behaviour in interactions are called complementary if they proceed according to these patterns (i.e., the arrows in Figure 1.2). A typical example of complementarity on control is one person talking (high control), while the other responds by listening (low control). An example of complementarity on affiliation is that of a stranger who gives you a smile

whilst passing by on the street: before you realise it, you will probably have smiled back.

In the context of educational research the two dimensions are recognised as a valuable tool for measuring the quality of the teacher-class relationship (Ertesvåg, 2011; Walker, 2009; Wentzel, 2002; Wubbels et al., 2006). The teacher-class relationship can be conceptualized in terms of interpersonal perceptions students have of their teachers and for this purpose both individual and collective perceptions can be used, depending on the research questions. Individual students' interpersonal perceptions of a teacher may be more indicative for the personal ideas of this student and the specific relationship of this student with the teacher (cf. Kenny, 2004). On the other hand, the collective or consensual part of students' interpersonal perceptions of a teacher may be more indicative of the teacher as a person and his or her behaviour towards the students as a group. Students are considered as multiple and appropriate informants of this relationship and the collective students' perceptions of their teacher can be utilized as an indicator of the teacher-class relationship (cf. den Brok, Brekelmans, & Wubbels, 2006; Lüdtke, Robitzsch, Trautwein, & Kunter, 2009).

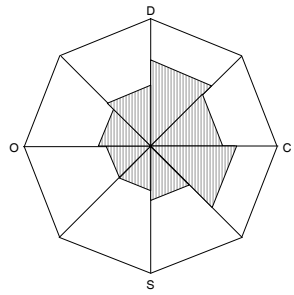
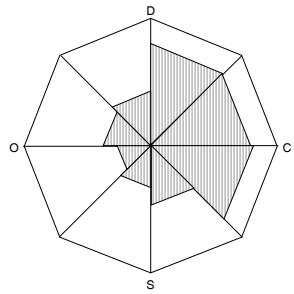
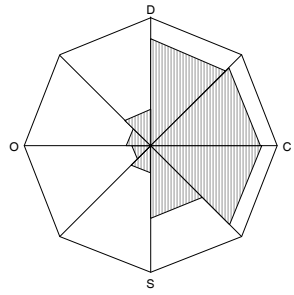
Students can perceive the teacher-class relationship with the teacher as high on the control dimension (dominant), and high on affiliation (warm), resulting in a perception of a friendly teacher who is in charge; but it is equally possible that students view the relationship with the teacher as high on control and low on affiliation, resulting in perception of a corrective, strict teacher. Brekelmans and colleagues developed a typology of interpersonal styles or profiles (Brekelmans, 1989; Brekelmans, Levy, & Rodriguez, 1993), describing the behavioural patterns of the teacher as perceived by students. These profiles are named directive; authoritative; tolerant-authoritative; tolerant; uncertain-tolerant; uncertain-aggressive; repressive and drudging. Both teachers and students view the authoritative interpersonal style as the ideal interpersonal style (Brekelmans et al., 2005), however all profiles where the teacher is perceived as both dominant and warm (i.e., authoritative, directive and tolerant-authoritative) are seen as preferable profiles since we know that student outcomes are higher when teachers are both dominant and

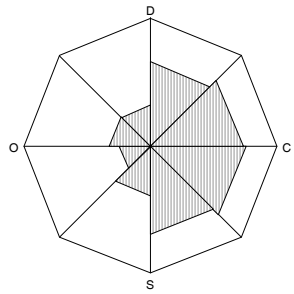
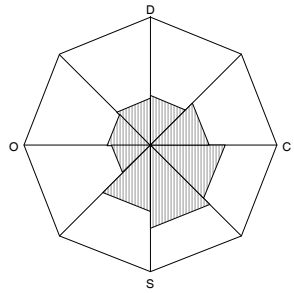
warm (Ertesvåg, 2011; Wentzel, 2002). The control dimension is mainly associated with cognitive, and the affiliation dimension with affective learning outcomes (Brekelmans, 1989; Walker, 2009; Woolfolk Hoy & Weinstein, 2006).

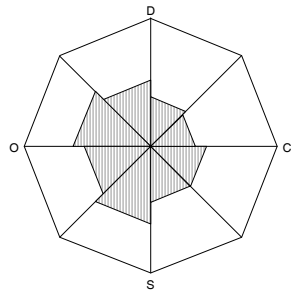
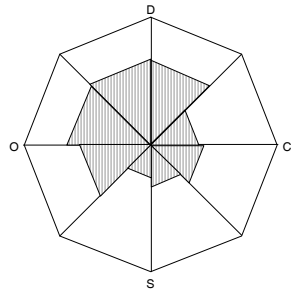
THE QUESTIONNAIRE ON INTERPERSONAL TEACHER BEHAVIOUR

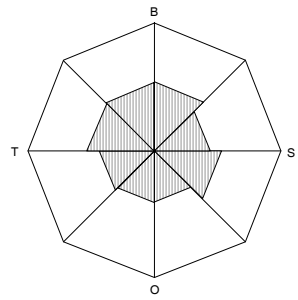
Both teachers' self-images and student perceptions about the teacher-class relationship have been examined with the Questionnaire on Teacher Interaction (QTI, Créton & Wubbels, 1984). The QTI was originally developed in the Netherlands, and an American version was constructed in 1988 (Wubbels & Levy, 1991). As a student questionnaire the QTI has been reliably and extensively used in a host of countries, such as The Netherlands, Australia, USA, Israel, Korea, Singapore, Brunei, Indonesia, India, and so forth (Wubbels et al., 2006). Results can be reported on the basis of dimension scores or as interpersonal profiles. In both cases, QTI scores can be aggregated on class level. If results are presented as dimensions scores it means that the higher the class mean scores on control and affiliation, the more dominance or warmth students perceive in the relationship with the teacher. The interpersonal profiles (Brekelmans, 1989; Brekelmans et al., 1993) are based on composite scores of affiliation and control in eight so called sections of the interpersonal circle. Table 1.1 shows the representations of the eight interpersonal profiles along with a short description of the classroom climate. In the representations part of a section is shaded so that the degree of shading is a measure of the height of the section-scores.

Table 1.1. Interpersonal profiles with corresponding classroom environments

Interpersonal profile	**Classroom environment**
 1. Directive	The learning environment in a class with a teacher with a directive profile is well-structured and task-oriented. The Directive teacher is organized efficiently and normally completes all lessons on time. S/he dominates class discussion, but generally holds students' interest. The teacher usually isn't really close to the students, though s/he is occasionally friendly and understanding. S/he has high standards and is seen as demanding. While things seem businesslike, the teacher continually has to work at it. S/he gets angry at times and has to remind the class that they are there to work. S/he likes to call on students who misbehave and are inattentive. This normally straightens them up quickly.
 2. Authoritative	The Authoritative atmosphere is well-structured, pleasant and task-oriented. Rules and procedures are clear and students don't need to be reminded. They are attentive, and generally produce better work than their peers in the Directive teacher's classes. The Authoritative teacher is enthusiastic and open to students' needs. S/he takes a personal interest in them, and this comes through in the lessons. While his/her favourite method is the lecture, the authoritative teacher frequently uses other techniques. The lessons are well planned and logically structured.
 3. Tolerant-authoritative	Tolerant-authoritative teachers maintain a structure which supports student responsibility and freedom. They use a variety of methods, to which students respond well. They frequently organize their lessons around small group work. While the class environment resembles Type 2, the Tolerant-authoritative teacher develops closer relationships with students. They enjoy the class and are highly involved in most lessons. Both students and teacher can occasionally be seen laughing, and there is very little need to enforce the rules. The teacher ignores minor disruptions, choosing instead to concentrate on the lesson. Students work to reach their own and the

	teacher's instructional goals with little or no complaints.
 4. Tolerant	There seem to be separate Dutch and American views of the Tolerant teacher. To the Dutch, the atmosphere is pleasant and supportive and students enjoy attending class. They have more freedom in Type 4 classes than in those above, and have some real power to influence curriculum and instruction. Students appreciate the teacher's personal involvement and his/her ability to match the subject matter with their learning styles. They often work at their own pace and the class atmosphere sometimes may be a little confused as a result. In the U.S., however, the Tolerant teacher is seen to be disorganized. His/her lessons are not prepared well and they don't challenge students. The teacher often begins the lesson with an explanation and then sends the students off to individually complete an assignment. While the teacher is interested in students' personal lives, his/her academic expectations for them aren't evident.
 5. Uncertain-tolerant	Uncertain-tolerant teachers are highly cooperative but don't show much leadership in class. Their lessons are poorly structured, are not introduced completely and don't have much follow-through. They generally tolerate disorder, and students are not task-oriented. The Uncertain-tolerant teacher is quite concerned about the class, and is willing to explain things repeatedly to students who haven't been listening. The atmosphere is so unstructured, however, that only the students in front are attentive while the others play games, do homework, and the like. They are not provocative, however, and the teacher manages to ignore them while loudly and quickly covering the subject. The Uncertain-tolerant teacher's rules of behaviour are arbitrary, and students don't know what to expect when infractions occur. The teacher's few efforts to stop the misbehaviour are delivered without emphasis and have little effect on the class. Sometimes the teacher reacts quickly, and at other times completely ignores

	inattentiveness. Class performance expectations are minimal and mostly immediate rather than long-range. The overall effect is of an unproductive equilibrium in which teacher and students seem to go their own way.
 6. Uncertain-aggressive	These classes are characterized by an aggressive kind of disorder. Teacher and students regard each other as opponents and spend almost all their time in symmetrically escalating conflicts. Students seize nearly every opportunity to be disruptive, and continually provoke the teacher by jumping up, laughing and shouting out. This generally brings a panicked over-reaction from the teacher which is met by even greater student misbehaviour. An observer in this class might see the teacher and student fighting over a book which the student has been reading. The teacher grabs the book in an effort to force the student to pay attention. The student resists because s/he thinks the teacher has no right to his/her property. Since neither one backs down, the situation often escalates out of control. In the middle of the confusion the Uncertain-aggressive teacher may suddenly try to discipline a few students, but often manages to miss the real culprits. Because of the teacher's unpredictable and unbalanced behaviour, the students feel that s/he is to blame. Rules of behaviour aren't communicated or explained properly. The teacher spends most of his/her time trying to manage the class, yet seems unwilling to experiment with different instructional techniques. S/he prefers to think `first, they'll have to behave'. Learning is the least important aspect of the class, unfortunately.
	Students in the Repressive teacher's class are uninvolved and extremely docile. They follow the rules and are afraid of the teacher's angry outbursts. S/he seems to overreact to small transgressions, frequently making sarcastic remarks or giving failing grades. The Repressive teacher is the epitome of complementary rigidity. The Repressive teacher's lessons are structured but not well-organized. While directions and background information are provided, few questions are allowed or encouraged.

7. Repressive	Occasionally, students will work on individual assignments, for which they receive precious little help from the teacher. The atmosphere is guarded and unpleasant, and the students are apprehensive and fearful. Since the Repressive teacher's expectations are competition-oriented and inflated, students worry alot about their exams. The teacher seems to repress student initiative, preferring to lecture while the students sit still. They perceive the teacher as unhappy and inpatient and their silence seems like the calm before the storm.
 8. Drudging	The atmosphere in a Drudging teacher's class varies between Type 5 and 6 disorder. One thing is constant, however: the teacher continually struggles to manage the class. S/he usually succeeds (unlike Types 5 and 6), but not before expending a great deal of energy. Students pay attention as long as the teacher actively tries to motivate them. When they do get involved, the atmosphere is oriented toward the subject matter and the teacher doesn't generate much warmth. S/he generally follows a routine in which s/he does most of the talking and avoids experimenting with new methods. The Drudging teacher always seems to be going downhill and the class is neither enthusiastic nor supportive nor competitive. Unfortunately, because of the continual concern with class management the teacher sometimes looks as though s/he's on the verge of burnout.

1.3 Discipline strategies

In this thesis, the teacher-class relationship and classroom discipline are regarded important indicators of the classroom climate. Student teachers are not fully skilled teachers yet, which is reflected in the quality of the teacher-class relationship they create (Brekelmans et al., 2005) and also in their skills in the area of classroom management, such as discipline strategies (Jones, 2006). In general, as Jones (2006) found, student teachers have not developed

adequate classroom discipline skills yet. Teachers' strategies to prevent or restrain students misbehaviour, we call discipline strategies (Lewis, 2001).

In a large-scale longitudinal study Brekelmans et al. (2005) found that teachers' behaviour in terms of control on average increases in the first six (mainly first three) years of the teaching career. Meanwhile, students might try to push the limits, play cat and mouse with the teacher, urging the teacher to enforce discipline strategies. Kounin (1970) identified several strategies that teachers use to elicit high levels of work involvement and low levels of misbehaviour. Student teachers have to learn strategies such as "withitness" (communicating awareness of student behaviour), overlapping (doing more than one thing at once) and providing engaging lessons (Gump, 1982; Kounin, 1970). Meanwhile, ready or not, at some point they have to respond to student misbehaviour. Then, sometimes teachers' reactions to students' provocations may be calm and reasonable; at other times inappropriate in the sense that they might harm students educationally or psychologically or that they might harm the classroom climate (Lewis & Riley, 2009). Jamieson and Thomas (1974), building upon French and Raven's (1959) typology of interpersonal power, found that teachers' use of directive and aggressive strategies was negatively related to student satisfaction, learning, and teacher control on students' out-of-class behaviour and attitudes. Lewis (2001) and Lewis, Romi, Qui and Katz (2005) found something similar when they examined the relationship between coercive (punishment and aggressive actions) and sensitive (hints, discussion, involvement in decision making and reinforcing positive behaviour) discipline strategies on the one hand, and students' misbehaviour on the other. Romi, Lewis, Roache, & Riley (2011) investigated the impact of teachers' aggressive discipline strategies on students' attitudes to schoolwork. They found that aggressive discipline strategies were related to students' negativity towards the teacher, and to the extent students were distracted from their work. In recent work Roache and Lewis (2011) reported that in terms of impact on for instance students' wellbeing and motivation, punishment seemed to be ambivalent in its effects; aggression turned out to be a functionally negative set of strategies, whereas the sensitive strategies had positive effects (Roache & Lewis, 2011). Given that student teachers are still developing their own teaching style, we

wanted to obtain a detailed picture of their discipline strategies. We therefore not only took sensitive and aggressive strategies into account, but also the more neutral strategies, e.g., punishment (Roache & Lewis, 2011).

Students' ideas about their teachers' disciplining them have been investigated by several researchers. According to Woolfolk Hoy and Weinstein (2006) students appreciate clarity, structure and rules, provided that these are imposed in a reasonable manner. Teachers who fail to use humour once in a while, who punish too often or too severely, or who adopt a superior attitude to their students eventually lose the students' respect. Students look up to teachers who do not use their authority to suppress, but for "the moral service of others" (Noblit, 1993, pp. 34, 35).

The explicit connection between the teacher-class relationship and teachers' discipline strategies has not been extensively investigated. For in-service teachers Mainhard, Brekelmans, and Wubbels (2011) looked into the connection between student perceptions of the teacher-class relationship in terms of control and affiliation, and student perceptions of coercive versus supportive teacher behaviour. Moreover, they investigated whether these associations occurred only *during* a lesson or also *across* lessons, so to find the association of coercive and supportive teacher behaviour with the teacher-class relationship one or two weeks later. They found that coercive teacher behaviour was associated with lower levels of affiliation, whereas supportive teacher behaviour was associated with higher levels of affiliation. These effects on the relation were still apparent one or two weeks later, so it seems the effect of these teacher behaviours on the relationship did not disappear in the continuous flow of teacher-class interactions. In this thesis we will investigate the connection between the teacher-class relationship in terms of control and affiliation, and discipline strategies. The matter of a two (sensitive and coercive) or three (sensitive, punishment and aggressive) factor structure of discipline strategies is considered important for the educational context, and is therefore more elaborately explained in the next section.

THE DISCIPLINE STRATEGIES QUESTIONNAIRE

Discipline strategies were measured with a Dutch version of the student questionnaire developed by Lewis (2001). The original questionnaire was also use used in cross-national studies where it proved its reliability and validity (Lewis et al., 2005). In the first version of the questionnaire, two main clusters of strategies were present: sensitive strategies (comprised of rewarding, discussion and negotiation, involvement in decision making, and hinting items); and coercive strategies (comprised of punishing and aggression items). Later Lewis (2009) reported that punishment might be a 'neutral' set of strategies given its lack of direct relationships with the other factors. In 2011, Roache and Lewis reported that in terms of impact on students, punishment did not seem to belong to either the sensitive or the coercive discipline cluster. Effects of punishment on for instance students' wellbeing and motivation seemed to be ambivalent; whereas aggression turned out to be a functionally negative set of strategies, and the sensitive strategies clearly had positive effects (Roache & Lewis, 2011). To our knowledge, since then there have not been any publications in which the factor structure of the questionnaire was reported. However, as Roache and Lewis (2011) discussed, it seems reasonable to interpret punishment as neutral, since it is essentially a universal given in the classroom when misbehaviour occurs. Sometimes teachers have to use punishment of some form to restrict or prevent behaviour that puts at risk the classroom climate. For the purposes of this thesis, we administered the Dutch version of the 24 item questionnaire among classes of the participating student teachers (with on average 22.6 students per class; 2,506 students in total). A factor analysis produced indeed three factors that explained 75% of the variance. The distribution of discipline strategies among the factors was in line with what Roache and Lewis (2011) indicated: all reward items belonged to the sensitive discipline scale; all punishment items belonged to directive discipline; and all aggressive items belonged to the third, aggressive discipline, scale. Based on this, we conclude that in the educational context it seems better to distinguish three clusters of discipline strategies, with directive strategies apart from the already acknowledged sensitive and aggressive strategies. Just as with

the QTI, scores can be aggregated on class level and are referred to as estimates of teachers' discipline strategies.

1.4 Outline

Chapter two

The aim of the study described in this chapter was to develop an instrument with which teachers' interpersonal expectations could be captured. The main research question that we wanted to answer was: What do teachers' expectations about teacher-class interaction look like?

As a theoretical framework relational schema theory was applied. In general, schemas help us process information as effortlessly as possible, thus help to efficiently and effectively adapt to our environment (Moskowitz, 2005). The schemas that relate specifically to interpersonal experiences are called relational schemas, consisting of images of self and others, together with scripted interpersonal expectations of what tends to happen in interactions (Baldwin, 1992; Baldwin, 1999). Teacher relational schemas about teacher-class interaction are regarded as specific aspects of teacher practical knowledge.

Until now, teachers' interpersonal expectations and their relation toteacher behaviour or the teacher-class relationship have not been explicitly targeted in research. However in a general sense, there is ample evidence that interpersonal expectations consciously and unconsciously guide the perceptions and subsequent behaviour of the people interacting (Baldwin, Kiviniemi & Snyder, 2009; Snyder & Stukas, 1999; Snyder & Klein, 2005). Interpersonal expectations are thought to be represented as if-then expectations (Baldwin &Dandeneau, 2005) and were investigated with the Interpersonal Schema Questionnaire, developed by Hill and Safran (1994). They operationalised interpersonal expectations as a prescribed situation starting with "If I.." and an anticipated response of the other ("then they…"). To be able to measure teachers' interpersonal expectations, the Hill and Safran (1994) questionnaire was translated and adapted to the context of teachers and students interacting in the classroom. This instrument was tested in an exploratory study of which the

results are described in this chapter. The specific research questions that were addressed are:

1. What student responses do teachers expect in particular teacher behaviour vignettes, e.g., what interpersonal expectations do teachers have?
2. Are there differences in interpersonal expectations for teachers with different levels of experience?
3. Are there gender differences in teachers' interpersonal expectations?

Chapter three

In this chapter we aimed to identify contributing factors to the teacher-class relationship by answering the following main research question: How are student teachers' personality traits, self-efficacy and discipline strategies related to the teacher-class relationship?

The personality traits friendliness and extraversion (Goldberg, 1990) affect how a person acts in a social context, and since education is in essence a social process, it is assumed that this would not be any different in the social context of the classroom. Extraversion is related to social impact, whereas friendliness concerns the motivation to create sustainable positive relationships with others (Jensen-Campbell & Graziano, 2001). Motives aimed at maintaining positive relationships with others may result in actual positive interpersonal behaviour towards others. At least, people in general think that friendly people function better in interpersonal relationships than less friendly people (Jensen-Campbell & Graziano, 2001). To our knowledge, the association between teachers' personality traits and their relationships with students has not been studied recently. Studies on burnout among teachers have shown that it is particularly friendliness and extraversion that are associated with positive interpersonal contact with students (Cano-Garcia, Padilla- Munoz, & Carasco-Ortiz, 2005; Kokkinos, 2007). In this thesis the personality traits openness, conscientiousness and emotional stability will not be taken into account, because there is insufficient theoretical or empirical evidence of how they might be related to the teacher-class relationship. The same applies to the relation between discipline strategies and friendliness and extraversion of the teacher.

In this chapter self-efficacy is taken into account as a specific aspect of teacher practical knowledge. It is acknowledged that via experiences with school (Richardson, 1996) and "apprenticeship of observation" (Lortie, 1975) student teachers develop beliefs about what it means to teach, manage and learn. Self-efficacy is defined as beliefs about one's capacity and skills that are relevant within the educational context (Bandura, 1997; Tschannen-Moran, Woolfolk Hoy & Hoy, 1998). There are numerous studies that have demonstrated the relation between teachers' self-efficacy and their behaviour (Gibson & Dembo, 1984; Guskey, 1988; Ross & Bruce, 2001; Tschannen-Moran et al., 1998; Tschannen-Moran & Woolfolk Hoy, 2001; Woolfolk Hoy & Hoy, 1990). Tschannen-Moran and Hoy (2001) distinguished three major components of teachers' self-efficacy: self-efficacy in classroom management, instructional strategies and student engagement. Since self-efficacy in instructional strategies is not particularly associated with the pedagogical side of teaching such as student engagement or classroom management, we did not expect to find relations between self-efficacy in instructional strategies and the teacher-class relationship.

Until here, the focus was on relations between teacher characteristics in the left box in Figure 1.1, and the two components of classroom climate in the right box in Figure 1.1. From both students' and teachers' perspective, classroom discipline is fundamental for the classroom climate (Pianta, 2006), and so is the teacher-class relationship. Therefore, also the interrelatedness of the two components of classroom climate in the right box of figure 1.1 was investigated. Mainhard et al. (2011) found significant relations between in-service teachers' coercive and supportive behaviours, and the teacher-class relationship. However, unlike general theories on interpersonal power (French & Raven, 1959; Schrodt, Witt, Myers, Turman, Barton, & Jernberg, 2008) Mainhard et al. (2011) did not find relations between coercive and supportive behaviour and the teacher-class relationship in terms of control. In this thesis we explicitly looked into the connection between the three discipline strategies and the teacher-class relationship in terms of affiliation and control. The specific research questions that were investigated in this chapter are:

1. How are personality traits (i.e., friendliness and extraversion) related to the teacher-class relationship in terms of affiliation and control?
2. How is self-efficacy (i.e., in classroom management and student engagement) related to the teacher-class relationship in terms of affiliation and control?
3. How are discipline strategies (e.g., sensitive, directive and aggressive strategies) related to the teacher-class relationship in terms of affiliation and control?

Chapter four

Considering the importance of discipline strategies for the teacher-class relationship, in this chapter we intended to find answers to the following main research question: How are components of student teachers' practical knowledge related to their discipline strategies?

In search for an explanation for the tendency of student teachers to view warmth and discipline as mutually exclusive categories, Weinstein (1998) found that student teachers have rather narrow and dichotomous conceptions of warmth and discipline. In their view, discipline consists of specific management strategies, and a warm, caring relationship is established through nurturing, willingness to listen and accessibility. In this thesis we explored student teachers' practical knowledge based on personal experiences (e.g., beliefs about self and others) as well as practical knowledge based on school experiences (e.g., pupil control orientation) in relation to sensitive, directive and aggressive discipline strategies.

As is described in chapter two, relational schemas consist of interpersonal expectations, together with images of self and others (Moskowitz, 2005). In this chapter we investigate images of self and others, since it is believed that these images consciously and unconsciously guide peoples' perceptions and subsequent behaviour (Baldwin et al., 2009; Snyder & Stukas, 1999; Snyder & Klein, 2005). In line with Pajares (1992), who stated that images of self are related to how persons perceive themselves in different contexts and situations, we investigated student teachers' *self-images* about themselves in the teacher-class relationship. Images of others are conceptualised as *anticipated student*

responses in reaction to the teacher in a given classroom situation. *Pupil control orientation* is conceptualised as beliefs about pupil control along a continuum, with custodial at one extreme and humanistic at the other (Willower, Eidell, & Hoy, 1967). A humanistic orientation indicates a teacher perspective stressing the importance of the individuality of each student and the creation of a climate to meet a wide range of student needs. Teachers with a humanistic orientation have an accepting, trusting view of students, and have confidence in students' ability to be self-disciplining and responsible. Teachers with a more custodial orientation tend to perceive students as irresponsible and undisciplined persons who must be managed through punitive measures (Woolfolk & Hoy, 1990). The research question that we addressed in this chapter is:

1. How are student teachers' self-images on control and affiliation, anticipated student responses in terms of control and affiliation, and pupil control orientation related to their sensitive, directive and aggressive discipline strategies?

Chapter five

An important purpose of internships during teacher education programmes is to offer student teachers an (often first) experience as a teacher through which they can develop specific competences. One of these competences is the ability to build a positive teacher-class relationship. A good relationship with students is a prerequisite for professional growth from a beginning to an experienced teacher (Beijaard, 1995; Huberman, 1993). However, Brekelmans et al. (2005) reported that according to students 69% of student teachers did not have a so called preferable interpersonal profile at the end of the teacher education programme. In the Netherlands a number of teacher education programmes have adopted the Model of Teacher Interaction (Créton & Wubbels, 1984) to guide student teachers in learning to develop positive teacher-class relationships. To this date, it is unknown with which profiles student teachers start the internship and if and how they change from one profile to another during the internship.

Most teacher preparation programmes pay explicit attention to reflecting on (self-)beliefs and how these beliefs relate to behaviour (Pajares & Schunk, 2002). Because of the research interest of this thesis, the focus was on beliefs about self-as-a-teacher in interaction with students, e.g., the previously introduced self-images. Self-images on control describe the extent to which teachers believed they were perceived by their students to be in control, while self-images on affiliation describe how emotionally close teachers believed they were seen by their students. The level of accuracy is defined as the difference between self-image and student perception. According to Wubbels, Brekelmans and Hooymayers (1993), about two third of teachers overestimate how they will be perceived by their students, another one third of the teachers believes to be perceived less warm and dominant than it was according to their students, a so called underestimation. More recently, Brekelmans et al. (2005) found that during the teaching career on average teachers believe their behaviour on control and affiliation is higher than students perceive it. Research (Kolar, Funding, & Colvin, 1996) has shown that self-images are less associated with actual behaviour than are ratings of others - students in our case. In that sense over or underestimations might hinder student teachers' development: unaware of their actual behaviour they might not acknowledge the need to change.

In this chapter we investigated student teachers' level of accuracy of self-images and their interpersonal profiles at the beginning and end of the internship. The research questions that were addressed are:

1. How do student teachers' interpersonal profiles differ at the beginning and end of the teacher education programme?
2. How is the accuracy of student teachers' self-images on control and affiliation at the end of the traineeship different from their accuracy at the beginning?
3. Do student teachers with preferable profiles or behaviour have more accurate self-images on control and affiliation?

Chapter six

In this chapter, we summarise the main findings and draw general conclusions of the studies that were conducted in the course of this thesis. We conclude with a discussion of the implications of these findings, in particular for teacher education. A summary of the main findings is provided in English and Dutch.

References

Baldwin, M. W. (1992). Relational schemas and the processing of social information. *Psychological Bulletin,112*, 461-484.

Baldwin, M. W. (1999). Relational schemas. Research into social-cognitive aspects of interpersonal experience. In D. Corvone and Y. Shoda (Eds.), C*oherence of personality: Social-cognitive bases of consistency, variability, and organisation* (pp. 127-155). New York: Guilford Press.

Baldwin, M. W., & Dandeneau, S. D. (2005).Understanding and modifying relational schemas underlying insecurity. In M.W. Baldwin (Ed.), *Interpersonal cognition* (pp.33-62). New York: Guilford Press.

Baldwin, A. S., Kiviniemi, M. T., & Snyder, M. (2009). A subtle source of power: The effect of having an expectation on anticipated interpersonal power. *The Journal of Social Psychology, 149*, 82-104.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioural change. *Psychological Review, 84*, 191-215.

Beijaard, D. (1995). Teachers' prior experiences and actual perceptions of professional identity.*Teachers and Teaching: Theory and Practice, 1*, 281-294.

Brekelmans, M. (1989). *Interpersoonlijk gedrag van docenten in de klas*. Doctoral dissertation. University of Utrecht, Utrecht, The Netherlands.

Brekelmans, M., Levy, J., & Rodriguez, A. (1993).A typology of teacher communication style. In T. Wubbels & J. Levy, (Eds.), *Do you know what you look like? Interpersonal relationships in education*(pp. 46–55).London: The Falmer Press.

Brekelmans, M., Wubbels, T., & van Tartwijk, J. (2005). Teacher-class relationships across the teaching career. *International Journal of Educational Research, 43*(1-2), 55-71.

Brok, den, P., Brekelmans, M., & Wubbels, T. (2006). Multilevel issues in studies using students' perceptions of learning environments: the case of the Questionnaire on Teacher Interaction. *Learning Environments Research, 9*, 199-213.

Brok, den, P., Fisher, D., Rickards, T., & Bull, E. (2006).Californian science students' perceptions of their classroom learning environments. *Educational Research and Evaluation, 12*, 3-25.

Cano-Garcia, F. J., Padilla-Muniz, E. M., & Carasco-Ortiz, M. A. (2005).Personality and contextual variables in teacher burnout. *Personality and Individual Differences, 38*, 929-940.

Carson, R. C. (1969). *Interaction concepts of personality.* Chicago: Aldine.

Carter, K. (1990). Teachers' knowledge and learning to teach. In W.R. Houston (Ed.), *Handbook of research on teacher education* (pp. 291-310). New York: MacMillan.

Cornelius-White, J. (2007). Learner-centered teacher-class relationships are effective: A meta-analysis. *Review of Educational Research, 77*, 113-143.

Créton, H., & Wubbels, T. (1984).*Discipline problems with beginning teachers.* Utrecht, the Netherlands: W.C.C.

Davis, H. A. (2003). Conceptualizing the role and control of student-teacher relationships on children's social and cognitive development. *Educational Psychologist, 38*(4), 207-234.

Dryer, D. C., & Horowitz, L. M. (1997). When do opposites attract? Interpersonal complementarity versus similarity. *Journal of Personality and Social Psychology, 72*, 592-603.

Evertson, C. M., & Weinstein, C. S. (2006). Classroom management as a field of inquiry. In C. M. Evertson & C. S. Weinstein (Eds.), *International handbook of classroom management: Research, practice, and contemporary issues* (pp.3-17). United States, NJ: Lawrence Erlbaum Associates.

Ertesvåg, S. K. (2011). Measuring authoritative teaching. *Teaching and Teacher Education, 27*, 51-61.

Fiske, S. T., Cuddy, A. J. C., & Glick, P. (2007). Universal dimensions of social cognition: warmth and competence. *Trends in Cognitive Sciences, 11*(2), 77-83.

Fraser, B. J. (1994). Research on classroom and school climate. In D. Gabel (Ed.), *Handbook of research on science teaching and learning* (pp. 493 – 541). New York: Macmillan.

French, J. R. P., Jr., & Raven, B. H. (1959). The bases of social power. In D. Cartwright (Ed.), *Studies in social power* (pp. 150-167). Ann Arbor: University of Michigan.

Fuller, F. & Bown, O. (1975).Becoming a teacher. In K. Ryan (ed.), *Teacher education: 74th Yearbook of the National Society for the Study of Education. Part 2* (pp. 25-52). Chicago: University of Chicago Press.

Ghaith, G., & Shaaban, K. (1999). The relationship between perceptions of teaching concerns, teacher efficacy, and selected teacher characteristics. *Teaching and Teacher Education, 15*, 487-496.

Gibson, S., & Dembo, M. (1984). Teacher efficacy: a construct validation. *Journal of Educational Psychology, 76*, 569-582.

Goldberg, L. R. (1990). An alternative 'description of personality': The Big-Five factor structure. *Journal of Personality and Social Psychology, 59*, 1216–1229.

Goodenow, C. (1991). Strengthening the links between educational psychology and the study of social contexts. *Educational Psychologist, 27*(2), 177-196.

Gump, P. V. (1982). School settings and their keeping. In D. L. Duke (Ed.), *Helping teachers manage classrooms* (pp. 98-114). Alexandria, VA: Association for Supervision and Curriculum Development.

Guskey, T. R. (1988). Teacher efficacy, self-concept and attitudes towards the implementation of instructional innovation. *Teaching and Teacher Education, 1*, 63-69.

Hill, C. R., & Safran, J. D. (1994). Assessing interpersonal schemas: Anticipated responses of significant others. *Journal of Social and Clinical Psychology,13*, 366-379.

Huberman, M. A. (1993). *The lives of teachers.* New York: Teachers College Press.

Jamieson, D. W., & Thomas, K. W. (1974).Power and conflict in the student-teacher relationship. *The Journal of Applied Behavioral Science, 10*(3), 321-336.

Jensen-Campbell, L. A., & Graziano, W. G. (2001).Agreeableness as a moderator of interpersonal conflict. *Journal of Personality, 69*, 323-362.

Jones, V. (2006). How do teachers learn to be effective classroom managers? In C. M. Evertson & C. S. Weinstein (Eds.), *International handbook of classroom management. Research, practice and contemporary issues* (pp.887-907).United States, NJ: Lawrence Erlbaum Associates.

Kenny, D. A. (2004). Person: A general model of interpersonal perception. *Personality and Social Psychology Review, 8*(3), 265-280.

Kokkinos, C. M. (2007).Job stressors, personality and burnout in primary school teachers. *British Journal of Educational Psychology, 77*, 229-243.

Kolar, D. W., Funder, D. C., & Colvin, C. R. (1996). Comparing the accuracy of personality judgments by the self and knowledgeable others. *Journal of Personality, 64*, 311-337.

Kounin, J. S. (1970). *Discipline and group management in classrooms. New* York: Holt, Rinehart and Winstone.

Kiesler, D. J. (1983). The 1982 interpersonal circle: A taxonomy for complementarity in human transactions. *Psychological Review, 90*, 185-214.

Leary, T. (1957).*An interpersonal diagnoses of personality. New* York: The Ronald Press Company.

Lewis, R. (2001). Classroom discipline and student responsibility: the student's view. *Teaching and Teacher Education, 17*, 307-319.

Lewis, R., Romi, S., Qui, X., & Katz, Y. J., (2005).Teachers' classroom discipline and student misbehavior in Australia, China and Israel. *Teaching and Teacher Education, 21,* 729-741.

Lewis, R. (2009). *Understanding pupil behaviour: Classroom management techniques for teachers. New* York: Routledge.

Lewis, R., & Riley, P. (2009).Teacher misbehaviour. In L. J. Saha & A. G. Dworkin (Eds.), *Thenew international handbook of teachers and teaching* (pp. 417-431). Norwell, MA: Springer.

Liston, D., Whitcomb, J., & Borko, H. (2006). Too little or too much: Teacher preparation and the first years of teaching. *Journal of Teacher Education, 57*, 351-328.

Lortie, D. (1975). *Schoolteacher: A sociological study.* London: University of Chicago Press.

Loughran, J.J. & Russell, T. L. (Eds.) (2002).*Improving teacher education practices through self-study.* London: Routledge/Falmer.

Lüdtke, O., Robitzsch, A., Trautwein, U., & Kunter, M. (2009).Assessing the impact of learning environments: How to use student ratings of classroom or school characteristics in multilevel modeling. *Contemporary Educational Psychology, 34*(2), 120-131.

Mainhard, M. T., Brekelmans, M., Wubbels, Th., & Brok, P. den (2008).Leraren in een nieuwe klas: De eerste maanden van een nieuw schooljaar. *Pedagogische Studiën, 85*(3), 157-173.

Mainhard, M. T., Brekelmans, M., & Wubbels, T. (2011).Coercive and supportive teacher behaviour: Within- and across-lesson associations with the classroom climate. *Learning and Instruction, 21*, 345-354.

Markey, F. M., Funder, D. C., & Ozer, D. J. (2003). Complementarity of interpersonal behaviors in dyadic interactions. *Personality and Social Psychology Bulletin, 29*(9), 1082-1090.

McLaughlin, H. J. (1991). Reconciling care and control: Authority in classroom relationships. *Journal of Teacher Education, 42*(3), 182-195.

Moskowitz, G. B. (2005). *Social cognition. Understanding self and others*. New York: The Guilford Press.

Moskowitz, D. S., Ringo Ho, M., & Turcotte-Tremblay, A. (2007). Contextual influences on interpersonal complementarity. *Personality and Social Psychology Bulletin, 33*, 1051-1063.

Noblit, G. (1993). Power and caring. *American Educational Research Journal, 30*(1), 23-38.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*(3), 307-332.

Pajares, M. F., & Schunk, D. H. (2002). Self and self-belief in psychology and education: a historical perspective. In J. Aronson (Ed.), *Improving academic achievement.Impact of psychological factors on education* (pp. 5-21).San Diego, California: Academic Press.

Pianta, R. C. (2006). Classroom management and relationships between children and teachers: Implications for research and practice. In C. M. Evertson & C. S. Weinstein (Eds.), I*nternational handbook of classroom management. Research, practice and contemporary issues* (pp.685-709).United States, NJ: Lawrence Erlbaum Associates.

Pianta, R. C., & Hamre, B. K. (2009). Conceptualization, measurement, and improvement of classroom processes: Standardized observation can leverage capacity. *Educational Researcher, 38*, 109-119.

Roache, J. E., & Lewis, R. (2011). The carrot, the stick, or the relationship: what are the effective disciplinary strategies? *European Journal of Teacher Education, 34*, 233-248.

Romi, S., Lewis, R., Roache, J., & Riley, P. (2011). The impact of teachers' aggressive management techniques on students' attitudes to schoolwork. The *Journal of Educational Research, 104*(4), 231-240.

Ross, J. & Bruce, C. (2001). Professional development effects on teacher efficacy: Results of a randomized field trial. *The Journal of Educational Research, 101*(1), 50-60.

Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In: J. Sikula (Ed.), *Handbook of research on teacher education* (2nd ed., pp. 102-119). New York: MacMillan.

Schön, D. A. (1987). *Educating the reflective practitioner.* San Francisco, CA: Jossey-Bass.

Schrodt, P., Witt, P. L., Myers, S. A., Turman, P. D., Barton, M. H., & Jernberg, K. A. (2008). Learner empowerment and teacher evaluations as functions of power use in the college classroom. *Communication Education, 57*, 180-200.

Snyder, M., & Klein, O. (2005). Construing and constructing others: On the reality and generality of the behavioral confirmation scenario. *Interaction Studies, 6*, 53-67.

Snyder, M., & Stukas, A. A. (1999). Interpersonal processes: The interplay of cognitive, motivational, and behavioral activities in social interaction. *Annual Review of Psychology, 50*, 273-303.

Spilt, J. L., Koomen, H. M. Y., & Thijs, J. T. (2011). Teacher wellbeing: The importance of teacher-class relationships. *Educational Psychology Review*, 23(3), 457-477.

Tschannen-Moran, M., & Woolfolk Hoy, A. W. (2001).Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805.

Tschannen-Moran, M., & Woolfolk Hoy, A. W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education, 17*, 944-956.

Tschannen-Moran, M., Woolfolk Hoy, A. W., & Hoy, W. K. (1998).Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*, 202-248.

Tiedens, L. Z., & Fragale, A. R. (2003).Power moves: Complementarity in dominant and submissive nonverbal behavior. *Journal of Personality and Social Psychology, 84*, 558-568.

Tiedens, L. Z., & Jimenez, M. C. (2003). Assimilation for affiliation and contrast for control: complementary self-construals. *Journal of Personality and Social Psychology, 85*, 1049-1061.

Tracey, T. J. G. (1994). An examination of the complementarity of interpersonal behaviour. *Journal of Personality and Social Psychology, 67*, 864-878.

Tracey, T. J. G. (2004). Levels of interpersonal complementarity: A simplex representation. *Personality and Social Psychology Bulletin, 30*, 1211-1225.

Veenman, S. (1984). Perceived problems of beginning teachers. *Review of Educational Research, 54*(1), 51-67.

Verloop, N., Van Driel, J., & Meijer, P. (2001).Teacher knowledge and the knowledge base of teaching. *International Journal of Educational Research, 35*, 441-461.

Walker, J.M.T. (2009). Authoritative Classroom Management: How Control and Nurturance Work Together. *Theory Into Practice,48*, 122–129.

Weinstein, C. S. (1998). "I want to be nice, but I have to be mean": Exploring prospective teachers' conceptions of caring and order. *Teaching and Teacher Education, 14*, 153-163.

Wentzel, K.R. (2002). Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence. *Child Development,73*(1), 287-301.

Willower, D. J., Eidell, T. L., and Hoy, W. K. (1967). The *school and pupil control ideology. Penn States Studies Monograph No. 24*. University Park, PA: Pennsylvania State University.

Woolfolk Hoy, A. W., & Weinstein, C. S. (2006).Student and teacher perspectives on classroom management. In C. M. Evertson & C. S. Weinstein (Eds.), I*nternational handbook of classroom management. Research, practice and contemporary issues* (pp.181-223). United States, NJ: Lawrence Erlbaum Associates.

Wubbels, T., Brekelmans, M., & Hooymayers, H. (1993).Comparison of teachers' and students' perceptions of interpersonal teacher behavior. In T. Wubbels and J. Levy (Eds.), D*o you know what you look like? Interpersonal relationships in education* (pp. 64-81).London: The Falmer Press.

Wubbels, T., Brekelmans, M., Brok, den, P., & Tartwijk, van, J. (2006).An interpersonal perspective on classroom management in secondary classrooms in the Netherlands. In C. M. Evertson & C. S. Weinstein (Eds.), I*nternational handbook of classroom management. Research, practice and contemporary issues* (pp.1161-1191).United States, NJ: Lawrence Erlbaum Associates.

Wubbels, T., & Levy, J. (1991).A comparison of interpersonal behavior of Dutch and American teachers. *International Journal of Intercultural Relationships, 15*, 1-18.

Chapter 2

2.
Teachers' interpersonal expectations[1]

In this chapter it was investigated what student responses teachers expect in particular teacher behaviour vignettes, and whether experience and gender produce differences in expectations.

Teacher behaviour vignettes were presented to teachers (*N*= 46), who described the student responses they anticipated. Anticipated student responses were then rated on their level of control and affiliation.

Results indicated teachers' expectations were indeed complementary except for hostile vignettes, where teachers expected more submissive responses than other populations. There were no significant differences as a result of experience, however, female teachers expected friendlier responses than male teachers in friendly as well as in hostile vignettes.

[1] This chapter has been published in adapted form as:
Jong, R.J. de., Tartwijk, J. van., Wubbels, T., Veldman, I., & Verloop, N. (2012). Teachers' expectations of teacher-class interaction: Complementary and distinctive expectancy patterns. *Teaching and Teacher Education*, *28*, 948-956.

2.1 Introduction

The kind of responses teachers expect from their students influences their own behaviour, which in turn influences the teacher-class interaction. Teacher-class interaction is one of the most important determinants of classroom discipline and climate, which is related to teacher attrition and student outcomes (Boer, Bosker, & Werf, 2010; Jussim & Harber, 2005; Rosenthal, 1994). The focus of the study reported below is teachers' expectations of teacher-class interaction.

Worldwide, rates of teacher attrition in secondary education are alarmingly high (Pianta & Hamre, 2009; Walker, 2009) and problems with classroom discipline are the most cited and highest ranked reasons for leaving the profession (Evertson & Weinstein, 2006; Walker, 2009). Of the large number of beginning teachers that report experiencing difficulties in creating positive classroom climate (Brophy, 2006; Doyle, 2006; Nie & Lau, 2009), a substantial proportion apparently do not overcome these difficulties and as a result leave the profession.

Problems with classroom climate are not merely important in view of the fact that they jeopardize the job satisfaction of teachers; they are also related to inferior student outcomes (Woolfolk-Hoy & Weinstein, 2006). In a meta-analysis Cornelius-White (2007) investigated the relation between teacher variables, teacher-class relationships, and student outcomes. Results showed that correlations of teacher variables and teacher-class relationships are substantive and include better cognitive as well as affective and motivational student outcomes.

With teacher attrition and student outcomes in mind, an answer to the question of what constitutes teachers' interpersonal behaviour in the classroom could be valuable information to the field of educational research and practice. For instance, a better understanding of teachers' interpersonal expectations that underlie their interpersonal behaviour could be useful for teacher educators who want to help teachers achieve positive classroom climates.

In this chapter, insights from expectancy research, social cognition and interpersonal theory are used as a framework for an explorative study of

teachers' expectations of teacher-class interaction (e.g., teachers' interpersonal expectations).

2.2 Theoretical Framework

TEACHER EXPECTATIONS AND STUDENT OUTCOMES: EXPECTANCY RESEARCH

A famous and much debated example of the importance of teachers' expectations about their students is the "Pygmalion in the classroom" study (e.g., Rosenthal, 1994). Teachers were told that a number of their students had high IQ scores whereas in fact these students had been randomly selected. The experiment revealed that teachers' expectations about their students' intellectual capacities apparently changed teachers' behaviour, because after a while this group of students did indeed perform better. Ever since, there have been numerous studies on self-fulfilling effects of teachers' expectations (e.g., Jussim & Harber, 2005). Boer, Bosker, and Werf (2010) found that teacher expectation bias accounted for nearly 7% of the variance in student performance, with negative expectation bias being just as harmful as positive expectation bias being beneficial for students' performance. Rubie-Davis (2007) found that teachers with high expectations of their students' learning, compared to low-expectation teachers, provided their students more frequently with regular feedback, asked more open questions, and in their responses to student answers they provided more feedback (in the case of correct answers) or rephrasing of the question (in the case of incorrect answers). Compared to low expectation teachers, they made fewer procedural statements and more positive behaviour management statements.

Brophy (1985) hypothesized that class-level expectations of teachers might be of more importance for student learning than expectations on an individual level. Harris and Rosenthal (1985) found that the relationship between teacher expectations and student outcomes was mediated more by whole class factors such as classroom climate than by dyadic teacher-class interactions. Rubie (2004) showed that teachers with high expectations of their high ability students had similar high expectations of their average and below average students, illustrating that high expectations can be a teacher characteristic that

involves the whole class, not a single group of students. These teacher expectations, even though not interpersonal by nature, did affect teacher behaviour and classroom climate in terms of instructional and in socio-emotional climate (Rubie-Davies, 2007). The existence and effect of teachers' interpersonal expectations has not been explicitly targeted in research, however in a general sense, there is ample evidence that interpersonal expectations consciously and unconsciously guide the perceptions and subsequent behaviour of the people interacting (Baldwin, Kiviniemi & Snyder, 2009; Snyder & Stukas, 1999; Snyder & Klein, 2005).

Based on the evidence for the influence of teachers' class level expectations on student outcomes, this study explored teachers' expectations of their interactions with their class. Social cognition explains how, eventually, these expectations were represented in teachers' cognitions.

EXPECTATIONS AND INTERPERSONAL SCHEMAS: SOCIAL COGNITION

In Western societies, the average student has spent over 10,000 hours in direct contact with classroom teachers by the time he/she graduates from high school. This leads to what Lortie (1975) called 'apprenticeship of observation': beginning teachers' socialization into teaching starts when they are students. Through the process of socialization, experiences with recurring teacher-class interactions, such as classroom discussions or correcting disruptive student behaviour, are internalised in cognitive schemas of both teachers and students and shape momentary expectations (Locke, 2005). Moskowitz (2005) described schemas as cognitive associative networks that not only guide the way new information is processed, but also dictate which information is retrieved from memory. This implies that what we see (and what we think we have seen) is in large part determined by our schemas. Schemas that relate to interpersonal experiences are called relational or interpersonal schemas, consisting of images of self and other, together with a script for an expected pattern of interaction (Baldwin, 1992, 1999). According to Baldwin & Dandeneau (2005):

> *"... people clearly have scripted expectations on what tends to happen in interactions, and these expectations are represented cognitively as if-then associations." (p. 53)*

Locke (2005) asked respondents to keep an Imagined Reaction Record (IRR) to test the relationship between interpersonal expectations and interpersonal problems and found significant relations, such as expecting negative reactions from others and being controlling or hostile. The comparable concept of if-then expectancies was investigated by Hill and Safran (1994) and Soygut and Savasir (2001) with the Interpersonal Schema Questionnaire (ISQ; Scarvalone, et al., 2005). An example of an item in the ISQ is: *Imagine yourself expressing genuine interest and concern for your _____. How do you think your _____ would respond to this?* They found a significant relationship between interpersonal expectations and psychiatric symptomatology. For instance, high symptomatic students on depression were significantly less likely to expect friendly, trusting and sociable responses from others than low symptomatic students (Hill & Safran, 1994).

The development of interpersonal schemas through an apprenticeship of observation might explain why many teacher education programmes find it difficult to make a significant difference in the socialization process of becoming a teacher (Grossman, 1991). As Grossmann (1991, p.1) asks the reader: "How can these deeply ingrained lessons from apprenticeship of observation be challenged?". With regard to interpersonal teacher behaviour, the first step is to know which "ingrained lessons" teachers have learned about teacher-class interaction.

TEACHERS' INTERPERSONAL EXPECTATIONS AND BEHAVIOUR: INTERPERSONAL THEORY

In this study interpersonal theory (Leary, 1957) was used as a framework to better understand the character of teachers' expectations of teacher-class interactions. Interpersonal theorists (Kiesler, 1983; Tracey, 1994; Fiske, Cuddy, & Click, 2007) have consistently identified the two dimensions of control and affiliation that are both necessary and sufficient to describe the

interpersonal meaning of human behaviour. The interpersonal meaning of behaviour can range from submissive to dominant on the control dimension, and from hostile to friendly on affiliation(Dryer & Horowitz, 1997; Moskowitz, Ringo Ho, & Turcotte-Tremblay, 2007; Tiedens & Jimenez, 2003).Behaviour can be plotted in the interpersonal circle (Leary, 1957; Kiesler, 1983, see Figure 1.2) with a position on the y-axis for the value of control and the x-axis for affiliation.

Research has shown that the particular interpersonal significance of behaviour rewards or constrains the reactions of the other person in a specific manner (Tracey, 2004). Generally, behaviour on the affiliation dimension was found to invite similar responses and behaviour on the control dimension on average invites opposite responses(Dryer & Horowitz, 1997). Both patterns are called *complementary* interaction sequences. Sequences of behaviour in interactions are called complementary if they proceed according to these patterns (e.g., the arrows in Figure 1.2).

Wubbels and his colleagues developed the Model of Interpersonal Teacher Behaviour based on interpersonal theory to describe the interpersonal meaning of teacher behaviour (Wubbels & Levy, 1991; Wubbels et al., 2006). They investigated associations between student perceptions of teachers' interpersonal behaviour and student outcomes and motivation. Teachers' behaviour that was high on control appeared to be positively related to student outcomes, while teachers' behaviour high on affiliation was positively related to student motivation (Wubbels & Brekelmans, 2005; Wubbels, Créton, & Hooymaaiers, 1993). Teachers with interpersonal behaviour that was consistently low on control and on affiliation were more likely to have a negative classroom climate (Wubbels et al., 2006). Having said this, it is important to emphasize that people should in principle be able to display all behaviours, depending on the situational demands (Leary, 1957). So even though in people's minds, it might be difficult to combine low control teacher behaviour with the typical teacher role, it is important to keep in mind that sometimes this behaviour could in fact be beneficial for the teacher-class relationship. That is because low control teacher behaviour actually invites or allows students to display high control behaviour. When a teacher wants students to take initiative, for

instance in a group discussion, low control teacher behaviour might be an appropriate strategy.

2.3 Research questions

Our research questions were:

1. What student responses do teachers expect in particular teacher behaviour vignettes, e.g., what interpersonal expectations do teachers have?

Teachers with more teaching experience might hold different interpersonal expectations than teachers with less teaching experience. We therefore investigate:

2. Are there differences in interpersonal expectations for teachers with different levels of experience?

Sex differences in cognitive abilities are well established. Generally it is found that females outperform males in the processing of nonverbal cues (McClure, 2000), and are better than males at the attribution of mental states to others, and in appropriate affective responses to another's affective state (Charman, Ruffman, & Clements, 2002; Rueckert & Naybar, 2008; Walker, 2005). Gender as a possible source of variance on interpersonal expectations was therefore also included in this study, resulting in the final research question:

3. Are there gender differences in teachers' interpersonal expectations?

2.4 Methodology

THE RESEARCH GROUP

Sixty-seven teachers in secondary education were invited to participate in the study. The response rate was 67% ($N = 46$), the teachers' age ranged from 22 to 58, with a mean age of 39 ($SD = 11.9$). Half of the respondents were female. Experience ranged from a couple of months to more than 31 years. All teachers were teaching in schools situated in the western, urban region of the Netherlands. They were asked to keep one of their classes in mind while completing the questionnaire. Twenty-four percent of the teachers imagined themselves interacting with one of their classes in the first two grades of

secondary education; the other 76% of teachers had classes in the higher grades of secondary education in mind. Of all these classes, 15% consisted of classes in pre-vocational secondary education; the other 85% were classes in the higher levels of secondary education. Class size ranged from 7 to 48 students with a mean group size of 23 students (*SD* = 7.4).

RESEARCH METHOD AND PROCEDURE

Research method

Social cognition researchers usually study mental representations and thought processes in laboratory settings; or when the focus is on social cognitive neuroscience fMRI-scanning is used (Moskowitz, 2005). Both methods were beyond the scope and viability of the underlying study, since fMRI-scanning and laboratory sessions with teachers and their classes are either not feasible or not ecological valid. The aim of this study was to attain an empirical method to capture the interpersonal expectations of teachers. To allow for generalisations, this method would have to be quantitative, therefore interviews, observations and videos were ruled out. Clinical psychologists with the same interest in interpersonal schema's and the same aim as we had in terms of applicability of the instrument, had developed a questionnaire (Hill & Safran, 1994). This questionnaire was the starting point of the instrument that was used in the underlying study.

Procedure

In the first month after the start of the school year, teachers were asked to participate in a study about teacher-class interaction and shortly after that they received an email with link to the questionnaire that started with a number of background questions about age, sex, years of experience, educational background etcetera, and continued with the questionnaire itself. Respondents received no payments, credits or other donations for their participation.

Questionnaire

General characteristics

To allow a fluent usage of the questionnaire, both for researchers as well as for respondents, the questionnaire was administered online. The instrument contains questions about anticipated student responses using so called vignettes. This procedure is based on the work of Hill and Safran (1994), who measured *if-then* expectancies (*if* I …, *then* they…), with the *if* being a prescribed behaviour (a vignette), and the consecutive *then* the description of the anticipated response to that specific behaviour (e.g., Hill and Safran, 1994). This way the vignettes are standardized, creating the possibility to compare teachers with one another. Unlike the Interpersonal Schema Questionnaire (Hill & Safran, 1994), on which this instrument is loosely based, we decided to ask teachers to describe in their own words the student response they anticipated in a particular class, instead of using a limited number of answering options. The reason is that we wanted to avoid suggesting an answer to the teachers.

Development of the vignettes

The teacher behaviour vignettes are descriptions of classroom situations with teacher behaviour (see Appendix). The vignettes were developed in close collaboration with teachers and teacher educators, and then tested with a small group of teachers. Following a thinking out loud procedure, those teachers reacted to the questionnaire. This procedure was chosen to determine if teachers could actually imagine themselves and their students in the particular situations. Vignettes that raised problems, were altered and tested again, or otherwise omitted.

An example of a vignette was: "Students' results are disappointing. You are quite certain they did not work hard enough and you show you are displeased." (V_{20}). Some vignettes referred to the entire class: e.g., V_{17}:" You explain an assignment that has to be carried out in the lesson. While distributing it, you tell the students they have to work individually and in silence.". Others were directed at just one student: e.g., "A student did not perform well. You tell him/her that you expect him/her to try harder next time."

(V_2). In all cases, respondents were instructed to think of the student that, to their perception, was vital for the classroom climate.

2.5 Data analysis

To determine the interpersonal significance of the vignettes, researchers in the field of interpersonal relations in education were asked to score the vignettes on control and affiliation. These researchers were selected based on their expertise on interpersonal teacher behaviour in particular and their prior or current experience as teachers or teacher educators. Thus, besides their theoretical expertise on teacher-class relationships, they were also well acquainted with the teaching practice in everyday classrooms. They independently assigned scores to the vignettes by rating them on control and affiliation (range -4 to +4). With regard to reliability, the five experts had a very high level of agreement (mean squared $k_w = 0.95$), implying their ratings were reliable.

For purposes of analysis, the vignettes were grouped into four categories depending on the rating of the teacher behaviour that is described in the vignette. In line with the literature on interpersonal behaviour we use the labels dominant, friendly, submissive and hostile to name the categories (Baldwin & Dandeneau, 2005; Hill & Safran, 1994; Moskowitz, 1994). Submissive teacher behaviour occurs in situations where the teacher leaves students to take initiative. The category in which a vignette was grouped, was determined by the biggest distance from that rating from zero. A vignette, for example, with a high rating on the control and a neutral rating on the affiliation dimension was categorized as “dominant”.

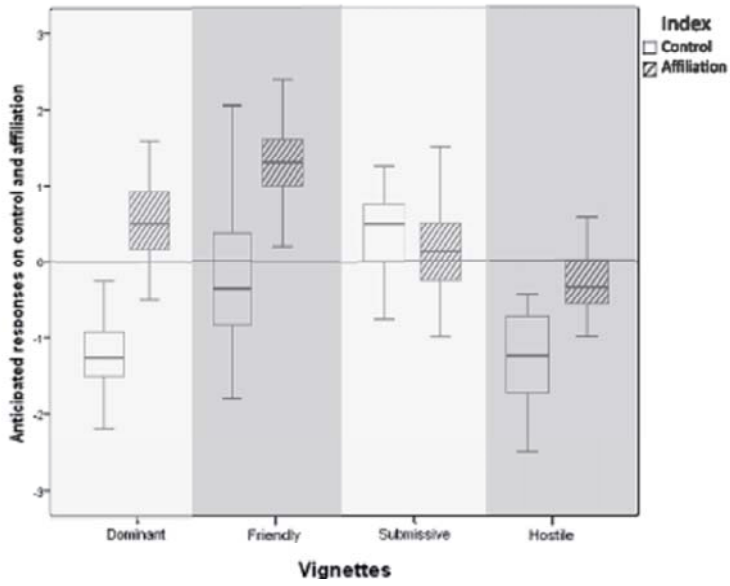
The coding procedure for anticipated responses was similar to the coding of the vignettes: raters assigned scores to the anticipated responses by rating them on control and affiliation (range -4 to +4). Raters were unaware of any information about respondents. To determine interrater reliability, a randomly selected sample of anticipated student responseswas drawn from the dataset and independently coded by two trained raters. The level of agreement between the two raters was very high: squared $k_w = 0.87$.

Since the vignettes were designed in collaboration with teachers, the number of missing values was very low. This is of important, since many missing values per vignette, would hold the risk that the anticipated response for that vignette could not be compared with that for the other vignettes, because it would reflect differences between teachers (the ones who described an anticipated response and the ones who did not) instead of differences between vignettes. In our case, more than 10% missing anticipated responses per vignette was in that sense exceptionally, and therefore vignettes with more than 10% missing values were excluded.

2.6 Results

Scores were averaged over the four groups of vignettes describing dominant, friendly, submissive and hostile teacher behaviour. In Figure 2.1, the mean and the distribution of the anticipated responses on affiliation and control are depicted for all four groups of vignettes.

Figure 2.1. Distribution of anticipated responses in Dominant, Friendly, Submissive and Hostile groups of vignettes



It shows, on the x-axis the four groups of vignettes, and on the y-axis the anticipated response for each group of vignettes, with blank boxes representing anticipated responses on control, and the dashed boxes representing anticipated responses on affiliation. The area between the upper and lower limit of the box represents the middle 50% of the data, the line above and below the box indicates the top and lowest 25% of the data. The line inside the box represents the mean score.

TEACHERS' INTERPERSONAL EXPECTATIONS

The answer to the first research question (What student responses do teachers expect in particular teacher behaviour vignettes, i.e., what interpersonal expectations do teachers have?) is presented in the next section, after which distinct interpersonal expectations are described. The second research question (Are there differences in interpersonal expectations for teachers with different levels of experience?) is answered in the section Experience, after which interpersonal expectations for men and women are described.

Complementary interpersonal expectations

The complementarity principle (Tiedens & Fragale, 2003; Tracey, 1993, 1994, 2004) predicts that friendly behaviour invites friendly responses, and hostile behaviour invites hostile responses, whereas dominant behaviour begets submissive behaviour and vice versa (the circular and straight arrows in Figure 1.2, respectively). In figure 2.1, the expected student responses on the affiliation dimension are represented by dashed boxes, with boxes above zero signifying friendly responses, and boxes below zero signifying hostile anticipated responses. As Figure 2.1 shows, complementarity is evident in the anticipated responses to the affiliation vignettes: 100% of the mean anticipated student responses were rated friendly in friendly vignettes, whereas in hostile vignettes 75% of the mean anticipated responses were rated hostile, thus supporting the complementarity principle. In friendly vignettes, the mean anticipated responses were higher than in any other group of vignettes. The friendliest anticipated responses were expected in friendly vignettes. For these

vignettes, respondents described student responses such as "They smile spontaneously"; "They are proud" or "They show their appreciation". Anticipated responses in hostile vignettes ranged from rather hostile (e.g., "They grumble, try to provoke me") to friendly (e.g., "Sorry, you are right"), with the mean and median indicating that on average teachers did not expect smiling faces in response to hostile vignettes. In hostile vignettes the average anticipated response on affiliation was lower than in any other group of vignettes. Examples of average anticipated responses to these vignettes were: "They look unhappy", "Slightly irritated" or "They don't care".

In figure 2.1 the ratings of the expected student responses on the control dimension are reflected by the blank boxes. The boxes above zero signify dominant responses, the boxes below zero signify submissive anticipated responses. The average anticipated response in submissive vignettes was complementary, that is dominant. The mean anticipated responses in dominant vignettes were complementary too: submissive responses. Teachers' anticipated responses in dominant high control vignettes were consistently low on control, i.e. they expected submissive student responses, such as "We're sorry sir"; "I'll go for it!"; or "I understand what you mean." The fact that neither the box, nor the upper whisker are above zero, indicates that 100% of the anticipated responses in this group of vignettes was below zero. Apparently, teachers agreed that in dominant vignettes, students will respond submissively.

The mean anticipated control response (blank box) in submissive vignettes is above zero. In fact, the complete box is above zero. This demonstrates that in 75% of the cases teachers expected that their students would take up control. Examples of student responses were: "You've been making more mistakes lately"; or "Is that useful, if we only have ten minutes left?"; both rated as just above zero for control.

Distinct expectations

Compared to the results of Hill and Safran (1994) and Soygut and Savasir (2001), who reported slightly dominant responses in hostile vignettes, in our study average teachers' anticipated responses clearly pointed to submissive

student behaviour. In fact; there were no high control anticipated responses in hostile vignettes, 100% of the mean anticipated student responses were submissive. There were only two submissive vignettes where some teachers described a more dominant student reaction. To the teacher behaviour vignette "You are a bit ill-tempered today. A student makes the wrong remark at the wrong time. You react somewhat snappily", responses such as "You are a bit grumpy today", "That's not fair!" or "Angry" were also anticipated. In response to "Students' results are disappointing. You are quite certain they did not work hard enough and you show you are displeased", anticipated responses such as "The test was too difficult" or "We have all kinds of other things to do" were also described. However, on average, in hostile vignettes teachers expected their students to respond submissively, for instance by saying "I'm sorry", reacting meekly or by being silent.

Experience

To answer the second research question on differences between interpersonal expectations of different groups of respondents, anticipated responses of teachers with little (0-3 years), moderate (4-10 years) and extensive experience (more than 11 years) were compared. The mean anticipated responses for groups of vignettes are shown in Table 2.1.

Analysis of variance with the three experience groups as the independent variable and the control and affiliation ratings as the independent variable did not reveal any significant differences between the three groups.

Table 2.1 shows that indeed, mean scores on control were virtually the same, with the exception of the low control vignettes, where the level of control in anticipated responses seemed to be somewhat higher for very experienced teachers than for beginning teachers. The mean scores of all vignettes taken together show that beginning and experienced teachers had the same slightly friendly expectations (.33 and .35 respectively), whereas the group with 4-10 years experiences tended toward friendlier student responses (.69). The moderately experienced group expected friendly responses in three groups of vignettes, even in hostile vignettes, whereas the other teachers expected hostile student reactions here. But again, differences were not

significant. In submissive vignettes the anticipated responses seem to get friendlier over the years: beginning teachers expected the least, experienced teachers the most friendly student responses.

Table 2.1. Mean anticipated responses for teachers with little, moderate and extensive experience, for Dominant, Friendly, Submissive and Hostile vignettes

		Vignettes and anticipated responses									
		Dominant		Friendly		Submissive		Hostile		All	
Experience		Control	Affiliation	Control	Affiliation	Control	Affiliation	Control	Affiliation	Control	Affiliation
0-3 years	Mean	-1.24	.42	-.33	1.30	.20	.04	-1.30	-.36	-.88	.33
	Sd	.41	.47	.33	.54	.71	.62	.55	.55	.31	.46
	N=21										
4-10 years	Mean	-1.43	.84	-.46	1.50	.25	.25	-1.39	.11	-.99	.69
	Sd	.71	.40	.61	.36	.71	.71	.53	.60	.37	.40
	N=9										
> 11 years	Mean	-1.17	.45	-.40	1.18	.50	.19	-1.15	-.27	-.81	.35
	Sd	.51	.47	.42	.50	.39	.61	.53	.35	.27	.31
	N=16										
Total	Mean	-1.25	.51	-.38	1.29	.32	-.23	-1.27	-.24	-.88	.41
	Sd	.45	.47	.42	.50	.62	.52	.53	.52	.31	.41
	N=46										

Gender

We conducted the same analysis on differences between mean scores of anticipated responses for male and female teachers to determine whether there were any gender differences on interpersonal expectations (research question 3).

The anticipated responses of male and female teachers did not differ significantly for control (see Table 2.2). However, the mean level of anticipated responses on affiliation were significantly different: female teachers expected friendlier student responses than male teachers ($F(1, 41)$ 4.91, $p < .05$). In particular, the vignettes where complementarity is supposed to occur accounted for the significant difference on the overall mean score on affiliation: in friendly vignettes female teachers expected friendlier responses than male teachers, $F(1, 41)$ 6.01, $p < .05$, whereas in hostile vignettes male teachers expected more hostile reactions than female teachers, $F(1, 41)$ 4.21, $p < .05$. In terms of complementarity, both female and male teachers had complementary

expectations in friendly as well as hostile vignettes (friendly and hostile responses, respectively), but female teachers expected friendlier responses in friendly vignettes, and less hostile responses in hostile vignettes.

Table 2.2. Mean anticipated responses for male and female teachers, for Dominant, Friendly, Submissive and Hostile vignettes

		Vignettes and anticipated responses									
		Dominant		Friendly		Submissive		Hostile		All	
Gender		Control	Affiliation	Control	Affiliation	Control	Affiliation	Control	Affiliation	Control	Affiliation
Female	Mean	-1.22	.62	-.43	1.50	.45	.21	-1.40	-.05	-.90	.57
	Sd	.46	.44	.45	.51	.56	.72	.57	.62	.34	.45
	N=21										
Male	Mean	-1.28	.42	-.33	1.12	.20	.06	-1.16	-.40	-.85	.27
	Sd	.46	.51	.39	.41	.66	.54	.49	.37	.29	.33
	N=25										
Total	Mean	-1.25	.51	-.38	1.29	.32	-.23	-1.27	-.24	-.88	.41
	Sd	.45	.47	.42	.50	.62	.52	.53	.52	.31	.41
	N=46										

2.7 Discussion and conclusion

Building upon insights from expectancy research, social cognition and interpersonal research, information was gathered on teachers' expectations of teacher-class interaction. It was assumed that interpersonal experiences would be internalised in interpersonal schemas, more specifically, in if-then expectations (i.e. vignette-anticipated responses).

Complementarity was consistently found in all anticipated responses to the various groups of vignettes. This verifies the assumption that real life complementary interaction sequences are internalised in teachers' interpersonal schemas, as Hill and Safran (1994) and Locke (2005) showed in their studies. Variation increased for anticipated responses in vignettes where the complementarity principle is not applicable, as was the case with control in friendly vignettes and with affiliation in submissive vignettes (the longer whiskers suggest less consensus, i.e. larger spread of data in the upper and lower 25% of scores, see Figure 2.1). This suggests that people are more uncertain as to what to expect in terms of control in friendly/hostile situations, and in terms of affiliation in dominant/submissive situations. This might be

explained by one of the premises of interpersonal theory, which states that control and affiliation are independent dimensions (Wiggins, Philips, & Trapnell, 1989). Acting submissive does not say a lot about what responses on affiliation to expect, because people can act submissive in either a friendly (understanding) or a hostile (dissatisfied) manner. Exactly the same applies to being friendly: as long as the level of control is unknown, being friendly by itself does not have any predictive power for how the other person will react in terms of control. In terms of complementarity, therefore, our sample was comparable to the normal population as reported in Hill & Safran (1994).

Apart from the complementarity, two of our findings are also interesting: firstly, the missing values in the submissive vignettes and secondly, the anticipated responses on control in the hostile vignettes. A number of submissive vignettes were removed because of a large amount of missing values. An explanation for this finding might be teachers' unfamiliarity with this kind of behaviour. Wubbels et al. (2006) found that submissive teacher behaviours are less common than dominant teacher behaviours. This explanation is supported by comments such as: "I can't imagine this would happen in my class", or "I would never do this", which teachers gave to clarify why they did not describe student responses. Due to the hierarchical character of the teacher-class relationship, it might be difficult for a teacher to expect his/her students to take the lead in the classroom. However, the fact that teachers actually described high control student responses, suggests that they do consider the possibility of a high control student response. The submissive vignettes were the only group of vignettes where the average anticipated response was high on control, and this finding again shows that the complementarity principle holds for teachers' expectations, even in unfamiliar submissive vignettes.

However, the anticipated responses in the hostile vignettes followed a distinctive expectancy pattern. In these particular vignettes, teachers expected far more submissive responses from their students than people in general expect from one another (Hill & Safran, 1994). This might be an effect of the nature of the teacher-class relationship. Some researchers (Markey & Kurtz, 2006; Moskowitz et al., 2007) found that complementarity in hierarchical

relationships might follow different patterns. In particular, it was found that in work settings, complementarity on control was even stronger than in non-work settings, but on affiliation it was much weaker (Moskowitz et al., 2007). In their interaction with their students, teachers are *professionals*, and acting in a hostile manner has less to do with being emotional, than acting according to their professional role that sometimes requires them to correct, warn or criticize students, for example when they are exhibiting disruptive behaviour. It is what everyone expects teachers to do, hence, the student response to be expected is not aggressive (hostile and dominant) but slightly hostile, and submissive. Of course students can also moan, nag, grumble, etc, but teachers expect them most of the time to give in and obey.

Somewhat surprisingly, the interpersonal expectations that we measured in the current study seemed to be general, in the sense that they did not differentiate very much between different levels of experience of teachers. In a theoretical sense, this is an interesting finding. It appears that the teachers in our sample shared the same kind of expectancy patterns, regardless of their experience as teachers. This may be proof of Lortie's 'apprenticeship of observation': the socialization process of becoming a teacher is well on its way by the time students enter a teacher education programme. To challenge ingrained lessons on teacher-class interaction, the first step is to know which "ingrained lessons" teachers have learned. Expectancy patterns found in this study describe what teachers in general expect of their students in response to their own behaviour in the classroom. If a teacher does have distinctive expectancy patterns, this might be worthwhile discussing. We did find gender differences in interpersonal expectations: female teachers expected more friendly responses than male teachers. Most theories in social cognition, such as gender schema theory (Bem, 1981), explain that people are biased in their judgement of others, because they process information on the basis of the sex-linked associations that constitute the gender schema. Anticipated responses of others might be sex-linked, in that people expect responses that seem to fit their own gender or gender role. For instance, typical responses to stereotypical feminine traits like expressiveness and warmth could be friendly responses,

whereas stereotypical masculine traits like rationality and competiveness are more likely to invite competitive responses.

IMPLICATIONS AND FUTURE RESEARCH

That teachers could not identify themselves with the teacher behaviour described in the submissive vignettes is a result in itself. However, expectations in these vignettes are especially interesting, since they force teachers to step out of their comfort zone (e.g., an anxiety neutral condition, White, 2009). Convincing teachers to imagine themselves in these submissive vignettes, could produce interesting and diverse anticipated responses. It would be a change for the better, therefore, if the instrument included appropriate submissive vignettes.

Due to the time-consuming procedure of coding the anticipated responses, the sample size was not very large and as a result findings should be generalised with caution. However, as an explorative study, with findings that are in line with preceding studies with similar instruments (Hill & Safran, 1994; Locke, 2005) and with interpersonal theory in general, we believe we succeeded in our attempt to develop a questionnaire with which we could identify teachers' interpersonal expectations. Of course, ideally, the questionnaire would be suitable for larger sample sizes. The answer categories derived from this exploratory study could perhaps be used for this purpose.

Another issue is that some of the vignettes refer to the class as a whole, and others to individual students. With all vignettes respondents were instructed to think of the same students, the ones that they considered essential for their perception of the classroom climate. That way teachers' representations of the class and of a particular student would not lay far apart. However, this should be further investigated in future research with this instrument.

In the current study, teachers' interpersonal expectations were successfully measured. We regard this as only a first step. Research in social psychology that we referred to in introduction of this chapter (Baldwin, Kiviniemi, & Snyder, 2009; Snyder & Stukas, 1999; Snyder & Klein, 2005), showed how expectations consciously and unconsciously guide the perceptions and

subsequent behaviour of people interacting. Future research will have to validate the relationship between teacher interpersonal expectations and teacher interpersonal behaviour in the classroom.

Another suggestion for future research is related to the cultural background of the teacher. In the present study, interpersonal expectations of *Dutch* teachers were investigated. These expectations are related to teacher beliefs about the teacher role (Lortie, 1975; Pajares, 1992) that are culturally determined. Differences between cultures have been mapped by for instance Hofstede and Hofstede (2005). With the aim to identify dimension on which cultures differ, they gathered data among the employees of a large multinational company in more than 70 countries. One of the dimensions they identified is referred to as *Power Distance*. This dimension describes the extent to which members of institutions expect and accept power to be distributed unequally. The Power Distance Index (PDI) is their measure for the relative position of national cultures of the power distance dimension. High power distance national cultures are for example the national cultures Malaysia (Power index: 104), Guatemala (95) and China (80). Countries like the United States (40), Canada (39), the Netherlands (38), Germany (35) and Great Britain (35) have national cultures with relatively low power distances. National cultures with the lowest power distances are the ones of Denmark (18), Israel (13) and Austria (11). Hofstede and Hofstede discuss the implications and claim that in high power distance cultures teachers are treated with respect and there is supposed to be strict order in the classroom. Another dimension distinguished by Hofstede and Hofstede is Masculinity. In cultures that score high on the Masculinity Index (MAS) men are supposed to be tough and assertive, whereas and woman are modest, tender and concerned with the quality of life. In feminine cultures both woman and men are supposed to be modest, tender, and concerned with the quality of life. National cultures with a high MAS scores are for instance Japan (95) and Austria (79), followed by countries like Venezuela (73) Italy (70), China (66), Germany (66), Great Britain (66), the United States (62), and -at some distance- Canada (52). The national culture of Sweden (5) and Norway (8), The Netherlands (14) and Denmark (16) are the ones with the lowest MAS. Translated to the context of

education, Hofstede and Hofstede write that in feminine cultures teachers will for instance praise weaker students rather than high achievers. Of course it can be argued that measuring "national culture" is not refined enough to identify differences between cultures. Aggregating the various cultures within countries like Canada, China, Great Britain and Indonesia to one national culture may be misleading as Hofstede and Hofstede write themselves. Furthermore, employees of a multinational company are not a representative sample of the population of a country. However, the conclusion that teacher beliefs about teacher roles are likely to be different across cultures is not affected by such comments. This means that generalizing our findings about the interpersonal expectations of Dutch teachers to teachers worldwide is risky. Future research should compare the differences in interpersonal expectations between teachers with various cultural backgrounds. The theoretical framework, the instrument, and the routines we developed in this study can be useful in such research.

Rubie-Davis (2007) and Boer et al. (2010) stress the importance of teachers being aware of the effect of their expectations on their behaviours. If teacher expectations are indeed related to teacher behaviour in the classroom, critically scrutinizing their expectations may help teachers identify dispositions in their behaviour that result in unproductive interactions with their students. The challenge for teacher educators is to develop routines to stimulate teacher and student teacher to reflect on their expectations, and stimulate them to avoid unproductive interactions in order to be able to create a positive social climate in their classrooms. In a global society, in which teachers teach students with various cultural backgrounds, making such expectations explicit may help to avoid misunderstandings between teachers and students.

References

Baldwin, M. W. (1992). Relational schemas and the processing of social information.*Psychological Bulletin, 112*, 461-484.

Baldwin, M. W. (1999). Relational schemas. Research into social-cognitive aspects of interpersonal experience. In D. Corvone and Y. Shoda (Eds.), C*oherence of personality: Social-cognitive bases of consistency, variability, and organisation* (pp. 127-155). New York: Guilford Press.

Baldwin, M. W., & Dandeneau, S. D. (2005).Understanding and modifying relational schemas underlying insecurity.In M.W. Baldwin (Ed.), *Interpersonal cognition* (pp.33-62). New York: Guilford Press.

Baldwin, A. S., Kiviniemi, M. T., & Snyder, M. (2009). A subtle source of power: The effect of having an expectation on anticipated interpersonal power. *The Journal of Social Psychology, 149*, 82-104.

Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review, 88*, 354-364.

Brophy, J. E. (1985). Teacher-class Interaction.In J.B. Dusek (Ed.), *Teacher expectancies* (pp. 303-328).Hillsdale, NJ: Erlbaum.

Brophy, J. (2006). History of research on classroom management.In C. M. Evertson & C.S. Weinstein (Eds.), I*nternationalhandbook of classroom management. Research, practice, and contemporary issues* (pp. 17-43).United States, NJ: Lawrence Erlbaum Associates.

Charman, T., Ruffman, T., & Clements, W. (2002). Is there a gender difference in development? *Social Development, 11*, 1–10.

Cornelius-White, J. (2007). Learner-centered teacher-class relationships are effective: A meta-analysis. *Review of Educational Research, 77*, 113-143.

De Boer, H., Bosker, R. J., & van der Werf, M. P. C. (2010).Sustainability of teacher expectation bias effects on long-term student performance. Journal *of Educational Psychology*, *102*(1), 168-179.

Doyle, W. (2006). Ecological approaches to classroom management. In C. M. Evertson & C. S. Weinstein (Eds.), *Internationalhandbook of classroom management. Research, practice, and contemporary issues* (pp. 97-127).United States, NJ: Lawrence Erlbaum Associates.

Dryer, D. C., & Horowitz, L. M. (1997). When do opposites attract? Interpersonal complementarity versus similarity. Journal *of Personality and Social Psychology, 72,* 592-603.

Evertson, C. M., & Weinstein, C. S. (2006).Classroom management as a field of inquiry.In C. M. Evertson & C. S. Weinstein (Eds.), *International* h*andbook of classroom management. Research,practice, and contemporary issues* (pp.3-17).United States, NJ: Lawrence Erlbaum Associates.

Fiske, S. T., Cuddy, A. J. C., & Glick, P. (2007). Universal dimensions of social cognition: warmth and competence. *Trends in Cognitive Sciences, 11*(2), 77-83.

Grossman, P. L. (1991). Overcoming the apprenticeship of observation in teacher education coursework.*Teaching and Teacher Education, 7*, 345-357.

Harris, M. J., & Rosenthal, R. (1985). Mediation of interpersonal expectancy effects: 31 meta-analyses. *Psychological Bulletin*, *97*, 363-386.

Hill, C. R., & Safran, J. D. (1994). Assessing interpersonal schemas: Anticipated responses of significant others. *Journal of Social and Clinical Psychology,13*, 366-379.

Hofstede, G., & Hofstede, G. J. (2005).*Cultures and organizations: Software of the mind (2nd ed.)*. New York: McGraw-Hill.

Jussim, L., & Harber, H.D. (2005). Teacher expectations and self-fulfilling prophecies: Knowns and unknowns, resolved and unresolved controversies. *Personality and Social Psychology Review, 9*(2), 131–155.

Kiesler, D. J. (1983). The 1982 interpersonal circle: a taxonomy for complementarity in human transactions. *Psychological Review, 90*, 185-214.

Leary, T. (1957).*An interpersonal diagnoses of personality*. New York: The Ronald Press Company.

Locke, K. D. (2005). Interpersonal problems and interpersonal expectations in everyday life. Journal *of Social and Clinical Psychology, 24*, 915-931.

Lortie, D. (1975). *Schoolteacher: A sociological study.* London: University of Chicago Press.

McClure, E. B. (2000). A meta-analytic review of sex differences in facial expression processing and their development in infants, children and adolescents.*Psychological Bulletin, 126*, 424-453.

Markey, P. M., & Kurtz, J. E. (2006).Increasing acquaintanceship and complementarity of behavioural styles and personality traits among college roommates.*Personality and Social Psychology bulletin, 32*, 907-916.

Moskowitz, D. S. (1994).Cross-Situational generality and the interpersonal circumplex. Journal *of Personality and Social Psychology, 66*, 921- 933.

Moskowitz, D. S., Ringo Ho, M., & Turcotte-Tremblay, A. (2007). Contextual influences on interpersonal complementarity. *Personality and Social Psychology Bulletin, 33*, 1051-1063.

Moskowitz, G. B. (2005). *Social cognition.Understanding self and others. New* York: The Guilford Press.

Nie, Y., & Lau, S. (2009). Complementary roles of care and behavioral control in classroom management: The self-determination theory perspective. *Contemporary Educational Psychology, 34*, 185-194.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*(3), 307 - 332.

Pianta, R. C., & Hamre, B. K. (2009). Conceptualization, measurement, and improvement of classroom processes: Standardized observation can leverage capacity. *Educational Researcher, 38*, 109-119.

Rosenthal, R. (1994). Interpersonal expectations: a 30-year perspective. *Current Directions in Psychological Science,3*, 176-179.

Rubie, C. M. (2004).Expecting the best: Instructional practices, teacher beliefs and student outcomes (Doctoral Dissertation, University of Auckland, New Zealand, 2004).*Digital Dissertations, AAT 3129406*.

Rubie-Davies, C. M. (2007). Classroom interactions: Exploring the practices of high- and low- expectation teachers. *British Journal of Educational Psychology, 77*, 289-306.

Rueckert, L., & Naybar, N. (2008). Gender differences in empathy: The role of the right hemisphere. *Brain and Cognition, 67*, 162–167.

Scarvalone, P., Fox, M., & Safran, J. D. (2005). Interpersonal schemas.Clinical theory, research, and implications.In M.W. Baldwin (Ed.).*Interpersonal cognition* (pp.33-62). New York: Guilford Press.

Snyder, M., & Klein, O. (2005). Construing and constructing others: On the reality and generality of the behavioral confirmation scenario. *Interaction Studies, 6*, 53-67.

Snyder, M., & Stukas, A. A. (1999).Interpersonal processes: The interplay of cognitive, motivational, and behavioral activities in social interaction. *Annual Review of Psychology, 50,* 273-303.

Soygut, G., & Savasir, I. (2001). The relationship between interpersonal schemas and depressive symptomatology. Journal *of Counseling Psychology, 48,* 359-364.

Tiedens, L. Z., & Fragale, A. R. (2003).Power moves: Complementarity in dominant and submissive nonverbal behavior. *Journal of Personality and Social Psychology, 84,* 558-568.

Tiedens, L. Z., & Jimenez, M. C. (2003).Assimilation for affiliation and contrast for control: complementary self-construals. *Journal of Personality and Social Psychology, 85,* 1049-1061.

Tracey, T. J. G. (1993). An interpersonal stage model of the therapeutic process. *Journal of Counseling Psychology, 40*, 396-409.

Tracey, T. J. G. (1994). An examination of the complementarity of interpersonal behaviour. *Journal of Personality and Social Psychology, 67*, 864-878.

Tracey, T. J. G. (2004). Levels of interpersonal complementarity: A simplex representation. *Personality and Social Psychology Bulletin, 30*, 1211-1225.

Walker, S. (2005). Gender differences in the relationship between young children's peer-related social competence and individual differences in theory of mind. The *Journal of Genetic Psychology, 166*(3), 297–312

Walker, J. M. T. (2009). Authoritative classroom management: How control and nurturance work together. *Theory into Practice, 48*, 122-129.

White, A. (2009). *From comfort zone to performance management.Understanding development and performance.*Belgium: White & MacLean publishing.

Wiggins, J. S., Philips, N., & Trapnell, P. (1989), Circular reasoning about interpersonal behavior: Evidence concerning some untested assumptions underlying diagnostic classification, *Journal of Personality and Social Psychology, 56*, 296-305.

Woolfolk-Hoy, A., & Weinstein, C. S. (2006).Students' and teachers' knowledge and beliefs about classroom management.In C. M. Evertson & C. S. Weinstein (Eds.), *International handbook of classroom management. Research, practice and contemporary issues* (pp.181-223).United States, NJ: Lawrence Erlbaum Associates.

Wubbels, T., & Brekelmans, M. (2005). Two decades of research on teacher-class relationships in the class. *International Journal of Educational Research, 43*, 6-24.

Wubbels, T., Brekelmans, M., den Brok, P., & Tartwijk, J. van (2006). An interpersonal perspective on classroom management in secondary classrooms in the Netherlands.In C. M. Evertson & C. S. Weinstein (Eds.), I*nternational handbook of classroom management. Research, practice and contemporary issues* (pp. 1161-1193).United States, NJ: Lawrence Erlbaum Associates.

Wubbels, T., Créton, H., & Hooymaaiers, H. P. (1993).Comparison of teachers' and students' perceptions of interpersonal behavior. In T. Wubbels & J. Levy (Eds.)*, Do You Know What You Look*

Like?Interpersonal Relationships in Education. (pp. 64-80). London: Falmer Press.

Wubbels, T. & Levy, J. (1991).A comparison of interpersonal behavior of Dutch and American teachers. *International Journal of Intercultural Relations, 15*, 1-18.

Chapter 3

3.
The teacher-class relationship[2]

Although the teacher-class relationship is a well-documented phenomenon, the attempts to identify its predictors are scarce. Research so far has mainly focused on in-service teachers, less is known about characteristics of student teachers in relation to the teacher-class relationship.

The purpose of the present chapter was to identify the predictors of the teacher-class relationship of student teachers in secondary education. It was hypothesized that friendliness and extraversion, self-efficacy in classroom management and in student engagement, and discipline strategies (sensitive, directive, aggressive) contribute to the teacher-class relationship in terms of control and affiliation.

A total of 120 student teachers engaged in teacher education programmes participated.

Personality traits and self-efficacy were assessed with teacher questionnaires; discipline strategies and the teacher-class relationship with student questionnaires.

Results revealed that the two personality traits and self-efficacy were not related to the teacher-class relationship in terms of affiliation or control. However, significant relations were found between all three forms of discipline strategies and the teacher-class relationship in terms of affiliation or control. Gender affected the relation between directive and aggressive strategies on the one hand, and affiliation on the other.

[2] This chapter has been published and submitted in adapted form as:
Jong, R.J. de, Tartwijk, J. van, Verloop, N., Veldman, I., & Wubbels, T. (2013). Persoonlijkheid, self-efficacy, disciplineringsstrategieën en de leerkracht-leerlingrelatie bij leerkrachten in opleiding. *Pedagogische Studiën, 90,* 21-39.
Jong, R.J. de., Mainhard, T., Tartwijk, J. van., Veldman, I., Verloop, N., Wubbels, T. *How pre-service teachers' personality traits, self-efficacy and discipline strategies contribute to the teacher-class relationship.*

The study described in this chapter provides new insights to the research fields of classroom management and interpersonal relationships in education. It contributes to our understanding of discipline strategies by fine tuning an existing instrument with which interesting connections to the teacher-class relationship were revealed. Specific gender-effects on this connection are discussed, just as implications for practice.

3.1 Introduction

Education is essentially a social process (Goodenow, 1991; Pianta, 2006), and a fundamental element of that process is the interpersonal relationship between teachers and their students (Pianta & Hamre, 2009). Starting from this premise, educational researchers have emphasised and actually demonstrated the importance of the teacher-class relationship for learning achievement and motivation of students (Cornelius-White, 2007; Davis, 2003; Pianta, 2006; Pianta & Hamre, 2009; Wubbels, Brekelmans, den Brok, & van Tartwijk, 2006). There are other benefits as well, such as for teachers' wellbeing. Spilt, Koomen and Thijs (2011) found that a negative teacher-class relationship has a negative impact on the wellbeing of the teacher. Research has repeatedly shown that beginning teachers list maintaining classroom discipline, and establishing and maintaining positive and constructive teacher-class relationships among their major concerns (Fuller & Bown, 1975; Ghaith & Shaaban, 1999; Liston, Whitcomb, & Borko, 2006, Veenman, 1984). As was stated in chapter 1, classroom discipline and the teacher-class relationship are both components of classroom climate.

Kounin (1970) identified several strategies that teachers use to elicit high levels of student work involvement and low levels of misbehaviour. Strategies such as "withitness" (communicating awareness of student behaviour), overlapping (doing more than one thing at once) and providing engaging lessons (Gump, 1982; Kounin, 1970) have to be learned in the process of becoming of a teacher. It might very well be that beginning teachers fail to apply these preventive strategies adequately. Student teachers are not fully skilled teachers yet, something the students in their traineeship classes are well aware of. As a result, it might be that sources of power such as legitimate and expert power (French & Raven, 1959) are not available to student teachers yet. Actually, according to French and Raven (1959) all sources of interpersonal power are based on the perception of person B (i.e., the student) that person A (the teacher) has the ability to mediate rewards or punishments for him or her. Raven, Schwarzwald and Koslowsky (1998) point out that the term 'interpersonal power sources' refers to the potential someone has to influence

others. In our study, the focus was not on potential interpersonal power but on student teachers' actual use of interpersonal control. Following interpersonal theorists (Leary, 1957; Kiesler, 1983; Tracey, 1994, 2004; Wiggins, 1991), besides control another dimension of interpersonal relations is investigated, namely affiliation.

Because it is unclear what characterises teachers who early in their careers are successful in building positive constructive relationships with their students, in this chapter we focus on factors contributing to teacher-class relationships involving student teachers. Some research has been done on the relations between teacher characteristics, such as personality traits and self-efficacy, and aspects of the teacher-class relationship (Mainhard, Brekelmans, Wubbels, & den Brok, 2008), but these studies were about in-service teachers, not student teachers as in our case. The *personality traits* friendliness and extraversion (Goldberg, 1990) affect how a person acts in a social context, and since education is in essence a social process, it is assumed that this would not be any different in the social context of the classroom. *Self-efficacy* is associated with offering students support and positive reinforcement (Gibson & Dembo, 1984) and with aspects of teacher behaviour such as enthusiasm, planning and organisation (Tschannen-Moran & Woolfolk Hoy, 2001).

In precious research it was found that teachers' coercive and supportive behaviours have a significant impact on the teacher-class relationship as perceived by students (Mainhard, Brekelmans, & Wubbels, 2011). Therefore, in this chapter also *discipline strategies* in relation to the teacher-class relationship are taken into account.

In the next part of this introduction the main concepts will be discussed in more detail and connected to the research questions.

3.2 Theoretical framework

THE TEACHER-CLASS RELATIONSHIP

The teacher-class relationship is described in terms of a circumplex model, originally developed by Leary (1957) and since then extensively adopted in several studies (Kiesler, 1983; Tracey, 1994, 2004; Wiggins, 1991). In the

Netherlands, Créton and Wubbels (1984) developed the model of interpersonal teacher behaviour that includes an *control* dimension (the extent to which the teacher determines what happens in the classroom, on a scale ranging from submissive to dominant) and an *affiliation* dimension (the emotional distance between teacher and students, scale ranging from hostile to warm). The teacher's interpersonal behaviour can occur in various combinations on the two dimensions, which is a great advantage of this model over French and Raven's (1959) typology of interpersonal power. Their typology mainly focuses on what interpersonal theorists call the control dimension as illustrated by the title of one of Raven's articles (Raven et al., 1998) about the power/interaction model of interpersonal control. The merit of the interpersonal model is that it takes both control and affiliation into account: students can perceive a teacher's behaviour as high on the control dimension (dominant), and high on affiliation (warm), but it is equally possible that students view the teacher's behaviour as high on control and low on affiliation, resulting in a perception of a corrective, strict teacher. The two dimensions are recognised as a valuable measure for the quality of the teacher-class relationship: the optimal teacher-class relationship is characterised by a combination of high levels of control and affiliation (Ertesvåg, 2011; Walker, 2009; Wentzel, 2002; Wubbels et al., 2006). Teacher control has been found to be positively related to students' cognitive learning outcomes, and affiliation to motivation (Brekelmans, 1989; Walker, 2009; Woolfolk Hoy & Weinstein, 2006). Although both teachers and students agree that ideally teachers display high levels of control and affiliation in the relationship with their students, in a large-scale longitudinal study Brekelmans, Wubbels and van Tartwijk (2005) found that only 24% of student teachers get to this point in their first years of teaching (Brekelmans et al., 2005). This is mainly caused by a lack of control on the teacher's part. According to Brekelmans et al. (2005) teachers' behaviour in terms of affiliation hardly changes in the first twenty years of their career, while, according to both teachers and students, teachers' behaviour in terms of control generally increases in the first three years of the teaching career.

PERSONALITY TRAITS

Worldwide, several studies using different methods, instruments and samples have consistently identified the five personality traits: extraversion, openness, friendliness, conscientiousness and emotional stability (Goldberg, 1990; Kokkinos, 2007). In our study the personality traits openness, conscientiousness and emotional stability will not be taken into account, because there is insufficient theoretical or empirical evidence of how they might influence interpersonal relationships in general, or teacher-class relationships in particular. However, the personality traits extraversion and friendliness do relate to social interaction. The important conceptual distinction between the two is that extraversion is mainly concerned with social impact, whereas friendliness concerns the motivation to create sustainable positive relationships with others (Jensen-Campbell & Graziano, 2001). In their empirical study Jensen-Campbell & Graziano (2001) found that friendliness is related to motives aimed at maintaining positive relationships with others. For instance, friendly people opted for conflict-resolution tactics such as negotiation, in which the interpersonal contact was not interrupted; this increased their chances of maintaining the relationship afterwards. Motives aimed at maintaining positive relationships with others may result in actual positive interpersonal behaviour towards others. At least, people in general think that friendly people function better in interpersonal relationships than less friendly people (Jensen-Campbell & Graziano, 2001).

Little is known about the relations between teachers' personality traits and their relationships with students, but studies on burnout among teachers have shown that it is particularly friendliness and extraversion that are associated with positive interpersonal contact with students (Cano-Garcia, Padilla-Munoz, & Carasco-Ortiz, 2005; Kokkinos, 2007).

TEACHER SELF-EFFICACY

As in all other professions, teachers' skills develop and improve over time. Fuller and Bown (1975) found that novices proceed through three stages: survival concerns, teaching situation concerns, and pupil concerns. Lidstone

and Hollingsworth (1992) conducted a longitudinal study of the first four years of teaching and found three stages of cognitive attention of the beginning teacher: management focused, subject/pedagogy focused, and student learning focused. In the process of becoming a teacher, self-efficacy is considered to be of importance, especially in the first 'survival' stage (Fuller & Bown, 1975) when student teachers have concerns about their "adequacy and survival as a teacher" (Fuller & Bown, 1975, p. 37) and their cognitive attention is drawn to management issues (Lidstone & Hollingsworth, 1992).

Self-efficacy is defined as "beliefs in one's capacity to organise and execute the courses of action required to produce given attainment" (Bandura, 1997, p.3), in this case beliefs about one's capacity and skills that are relevant within the educational context (Tschannen-Moran, Woolfolk Hoy & Hoy, 1998). Tschannen-Moran and Hoy (2001) distinguished three major components of teachers' self-efficacy: self-efficacy in classroom management, instructional strategies and student engagement. According to Bandura (1977), one of the most important sources of self-efficacy are mastery experiences. Self-efficacy and effort have been found to be related (Tschannen-Moran et al., 1998): the higher a teacher's self-efficacy on for instance student engagement, the more effort he or she will put into engaging students. This is a reciprocal relationship: putting more effort into something increases the chances of mastery experiences, mastery experiences increase self-efficacy, leading to more effort, and so on in a circular process. In Western societies students have on average spent over 10,000 hours in direct contact with classroom teachers by the time they graduate from secondary school. This leads to what Lortie (1975) called 'apprenticeship of observation': beginning teachers' socialization into teaching started when they were students themselves. Thus, even though student teachers have not yet done much teaching themselves, because of this apprenticeship of observation they are very likely to have beliefs about their own capacity to carry out the courses of action that are required from a teacher. So even though we acknowledge the circular character of the process of self-efficacy and mastery experiences, regarding the self-efficacy of student teachers we assume that they do not enter the profession as blank canvases.

There are several studies that demonstrate the relation between teachers' self-efficacy and their behaviour. Self-efficacy is related to teachers' behaviour in terms of motivation, enthusiasm, planning, organisation and effort (Tschannen-Moran & Woolfolk Hoy, 2001), and teachers with higher self-efficacy are more willing to experiment with new methods in order to better serve their students' needs (Guskey, 1988; Ross & Bruce, 2001). Tschannen-Moran et al. (1998) and Woolfolk Hoy and Hoy (1990) found that the lower the self-efficacy, the more frequently punishment was used by both experienced and student teachers. This has also been shown by Morris-Rothschild and Brassard (2006), who found that high self-efficacy was positively related to cooperative interactions aimed at finding compromises. Teachers with higher self-efficacy offer their students more support and positive reinforcement than teachers with lower self-efficacy (Gibson & Dembo, 1984). According to the interpersonal teacher behaviour model, both support and reward are associated with a positive teacher-class relationship (Wubbels et al., 2006). To our knowledge there have been no studies in which the teacher-class relationship was explicitly investigated along with the separate components of self-efficacy.

DISCIPLINE STRATEGIES

Teachers' reactions to students' provocations can sometimes be inappropriate in the sense that they might harm students psychologically or educationally (Lewis & Riley, 2009). Lewis and Riley (2009) categorise teacher misbehaviour along three dimensions: legal versus illegal; conscious versus unconscious; and acts of commission or omission. We agree with Romi, Lewis, Roache and Riley (2011) that teachers' aggressive behaviour is a legal act of conscious commission that actually occurs in the classroom. Clunies-Ross, Little and Kienhuis (2008) found that even those teachers who report favouring positive reinforcement in fact were likely to use punishments and threats. In terms of social power in general, Raven et al. (1998) report two main categories of power sources: harsh and soft, comparable to Lewis' (2001) coercive and sensitive strategies. These behaviours have different effects on students. Jamieson and Thomas (1974), building upon French and Raven's (1959) typology of interpersonal power, found that teachers' use of coercive

power was negatively related to student satisfaction, learning, and teacher control on students' out-of-class behaviour and attitudes. Lewis (2001) and Lewis, Romi, Qui and Katz (2005) examined the relationship between coercive *(*punishment and aggressive actions) and sensitive (hints, discussion, involvement in decision making and reinforcing positive behaviour) discipline strategies on the one hand, and students' misbehaviour on the other. They found that students who were subjected to coercive discipline were more distracted from their work and showed less responsible behaviour in the classroom than students who were disciplined sensitively. Romi et al. (2011) investigated the impact of teachers' aggressive management techniques on students' attitudes to schoolwork. They found that aggressive discipline strategies were related to students' negativity towards the teacher, and to the extent students were distracted from their work. In recent work Roache and Lewis (2011) reported that in terms of impact on for instance students' wellbeing and motivation, punishment seemed to be ambivalent in its effects; aggression turned out to be a functionally negative set of strategies, whereas the sensitive strategies had positive effects (Roache & Lewis, 2011).

What about students' views on the way teachers enforce discipline? According to Woolfolk Hoy and Weinstein (2006) students appreciate clarity, structure and rules, provided that these are imposed in a reasonable manner. Teachers who fail to use humour once in a while, who punish too often or too severely, or who adopt a superior attitude to their students eventually lose the students' respect. Students respect teachers who do not use their authority to suppress, but to help them (Noblit, 1993, pp. 34, 35). Mainhard et al. (2011) have investigated the connection between the teacher-class relationship in terms of control and affiliation, and coercive versus supportive teacher behaviour. Both relationship and teacher behaviour were measured as student perceptions. They found that coercive teacher behaviour was associated with lower levels of teacher affiliation, whereas supportive teacher behaviour was associated with higher levels of affiliation. Unlike general theories on interpersonal power and their hypotheses (French & Raven, 1959; Schrodt, Witt, Myers, Turman, Barton, & Jernberg, 2008) Mainhard et al. (2011) did not find significant correlations between coercive teacher behaviour and the

teacher-class relationship in terms of control, nor between supportive teacher behaviour and teacher control.

3.3 Research questions

1. How are personality traits (i.e., friendliness and extraversion) related to the teacher-class relationship in terms of control and affiliation?
   Based on studies that have shown the relationship between teachers' friendliness and extraversion and positive interpersonal contact with students(Cano-Garcia, et al., 2005; Kokkinos, 2007), we expected friendliness to be important for the teacher-class relationship in terms of affiliation. The same expectation was expected of the relation between extraversion and affiliation, but since extraversion is related to social impact, more extravert student teachers may have higher scores on control as well.
2. How is self-efficacy (i.e., student engagement, classroom management and instructional strategies) related to the teacher-class relationship in terms of control and affiliation?
   It is expected that self-efficacy in classroom management will have a positive effect on control. For self-efficacy in student engagement it is expected that it will have a positive effect on affiliation. Since self-efficacy in instructional strategies is not particularly associated with the pedagogical side of teaching such as student engagement or classroom management, we did not expect to find relations between self-efficacy in instructional strategies and the teacher-class relationship.
3. How are discipline strategies (i.e., sensitive, punishment and aggressive) related to the teacher-class relationship in terms of control and affiliation?
   In line with Mainhard et al. (2011) we expected sensitive discipline strategies to have a positive effect on affiliation, whereas aggressive discipline strategies would have a negative effect. Because of the 'neutrality' of directive strategies (Roache & Lewis, 2011) no relation was expected with teacher affiliation. Mainhard et al. (2011) were unable to establish a significant relation between teacher control on the one hand and

sensitive and coercive behaviour on the other. However, French and Raven (1959) proposed that coercive behaviour would probably enhance interpersonal control. We therefore expected all three clusters of discipline strategies to have positive correlations with student teacher teacher control, since by applying one of these strategies the teacher exerts control in order to discipline students.

3.4 Method

PARTICIPANTS AND PROCEDURE

Participants were 120 student teachers (40.8% female), recruited from three graduate schools in the Netherlands. Ages ranged from 22 to 57 years (M = 30.4 years, SD = 8.3). Nearly 42% of the participants were going to teach social studies, 36% Dutch and foreign languages, 17% science and mathematics, and 5% the arts. All graduate teacher education programmes prepare students with appropriate master degrees in the subject they will teach for teaching at all levels in secondary education. The programme takes a year full-time and starts either in September or January. Of the participants, 48.3% started the programme in September and 51.7% in January. The response rate of the September group was 70%, and 66% for the January group. The majority of the participants (80.8%) had little or no experience with teaching in secondary education, 13.4% had one to three years' experience, and the remaining 5.8% had more than four years' experience. This last group was omitted from further analysis because in terms of experience they differed too much from the rest of the sample. All teacher education programmes included a traineeship starting immediately at the beginning of the programme. Per week, student teachers spent two to three days at a school, where they were engaged in observations, teaching and other assignments. Per student teacher teacher one class participated in the study (with on average 22.6 students per class; 2,506 students in total). Of these classes, 34% were the first two years of secondary education; the other 66% were higher-level classes. The majority (94%) were classes from the higher levels of secondary education; only 6% were classes in pre-vocational secondary education. Since all student teachers taught at least

two classes, they were asked to select a class for the student questionnaire that was their least favourite in terms of interaction. This was motivated by the finding that data on teacher-class interaction differentiated more between teachers when gathered in least favourite instead of favourite classes (de Jong, van Tartwijk, Verloop, Veldman, & Wubbels, 2012).

Student teachers filled in a questionnaire with background questions, questions about personality, and questions with regard to self-efficacy. The student and teacher questionnaires were administered after student teachers had independently taught that particular class for at least two months.

INSTRUMENTS

Discipline strategies. To measure discipline strategies we used a Dutch version of the questionnaire developed by Lewis (2001). Since some students might find it difficult to use a seven-point Likert response scale, the response scale was set to five points (‘never’ to ‘always’). Examples of items are: "Rewards individual students who behave properly" (Sensitive); "Imposes consequences on students who misbehave (e.g., move their seats, detention)" (Directive); and "Deliberately embarrasses students who misbehave." (Aggressive).

A factor analysis (Principal Component Analysis with Varimax rotation) on the 24 items produced three factors that explained 75% of the variance (see Table 3.1). As found by Roache and Lewis (2011), punishment did not belong in either the sensitive or the coercive discipline cluster. The factors sensitive, directive and aggressive discipline show great similarities with Lewis’s factors: all reward items belonged to sensitive discipline; all punishment items belonged to directive discipline; and all aggressive items belonged to the third, aggressive discipline, factor. Table 3.1 also depicts means, standard deviations and reliabilities (Cronbach’s alpha) for the three scales (in the bottom rows of table 3.1). Data were aggregated into one composite class score per dimension. The intraclass correlations (ICC) were .20 for sensitive discipline, .30 for directive, and .27 for aggressive discipline strategies.

Table 3.1. Discipline strategies: rotated component matrix with means, standard deviations and reliabilities for each component

	Component		
	1	2	3
Imposes consequences on students who misbehave (e.g., move their seats, detention).	.83		
Increases the level of consequence if students will not do as they are told (e.g., move seats, detention).	.87		
Increases the level of consequence if a misbehaving student argues.	.85		
Increases the level of consequence if a misbehaving student stops when told, but then does it again.	.89		
Lets students know that the way they are behaving is not how the class expects them to.	.80		
Discusses students' behaviour with them to allow them to figure out a better way to behave in the future.	.73		
Describes what students are doing wrong, and expects them to stop.	.77		
Reminds misbehaving students about the class rules.	.74		
Rewards individual students who behave properly.		.86	
Praises the class for good behaviour.		.80	
Praises individual students for good behaviour.		.83	
Rewards the class when students behave well.		.89	
Organizes the class to work out the rules for good behaviour.		.68	
Makes students leave the room until they decide to behave properly.			.65
Yells angrily at students who misbehave.			.66
Deliberately embarrasses students who misbehave.			.88
Keeps the class in because some students misbehave.			.72

Makes sarcastic comments to students who misbehave.			.84
Mean	2.85	2.72	1.75
(SD)	(.44)	(.40)	(.40)
Reliability (Cronbach's Alpha α)	.95	.90	.83

Note. Only items with loadings > .50 are represented

Component 1 = Directive; Component 2 = Sensitive; Component 3 = Aggressive discipline

Teacher-class relationship. The student perceptions of the teacher-class relationship were measured with the Questionnaire on Teacher Interaction (QTI, Créton & Wubbels, 1984) and reported in terms of control and affiliation. Examples of QTI items are "This teacher can take a joke" or "This teacher's standards are very high." Reliability and validity of the QTI have been shown in several studies (den Brok, Brekelmans, & Wubbels, 2006; Wubbels et al., 2006), and in a cross-national validity study both proved to be satisfactory (den Brok, Fischer, Brekelmans, Rickards, Wubbels, Levy, & Waldrip, 2003). For our study, a shortened version (50 items, 8 scales) was used. The items were answered on a five-point Likert scale *(*'never' to 'always'*)*. The reliability (Cronbach's α) of the dimensions at the student level were .87 (Control) and .94 (Affiliation). Means and SD's for control and affiliation at the student level were M = 0.7, SD = 0.55 (range = -2.09 to 1.44) and M = 0.59, SD = 0.70 (range = -2.33 to 2.26), respectively.[3] The two dimensions were correlated with r =.33 (p<.01) at the student level.

The class means for student teachers in this sample, represented in Table 3.2, were comparable to the class means of student teachers in a large-scale longitudinal study of Brekelmans et al. (2005), which indicates that our sample is sufficiently representative for the target population of student teachers.

[3] In scales based on circumplex models such as the QTI, each item represents two dimensions (Tracey, 1994); here they are called the control and affiliation dimensions. To reflect the position of an item within the circumplex model weights are applied to the items for each dimension separately (i.e., theoretical factor loadings; for a comprehensive discussion of the model used here see den Brok, Brekelmans, & Wubbels, 2006). As a result, theoretically possible scores of Control and Affiliation dimensions range between -2.6 to +2.6.

Table 3.2. Means and standard deviations for age, personality traits, discipline strategies, self-efficacy, and the teacher-class relationship

		September (N=56)	January (N=57)	Total (N=113)
		Mean (SD)	Mean (SD)	Mean (SD)
Age		28.18 (6.66)	31.79 (8.80)	30.00 (7.99)
Personality traits	Extraversion	4.82 (1.17)	4.80 (1.17)	4.81 (1.16)
	Friendliness	5.86 (0.53)	5.80 (0.51)	5.83 (0.52)
Discipline strategies	Sensitive	2.73 (0.41)	2.71 (0.40)	2.72 (0.40)
	Directive	2.85 (0.43)	2.84 (0.45)	2.85 (0.44)
	Aggressive	1.72 (0.40)	1.77 (0.41)	1.75 (0.40)
Self-efficacy	Student engagement	3.21 (0.53)	3.30 (0.50)	3.25 (0.51)
	Instructional strategies	3.50 (0.51)	3.43 (0.57)	3.47 (0.54)
	Classroom management	3.33 (0.52)	3.59 (0.62)	3.46 (0.59)*
Teacher-class relationship	Control	0.04 (0.42)	0.06 (0.38)	0.05 (0.40)
	Affiliation	0.67 (0.55)	0.51 (0.50)	0.59 (0.53)**

* sig. at $p < .05$; ** sig. at $p < .01$.

Teacher extraversion and friendliness. Teacher extraversion and friendliness were measured using the relevant items of a Dutch version of the *Big Five* questionnaire (six items per subscale; Branje, van Lieshout, & Gerris, 2007). Participants indicated on a seven-point Likert scale ('totally disagree' to 'totally agree') to what extent personality properties were applicable to them. Sample items are "Communicative" (Extraversion) and "Helpful" (Friendliness). Reliabilities were .89 for extraversion *(M* = 4.81, *SD* = 1.16) and .85 for friendliness *(M* = 5.83, *SD* = .52). The mean scores are comparable

to the scores Mainhard et al. (2008) found for their sample of Dutch teachers in secondary education.

Teacher self-efficacy. To measure self-efficacy the short version of the Teachers' Sense of Efficacy Scale (TSES, Tschannen-Moran & Woolfolk-Hoy, 2001) was translated using a forward-backward translation method. The questionnaire consists of twelve items with a five-point Likert scale (rated 'nothing' to 'a great deal'). The scale has three underlying subscales, each with four items: self-efficacy in classroom management (e.g., " How much can you do to control disruptive behaviour in the classroom?"); self-efficacy in student engagement (e.g., "How much can you do to motivate students who show low interest in schoolwork? "); and self-efficacy in instructional strategies (e.g., "To what extent can you craft good questions for your students?").A factor analysis (Principal Component Analysis with Varimax rotation) on the twelve items produced three factors that explained 56% of the variance, with about an equal distribution of variance per factor. The distribution of items largely corresponded to the original TSES (with loadings ranging from .62 to .83 and maximum cross-loadings of .30).

Two items from the student engagement scale produced rather high cross loadings with one of the two other factors: the item "How much can you do to motivate students who show little interest in school?" loaded .56 on the classroom management factor, and only .39 on the student engagement factor; the item "How much can you assist families in helping their children do well in school?" loaded .56 on the instructional strategies factor and .50 on the student engagement factor. The remaining two items (item 3 and item 4) showed loadings of .75 and .76 on the student engagement factor, and maximum cross loadings less than .30. We therefore decided to use the original classroom management factor (M = 3.46, SD = 0.59; Cronbach's alpha = .82) and the instructional strategies factor *(*M = 3.47, SD = 0.54; Cronbach's alpha = .63) in the further analysis. The mean of items 3 and 4 was calculated in order to tap student teachers' efficacy for student engagement *(*r = .47; M = 3.25, SD = 0.51).

3.5 Data analysis

Our participants were student teachers who started the teacher education programme in either September or January. We therefore checked for possible effects of the commencement of the traineeship. On average, student teachers in the January group were 3.6 years older than student teachers in the September group (t (113) = -2.49, p< .05). For self-efficacy in classroom management, too, a statistically significant difference was found between the two groups (t(113) = -2.49; p< .05; d = 0.46): the mean for the January group was 3.59, for the September group 3.32. Since classes in secondary education start in September, student teachers who start their traineeship in January (half way through the school year) stepped into a setting where teacher and class have already established a definite classroom climate. If we can assume that for their traineeships student teachers are placed in well-run classes, this will make them feel confident that they can handle this class as well. Since other context factors like class size or educational level were the same for both groups, this seems to be a reasonable explanation for the difference in mean scores.

Multilevel regression analyses were tested by means of MLwiN (Rasbash, Charlton, Browne, Healy, & Cameron,2005) using the Iterative Generalized Least Squares algorithm. In MLwiN multivariate models can be specified by including an additional level (Level 0) representing the different dependent variables (here control and affiliation) nested within individual students (Level 1; see Snijders & Bosker, 1999). Hence, control and affiliation can simultaneously be examined as two aspects of the teacher-class relationship. It is also possible to examine whether both measures are similarly affected by the independent variables. Student teachers were represented at Level 2. For fixed factors, model improvement was tested by means of a Wald-test (with p<.05). For random factors, model improvement was assessed by comparing the fit (deviance) of nested models. Differences between these statistics follow a Chi-square distribution with degrees of freedom determined by the difference in parameters (Snijders & Bosker, 1999). Prior to testing our hypotheses, we estimated the variance components of control and affiliation at each level by means of so-called intercept-only regression models (Snijders & Bosker, 1999).

3.6 Results

Table 3.2 summarises the means and standard deviations for age, personality traits, self-efficacy, discipline strategies and the teacher-class relationship for the September and January groups. The distribution of men and women, experience and subject was similar for both groups.

The results of the multivariate variance component model of control and affiliation are presented in Table 3.3 (see Model 1). The average control and affiliation scores of the student teachers in this sample were 0.07 and 0.59 respectively (see intercept, Model 1). The intraclass correlations (ICC) for control and affiliation were both about .50. This means that roughly half of the variance in teacher control and affiliation as perceived by students is due to the teacher. The correlation between control and affiliation at teacher level is estimated at .44 in this model; at student level the correlation is .24. As a next step 'start' (0=September, 1=January) and gender (0=male, 1=female) were entered. No significant effects were found for control, but both covariates were significantly associated with the students' perception of student teachers' affiliation. On average female student teachers were perceived to convey less affiliation in class than male student teachers (B = -.19, p<.01), and those student teachers who started in January were perceived to convey less affiliation in class than those who started in September (B = -0.16, p<0.01; see Table 3.3, Model 2).

As a third step, extraversion, friendliness, the three types of self-efficacy and the three discipline strategies were added (all predictors were grand mean centred; see Table 3.3, Model 3). Only discipline strategies proved to be significantly related to the teacher-class relationship. Sensitive and directive strategies contributed to student teacher teacher control (B = 0.24, p<.01, β = .11 (small effect) and B = 0.56, p<.01, β = .46 (medium sized effect), respectively), and aggressive strategies were negatively associated with control (B = -0.37, p<.01, β = .27). Using aggressive discipline strategies in class was also negatively related to perceived affiliation (B = -0.67, p<.01, β = .38); using sensitive strategies was related to higher perceived levels of affiliation (B = 0.73, p<.01, β = .43). In this model, besides discipline strategies, it was only the

effect of teacher gender that was still significantly related to affiliation (B = -0.16, p<.01): none of the other variables (e.g., start traineeship, self-efficacy) were related to the teacher-class relationship.

In order to test whether the effect of the three different discipline strategies on the teacher-class relationship was different for male and female student teachers, we added interactions between teacher gender and discipline strategies as a next step (see Table 3.3, Model 4). As may be expected from the results so far, none of these interactions were statistically significant for perceived teacher control. However, there were rather pronounced effects for the gender*directive and gender*aggressive interactions. Adding these interaction terms showed that the effect of using directive strategies was different for female student teachers and male teachers ($B_{gender*directive}$ = 0.48; p<.01, β = .31). A male student teacher teacher with a typical low directive discipline score (bottom 2.5%) has, according tothe predictions of this model, an affiliation score of .94 (having medium scores on all other variables in the model). For a male teacher with a typical high score (top 2,5%) on directive discipline, the prediction for affiliation is lower: .44. For female student teachers, this effect is reversed. The affiliation prediction for a female with a typical low score on directive discipline is .37, whereas the affiliation prediction for a female with a typical high score is .72.

In general, the use of aggressive strategies was detrimental to affiliation as perceived by students, and this negative effect was stronger for female than for male student teachers (B = -0.57; p<.01, β = .33).

Compared to Model 1 (the 'empty' model), the total of the added variables explained 45% of the variance in control scores between student teachers and 77% of the variance in affiliation.

In Model 5 we tested to what degree the effects found were generalizable over the various student teachers and classrooms (i.e., random slopes were investigated). Only the effect of aggressive discipline on control differed significantly between student teachers (RIGLS estimation, $\Delta\chi^2(3)=16.70$, p<.01). Although statistically significant, the random slope of the effect of aggressive discipline explained only marginal amounts of variance between student teachers.

Table 3.3. Multivariate multilevel models for teacher control and affiliation

	Model 1		Model 2	
	Control	Affiliation	Control	Affiliation
	B (SE)	B (SE)	B (SE)	B (SE)
	Fixed effects			
Intercept	0.07 (.04)	0.59 (.05)	0.06(.06)	0.79(.05)
Gender			-0.02 (.02)	-0.19 (.09)**
Start			0.03 (.08)	-0.16 (.09)**
Extraversion				
Friendliness				
SE student engagement				
SE instructional strategies				
SE classroom management				
Sensitive discipline				
Directive discipline				
Aggressive discipline				
Gender*Sensitive				
Gender*Directive				
Gender*Aggressive				
	Random effects			
Between-teacher effects				
Variance	0.15 (.02)	0.25 (.03)	0.15 (.02)	0.23 (.03)
Aggressive				
r infl*affiliation	.44**		.46**	
r agg*affiliation				
Between student effects				
Variance	0.15 (.01)	0.24 (.01)	0.15 (.01)	0.24 (.01)
Correlation infl*affiliation	.24**		.23**	
$\Delta\chi^2(2)$ (deviance)			-77.23	

* p< .05; ** p < .01.

Table 3.3. Multivariate multilevel models for teacher control and affiliation

	Model 3		Model 4	
	Control	Affiliation	Control	Affiliation
	B (SE)	B (SE)	B (SE)	B (SE)
	Fixed effects			
Intercept	0.05 (.06)	0.69 (.05)	0.05 (.06)	0.69 (.05)
Gender	-0.05 (.07)	-0.16 (.05)**	-0.06 (.06)	-0.15 (.05)**
Start	0.05 (.06)	-0.07 (.05)	0.06 (.06)	-0.08 (.05)
Extraversion	0.02 (.03)	-0.01 (.03)	0.03 (.03)	-0.01 (.02)
Friendliness	-0.08 (.07)	0.05 (.05)	-0.08 (.06)	0.04 (.05)
SE student engagement	-0.02 (.07)	0.07 (.06)	-0.05 (.06)	0.05 (.05)
SE instructional strategies	-0.05 (.06)	-0.02 (.06)	0.05 (.06)	-0.02 (.05)
SE classroom management	0.03 (.06)	-0.08 (.05)	0.01 (.06)	-0.07 (.05)
Sensitive discipline	0.24 (.09)**	0.73 (.08)**	0.34 (.14)**	0.85 (.11)**
Directive discipline	0.56 (.09)**	0.04 (.08)	0.58 (.15)**	-0.28 (.12)**
Aggressive discipline	-0.37 (.10)**	-0.67 (.09)**	-0.36 (.19)*	-0.25 (.015)*
Gender*Sensitive			-0.19 (.17)	-0.17 (.14)
Gender*Directive			-0.03 (.19)	0.48 (.16)**
Gender*Aggressive			-0.04 (.22)	-0.57 (.18)**
	Random effects			
Between-teacher effects				
Variance	.08 (.01)	.06 (.01)	0.8 (.01)	0.5 (.01)
Aggressive				
r infl*affiliation	.32**		.30**	
r agg*affiliation				
Between student effects				
Variance	.16 (.01)	.23 (.01)	.16 (.01)	.23 (.01)
Correlation infl*affiliation	.22**		.22**	
$\Delta\chi^2(2)$ (deviance)	-692.68		-3.94	

* p< .05; ** p < .01.

Table 3.3. Multivariate multilevel models for teacher control and affiliation

	Model 5	
	Control	Affiliation
	B (SE)	B (SE)
	Fixed effects	
Intercept	0.05 (.06)	0.69 (.05)
Gender	-0.06 (.07)	-0.15 (.05)**
Start	0.05 (.06)	-0.08 (.05)
Extraversion	0.04 (.03)	-0.01 (.02)
Friendliness	-0.04 (.06)	0.04 (.05)
SE student engagement	-0.01 (.06)	0.05 (.05)
SE instructional strategies	-0.04 (.06)	-0.02 (.05)
SE classroom management	0.01 (.06)	0.01 (.06)
Sensitive discipline	0.33 (.12)**	0.85 (.11)**
Directive discipline	0.48 (.13)**	-0.27 (.12)**
Aggressive discipline	-0.33 (.17)*	-0.26 (.015)*
Gender*Sensitive	-0.07 (.16)	-0.18 (.14)
Gender*Directive	0.07 (.16)	0.47 (.15)**
Gender*Aggressive	-0.02 (.20)	-0.57 (.18)**
	Random effects	
Between-teacher effects		
Variance	0.8 (.01)	0.5 (.01)
Aggressive	< 0.1	
r infl*affiliation	.30**	
r agg*affiliation		-.68 (n.s.)
Between student effects		
Variance	.16 (.01)	.23 (.01)
Correlation infl*affiliation	.22**	
$\Delta\chi^2(2)$ (deviance)	-16.7	

* p< .05; ** p < .01.

3.7 Discussion

In this chapter we report on the relations between personality traits, self-efficacy, discipline strategies, and the teacher-class relationship of student teachers working in secondary education in the Netherlands. With regard to the first research question on associations between friendliness, extraversion and the teacher-class relationship in terms of control and affiliation, none of the expected relationships were found. It might be that in the context of the classroom personality plays a different role than in a general social context as was found in the studies of Asendorpf and Wilpers (1998) and Jensen-Campbell and Graziano (2001). However, for the educational context Cano-Garcia et al. (2005) and Kokkinos (2007) report that extraversion and friendliness are related to more positive relationships with students, something that could not be confirmed in our study. This might be caused by the fact that we studied the relationship itself, whereas Cano-Garcia et al. (2005) and Kokkinos (2007) used derivatives of the relationship like appreciation of the relationship. Besides the difference in concepts, there is also a difference in samples: student teachers (our study) versus in-service teachers. It is possible that for in-service teachers personal and professional identities are more congruent, whereas for student teachers (since their professional identity is still developing) the link with their personality is less prominent. Note also that we asked the student teachers to select their least favourite class: Brekelmans (1989) found small but significant differences for in-service teachers between their best and their worst classes: in their best class teachers were perceived more emotionally close than in their worst. For beginning teachers, differences between how they are perceived by their students in different classes are even more prominent than for experienced teachers (Levy, Créton, & Wubbels, 1993). Taking this into account we should conclude that in the favourite classes more friendly or extravert student teachers may indeed be perceived as higher on affiliation. However, results still indicate that in least favourite classes friendliness and extraversion of the student teacher do not play a role in how students perceive the relationship with their teacher. This finding is probably good news to teacher training programmes. After all, given the relative stability

of personality traits, a direct connection with the teacher-class relationship would offer few opportunities for intervention.

With regard to the second research question: the hypothesised relations between self-efficacy in classroom management, self-efficacy in student engagement and the teacher-class relationship in terms of control and affiliation could not be confirmed. The only expectation that was confirmed was that self-efficacy in instructional strategies was not related to control or affiliation. It is difficult to find an explanation in the existing literature, because self-efficacy is usually measured as a whole, without the various subscales used in our study. An explanation might be that self-efficacy does not refer to actual competence but to the teacher's perception of it (Klassen, Tze, Betts & Gordon, 2011; Woolfolk Hoy & Spero, 2005), so that increasing experience may cause changes in the student teacher's perception of this competence. With self-efficacy still in flux, effects on the teacher-class relationship or teacher behaviour are less easy to find.

Finally, we found that the way (sensitive, directive, aggressive) in which student teachers disciplined their students had a significant effect on the teacher-class relationship as perceived by students. As predicted, sensitive discipline had a positive effect on both affiliation and control. Mainhard et al. (2011) also found the relationship between sensitive discipline and affiliation, but they could not substantiate the relation with control. It is however important to know that this particular form of discipline is associated with a high quality teacher-class relationship on both dimensions (Brekelmans et al., 2005; Ertesvåg, 2011; Walker, 2009; Wentzel, 2002; Woolfolk Hoy & Weinstein, 2006): according to students, teachers who use this strategy are in control and friendly as well. The fact that sensitive discipline strategies were also significantly related to control shows that these are not a disguised form of *laissez-faire*. By reinforcing positive behaviour and involving students in decision-making the teacher is proactively present, which was reflected in the level of control of the teacher.

Our hypothesis regarding the negative relation between aggressive discipline and affiliation was also confirmed: not surprisingly, students perceived the teacher as less warm when they were subjected to aggressive

discipline. In previous research negative effects of this specific discipline strategy on student motivation, attitudes and misbehaviour have also been found (Lewis et al., 2005; Romi et al., 2011). Mainhard et al. (2011) found the same effects for in-service teachers and reported that this kind of teacher behaviour not only immediately disrupted the relation between teacher and class, but also was related to less affiliation in class a week later. Student teachers who are not familiar with issues like this, might not know how to 'repair' the relationship, and besides, since they are in their traineeship they might not even have sufficient time to do so. Therefore, it seems even more important to teach student teachers about the different discipline strategies and the effects of these strategies on the relationship with their students.

Mainhard et al. (2011) could not confirm the hypothesis based on French and Raven (1959) and Schrodt et al. (2008), that aggressive behaviour would have a positive effect on control of the teacher. In our study actually the opposite effect was found: in the perception of the students, aggressive discipline from the teacher had negative effects on the teacher's level of control. To explain this result, the work of Romi et al. (2011) proves helpful. They found that when it comes to aggressive behaviour, students' beliefs about how justified the teacher's reaction was to student misbehaviour was only minimally related to the level of distraction and negativity towards the teacher (Romi et al., 2011). Apparently, this kind of behaviour causes students to feel negative about the teacher no matter how justified they thought the reaction was. As Romi et al. (2011) point out, aggressive teacher behaviour is seen as offensive and unacceptable even when students agree that it was necessary that the teacher enforced discipline. They also discuss that the impact of aggressive discipline strategies on students varies depending on country (i.e. Australia, China and Israel). This may be due to the fact that beliefs about teacher roles (Lortie, 1975; Pajares, 1992) are culturally determined. Hofstede and Hofstede (2005) defined four cultural dimensions, of which power distance is particularly important in this discussion. Low power distance in the educational context manifests itself in more equality between teachers and students, and more dialogue and discussion, whereas in cultures with high power distance the teacher is seen as an unchallenged authority who is the primary communicator.

Our study was conducted in the Netherlands, of which the culture is defined as having a relatively low power distance. It is possible that the negative effect of aggressive discipline on control and affiliation as perceived by students is even more prominent because of the surrounding cultural context that favours power equality.

Interestingly, the negative effect of aggressive discipline on the perceived level of affiliation was even stronger for female than for male teachers. Carli (1999) found that men generally have higher levels of expert and legitimate power, whereas women have higher levels referent power (for these sources of power see French and Raven, 1959). According to Carli (1999) these differences in power lead to differences in social control: women generally have more difficulty exerting control than males. We did not take sources of power into account, but our results did not show any differences in levels of control between male and female student teachers. Apparently it is not social control as such, but the control tactics (i.e., discipline strategies) that are gender sensitive. Barbuto, Fritz, Matkin and Marx (2007) report a number of studies in which participants were found to be more persuaded by direct and aggressive control strategies applied by men than by women, and that men received higher performance ratings as a result of these kinds of control tactics than women using the same control tactics. As far as we know, for the educational context this result cannot be explained by previous findings.

As expected, directive discipline strategies had a positive effect on the perceived level of control of the teacher. This effect was equally apparent for male and female student teachers. At first sight, it seemed that directive discipline was not related to affiliation. However, taken the gender-effect into account, the matter turned out to be more complicated: for male student teachers the use of directive discipline strategies had a detrimental effect on affiliation as perceived by their students, whereas for female teachers the use of directive discipline strategies had in fact a beneficial effect on the level of affiliation as perceived by their students. Here again, the ambiguity of the directive strategies comes into play. It might be that in the eyes of students female teachers have ‘nicer’ ways to make use of directive strategies than male teachers. Thus, according to students, when it comes to directive discipline it is

the tone that makes the music, and women perhaps hit a different, warmer tone than men.

The merit of this study is that it provides insight in what is beneficial to a positive teacher-class relationship. In order to conduct the current study, the Lewis (2001) discipline strategy questionnaire was, in accordance with Roache and Lewis (2011), analysed differently by defining three instead of two clusters. These three discipline clusters (sensitive – directive – aggressive) allowed a precise investigation of the connection with the teacher-class relationship and revealed interesting results. First of all, where in previous studies it turned out to be difficult to develop an instrument that relates well to both dimensions of the teacher-class relationship, with the discipline strategy questionnaire associations with affiliation as well as control were found. Next to that, it was found that to students it matters who disciplines directive or aggressive: men and women were judged differently. This raises questions about what other factors come into play here, such as student's gender, general appreciation of the teacher, or male/female stereotypes.

The new cluster of directive strategies proved to be very interesting, and results might even provide some answers as to why it is ambivalent in its effects on students (Roache & Lewis, 2011). The gender effect on the relation between directive discipline and affiliation might be one of the reasons why effects of directive discipline on students is undecided: it depends on who imposes the consequences. Having said this, it is worthwhile to look into the specific differences between male and female teachers in their way of using directive discipline. When it comes to maintaining a warm, close relationship with students, apparently female student teachers have found a better way or better timing to apply directive strategies. It would be interesting to learn more about what this way of using directive discipline entails.

To sum up, what according to students is crucial to the relationship is not whether but how the teacher imposes discipline. This is an important addition to the findings of Woolfolk Hoy and Weinstein (2006) and Noblit (1993), who demonstrated students' views on discipline, but not how these are connected to their view on the teacher-class relationship. We fully agree with Balli (2011) that it is important to teach student teachers how to accomplish the two

seemingly dichotomous goals in the classroom. Establishing structure through rules and procedures, and building a positive classroom environment are not mutually exclusive ends and must both be discussed in the same context.

LIMITATIONS

In this research possible mediating relationships, such as between personality, self-efficacy, discipline strategies and the teacher-class relationship were not explored. We followed the Baron and Kenny steps (1986) to indicate the appropriateness of testing models like this (for an implementation of the Baron and Kenny steps see for instance Stephan, Caudroit, Boiché & Sarrazin, 2010). In our case there were no models in which all the necessary direct effects could be established, so that a mediational analysis was not appropriate.

Degree of control and affiliation, and use of sensitive discipline strategies were not significantly different for the student teachers who started the teacher education programme in September than for those starting in January. However, student teachers who started in January had a higher self-efficacy in classroom management than their September counterparts. Those who started their traineeship in January encountered a situation in which the social system of the class had already been established. Assuming that student teachers are usually placed in well-run classrooms, this may have led them to have an increased sense of self-efficacy in classroom management. In this case, there were not any other significant differences between the two groups. However, in order to make sure context factors are standardized as much as possible, in future research commencement of the traineeship must be taken into consideration.

The participants were asked to select their least favourite class because in previous research, during the process of development of an instrument to capture teachers' interpersonal expectations (de Jong et al., 2012), it was found these expectations were more differentiated between teachers for least favourite than for favourite classes. However, selecting a particular class has a danger to get biased results. Brekelmans (1989) found small but significant differences for in-service teachers between their best and their worst classes: in their best class teachers were perceived as more emotionally close than in their worst

class. For beginning teachers, differences between profiles in different classes are even more prominent than for experienced teachers (Levy et al., 1993). In future research it might be interesting to take both a favourite and a least favourite class into account.

References

Asendorpf, J. B., & Wilpers, S. (1998). Personality effects on social relationships. *Journal of Personality and Social Psychology, 74*, 1531-1544.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioural change. *Psychological Review, 84*, 191-215.

Bandura, A. (1997). *Self-efficacy: The exercise of control. New* York: Freeman.

Barbuto, J. E., Fritz, S. M., Matkin, G. S., & Marx, D. B. (2007). Effects of gender, education, and age upon leaders' use of influence tactics and full range leadership behaviors. *Sex Roles, 56*, 71-83.

Baron, R. M., Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Branje, S. J. T., Lieshout, van, C. F. M., & Gerris, J. R. M. (2007).Big-Five personality development in adolescence and adulthood.*European Journal of Personality, 21*, 45-62.

Brekelmans, M. (1989). *Interpersoonlijk gedrag van docenten in de klas*. Doctoral dissertation. University of Utrecht, Utrecht, The Netherlands.

Brekelmans, M., Wubbels, T., & Tartwijk, van, J. (2005). Teacher-student relationships across the teaching career. *International Journal of Educational Research, 43*, 55–71.

Brok, den, P., Fischer, D., Brekelmans, M., Rickards, T., Wubbels, T, Levy, J., & Waldrip, B. (2003, April). *Students' perceptions of secondary teachers' interpersonal style in six countries: A Study on the validity of the Questionnaire on Teacher Interaction.* Paper presented at the annual meeting of the American Educational Research Association, Chicago. (ERIC Document Reproduction Services No. ED475164).

Brok, den.P., Brekelmans, M., & Wubbels, T. (2006).Multilevel issues in studies using students' perceptions of learning environments: the case of the Questionnaire on Teacher Interaction. *Learning Environments Research, 9*, 199-213.

Cano-Garcia, F. J., Padilla-Muniz, E. M., & Carasco-Ortiz, M. A. (2005).Personality and contextual variables in teacher burnout.*Personality and Individual Differences, 38*, 929-940.

Carli, L. L. (1999). Gender, interpersonal power, and social influence. Journal *of Social Issues, 55*(1), 81-99.

Clunies-Ross, P., Little, E., & Kienhuis, M. (2008).Self-reported and actual use of proactive and reactive classroom management strategies and their relationship with teacher stress and student behaviour.*Educational Psychology, 28*, 693–710.

Cornelius-White, J. (2007). Learner-centered teacher-class relationships are effective: A meta-analysis. *Review of Educational Research, 77*, 113-143.

Créton, H., & Wubbels, T. (1984).*Discipline problems with beginning teachers.* Utrecht, the Netherlands: W.C.C.

Davis, H. A. (2003). Conceptualizing the role and control of student-teacher relationships on children's social and cognitive development.*Educational Psychologist, 38*(4), 207-234.

Ertesvåg, S. K. (2011). Measuring authoritative teaching.*Teaching and Teacher Education, 27*, 51-61.

French, J. R. P., Jr., & Raven, B. H. (1959). The bases of social power. In D. Cartwright (Ed.), *Studies in Social Power* (pp. 150-167). Ann Arbor: University of Michigan.

Fuller, F. & Bown, O. (1975).Becoming a teacher. In K. Ryan (ed.), *Teacher education: 74th Yearbook of the National Society for the Study of Education. Part 2* (pp. 25-52). Chicago: University of Chicago Press.

Ghaith, G., & Shaaban, K. (1999). The relationship between perceptions of teaching concerns, teacher efficacy, and selected teacher characteristics. *Teaching and Teacher Education, 15*, 487-496.

Gibson, S., & Dembo, M. (1984). Teacher efficacy: a construct validation. *Journal of Educational Psychology, 76*, 569-582.

Goldberg, L. R. (1990). An alternative 'description of personality': The Big-Five factor structure. *Journal of Personality and Social Psychology, 59*, 1216–1229.

Goodenow, C. (1991). Strengthening the links between educational psychology and the study of social contexts.*Educational Psychologist, 27*(2), 177-196.

Gump, P. V. (1982). School settings and their keeping.In D. L. Duke (Ed.), *Helping teachers manage classrooms* (pp. 98-114). Alexandria, VA: Association for Supervision and Curriculum Development.

Guskey, T. R. (1988). Teacher efficacy, self-concept and attitudes towards the implementation of instructional innovation.*Teaching and Teacher Education, 1*, 63-69.

Hofstede, G., & Hofstede, G. J. (2005).*Cultures and organizations: Software of the mind (2nd ed.)*. New York: McGraw-Hill.

Jamieson, D. W., & Thomas, K. W. (1974).Power and conflict in the student-teacher relationship. The *Journal of Applied Behavioral Science, 10*(3), 321-336.

Jensen-Campbell, L. A., & Graziano, W. G. (2001).Agreeableness as a moderator of interpersonal conflict. Journal *of Personality, 69*, 323-362.

Jong, de, R. J., Tartwijk, van, J., Verloop, N., Veldman, I., & Wubbels, T. (2012). Teachers' expectations of teacher-class interaction: Complementary and distinctive expectancy patterns. *Teaching and Teacher Education, 28,* 948-956.

Kiesler, D. J. (1983). The 1982 interpersonal circle: A taxonomy for complementarity in human transactions. *Psychological Review, 90*, 185-214.

Klassen, R. M., Tze, V. M. C., Betts, S. M., & Gordon, K. A. (2011). Teacher efficacy research 1998-2009: Signs of progress or unfulfilled promise? *Educational Research Review, 23*, 21-43.

Kokkinos, C. M. (2007).Job stressors, personality and burnout in primary school teachers. *BritishJournal of Educational Psychology, 77*, 229-243.

Kounin, J. S. (1970). *Discipline and group management in classrooms. New* York: Holt, Rinehart and Winstone.

Leary, T. (1957).*An interpersonal diagnoses of personality. New* York: The Ronald Press Company.

Lewis, R. (2001). Classroom discipline and student responsibility: the student's view. *Teaching and Teacher Education, 17*, 307-319.

Lewis, R., Romi, S., Qui, X., & Katz, Y. J., (2005).Teachers' classroom discipline and student misbehavior in Australia, China and Israel.*Teaching and Teacher Education, 21,* 729-741.

Lewis, R., & Riley, P. (2009).Teacher misbehaviour.In L. J. Saha & A. G. Dworkin (Eds.), *The new international handbook of teachers and teaching* (pp. 417-431). Norwell, MA: Springer.

Lidstone, M. & Hollingsworth, S. (1992). A longitudinal study of cognitive change in beginning teachers: Two patterns of learning to teach. *Teacher Education Quarterly, 19*(4), 39-57.

Liston, D., Whitcomb, J., & Borko, H. (2006). Too little or too much: Teacher preparation and the first years of teaching. *Journal of Teacher Education, 57*, 351-328.

Lortie, D. (1975). *Schoolteacher: A sociological study.* London: University of Chicago Press.

Mainhard, M. T., Brekelmans, M., & Wubbels, T. (2011). Coercive and supportive teacher behaviour: Within- and across-lesson associations with the classroom climate. *Learning and Instruction, 21*, 345-354.

McLaughlin, H. J. (1991). Reconciling care and control: Authority in classroom relationships. Journal *of Teacher Education, 42*(3), 182-195.

Noblit, G. (1993). Power and caring.*American Educational Research Journal, 30*(1), 23-38.

Pianta, R. C. (2006). Classroom management and relationships between children and teachers: Implications for research and practice. In C. M. Evertson & C. S. Weinstein (Eds.), I*nternational handbook of classroom management. Research, practice and contemporary issues* (pp.685-709).USA, NJ: Lawrence Erlbaum Associates.

Pianta, R. C., & Hamre, B. K. (2009). Conceptualization, measurement, and improvement of classroom processes: Standardized observation can leverage capacity. *Educational Researcher, 38*, 109-119.

Rasbash, J., Charlton, C., Browne, W.J., Healy, M. and Cameron, B. (2005).*MLwiN Version 2.02.* Centre for Multilevel Modelling, University of Bristol.

Raven, B. H., Schwarzwald, J., & Koslowsky, M. (1998). Conceptualizing and measuring a power/interaction model of interpersonal influence. *Journal of Applied Social Psychology, 28*, 307-332.

Roache, J. E., & Lewis, R. (2011). The carrot, the stick, or the relationship: what are the effective disciplinary strategies? *European Journal of Teacher Education, 34*, 233-248.

Romi, S., Lewis, R., Roache, J., & Riley, P. (2011). The impact of teachers' aggressive management techniques on students' attitudes to schoolwork. The *Journal of Educational Research, 104*(4), 231-240.

Ross, J. & Bruce, C. (2001). Professional development effects on teacher efficacy: Results of a randomized field trial. *The Journal of Educational Research, 101*(1), 50-60.

Schrodt, P., Witt, P. L., Myers, S. A., Turman, P. D., Barton, M. H., & Jernberg, K. A. (2008). Learner empowerment and teacher evaluations as functions of power use in the college classroom.*Communication Education, 57*, 180-200.

Snijders, T. A. B., & Bosker, R. J. (1999).*Multilevel analyses: An introduction to basic and advanced multilevel modeling.* London: SAGE.

Spilt, J. L., Koomen, H. M. Y., & Thijs, J. T. (2011).Teacher wellbeing: The importance of teacher-class relationships. *Educational Psychology Review, 23*(3), 457-477.

Stephan, Y., Caudroit, J., Boiché, J., & Sarrazin, P. (2010). Predictors of situational disengagement in the academic setting: The contribution of grades, perceived competence, and academic motivation. *BritishJournal of Educational Psychology, 81*, 441-455.

Tracey, T. J. G. (1994). An examination of the complementarity of interpersonal behaviour. Journal *of Personality and Social Psychology,67*, 864-878.

Tracey, T. J. G. (2004). Levels of interpersonal complementarity: A simplex representation. *Personality and Social Psychology Bulletin,30*, 1211-1225.

Tschannen-Moran, M., Woolfolk Hoy, A. W., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*, 202-248.

Tschannen-Moran, M. & Woolfolk Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805.

Tschannen-Moran, M., & Woolfolk Hoy, A. W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education, 17*, 944-956.

Walker, J. M. T. (2009). Authoritative classroom management: How control and nurturance work together. *Theory Into Practice,48,* 122–129.

Weinstein, C. S. (1998). "I want to be nice, but I have to be mean": Exploring prospective teachers' conceptions of caring and order. *Teaching and Teacher Education, 14*, 153-163.

Wentzel, K. R. (2002). Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence.*Child Development,73*(1), 287-301.

Wiggins, J. S. (1991). Agency and communion as conceptual coordinates for understanding and measurement of interpersonal behavior.In W. M. Grove & D. Cicchetti (Eds.), *Thinking clearly about psychology* (pp. 89-113).Minneapolis: University of Minnesota Press.

Woolfolk Hoy, A. W., & Hoy, W. K. (1990).Prospective teachers' sense of efficacy and beliefs about control. Journal *of Educational Psychology*, *82*(1), 81-91.

Woolfolk Hoy, A. W., & Spero, R. B. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education, 21*, 343-356.

Woolfolk Hoy, A. W., & Weinstein, C. S. (2006).Student and teacher perspectives on classroom management.In C. M. Evertson & C. S. Weinstein (Eds.), *International handbook of classroom management.*

Research, practice and contemporary issues (pp.181-223).United States, NJ: Lawrence Erlbaum Associates.

Wubbels, T., Brekelmans, M., Brok, den, P., & Tartwijk, van, J. (2006).An interpersonal perspective on classroom management in secondary classrooms in the Netherlands.In C. M. Evertson & C. S. Weinstein (Eds.), I*nternational handbook of classroom management. Research, practice and contemporary issues* (pp.1161-1191).United States, NJ: Lawrence Erlbaum Associates.

Chapter 4

4.
Discipline strategies[4]

Teacher discipline strategies are well-documented when it comes to its effects on students and the working climate in the classroom. Although it is commonly acknowledged that for student teachers classroom discipline is a major concern, student teachers' use of discipline strategies are largely unknown. In this chapter, we examine student teachers' beliefs about classroom discipline in relation to their discipline strategies. Beliefs that were taken into account are self-images, pupil control orientation and anticipated student responses. Three clusters of discipline strategies are distinguished: sensitive, directive and aggressive discipline strategies.

All participants were student teachers of a one year teacher education programme for secondary education in the Netherlands. Student questionnaires were used to measure participants' discipline strategies (n = 2506). Student teachers' (n=104) self-images, pupil control orientation and anticipated student responses were measured with teacher questionnaires.

Results of the multiple regression analyses showed that student teachers' discipline strategies are explained best by beliefs about control (both self-images and anticipated student responses), pupil control orientation and in the case of aggressive discipline also self-images with regard to affiliation.

Apart from the possible academic interest in these particular findings, results might be useful in a practical sense, in particular for teacher education programmes.

[4] This chapter has been submitted in adapted form as:
Jong, R.J. de., Tartwijk, J. van., Wubbels, T., Veldman, I., & Verloop, N.*Student teachers' discipline strategies: Relations with self-images, anticipated student responses and pupil control orientation*.

4.1 Introduction

Student misbehaviour impacts negatively on student learning time and academic achievements (Lewis, Romi, Qui, & Katz, 2005). Teachers use different discipline strategies to deal with student misbehaviour, however not always successfully. Problems with classroom discipline are one of the main reasons why teachers leave the profession (Evertson & Weinstein, 2006; Walker, 2009). For student and beginning teachers in secondary education, in particular, classroom discipline is a major concern (Ghaith & Shaaban, 1999; Liston, Whitcomb, & Borko, 2006; Veenman, 1984) which affects teacher stress, teacher well-being and teacher confidence (Spilt, Koomen, & Thijs, 2011).

Teachers' beliefs about students and their own roles as teachers are considered to be highly important for their practice (Pajares, 1992). We investigated how student teachers' discipline strategies are related to their beliefs. It seems likely that student teachers have beliefs about classroom life and classroom discipline (Balli, 2011), even though they do not have extensive teaching experience themselves. These beliefs are rooted in their experiences as students (Balli, 2011; Kaplan, 1992), often referred to with 'apprenticeship of observation' (Lortie, 1975). Beliefs in relation to discipline strategies are considered to be relevant because of the nature of the classroom situations. According to Calderhead (1987), the complexity and immediacy of many classroom situations may require teachers to make intuitive decisions which are based on their beliefs, rather than reflective decisions. With regard to disorderly situations in the classroom, beliefs are pivotal since those situations in particular require an immediate reaction (Kaplan, 1992). Kaplan (1992) investigated the relationship between teachers' own experiences with punishments in their families, their subsequent beliefs about discipline, and their selection of discipline strategies. Among 156 student teachers he found that student teachers' prior experiences were indeed predictive of their selection of discipline strategies. In particular student teachers with an authoritative upbringing were more likely to select punitive strategies. Besides beliefs about classroom discipline and student behaviour, teachers also have

beliefs of self-as-a-teacher (Pajares and Schunk, 2002). These self-images, just like anticipated student responses and pupil control orientation, are inextricably tied to teachers' thinking and functioning and become rules that govern their behaviour (Beijaard, Verloop & Vermunt, 2000; Korthagen, 2004; Pajares & Schunk, 2002).

Because of the importance of teachers' beliefs for their practice, specifically with regard to classroom discipline, the focus in this chapter is on the relationship between student teachers' discipline strategies and their beliefs about themselves as teachers, about student behaviour and about pupil control. In the following, discipline strategies and the three specific teacher beliefs will be discussed in more detail.

4.2 Theoretical framework

DISCIPLINE STRATEGIES

Discipline strategies of adults interacting with children or students are generally perceived as belonging to one of two categories: *sensitive* and *coercive* (Patterson, 1982; Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003; Mainhard, Brekelmans, & Wubbels, 2011a). In research and practice these two ways of disciplining have been given various but comparable names; here we will stick to sensitive and coercive, because they are the most commonly used terms. Sensitive discipline refers to strategies like encouragement, setting limits, monitoring, troubleshooting and positive involvement. All these strategies are assumed to stimulate the development of pro-social behaviour of children. Coercive discipline includes negative reinforcement strategies, inconsistency and disproportional measures. Coercive interactions are characterized by frequent and extended exchange of aversive verbal and physical responses (Snyder & Patterson, 1995; Snyder, 2002). When frequently used, the people interacting risk getting caught in a coercive interaction pattern, as was investigated for teachers and students by Lewis and colleagues. Lewis (2001) and Lewis et al. (2005) examined the relationship between students' reports of teachers' sensitive and coercive discipline strategies and student misbehaviour, motivation, concentration and well-being.

Compared to students who were disciplined sensitively, students who were subjected to coercive discipline were more distracted from their work and showed less responsible behaviour in the classroom. Based on observational data, Clunies-Ross, Little and Kienhuis (2008) concluded that teachers' strategies, such as listening to students and negotiating commitments, were related significantly to on-task student behaviour. Conversely, strategies like using punishment (including corporal punishment) had a negative correlation with on-task student behaviour. Golish & Olson (2000) found that students are less responsive when teachers use coercive strategies, whereas teachers' use of reward was positively related to pro-social student behaviour such as honesty and effort.

Although coercive strategies are not recommended, they do appear in classrooms and play a significant role in influencing students' behaviour and attitudes (Lewis, 2001; Lewis et al., 2005; Lewis & Riley, 2009; Mainhard et al., 2011a). In a recent study, Roache and Lewis (2011) investigated the effect of discipline strategies on students' motivation, engagement, connectedness to their schoolwork and teachers, misbehaviour, responsibility, and well-being. With regard to these student variables, sensitive strategies were the most effective, while aggressive strategies were so evidently ineffective that the authors labelled them a 'functionally negative set of strategies'. Interestingly, punishment turned out to be ambivalent in its effects. Roache and Lewis (2011) therefore propose that punishment, in terms of its effect on students, might best be considered as 'neutral'. According to these authors, it comes as no surprise that teachers sometimes use punishment of some kind to prevent or restrict student behaviour that is a risk to classroom (working) climate. The effects of punishment are dependent on how appropriate and proportional the teacher disciplines in general (Roache & Lewis, 2011).

Unfortunately, little is known about why teachers use specific discipline strategies. Merrett and Wheldall (1993) interviewed 176 secondary school teachers in the UK and found that classroom behaviour management is of prime importance in the thinking of teachers. In addition, the majority of the teachers acknowledged that it is better to be encouraging than to be repressive with students. However, Clunies Ross et al. (2008) found that in practice many

teachers use strategies that are not recognised as being effective in managing student misbehaviour, and even if teachers report that they favour positive reinforcement, they are more likely to make use of punishments and threats. In an attempt to explain teachers' use of aggressive strategies for maintaining classroom discipline, Riley, Lewis and Brew (2010) asked 233 teachers who admitted using aggressive strategies why they did so. Their results indicate that aggressive strategies are common among many teachers. Teachers appeared to be attracted to three theoretical explanations for their use of aggressive strategies: explanations based on attribution, efficacy or attachment theory. However, there was no clear support for any one of the three theories over the others: 14% of teachers supported all theories simultaneously and 27% of teachers rejected all theories. These teachers may be working without a coherent theory of classroom discipline in general and aggressive discipline in particular. As Riley at al. (2010) put it, when it comes to classroom discipline, apparently many teachers are more re-active than pro-active.

Given that student teachers are still developing their own teaching style, we wanted to obtain a detailed picture of their discipline strategies. We therefore not only took sensitive and aggressive strategies into account, but also the more neutral strategies (Roache & Lewis, 2011). Beliefs that are thought to be of relevance to discipline strategies are described in the following sections.

SELF-IMAGES

Beliefs are based on prior experiences and influence subsequent interactions through what are known as schemas (Moskowitz, 2005). Schemas help us process information as effortlessly as possible, thus helping people to adapt to their environment efficiently and effectively. Schemas that relate to interpersonal experiences are called relational schemas, consisting of images of self and other, together with a script for an expected pattern of interaction (Baldwin, 1992; Baldwin, 1999). In this thesis, images of self are conceptualised as self-images, whereas images of others are conceptualised as beliefs about student behaviour.

According to Pajares and Schunk (2002), self-images relate to how individuals perceive their selves in different contexts and situations, rather than

a global perception of self. As a consequence, self-images differ across different domains of functioning; for instance, a person's self-belief as a volleyball trainer, teacher, sister and colleague are plainly different. Self-images in specific areas of people's lives are most likely to guide them in that particular area. We adopted this view of self-images and focused on teachers' self-images about their behaviour as teachers. In addition, based on Cooley's notion of the *looking glass self* (Yeung & Martin, 2003), self-images are viewed as teachers' beliefs on how they think they will be perceived by their students. The notion of the looking glass self implies that people rely on social processes to shape their selves, seeing themselves as they imagine others will see them (Yeung & Martin, 2003). Specifically, student teachers will rely on social processes in the classroom, since their self-as-a-teacher is still developing. For this reason we investigated their beliefs on how they will be perceived by their students.

Based on the Model of Interpersonal Teacher Behaviour (Créton & Wubbels, 1984; Wubbels, Créton, & Hooymaaiers, 1993; Wubbels, Brekelmans, Brok, & Tartwijk, 2006), teachers' self-images in this thesis were conceptualised in terms of affiliation (e.g., warmth and care) and control (e.g., authority or control). These dimensions are assumed to be both necessary and sufficient to describe the interpersonal meaning of human behaviour and worldwide have been used for other participants than teachers and students (Kiesler, 1983; Leary, 1957; Moskowitz, Ringo Ho, & Turcotte-Tremblay, 2007; Tiedens & Fragale, 2003; Tracey, 1994). Generally speaking, the two dimensions are conceptualised as asserting an individual's status relative to others and as promoting interpersonal ties (Mainhard, Brekelmans, den Brok, & Wubbels, 2011b). In the context of educational research, and more specifically classroom discipline, the two dimensions are recognised as a valuable tool for measuring the teacher-class relationship (Ertesvåg, 2011; Walker, 2009; Wentzel, 2002; Wubbels et al., 2006). Affiliation refers to behaviours such as listening to students, asking what they want, encouraging them and generally being responsive; whereas control refers to attention-seeking behaviour and pursuing high standards (Mainhard, et al., 2011a). The control dimension describes the extent to which teachers believed they were

perceived as in control of what happens in the classroom, while the affiliation dimension describes how emotionally close teachers believed to be perceived by their students.

ANTICIPATED STUDENT RESPONSES

Through the process of socialization (Lortie, 1975), experiences with recurring teacher-class interactions, such as classroom discussions or correcting disruptive student behaviour, are internalised in cognitive schemas of both teachers and students and shape expectations about interactions (Locke, 2005). Expectations are considered important since they consciously and unconsciously guide the perceptions and subsequent behaviour of the people interacting (Baldwin, Kiviniemi & Snyder, 2009; Snyder & Stukas, 1999; Snyder & Klein, 2005).

With regard to teachers' expectations of the ability of their students, Brophy (1985) hypothesized that teachers' class-level expectations might be more important for student learning than expectations on an individual level. More recently, Rubie (2004) showed that teachers with high expectations of their high ability students had similar high expectations of their average and below average students, illustrating that high expectations can be a teacher characteristic that involves the whole class, not a single group of students. Based on the evidence for the influence of teachers' class level expectations on student outcomes, teachers' beliefs about student behaviour were explored at class level.

PUPIL CONTROL ORIENTATION

Pupil control orientation is conceptualised as beliefs about pupil control along a continuum, with custodial at one extreme and humanistic at the other (Willower, Eidell, & Hoy, 1967). A humanistic orientation indicates a perspective stressing the importance of the individuality of each student and the creation of a climate to meet a wide range of student needs. Teachers with a humanistic orientation have an accepting, trusting view of students, and have confidence in students' ability to be self-disciplining and responsible. Teachers with a more custodial orientation tend to be more authoritarian and dogmatic in

their belief systems and are less progressive in their educational attitudes. Students are perceived as irresponsible and undisciplined persons who must be managed through punitive measures (Woolfolk & Hoy, 1990).

Results of validity studies indicate that the pupil control orientation predicts much instructional and managerial behaviour as well as students' perceptions of their teachers (Packard, 1988). In line with the work of Woolfolk and Hoy (1990), student teachers with a more custodial orientation are expected to show higher levels of aggressive discipline, whereas those with a more humanistic orientation are expected to be associated with higher levels of sensitive discipline strategies.

4.3 Research question

The overall research question of this chapter was how student teachers' beliefs are related to their discipline strategies. Specifically, we investigated how student teachers' self-images on control and affiliation, anticipated student responses in terms of control and affiliation, and pupil control orientation were related to their sensitive, punishment and aggressive strategies.

4.4 Method

Sample

Participants were 104 student teachers enrolled in the teacher preparation programme of three university graduate schools in the Netherlands. 40.8% of participants were female. The age of participants ranged between 22 and 57 years (M = 30.4 years, SD = 8.3). The distribution of participants over the subject matter areas was as follows: 42% in social studies, 36% in language, 17% in science and mathematics, and 5% in arts. The majority of participants (80.8%) had no experience teaching in secondary education, 13.4% of them had one to three years' experience, and the remaining 5.8% had more than four years' experience.

The teacher education programmes of all graduate schools prepare students with appropriate master degrees in the subject they will teach for teaching at all

levels in secondary education. The programme takes a year full-time and includes a traineeship that starts immediately at the beginning of the programme. Per week, student teachers spent two to three days at a school, where they were engaged in observations, teaching and other assignments. Per student teacher one class participated in the study (with on average 22.6 students per class; 2,506 students in total). Of these classes, 34% were the first two years of secondary education; the other 66% were higher-level classes. The majority (94%) were classes from the higher levels of secondary education; only 6% were classes in pre-vocational secondary education. Since all participants taught at least two classes, they were asked to select a class for the student questionnaire that was their least favourite in terms of interaction. This was motivated by the finding that data on teacher-class interaction differentiated more between teachers when gathered in least favourite instead of favourite classes (de Jong, van Tartwijk, Verloop, Veldman, & Wubbels, 2012).

Instruments

Participants filled in a questionnaire with background questions, and questionnaires about pupil control, anticipated student responses and self-image. The student and teacher questionnaires were administered after the participants had independently taught that particular class for at least two months. Both teachers' self-images and anticipated student responses were examined with the dimensions derived from interpersonal theory, so that both self-images and anticipated student responses refer to the level of control and affiliation.

Self-images were measured with the Questionnaire on Teacher Interaction (QTI, Créton & Wubbels, 1984) consisting of 50 items on how the teacher believes their students perceive their behaviour on control and affiliation (Brekelmans, Wubbels, & Tartwijk, 2005). Examples of QTI items are "This teacher can take a joke" or "This teacher's standards are very high." The items are answered on a five-point Likert scale *(*never to always*)*. We analysed teachers' self-belief on the basis of dimension scores on control and affiliation. The higher the scores, the more the teacher thinks to be perceived by students

as in control and friendly. The reliability (Cronbach's α) of the dimension scores was .88 on control and .88 on affiliation.

Anticipated student responses were measured with the Teacher Interpersonal Schema Questionnaire (TISQ; de Jong, van Tartwijk, Veldman, Verloop, & Wubbels, 2012), based on an instrument developed in the US (ISQ; Hill & Safran, 1994). The TISQ is a multiple choice instrument consisting of twenty vignettes describing teacher behaviour in classroom situations, each with four answer categories describing student behaviour on affiliation and control. Each item of the TISQ had a particular set of four answer categories, for example the vignette "A group of girls are talking and giggling. You look sternly at their direction and one by one call out their names." had the following answer categories: A. They give me an angry look, but they do listen; B. They are not impressed, and continue what they were doing; C. They stop and urge each other to pay attention; D. Say "Sorry, we're wrong.", sit up and actively participate in the lesson. Thus it measures beliefs about student behaviour on control and affiliation in response to teacher behaviour vignettes. To reflect the position of an answer category within the circumplex model weights are applied to the answer categories (i.e., theoretical factor loadings; for a comprehensive discussion of the model see den Brok, Brekelmans, & Wubbels, 2006). As a result, scores of Control and Affiliation dimensions range between -0.92 and +0.92.

*Table 4.1. Factor descriptives of student teachers' anticipated student responses and pupil control orientation (N=103)**

Factor name	No of items	Mean	Sd.	α
Anticipated student responses: control	9	.00	.32	.68
Anticipated student responses: affiliation	9	-.35	.37	.68
Pupil control orientation	16	2.65	.34	.67

* One of the participants did not return the questionnaires on anticipated student responses and pupil control orientation

Only anticipated responses with a positive contribution to the Alpha on both scales were included in the analysis. The first two lines of Table 4.1 show

the number of items, reliabilities (Cronbach's α), scale mean and standard deviations for the two scales control and affiliation.

The Pupil Control Inventory form (PCI; Willower et al.,1967) was developed in the US and has been used in over 200 studies worldwide (Hoy, 2001), with generally high internal reliabilities (Woolfolk & Hoy, 1990). The Dutch translation of the PCI (Willower et al.,1967) is also a five-point Likert-type scale questionnaire (strongly disagree to strongly agree), consisting of twenty items such as "Pupils are usually not capable of solving their problems through logical reasoning". Theoretically, scores can range from 20 to 100. Higher scores refer to a more custodial pupilcontrol orientation.

Although reliability is generally high (internal consistencies ranging from .70 to .93; Woolfolk & Hoy, 1990), it tends to be somewhat lower for student teachers (Woolfolk & Hoy, 1990). As Gaffney and Byrd-Gaffney (1996) stated, this might be due to the fact that student teachers have not had extensive teaching experience and represent a more homogenous population than in-service teachers. Reliability (Cronbach's α) in our sample was .64 with twenty items, but improved to .67 by discarding four items. The remaining items included the PCI items that were used in the short PCI constructed by Hoy (2001) based on their high discriminative power in the original Willower et al. (1967) study. Our results are reported based on sixteen PCI items. Descriptives are provided in Table 4.1 (bottom line).

To measure discipline strategies the24 item discipline strategies questionnaire (Lewis, 2001) was used. This is a five-point Likert response scale ('never' to 'always') questionnaire with three factors: Sensitive, Directive and Aggressive (see Table 3.1). Example items are: "Rewards individual students who behave properly" (Sensitive); "Imposes consequences on students who misbehave (e.g., move their seats, detention)" (Punishment); and "Deliberately embarrasses students who misbehave." (Aggressive).

4.5 Analyses

If the predictors (i.e., self-images, anticipated student responses and pupil control orientation) turned out to be highly intercorrelated, the assumption of

no multicollinearity would be violated. In the case of multicollinearity, the estimate of the impact of one predictor on discipline strategies while controlling for the others tends to be less precise than if predictors are not correlated with one another. Another problem of multicollinearity is that the standard errors of the *b* coefficients increase as a result of high multicollinearity between predictors, making it less likely that the *b*'s in our sample would represent the population. In our case, correlations between predictors were <.30, except for correlations between anticipated student responses on control and affiliation (- .55). To check if this collinearity is a problem for our regression model, we calculated two collinearity statistics, i.e., the variance inflation factor (VIF) and the related tolerance statistic, both indicating that multicollinearity in our case was not biasing the regression model (as a rule of thumb: VIF should not be greater than 10, and tolerance should not be less than 0.2, see O'Brien, 2007).

To check for effects of the background variables gender and experience on discipline strategies and student teachers' beliefs, an ANOVA was conducted. Group means of male and female student teachers, and student teachers with no experience versus more than a year's experience, were compared. Group means on the three discipline strategies were not significantly different for males and females, or for student teachers with none versus more than a year experience. Gender did not produce significantly different scores on self-images, anticipated student responses and pupil control orientation. Group means for zero versus more than a year experience were not significantly different for anticipated student responses, and pupil control orientation and for self-images on affiliation. However, student teachers with more than a year experience believed students to perceive them as more controlling than student teachers with no experience (F (1, 102) = 6.78, p< .05). Cohen's d was 0.57, indicating a medium effect size.

4.6 Results

In this section we report the answers to our research question on the relations between student teachers' discipline strategies and their self-images, anticipated student responses and pupil control orientation.

The relations between self-images and discipline strategies are illustrated in Table 4.2 (first two lines). The more student teachers believed to be perceived as controlling, the more they employed sensitive and directive discipline strategies according to their students (r = .34, p< .01 and r = .31, p< .01 respectively). The second line of Table 4.2 demonstrates that the more student teachers believed they were perceived by their students as emotionally close, the more they disciplined sensitively and the less they disciplined aggressively according to their students(r = .26, p< .05 and r = -.35, p< .01 respectively).

Table 4.2. Correlations between discipline strategies and self-images, anticipated student responses and pupil control orientation (n=103)

	Discipline strategies		
	Sensitive	Directive	Aggressive
Self-images: control	.34**	.31**	-.06
Self-images: affiliation	.26*	-.07	-.35**
Anticipated student responses: control	-.31**	-.04	.09
Anticipated student responses: affiliation	.16	.01	.01
Pupil control orientation	-.21*	.19	.29**

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

How student teachers' anticipated student responses were related to their sensitive, directive and aggressive strategies is demonstrated in the middle two lines of Table 4.2: the more student teachers believed that student would react in a controlling way, the less they employed sensitive strategies according to their students (r = -.31, p< .01).

How student teachers' pupil control orientation was related to their sensitive, directive and aggressive strategies is illustrated in the bottom line of Table 4.2: the more custodial the student teachers' pupil control orientation, the more they employed aggressive strategies, and less sensitive strategies (r = .29, p< .01 and r = .21, p< . 05 respectively).

Table 4.3. Summary of results of the regression analysis of student teachers' beliefs on sensitive discipline strategies (N =103)

	B	SE B	β	*P*	R^2
Step 1					.12
(Constant)	2.76	0.04			
Anticipated student responses: control	-0.41	0.12	-.35	.001	
Step 2					
(Constant)					.18[a]
	2.78	0.42			
Anticipated student responses: control	-0.35	0.12	-.30	.005	
Self-images: control	0.24	0.10	.24	.023	
Step 3					.22[b]
(Constant)	3.43	0.33			
Anticipated student responses: control	-0.28	0.13	-.24		
Self-images: control				.03	
Pupil control orientation	0.27	0.10	.28		
	-0.25	0.12	-.21	.01	
				.05	

[a]ΔR^2 = .06; p< .05.

[b]ΔR^2 = .04; p< .05.

In order to understand the relative role that these beliefs played in relation to discipline strategies, multiple stepwise regression analyses were conducted with each of the discipline strategies as criterion variables, and self-images, anticipated student responses and pupil control orientation as predictors.

Sensitive discipline (Table 4.3) was significantly relatedto anticipated student responses in terms of control, the self-image to be perceived as in control by students, and a humanistic pupil control orientation (F (3, 78) =

7.27, $p< .001$, $R^2 = .22$). Together these three beliefs explained 22% of the variance on sensitive discipline. Taking these variables into account, the partial correlation of the self-image of being perceived as emotionally close with sensitive discipline appeared to be not significant.

Table 4.4. Summary of results of the regression analysis of studentteachers' beliefs on directive discipline strategies (N =103)

	B	SE B	β	p	R2
					.11*
Step 1	2.90	0.05			
(Constant)	0.36	0.11	.33	.002	
Self-images: control					

* p < .01

With respect to directive discipline (Table 4.4), the belief to be perceived by students as in control explained 11% of the variance (F (1, 80) = 9.95, $p< .01$, $R^2 = .11$). The other predictors did not have a significant effect on directive discipline strategies and were excluded from the regression model.

Table 4.5. Summary of results of the regression analysis of student teachers' beliefs on aggressive discipline strategies (N =103)

	B	SE B	β	p	R2
					.12*
Step 1					
(Constant)	0.65	0.33			
Pupil control orientation	0.42	0.13	.35	.001	
Step 2					.18a
(Constant)	1.05	0.36			
Pupil control orientation	0.33	0.13	.28	.01	
Self-belief: affiliation	-0.24	0.10	-.26	.02	

* p < .01

a ΔR2 = .06; p < .05

With regard to aggressive discipline (Table 4.5), a custodial pupil control orientation and the belief to be perceived by students as emotionally distant (F (2, 79) = 8.91, p< .000, R^2 = .18) explained 18% of variance on aggressive discipline strategies.

4.7 Discussion

In this chapter the results were reported of a study on relationships between student teachers' discipline strategies on the one hand, and their self-images, pupil control orientation and anticipated student responses on the other.

We found that all teachers' beliefs correlated significantly with at least one of the discipline strategies, with the exception of beliefs about student behaviour in terms of affiliation. In other words, with regard to teachers' discipline strategies, self-images about how students perceive them in terms of affiliation and control, anticipated student responses in terms of control and pupil control orientation were relevant, but anticipated student responses in terms of affiliation were not.This finding, and the finding that self-images in terms of affiliation had lower correlations with sensitive discipline strategies than self-images in terms of control, is in line with results of research by Markey and Kurtz (2006) and Moskowitz et al. (2007). With an interpersonal model similar to ours they investigated communication between people in work and non-work settings, and between people with different social role status. They found that in work settings and in hierarchical relationships the control-dimension had more explanatory power than the affiliation-dimension. The same mechanism might be applicable to our case: being in a professional and hierarchical relationship with students, teachers' self-images and beliefs about student behaviour were primarily related to control and less to affiliation. Apart from the possible academic interest in these particular findings, this result showed that student teachers' discipline strategies were not significantly related to their beliefs about students' behaviour in terms of affiliation. Previous studies, for instance McLaughlin (1991) and Weinstein (1998), showed that student teachers' conceptions of friendliness and control are not well-balanced:

they feel a tension between the wish to be nice, and the need to be mean (Weinstein, 1998). This might cause them to hesitate to discipline, especially when they believe students to be emotionally close. The current study not only showed additional student teachers' beliefs about classroom discipline, but also showed how these beliefs are related to student teachers' behaviour in terms of discipline strategies.

Student teachers' beliefs about how much students will perceive them as in control were the most important predictor of directive discipline strategies. The fact that none of the other beliefs contributed to directive discipline strategies might be an effect of the ambiguous nature of these strategies. Sensitive and aggressive strategies are opposite ends and directive strategies are literally in-between. As Roache and Lewis (2011) stated, since punishments (in this thesis incorporated in the set of directive discipline strategies) are ambivalent in their effects on students well-being, motivation and engagement, they are actually a neutral set of strategies, whereas sensitive and aggressive strategies have been shown to have positive and negative effects on students. This 'neutrality' of directive strategies might be an explanation for the lack of direct relationships with the other beliefs.

With regard to aggressive discipline strategies, it was found that the more student teachers had a humanistic pupil control orientation and the more they believed their behaviour would be perceived as emotionally close, the less they disciplined aggressive according to their students. Research has clearly shown that the use of aggressive strategies has negative effects: it fails to encourage responsible student behaviour, it diminishes student engagement and motivation and on-task student behaviour and it may actually increase students' misbehaviour (Clunies-Ross et al., 2008; Golish & Olson, 2000; Lewis et al, 2005; Roache & Lewis, 2011). Even though teachers acknowledge that sensitive strategies are a better way to discipline students, in practice aggressive strategies are still employed (Clunies-Ross et al. 2008; Lewis & Riley, 2009; Riley et al., 2010). Our data, derived from student teachers, indicated that whereas the scale mean for aggressive discipline was the lowest of the three scales, the scale mean for directive discipline strategies was the highest. That indicates that there is room for improvement, namely to make

more use of sensitive discipline strategies. An interesting issue for future research is how teachers shift between different strategies, and which shifts are more likely to occur than others. For instance: it might be more likely to proceed from directive to aggressive, than to shift from directive to sensitive strategies.

A suggestion for future research is related to the cultural context of the respondents. In this chapter, beliefs of Dutch student teachers were investigated. Both self-images and beliefs about student behaviour refer to the level of control and affiliation. These dimensions are strongly related to dimensions that represent culturally described behaviours and cognitions: immediacy, collectivism and power distance (den Brok, Levy, Rodriguez, & Wubbels, 2004; den Brok & Koopman, 2007; Hofstede & Hofstede, 2005). It was found that immediacy is reflected in behaviour that is supportive, friendly and occasionally emotional. A collectivist class is characterized by students who prefer small group work and who do not speak in class until they are called upon. In classes with high power distance, teachers receive great respect from their students, and students are rarely challenging or critical (den Brok & Koopman, 2007). Cultural dimensions like power distance, immediacy and collectivism affect students' and teachers' perceptions, and as a result teacher beliefs are likely to be different across cultures. This means that we should be careful to generalize our findings about the beliefs of Dutch student teachers to student teachers worldwide. Future research should compare the differences in beliefs between (student) teachers in several cultural settings. The theoretical framework, the instrument, and the routines we developed in this thesis can be useful in such research.

Just like for instance Kaplan (1992) and Balli (2011), we too recommend that teacher education programmes provide plentiful opportunities for student teachers to learn about their beliefs. Also they should be helped to explore the relations between beliefs about teaching, pupil control orientation, student behaviour, self-as-a-teacher and their subsequent teaching practice. This way, student teachers may be able to make more informed choices about classroom discipline and in particular discipline strategies instead of, as Riley et al. (2010) put it, 'working blind', without a coherent theory of classroom discipline.

Insights of the study described in this chapter might be helpful to teacher education. For instance, considering the positive relation between sensitive strategies and student behaviour and outcomes, it seems reasonable to teach student teachers to make use of sensitive strategies whenever and as much as possible, to use punishment only when strictly necessary, and to avoid the use of aggressive strategies (Clunies-Ross et al., 2008; Roache and Lewis, 2011). Another finding that might be helpful for teacher education is that with regard to sensitive discipline, it seems contra-productive to expect more dominant student behaviour, and have a more custodial pupil control orientation.

Student teachers with discipline problems might benefit from an exploration of their beliefs with regard to control, student behaviour, and their own self-images. Classroom discipline is a major concern in the minds of teachers. Strikingly, according to Merrett and Wheldall (1993), three-quarters of teachers were dissatisfied with the preparation on classroom behaviour management that was provided during the initial teacher preparation. The vast majority (95%) believed that a course on positive classroom behaviour management would help beginning teachers to cope during their first year of teaching. We hope that this study may provide some relevant insights for the development of a teacher training programme on classroom discipline.

References

Bakermans-Kranenburg, M. J., Van IJzendoorn, M. H., & Juffer, F. (2003). Less is more: meta- analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin 129*, 195-215.

Baldwin, M. W. (1992). Relational Schemas and the processing of social information.*Psychological Bulletin,112*, 461-484.

Baldwin, M. W. (1999). Relational Schemas. Research into Social-Cognitive Aspects of Interpersonal Experience. In D. Corvone and Y. Shoda (Eds.), C*oherence of personality: Social-cognitive bases of consistency, variability, and organisation* (pp. 127-155). New York: Guilford Press.

Baldwin, A. S., Kiviniemi, M. T., & Snyder, M. (2009).A subtle source of power: The effect of having an expectation on anticipated interpersonal power. *The Journal of Social Psychology, 149*, 82-104.

Balli, S. J. (2011). Student teachers' episodic memories of classroom management.*Teaching and Teacher Education, 27*, 245-251.

Beijaard, D., Verloop, N., & Vermunt, J. D. (2000). Teachers' perceptions of professional identity: an exploratory study from a personal knowledge perspective. *Teaching and Teacher Education, 16*, 749-764.

Brekelmans, M., Wubbels, T., & Tartwijk, J. van (2005).Teacher–student relationships across the teaching career. *International Journal of Educational Research, 43*, 55–71.

Brok, P. den, Levy, J., Rodriguez, R. & Wubbels, T. (2002).Perceptions of Asian-American and Hispanic-American teachers and their students on interpersonal communication style.*Teaching and Teacher Education, 18*, 447-467.

Brok, den, P., Brekelmans, M., & Wubbels, T. (2004).Interpersonal teacher behavior and student outcomes.*School Effectiveness and School Improvement, 15*(3/4), 407-442.

Brok, den.P., Brekelmans, M., & Wubbels, T. (2006).Multilevel issues in studies using students' perceptions of learning environments: the case of the Questionnaire on Teacher Interaction. *Learning Environments Research, 9*, 199-213.

Brok, P. den, & Koopman, G. J. (2007).Interpersonal teacher behaviour in international education.In M. Hayden, J. Levy and J. Thompson (Eds.), *International handbook of research on international education* (pp. 233-246).London: Sage publications.

Brophy, J. E. (1985). Teacher-class Interaction.In J.B. Dusek (Ed.), *Teacher expectancies* (pp. 303-328).Hillsdale, NJ: Erlbaum.

Calderhead, J. (1987). *Exploring teachers' thinking*.London: Cassell.

Clunies-Ross, P., Little, E., & Kienhuis, M. (2008).Self-reported and actual use of proactive and reactive classroom management strategies and their relationship with teacher stress and student behaviour.*Educational Psychology, 28*, 693–710.

Créton, H., & Wubbels, T. (1984).*Discipline problems with beginning teachers.* Utrecht, the Netherlands: W.C.C.

Ertesvåg, S. K. (2011). Measuring authoritative teaching.*Teaching and Teacher Education, 27*, 51-61.

Evertson, C. M., & Weinstein, C. S. (2006).Classroom management as a field of inquiry.In C. M. Evertson & C. S. Weinstein (Eds.), *Internationalhandbook of classroom management. Research, practice, and contemporary issues* (pp.3-17).United States, NJ: Lawrence Erlbaum Associates.

Gaffney, P., & Byrd-Gaffney, S. (1996). *An investigation into the test reliability of the pupil control ideology form* (ERIC Document Reproduction Service No. ED397 098).

Ghaith, G., & Shaaban, K. (1999). The relationship between perceptions of teaching concerns, teacher efficacy, and selected teacher characteristics. *Teaching and Teacher Education, 15*, 487-496.

Golish, T. D., & Olons, L. N. (2000). Students' use of power in the classroom: An investigation of student power, teacher power, and teacher immediacy. *Communication Quarterly, 48*, 293-310.

Hill, C. R., & Safran, J. D. (1994). Assessing interpersonal schemas: Anticipated responses of significant others. *Journal of Social and Clinical Psychology, 13*, 366-379.

Hofstede, G., & Hofstede, G. J. (2005).*Cultures and organizations: Software of the mind* (2nd ed.). New York: McGraw-Hill.

Hoy, W. K. (2001). The pupil control studies. A historical, theoretical and empirical analysis. Journal *of Educational Administration, 39*(5), 424-441.

Jong, de, R. J., Tartwijk, van, J., Verloop, N., Veldman, I., & Wubbels, T. (2012). Teachers' expectations of teacher-class interaction: Complementary and distinctive expectancy patterns. *Teaching and Teacher Education,* 28, 948-956.

Kaplan, C. (1992). Teachers' punishment histories and their selection of disciplinary strategies.*Contemporary Educational Psychology, 17*, 258-265.

Kiesler, D. J. (1983). The 1982 interpersonal circle: A taxonomy for complementarity in human transactions. *Psychological Review, 90*, 185-214.

Korthagen, F. A. J. (2004). In search of the essence of a good teacher: towards a more holistic approach in teacher education. *Teaching and Teacher Education, 20*, 77-97.

Leary, T. (1957).*An interpersonal diagnoses of personality. New* York: The Ronald Press Company.

Lewis, R. (2001). Classroom discipline and student responsibility: the student's view. *Teaching and Teacher Education, 17*, 307-319.

Lewis, R., Romi, S., Qui, X., & Katz, Y. J., (2005).Teachers' classroom discipline and student misbehavior in Australia, China and Israel.*Teaching and Teacher Education, 21,* 729-741.

Lewis, R., & Riley, P. (2009).Teacher misbehaviour. In L. J. Saha & A. G. Dworkin (Eds.), *The new international handbook of teachers and teaching* (pp. 417-431). Norwell, MA: Springer.

Liston, D., Whitcomb, J., & Borko, H. (2006). Too little or too much: Teacher preparation and the first years of teaching. *Journal of Teacher Education, 57*, 351-328.

Locke, K. D. (2005). Interpersonal problems and interpersonal expectations in everyday life. Journal *of Social and Clinical Psychology, 24*, 915-931.

Lortie, D. (1975). *Schoolteacher: A sociological study.* London: University of Chicago Press.

Mainhard, M. T., Brekelmans, M., & Wubbels, T. (2011a).Coercive and supportive teacher behaviour: Within- and across- lesson associations with the classroom social climate. *Learning and Instruction, 21*, 345-354.

Mainhard, M. T., Brekelmans, M, Brok, den, P., & Wubbels, T. (2011b). The development of the classroom social climate during the first months of the school year.*Contemporary Educational Psychology 36*, 190–200.

Markey, P. M., & Kurtz, J. E. (2006).Increasing acquaintanceship and complementarity of behavioural styles and personality traits among college roommates.*Personality and Social Psychology bulletin, 32*, 907-916.

McLaughlin, H. J. (1991). Reconciling care and control: Authority in classroom relationships. Journal *of Teacher Education, 42*(3), 182-195.

Merrett, F., & Wheldall, K. (1993). How do teachers learn to manage classroom behaviour? A study of teachers' opinion about their initial training with special reference to classroom behaviour management.*Educational Studies, 19*, 91-106.

Moskowitz, G. B. (2005). *Social cognition.Understanding self and others. New* York: The Guilford Press.

Moskowitz, D. S., Ringo Ho, M., & Turcotte-Tremblay, A. (2007). Contextual influences on interpersonal complementarity. *Personality and Social Psychology Bulletin, 33*, 1051-1063.

O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors.*Quality and Quantity, 41*(5), 673-690.

Packard, J. S. (1988). The pupil control studies. In N. J. Boyan (Ed.), *Handbook of Research in Educational Administration* (pp. 185-200). New York: Longman.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*(3), 307-332.

Pajares, M. F., & Schunk, D. H. (2002). Self and self-belief in psychology and education: a historical perspective. In J. Aronson (Ed.), I*mproving academic achievement.Impact of psychological factors on education* (pp. 5-21).San Diego, California: Academic Press.

Patterson, G. R. (1982). *Coercive family process: A social learning approach*. Eugene, OR: Castilia.

Riley, P., Lewis, R., & Brew, C. (2010). Why did you do that? Teachers explain the use of legal aggression in the classroom. *Teaching and Teacher Education, 26*, 957-964.

Roache, J. E., & Lewis, R. (2011). The carrot, the stick, or the relationship: what are the effective disciplinary strategies? *European Journal of Teacher Education, 34*, 233-248.

Rubie, C. M. (2004).Expecting the best: Instructional practices, teacher beliefs and student outcomes (Doctoral Dissertation, University of Auckland, New Zealand, 2004).*Digital Dissertations, AAT 3129406*.

Snyder, J. J., & Patterson, G. R. (1995). Individual Differences in Social Aggression: A Test of a Reinforcement Model of Socialization in the Natural Environment. *Behavior Therapy, 26*, 371-391.

Snyder, J. J. (2002). Reinforcement and coercion mechanisms in the development of antisocial behaviour: Peer relationships. In J. B. Reid, G. R. Patterson, & J. J. Snyder (Eds.),A*ntisocial behavior in children and adolescents: Adevelopmental analysis and model for intervention* (pp. 101-122). Washington, DC: American Psychological Association.

Snyder, M., & Stukas, A. A. (1999).Interpersonal processes: The interplay of cognitive, motivational, and behavioral activities in social interaction. *Annual Review of Psychology, 50,* 273-303.

Snyder, M., & Klein, O. (2005). Construing and constructing others: On the reality and generality of the behavioral confirmation scenario. *Interaction Studies, 6*, 53-67.

Spilt, J. L., Koomen, H. M. Y., & Thijs, J. T. (2011).Teacher wellbeing: The importance of teacher-class relationships. *Educational Psychology Review, 23*(3), 457-477.

Tiedens, L. Z., & Fragale, A. R. (2003). Power moves: Complementarity in dominant and submissive nonverbal behavior. *Journal of Personality and Social Psychology, 84,* 558-568.

Tracey, T. J. G. (1994). An examination of the complementarity of interpersonal behaviour. Journal *of Personality and Social Psychology, 67*, 864-878.

Veenman, S. (1984).Perceived problems of beginning teachers. *Review of Educational Research, 54*(1), 51-67.

Walker, J.M.T. (2009). Authoritative classroom management: How control and nurturance work together. *Theory Into Practice,48,* 122–129.

Weinstein, C. S. (1998). "I want to be nice, but I have to be mean": Exploring prospective teachers' conceptions of caring and order. *Teaching and Teacher Education, 14*(2), 153-163.

Wentzel, K.R. (2002). Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence.*Child Development,73*(1), 287-301.

Willower, D. J., Eidell, T. L., & Hoy, W. K. (1967). The *school and pupil control ideology.Penn States Studies Monograph No. 24.*University Park, PA: PennsylvaniaStateUniversity.

Woolfolk, A. W., & Hoy, W. K. (1990). Prospective teachers' sense of efficacy and beliefs about control. Journal *of Educational Psychology*, *82*(1), 81-91.

Wubbels, T., Créton, H., & Hooymaaiers, H. P. (1993).Comparison of teachers' and students' perceptions of interpersonal behavior. In T. Wubbels & J. Levy (Eds.)*, Do you know what you look like?Interpersonal relationships in education.*(pp. 64-80). London: Falmer Press.

Wubbels, T., & Levy, J. (1993).*Do You Know What You Look Like?Interpersonal Relationships in Education.*London: Falmer Press.

Wubbels, T., Brekelmans, M., Brok, P. den, & Tartwijk, J. van (2006). An interpersonal perspective on classroom management in secondary classrooms in the Netherlands.In C. M. Evertson & C. S. Weinstein (Eds.), I*nternational handbook of classroom management. Research, practice and contemporary issues* (pp. 1161-1193).United States, NJ: Lawrence Erlbaum Associates.

Yeung, K., Martin, J. L. (2003). The looking glass self: An empirical test and elaboration. *Social Forces, 81*(3), 843-879.

Chapter 5

5.
Internship, interpersonal profilesand self-images[5]

An important purpose of internships in teacher preparation programmes is to develop competence through experience.

The research questions of this chapter concern student teachers' interpersonal profiles (i.e., patterns of their interpersonal behaviour as perceived by students) and the accuracy of their self-images on the interpersonal relationship with students at the beginning and end of the internship. Also, the relation between interpersonal profiles and the accuracy of self-images was investigated.

Participants were student teachers (N=34) of a one-year teacher education programme. At the end of the internship there were less student teachers with preferable interpersonal profiles than in the beginning. Accuracy of self-images at the beginning indicated that the majority of student teachers were underestimating themselves; at the end of the internship most of them were overestimating. About two-third had more accurate self-images at the end than at the beginning of the internship. Overestimating oneself seemed negatively related to more accurate self-images at the end and student teachers with more preferable profiles had more accurate self-images.

[5] This chapter has been submitted in adapted form as:
Jong, R.J. de., Tartwijk, J. van., Wubbels, T., Veldman, I., & Verloop, N. *Student teachers' interpersonal profiles and self-images at the beginning and end of the internship*.

5.1 Introduction

An important purpose of internships during teacher education programmes is to offer student teachers a (sometimes first) experience as a teacher through which they can develop specific competences. One of these competences is the ability to build a positive teacher-class relationship. Educational researchers have repeatedly shown the importance of the teacher-class relationship for learning achievement and motivation of students (Cornelius-White, 2007; Davis, 2003; Pianta, 2006; Pianta & Hamre, 2009; Wubbels, Brekelmans, den Brok, & van Tartwijk, 2006). A good relationship with students is a prerequisite for professional growth from a beginning to an experienced teacher (Beijaard, 1995) and negative teacher-class relationships were found to have a negative impact on teacher stress, teacher well-being and teacher confidence (Spilt, Koomen, & Thijs, 2011). Particularly student and beginning teachers report difficulties in establishing and maintaining a positive classroom climate (Ghaith & Shaaban, 1999; Liston, Whitcomb, & Borko, 2006, Veenman, 1984), in this these operationalized as consisting of the teacher-class relationship and discipline strategies. Unfortunately, in both educational research and teacher preparation programmes, little attention has been paid to classroom management, discipline strategies and the teacher-class relationship (Evertson & Weinstein, 2006). In the Netherlands a number of teacher education programmes has adopted the Model of Teacher Interaction (Créton & Wubbels, 1984) to guide student teachers in learning to develop positive teacher-class relationships.

Most teacher preparation programmes pay explicit attention to reflecting on (self-) beliefs and how these beliefs relate to behaviour (Pajares & Schunk, 2002). As Caires, Almeida and Vieira (2012) described, since the 1990s emotional and social intelligence, relationships and empathy with others, and perceptions of emotions have become more and more important values in teacher education. According to Caires et al. (2012), teaching practice is a period of intense search and exploration of others, new scenarios, and *self*. Because of the research interest of this thesis, the focus is on self-images that were related to the teacher-class relationship.

5.2 Theoretical framework

In this section, the concepts of this study will be more elaborately introduced, resulting in three research questions.

INTERPERSONAL PROFILES

In this thesis the teacher-class relationship is described with a model, originally developed by Leary (1957), and since then extensively investigated (Kiesler, 1983; Tracey, 1994, 2004; Wiggins, 1991). According to this model, the relationship can be described with two independent dimensions, a control and an affiliation dimension (Moskowitz, Ringo Ho, & Turcotte-Tremblay, 2007; Tiedens & Fragale, 2003; Tracey, 1994). In the Netherlands, researchers (Créton & Wubbels, 1984; Wubbels, Brekelmans, den Brok, Ley, Mainhard, & van Tartwijk, 2012) applied this model to interpersonal teacher behaviour. The control dimension describes the extent to which the teacher determines what happens in the classroom (from submissive to dominant) and the affiliation dimension describes the emotional distance between teacher and students (from hostile to warm). Affiliation refers to behaviours such as listening to students, asking what they want, encouraging them and generally being responsive; whereas control refers to leadership and pursuing high standards (Mainhard, Brekelmans, den Brok, & Wubbels, 2011).

In the context of educational research the two dimensions are recognised as a valuable tool for describing the quality of the teacher-class relationship (Ertesvåg, 2011; Walker, 2009; Wentzel, 2002; Wubbels et al., 2006). The optimal teacher-class relationship is characterised by a combination of high levels of control and affiliation (Ertesvåg, 2011; Walker, 2009; Wentzel, 2002): teacher control is found to be positive related with cognitive learning outcomes, and affiliation with affective learning outcomes (Brekelmans, 1989; Walker, 2009; Woolfolk Hoy & Weinstein, 2006). According to Brekelmans et al. (2005), in terms of affiliation teachers' behaviour hardly changes in the first twenty years of the career, while according to both students and teachers, teachers' behaviour in terms of control on average increases in the first six (mainly first three) years of the teaching career.

Brekelmans and colleagues developed a typology of interpersonal profiles (Brekelmans, 1989; Brekelmans, Levy, & Rodriguez, 1993), describing the behavioural patterns of the teacher as perceived by students. These profiles are called Directive; Authoritative; Tolerant-authoritative; Tolerant; Uncertain-tolerant; Uncertain-aggressive; Repressive and Drudging. Both teachers and students view the authoritative interpersonal style as the ideal interpersonal style (Brekelmans et al., 2005), in this thesis all profiles where high control and high affiliation are combined are called preferable (i.e., directive, authoritative and tolerant-authoritative). According to the study of Brekelmans et al. (2005), with data available of over 2000 student teachers, according to their students 69% of student teachers did not have one of these preferable profiles; 7% had a directive, 10% an authoritative, and 14% a tolerant-authoritative profile at the end of the teacher education programme. It is unknown with which profiles student teachers start the internship and if and how they change from one profile to another during the internship.

SELF-IMAGES

According to Pajares and Schunk (2002), rather than a global perception of self, self-images relate to how individuals perceive their selves in different contexts and situations. As a consequence, self-images differ across different domains of functioning; for instance, a person's self-belief as a volleyball trainer, teacher, sister and colleague are plainly different. We were concerned with participants' self-images as a teacher in the context of the class. In addition, based on Cooley's notion of the *looking glass self* (Yeung & Martin, 2003), self-images are viewed as teachers' beliefs on how they think they will be perceived by their students in a particular class. The notion of the looking glass self implies that people rely on social processes to shape their selves, seeing themselves as they imagine others will see them (Yeung & Martin, 2003). Specifically, student teachers will rely on social processes in the classroom, since their self-as-a-teacher is still developing. Therefore, we defined self-images as beliefs about how student teachers think they are perceived by their students.

Self-images with regard to control describe the extent to which teachers believed they were perceived by their students as in control, while self-images with regard to affiliation describe how emotionally close teachers believed they were seen by their students. According to Brekelmans et al. (2005), during the teaching career teachers believe their behaviour on control and affiliation is higher than as students perceive it. Wubbels, Brekelmans and Hooymayers (1993) found that about two third of teachers overestimations how they will be perceived by their students, another one third of teachers believes their behaviour is less warm and dominant than it was according to their students, a so called underestimation. Research (Kolar, Funding, & Colvin, 1996) has shown that self-images are less associated with actual behaviour than are rating of others (students in our case). In that sense over or underestimations might hinder student teachers' development: unaware of their actual behaviour they might not acknowledge the need to change. For instance, student teachers who believe to have more control in the classroom than they have according to students, might not see the necessity to change their behaviour.

It remains unclear to what extent differences between teacher self-images and student perceptions may be related to teacher experience or cultural background. Studies with regard to this matter unravelled mixed results (Wubbels et al., 2006). However, it seems that higher student perceptions of control and affiliation of the teacher are positively related to smaller differences between between teacher self-images and student perceptions (Brekelmans & Wubbels, 1991).

RESEARCH QUESTIONS

In this chapter, the following questions will be examined:

1. How are student teachers' interpersonal profiles different at the beginning and end of the internship?
2. How is the accuracy of student teachers' self-images on their own interpersonal behaviour at the end of the internship different from their accuracy at the beginning? Do student teachers have improved accuracy of self-images at the end of the internship?

3. Do student teachers with preferable interpersonal end profiles have more accurate self-images on control and affiliation at the end of the internship?

5.3 Method

SAMPLE

Participants were 35 student teachers (20 female, 15 male) of a University Graduate school of Teaching in the Netherlands. Their age ranged between 22 and 49 (M = 28.5 years, SD = 7.0), fifteen (43%) were going to teach social studies, thirteen (37%) mother tongue and foreign languages, six (17%) science and mathematics, and one (3%) the arts. Student teachers already hold a master degree in the subject they are going to teach once they enrol at the teacher education programme. The one year programme included an internship that starts right from the beginning of the education programme. Per week, student teachers spent one day at the teacher education institute and two to three days at the school, where they were engaged in observations, teaching and other assignments. All participants were teaching at least two classes. They were supervised by a university supervisor at the teacher education institute and a co-operating teacher at the school. The programme takes a year full-time and starts either in September or February. In this sample all participants started in September, which coincides with the beginning of the school year.

The majority of the participants (28 = 80%) had little or no experience teaching in secondary education, six (17%) had one to three years' experience. One participant had more than six year's experience and was omitted from further analysis because in terms of experience she differed too much from other participants in this sample.

INSTRUMENTS

For all participants data were gathered on their self-images and student perceptions about the teacher-class relationship. Both teachers' self-images and student perceptions about the teacher-class relationship were examined with the Questionnaire on Teacher Interaction (QTI, Créton & Wubbels, 1984), consisting of 50 items. Examples of QTI items are "This teacher is friendly." or

"This teacher is a good leader." The items are answered on a five-point Likert scale *(*never to always) both by students and by teachers. Teachers were instructed to reply by indicating how they think they will be perceived by their students of a particular class. We analysed teachers' self-images on the basis of dimension scores on control and affiliation.[6] The higher the scores, the more the teacher believes he/she is perceived by their students as in control and emotionally close. The reliability (Cronbach's α) was .88 on control and .88 on affiliation.

Results can be reported on the basis of dimensions scores or as interpersonal profiles. In case of the first, the higher the class mean scores on control and affiliation, correspondingly the more dominance or warmth students perceive in the relationship with the teacher. The reliability (Cronbach's α) was .91 on control and .94 on affiliation. The interpersonal profiles (Brekelmans, 1989; Brekelmans, et al., 1993), are based on composite scores of affiliation and control in eight so called sections of the interpersonal circle. Reliabilities for these sections ranged from .75 to .88. Table 1.1 shows the representations of the eight interpersonal profiles along with a short description of the classroom climate. In the representations part of a section is shaded so that the degree of shading is a measure of the height of the dimension-scores.

At the end of the internship the first author conducted an open ended interview with a number of student teachers to get a better understanding on their view on the teacher-class relationship during the internship.

PROCEDURE

Participants were asked to answer the QTI with the class in mind where student perceptions were gathered as to be sure that students' perceptions and self-images were related to the same teacher-class relationship. They administered

[6]In scales based on circumplex models, the items represent two dimensions (Tracey, 1994); here the dimensions are called control and affiliation. To reflect the position of an item within the circumplex model weights are applied to the items (i.e., theoretical factor loadings; for a comprehensive discussion of the model used here please refer to den Brok et al., 2006). As a result, scores of Control and Affiliation dimensions range between -2.6 and +2.6.

the questionnaire to their students and answered the questionnaire themselves at the same time or very soon after.

The QTI was administered after student teachers had taught a particular class for at least two months. During the development of an instrument to capture teachers' interpersonal expectations (de Jong, van Tartwijk, Verloop, Veldman, & Wubbels, 2012) it was found that data on teacher-class interaction differentiated more between teachers when gathered in least favourite instead of favourite classes. Since all student teachers taught at least two classes, they were asked to select a class for the student questionnaire that was their least favourite in terms of interaction. One class of each student teacher participated in the study, with on average 22.1 students per class; the smallest class consisted of twelve, the largest of 35 students. Of these classes, 34.2% were the first two classes of secondary education; the other 65.8% were higher classes. The majority (93.6%) were classes in the higher levels of secondary education.

5.4 Analyses

To answer the first research question, the number of preferable interpersonal profiles at the beginning was compared with the number of preferable profiles at the end of the internship.

For the research question on accuracy of student teachers' self-images on control and affiliation, student perceptions were subtracted from self-images so the difference scores indicated whether the self-belief was an overestimation (positive difference scores, so self-belief higher than student perception) or an underestimation (negative difference scores, so self-belief lower than student perception). Self-images that remained within the range of measurement error from student perceptions were regarded as accurate self-images (see Brekelmans, Mainhard, den Brok, & Wubbels, 2011). To determine whether or not the accuracy of self-images had improved, difference scores at the beginning and end were compared.

To answer the third research question, the mean accuracy scores of student teachers with a preferable and less preferable end profile were compared. Besides that, a correlation was computed between student perceptions of the

level of control and affiliation, and the accuracy of teachers' self-images at the end of the internship.

5.5 Results

INTERPERSONAL PROFILES AT THE BEGINNING AND END OF THE INTERNSHIP

The first research question was if and how student teachers' interpersonal profiles were different at the beginning and end of the internship. Table 5.1 describes interpersonal profiles of student teachers at the beginning and end of the internship as it was perceived by students in a particular class, at two moments in time (same class for both moments). As was the case with the sample of student teachers reported by Brekelmans et al. (2005) there were no teachers with a repressive profile. At the end of the internship there were less student teachers with a preferable profile (i.e., directive, authoritative, and tolerant-authoritative) than at the beginning: sixteen versus 12 respectively. The number of student teachers with less preferable, but for student teachers typical profiles such as uncertain-tolerant or uncertain-aggressive (compare Brekelmans et al., 2005), grows or remains stable. The number of student teachers with an uncertain-tolerant profile actually doubles (from six to twelve).

Table 5.2 depicts in the rows student teachers' begin profiles, and in the columns the end profiles. This way it is possible to show how, starting with a certain profile, one changes or not. For example in the row with 'dir' in it, we see that of three student teachers who started with a directive profile, two of them also had a directive end profile, and one changed to an uncertain-aggressive (so less preferable) profile.

Of the sixteen student teachers who had a preferable begin profile (first three rows of Table 5.2), ten of them still had a preferable profile at the end of the internship (first three columns of Table 5.2). Student teachers, who started with preferable profiles but ended with less preferable profiles, did so because they were perceived as having less control at the end of the internship.

Table 5.1. Interpersonal profiles of student teachers at the beginning and end of the internship

	Phase in internship	
Interpersonal profile	Beginning	End
Directive	3 (8.8)	6 (17.6)
Authoritative	10 (29.4)	4 (11.8)
Tolerant-authoritative	3 (8.8)	2 (5.9)
Tolerant	5 (14.7)	5 (14.7)
Uncertain-tolerant	6 (17.6)	12 (35.3)
Uncertain-aggressive	6 (17.6)	4 (11.8)
Repressive	0	0
Drudging	1 (2.9)	1 (2.9)
Total	34 (100%)	34 (100%)

Table 5.2. Interpersonal profiles of student teachers at two moments in the internship

		End profiles								
		Dir	Auth	Tol-auth	Tol	Unce-tol	Unce-ag	Repr	Dru	Total
Begin profiles	Dir	2				1				3
	Aut	2	3	1	2	2				10
	Tol-auth		1	1	1					3
	Tol				2	1	2			5
	Unce-tol					5	1			6
	Unce-ag	1				2	2		1	6
	Repr									0
	Dru	1								1
	Total	6	4	2	5	11	5	0	1	34

Note. Dir = Directive; Auth = Authoritative; Tol-Auth = Tolerant-authoritative; Tol =Tolerant; Unce-tol = Uncertain-tolerant; Unce-ag = Uncertain-aggressive; Repr = Repressive; Dru = Drudging

Of the eighteen student teachers with a less preferable begin profile (last five rows of Table 5.2), almost all (sixteen) also ended with a less preferable profile (last five columns of Table 5.2). Let us have a closer look at the two largest groups of less preferable profiles (twelve begin and sixteen end profiles): the uncertain-tolerant and uncertain-aggressive profiles. An uncertain-tolerant teacher is according to students very cooperative, but displays little leadership. The classroom atmosphere is unstructured, and although students are not provocative, they are not task-oriented. An uncertain-aggressive teacher behaves unpredictable, unbalanced, and often not reasonable according to students. Classes are characterised by an aggressive kind of disorder: teacher and students regard each other as their opponents, students are provocative, and the teacher spends most of the time trying to manage the class.

In Table 5.2 we can see that all but one student teacher with an uncertain-tolerant begin profile was still uncertain-tolerant at the end of the internship. Unfortunately, the student teacher who did change, ended with an uncertain-aggressive profile, which is actually less preferable than an uncertain-tolerant profile. Thus, starting from an uncertain-tolerant profile, it seems quite difficult to get to a profile that is associated with more leadership.

Three student teachers with uncertain-aggressive begin profiles ended with another less preferable profile, however, a change from an uncertain-aggressive begin profile to an uncertain-tolerant end profile might be seen as an improvement. Here, according to students the student teacher still does not display much leadership, but on the other hand is perceived as cooperative (which is not the case with uncertain-aggressive profiles).

Only two student teachers who started with a less preferable profile, managed to have a preferable profile at the end of the internship. One started with an uncertain-aggressive and the other with a drudging profile. Across the teacher career, these profiles make up around 10% of all profiles (Brekelmans, et al., 2005), probably because the teacher behaviour and the accompanying classroom situations are rather unpleasant and tiring. In our case, both teachers ended with directive profiles, so they still were not very close to students, but they did manage to have more well-structured lessons.

ACCURACY OF SELF-IMAGES AT THE BEGINNING AND END OF THE INTERNSHIP

Research question 2 was about the accuracy of student teachers' self-images at the beginning and end of the internship. At the beginning of the internship, on average student teachers' self-images for control (M = -.05, Sd = .44) were lower than student perceptions (M = .05, Sd = .43) . For affiliation, self-images (M = .60, Sd = .39) were slightly higher than students' perception (M = .57, Sd = .56). At the end of the traineeship, self-images were higher than student perceptions, both for control (teacher M = .12, Sd = .40 versus student M = -.03, Sd = .38) as for affiliation (teacher M = .75, Sd = .23 versus student M = .54, Sd = .39).

Table 5.3 shows frequencies and (between brackets) percentages of under-, over- and accurate estimations for control and affiliation at the beginning and end of the internship.

Table 5.3. Student teachers' self-images on control and affiliation at the beginning and end of the internship

	Control			Affiliation		
	Over-estimations	Under-Estimations	Accurate estimations	Over-estimations	Under-Estimations	Accurate estimations
Begin internship	8 (23.5)	17 (50.0)	9 (26.5)	13 (38.2)	16 (47.1)	5 (14.7)
End internship	20 (58.8)	7 (20.6)	7 (20.6)	23 (67.7)	7 (20.6)	4 (11.7)

N=34

At the beginning of the internship there were more student teachers who under- than overestimated themselves, both on control (seventeen versus eight, respectively) as on affiliation (sixteen versus thirteen). Mindy, a 24 year old social science student teacher had according to her students an authoritative, so preferable begin profile. However, her self-images were actually lower than student perceptions. She was rather unsure about herself, as is illustrated by this statement:

> *"Yeah, I never had to lead a group of people before, so how to address them, how do I motivate them, how do I get them to listen to me? Do I have enough authority? Those were the issues. Am I creative enough? Will I have enough ideas?"*

At the end of the internship this is the other way around: there were more student teachers who over than underestimated themselves (twenty versus seven on control; 23 versus seven on affiliation). Monica, a 27 year old science student teacher with an uncertain-tolerant end profile, believed that she had higher levels on control and affiliation than it was according to her students. She started with an uncertain-aggressive profile and ended with an uncertain-tolerant profile, so according to students Monica did have higher levels of affiliation at the end, but her amount of control in the classroom did not change so much. Monica said about control:

> *"I think that for a while it [being in control] was just about enough, but by that time [Christmas] I thought, well, I give you guys a chance, I stay friendly, but if you push it, it is over. Since that time it improved slightly, and I think the last couple of weeks, it really went a whole lot better."*

Overestimations at the end of the internship might also be an indication of improved confidence. Marc, a 24 year old biology student teacher who had a tolerant begin and end profile, underestimated himself at the beginning, and overestimated himself at the end of the internship:

> *"I mean, they also now that it was different here [at the beginning of the internship] and you cannot at once turn that around. I think it is now acceptable, I teach the way I want to. But I still know it can be better, but at least it is better than at the beginning of the year."*

Overall, on both moments the number of accurate self-images was higher for control than for affiliation, so apparently student teachers found it more difficult to accurately judge the level of affiliation, than the level of control.

SELF-IMAGES: IMPROVED AND DECLINED ACCURACY

Average differences and the range are depicted in last row of Table 5.4. The difference between teachers' self-images and student perceptions on control at the beginning of the internship ranged from -1.00 to .44; at the end of the internship, the range was from -.51 to 1.40. On affiliation, difference between teachers' self-images and students' perceptions ranged from -.86 to 1.33; at the end of the internship this was from -.73 to 1.33. The range was larger for affiliation than for control, and this is in line with what Wubbels et al. (1993) reported for in-service teachers: teachers and students differed more on affiliation than on control. The mean difference score for control was -.10 at the beginning and .14 at the end of the internship. For affiliation, the mean difference score was .03 at the beginning and .21 at the end. For control and affiliation, both the highest scores as well as the positive mean at the end of the internship, indicate that student teachers became more confident.

Table 5.4. Student teachers' self-images on control and affiliation at the beginning and end of the internship, comparison of accuracy begin versus end of internship

	Self-images control			Self-images affiliation		
Resp.nr	Begin	End	Begin vs End	Begin	End	Begin vs end
1	Under (-.54)	Under (-.10)	Improved	Over (.24)	Acc (.03)	Improved
2	Under (-.29)	Under (-.24)	Improved	Under (-.28)	Over (.14)	Improved
3	Under (-.25)	Acc (0.0)	Improved	Under (-.77)	Under (-.28)	Improved
4	Under (-.39)	Under (-.24)	Improved	Over (.97)	Over (.12)	Improved
5	Acc (.02)	Acc (.02)	Improved	Over (.58)	Over (.27)	Improved
6	Under (-.47)	Over (.06)	Improved	Under (-.25)	Over (.17)	Improved
7	Over (.36)	Over (.21)	Improved	Under (-.22)	Over (.18)	Improved
8	Over (.14)	Acc (-.02)	Improved	Under (-.55)	Under (-.51)	Improved
Mindy	Under (-.56)	Over (.25)	Improved	Under (-.17)	Under (-.06)	Improved
10	Acc (.03)	Acc (-.02)	Improved	Over (1.33)	Over (1.32)	Improved
11	Over (.44)	Over (.25)	Improved	Over (.91)	Acc (.04)	Improved

12	Under (-.18)	Over (.14)	Improved	Under (-.29)	Over (.38)	Declined
Marc	Under (-1.01)	Over (.10)	Improved	Under (-.09)	Over (.26)	Declined
14	Over (.25)	Over (.14)	Improved	Over (.27)	Under (-.31)	Declined
15	Under (-.37)	Under (-.19)	Improved	Over (.10)	Over (.23)	Declined
16	Under (-.09)	Acc (0.0)	Improved	Over (.07)	Over (.42)	Declined
17	Under (-.14)	Over (.06)	Improved	Under (-.07)	Over (.21)	Declined
18	Under (-.16)	Over (.10)	Improved	Acc (.04)	Over (.48)	Declined
19	Over (.20)	Over (.44)	Declined	Under (-.45)	Over (.18)	Improved
20	Acc (-.02)	Over (.27)	Declined	Over (.27)	Over (.11)	Improved
21	Over (.06)	Under (-.07)	Declined	Under (-.34)	Under (-.09)	Improved
22	Under (-.36)	Under (-.52)	Declined	Over (.50)	Over (.06)	Improved
23	Over (.19)	Over (.37)	Declined	Under (-.50)	Under (-.12)	Improved
24	Over (.06)	Over (.39)	Declined	Under (-.09)	Over (.38)	Declined
25	Under (-.19)	Over (.32)	Declined	Under (-.20)	Over (.29)	Declined
Mary	Under (-.13)	Over (.34)	Declined	Under (-.86)	Over (1.00)	Declined
Mia	Over (.12)	Over (1.4)	Declined	Over (.11)	Over (1.18)	Declined
28	Under (-.20)	Under (-.44)	Declined	Under (-.13)	Under (-.35)	Declined
Monica	Acc (0.0)	Over (.38)	Declined	Over (.12)	Over (.43)	Declined
30	Acc (0.0)	Over (.10)	Declined	Acc (0.0)	Over (.39)	Declined
31	Under (-.20)	Over (.28)	Declined	Under (-.25)	Under (-.73)	Declined
32	Over (.25)	Over (.29)	Declined	Over (.18)	Over (.37)	Declined
33	Acc (.05)	Over (.44)	Declined	Over (.77)	Over (.89)	Declined
34	Acc (.04)	Over (.34)	Declined	Acc (.04)	Over (.11)	Declined
	Mean -.10 Range 1.44	Mean .14 Range 1.91		Mean .03 Range 2.19	Mean .21 Range 2.06	

To determine the change in accuracy of self-images, we compared the difference scores on control and affiliation at the beginning and end of the internship. The columns of table 5.4 show self-images at the beginning, the end, and a comparison of the accuracy between begin and end (improved or

declined). For control this is depicted in columns 2-4 and for affiliation in columns 5-7.

Eleven student teachers had an improved accuracy of self-images on their behaviour in terms of control *and* affiliation; twelve student teachers improved their accuracy on *either* control or affiliation. This implies that for eleven participants their accuracy on both control and affiliation declined: for these student teachers, the difference between self-images and student perceptions was actually larger at the end than at the beginning of the internship.

Out of eighteen student teachers who had improved accuracy of self-images on control, only four had overestimations at the beginning. For improved accuracy of self-images on affiliation this is more or less the same: of sixteen with an improved accuracy, seven had overestimations in the beginning. Of eleven student teachers with a declined accuracy on both dimensions, at the end of the internship ten of them were overestimating their level of control, and nine were overestimating how close they were according to students. Mia is a 37 year old social science teacher who already had some experience working with groups. According to her students, she started with an uncertain-tolerant interpersonal profile, and this was still the same at the end of the internship. She overestimated herself on control and affiliation in the beginning and overestimated herself even more at the end. About how she started, she said

> *"[...] so for me, the feeling of standing in front of a group, was never any problem to me. I never felt any nervousness. Well, of course, in my class undoubtedly there will be students, as my supervisor indicated once, who are not paying attention and that I did not notice that or whatever, but overall, yeah I always had the idea that it always quite, yeah, that it came naturally to me."*

Since overestimations in the beginning were underrepresented in the group with improved accuracy, and overestimations at the end were overrepresented in the group with declined accuracy, we might conclude that there is a negative

relation between overestimating oneself and the improvement of accuracy of self-images (on control and affiliation).

INTERPERSONAL PROFILES AND THE ACCURACY OF SELF-IMAGES

The last research question was: do student teachers with preferable interpersonal end profiles have more accurate self-images on control and affiliation at the end of the internship? The average accuracy score for the twelve student teachers with a preferable end profile was -.05 (*SD* = .20) for control and -.05 (*SD* = . 37) for affiliation. On average, they were slightly underestimating their relation with students in terms of control and affiliation. However, they were clearly more accurate than the 22 student teachers with a less preferable end profile: their accuracy of self-images at the end of the year was 0.25 (*SD* = .34) for control and .35 (*SD* = .41) for affiliation. These teachers were overestimating themselves. Mary, a 23 year old history student teacher, had an uncertain-aggressive end profile and overestimations on both dimensions at the end of the internship. In the interview, she appears not to be aware of the discrepancy between her self-images and how she is perceived by students. With regard to control, she said:

> *"I think that to them [the students] that it was always clear, even though I was a trainee, that I was their teacher. […] I think it has been relatively stable throughout the year. Positive, maybe a little bit less here, but positive."*

Unfortunately for Mary, in spite of her efforts, students did not perceive her in control, nor emotionally close. With regard to affiliation, Mary told that she tried to become more close to students, for instance by having small personal conversations. When asked for the effect of her attempts to improve this aspect of the relationship with students, she replied:

> *"I once had a conversation, two girls were talking about clothes, or they had to work independently but they were talking about clothes, and I know that I then did not put them to work straight away, like I would have done earlier. I said well ladies, and then I said something about fashion or*

> *something, and then they asked "Well, but what do you like then, miss?" And I know that my boyfriend, whom I told about this later that day, he said, but that's none of their business, is it. I thought, well, yeah, it is not that I told them where I buy my clothes or something, but I noticed that this girls, yeah, it felt kinda' good or something."*

Interpersonal profiles are composed of specific combinations of scores on control and affiliation. To get a more precise understanding of the relation between the teacher-class relationship and the accuracy of self-images we decided to correlate student perceptions of control and affiliation at the end of the internship with student teachers' accuracy of self-images at the end of the internship. The relation between accuracy of self-images on affiliation and student perceptions proved to be significant: the higher the student perception of control and affiliation, the more accurate the teachers' self-belief on affiliation: $r = -.36$, $p < .05$ for control, and $r = -.38$, $p < .05$ for affiliation. Since accuracy is calculated as a difference score, the correlations are negative, indicating that the difference between self-images on affiliation and student perceptions was smaller for student teachers who were according to students more in control and more close to them. Accuracy of self-images on control was not related to student perceptions on either one of the dimensions.

5.6 Discussion

In this chapter we raised three major questions with regard to student teachers at the beginning and end of their internship in a one year teacher education programme. The first question was about interpersonal profiles, the second about accuracy of self-images, and with the last research question we hoped to learn more about the relationship between interpersonal profiles and the accuracy of self-images at the end of the internship.

Brekelmans et al. (2005) reported that 31% of student teachers had a preferable profile at the end of the internship. In our sample 35% of student teachers had a preferable end profile, however 47% started with a preferable profile. This seems to be a disappointing result, especially since in the teacher

education institute where this study was conducted,the teacher-class relationship was an explicit element of the programme. However, to tone down this finding, we must bear in mind that student teachers were asked to select their *least favourite* class. Brekelmans (1989) found small but significant differences for in-service teachers in their best or worst classes: in their best class teachers were perceived as more emotionally close than in their worst class. For beginning teachers, differences between profiles in different classes are even more prominent than for experienced teachers (Levy, Créton, & Wubbels, 1993). Taking this into account, it is very likely that the end profiles of the student teachers in this sample were like a worst case scenario whereas in their favourite classes their profiles could be more positive.

Another important result was that starting with a preferable profile was highly related to having a preferable end profile, and that it seemed not so likely to end with a preferable profile once started off with a less preferable profile. This might be because once students formed their impression of a teacher, they do not easily change their perceptions, as was underlined by Mainhard, Brekelmans, den Brok and Wubbels (2011), who found that also for in-service teachers it was unlikely that they would increase on perceived level of control and affiliation once they started the school year with low levels of control and affiliation. Therefore, like Mainhard (2009) suggested for in-service teachers, we would advise switching classes half way the internship for those student teachers who set off with a less preferable profile in the beginning of the internship. Of the student teachers who started with a preferable profile but ended with a less preferable profile, this was because according to students they exerted less control at the end of the internship. An explanation might be that in the beginning the student teachers were given the benefit of the doubt, or maybe student teachers lost their natural way of behaving and became overly conscious of acting as a teacher, be strict, control classroom procedures. Either way, it is important that teacher educators, university supervisors and co-operating teachers at school keep a close eye on student teachers who started off well in terms of their relationship with students.

With regard to the second research question on self-images it is interesting that in the beginning of the internship, student teachers were likely to underestimate their level of control and affiliation, whereas at the end of the internship, the majority were overestimating themselves. Overestimating could be the effect of the conflict between how the student teacher feels he or she is perceived, and how he or she wants to be perceived. This process is a typical example of cognitive dissonance (coined by Festinger in 1957): if a person holds two cognitions that are inconsistent with one another, this so called cognitive dissonance will cause pressure which the person will try to remove. One of the ways to remove this pressure is to alter one of the two "dissonant" cognitions. In our case: the teacher unconsciously adjusts his or her thinking on how he/she is perceived so that it is less distinct from how he/she wants to be perceived. Underestimating oneself could have the function of self-protection against potential disappointment when confronted with students' perceptions, in particular when the teacher expects these perceptions will not be too positive. These two ways of not accurately estimating one's own behaviour (Wubbels et al., 2006) apparently occur at different moments in the internship. It seems plausible to expect more underestimations in the beginning of the year, since the student teacher is not sure about the challenges he/she is facing and his/her own capabilities within that specific situation. The internship is part of a one year training programme, in which the student teacher understandably expects to learn and develop oneself. Therefore, if student teachers' self-images at the end of the internship are not perfectly accurate, overestimations of one's own behaviour would not come as a surprise.

Interestingly, there were twice as many accurate self-images on control as on affiliation. This was also found for in-service teachers, and we share the explanation that Brekelmans et al. (2011) provided, namely that the teacher-class relationship is more clearly defined for control than for affiliation. When it comes to improvement of accuracy of self-images, accuracy on control and affiliation seemed to be related: two third had improved or declined accuracy on both dimensions. It might be that accuracy of self-images has to do with other person-bound variables, such as emotional intelligence. Based on results of this study, improving the accuracy of self-images was less likely for student

teachers who were overestimating themselves in the beginning of the internship. Besides emotional intelligence, self-confidence or overestimating oneself might also be variables to take into account in future research on accuracy of self-images.

The research question on accuracy of self-images of the teacher-class relationship was rather innovative for the population of student teachers, so that it was not possible to compare results with other samples of student teachers. In that sense, this study was explorative. Nevertheless, results, in line with theory-driven hypotheses, were encouraging enough to continue with further research on this matter. It might for instance be interesting to have a closer look at possible predictors of accuracy of self-images, such as emotional intelligence and self-confidence.

Interpersonal profiles of student teachers were related to accuracy of self-images: student teachers with preferable profiles had more accurate self-images on both control as affiliation than student teachers with less preferable profiles. Furthermore, the accuracy of student teachers' self-images on affiliation was higher, when the student perception of the teachers' level control and affiliation was higher. This was not found for accuracy of self-images on control. This is in line with results of Brekelmans et al. (2011), who reported for in-service teachers that the association for affiliation and accuracy of self-images was stronger than for control and accuracy of self-images.

LIMITATIONS

The sample size was not very large and as a result findings should be generalised with caution. On the other hand, results such as student teachers' interpersonal profiles were comparable to interpersonal profiles in larger samples of student teachers (Brekelmans et al., 2005) and in that sense seemed to be representative.

With regard to the research question on the relation between interpersonal profiles and accuracy of self-images, it is important to bear in mind that based on these results we cannot say anything about causality of the relations. It remains unclear whether more accurate self-images influence more preferable teacher behaviour, or that more preferable teacher behaviour has a positive

effect on teachers' self-images. Either way, results provide some interesting clues for future research and for the practice of teacher education.

References

Beijaard, D. (1995). Teachers' prior experiences and actual perceptions of professional identity. *Teachers and Teaching: Theory and Practice,1*(2), 281-294.

Brekelmans, M. (1989).*Interpersonal teacher behavior in the classroom*.In Dutch: Interpersoonlijk gedrag van docenten in de klas. Dissertation, Utrecht: W.C.C.

Brekelmans, M. & Wubbels, T. (1991). Student and teacher perceptions of interpersonal teacher behaviour: A Dutch perspective. *The Study of Learning Environments, 5*, 19-30.

Brekelmans, M., Levy, J., & Rodriguez, R. (1993).A typology of teacher communication style. In: T. Wubbels, & J. Levy (Eds.) D*o you know what you look like?*I*nterpersonal relationships in education.* (pp. 46-55). London: The Falmer Press.

Brekelmans, M., Wubbels, T., & van Tartwijk, J. (2005). Teacher-class relationships across the teaching career.*International Journal of Educational Research, 43*, 55-71.

Brekelmans, M., Mainhard, T., den Brok, P., & Wubbels, T. (2011). Teacher control and affiliation: Do students and teachers agree? *Journal of Classroom Interaction, 46*(1), 17-26.

Caires, S., Almeida, L., & Vieira, D. (2012). Becoming a teacher: Student teachers'experiences and perceptions about teaching practice.*European Journal of Teacher Education, 35*(2), 163-178.

Cornelius-White, J. (2007). Learner-centered teacher-class relationships are effective: A meta-analysis. *Review of Educational Research, 77*, 113-143.

Créton, H., & Wubbels, T. (1984).*Discipline problems with beginning teachers.* Utrecht, the Netherlands: W.C.C.

Davis, H. A. (2003). Conceptualizing the role and influence of student-teacher relationships on children's social and cognitive development.*Educational Psychologist, 38*(4), 207-234.

Ertesvåg, S. K. (2011). Measuring authoritative teaching.*Teaching and Teacher Education, 27*, 51-61.

Evertson, C. M., & Weinstein, C. S. (2006). Classroom management as a field of inquiry.In C. M. Evertson & C. S. Weinstein (Eds.), I*nternationalhandbook of classroom management. Research, practice, and contemporary issues* (pp. 3-15).United States, NJ: Lawrence Erlbaum Associates.

Festinger, L. (1957). *A theory of cognitive dissonance.* Stanford: StanfordUniversity Press

Ghaith, G., & Shaaban, K. (1999). The relationship between perceptions of teaching concerns, teacher efficacy, and selected teacher characteristics. *Teaching and Teacher Education, 15*, 487-496.

Goodenow, C. (1991). Strengthening the links between educational psychology and the study of social contexts.*Educational Psychologist, 27*(2), 177-196.

de Jong, R. J., van Tartwijk, J., Verloop, N., Veldman, I., & Wubbels, T. (2012). Teachers' expectations of teacher-class interaction: Complementary and distinctive expectancy patterns, *Teaching and Teacher Education,* 28, 948-956.

Kiesler, D. J. (1983). The 1982 interpersonal circle: a taxonomy for complementarity in human transactions. *Psychological Review, 90*, 185-214.

Kolar, D. W., Funder, D. C., & Colvin, C. R. (1996). Comparing the accuracy of personality judgments by the self and knowledgeable others. *Journal of Personality, 64*, 311-337.

Leary, T. (1957).*Aninterpersonal diagnoses of personality. New* York: The Ronald Press Company.

Liston, D., Whitcomb, J., & Borko, H. (2006). Too little or too much: Teacher preparation and the first years of teaching. *Journal of Teacher Education, 57*, 351-328.

Mainhard, T. (2009).Time consistency in teacher-class relationships.(Doctoral dissertation, Utrecht University, the Netherlands). Retrieved from http://igitur-archive.library.uu.nl/dissertations/2009-0929-200115/mainhard.pdf

Mainhard, M. T., Brekelmans, M., den Brok, P., & Wubbels, T. (2011). The development of the classroom social climate during the first months of the school year.*Contemporary Educational Psychology, 36*, 190-200.

Mainhard, M. T., Brekelmans, M., & Wubbels, T. (2011). Coercive and supportive teacher behaviour: Within- and across- lesson associations with the classroom social climate. *Learning and Instruction, 21*, 345-354.

Moskowitz, D. S., Ringo Ho, M., & Turcotte-Tremblay, A. (2007).Contextual Influences on Interpersonal Complementarity.*Personality and Social Psychology Bulletin, 33*, 1051-1063.

Pajares, M. F., & Schunk, D. H. (2002). Self and self-belief in psychology and education: a historical perspective. In J. Aronson (Ed.), *Improving academic achievement.Impact of psychological factors on education* (pp. 5-21).San Diego, California: Academic Press.

Pianta, R. C. (2006). Classroom management and relationships between children and teachers: Implications for research and practice. In C. M. Evertson & C. S. Weinstein (Eds.), I*nternational handbook of classroom management. Research, practice and contemporary issues* (pp.685-709).United States, NJ: Lawrence Erlbaum Associates.

Pianta, R. C., & Hamre, B. K. (2009). Conceptualization, measurement, and improvement of classroom processes: Standardized observation can leverage capacity. *Educational Researcher, 38,* 109-119.

Spilt, J. L., Koomen, H. M. Y., & Thijs, J. T. (2011). Teacher wellbeing: The importance of teacher-class relationships. *Educational Psychology Review, 23*(3), 457-477.

Tiedens, L. Z., & Fragale, A. R. (2003). Power moves: Complementarity in dominant and submissive nonverbal behavior. *Journal of Personality and Social Psychology, 84*, 558-568.

Tracey, T. J. G. (1994). An examination of the complementarity of interpersonal behaviour. Journal *of Personality and Social Psychology,67*, 864-878.

Tracey, T. J. G. (2004). Levels of interpersonal complementarity: A simplex representation. *Personality and Social Psychology Bulletin,30*, 1211-1225.

Veenman, S. (1984).Perceived problems of beginning teachers. *Review of Educational Research, 54*(1), 51-67.

Walker, J.M.T. (2008). Looking at teacher practices through the lens of parenting style. The*Journal of Experimental Education,76*(2), 218–240.

Walker, J.M.T. (2009). Authoritative classroom management: how control and nurturance work together. *Theory Into Practice,48*, 122–129.

Wentzel, K.R. (2002). Are Effective Teachers Like Good Parents? Teaching Styles and Student Adjustment in Early Adolescence.*Child Development,73*(1), 287-301.

Wiggins, J. S. (1991). Agency and communion as conceptual coordinates for understanding and measurement of interpersonal behavior.In W. M. Grove & D. Cicchetti (Eds.), *Thinking clearly about psychology* (pp. 89-113).Minneapolis: University of Minnesota Press.

Levy, J., Créton, H., & Wubbels, T. (1993).Perceptions of Interpersonal teacher behavior. In T. Wubbels and J. Levy (Eds.), D*o you know what you look like?Interpersonal relationships in education* (pp. 29-45).London: The Falmer Press.

Wubbels, T., Brekelmans, M., & Hooymayers, H. (1993).Comparison of teachers' and students' perceptions of interpersonal teacher behavior. In T. Wubbels and J. Levy (Eds.), D*o you know what you look*

like?Interpersonal relationships in education (pp. 64-81).London: The Falmer Press.

Wubbels, T., Brekelmans, M., den Brok, P., & van Tartwijk, J. (2006). An interpersonal perspective on classroom management in secondary classrooms in the Netherlands.In C. M. Evertson & C. S. Weinstein (Eds.), I*nternational handbook of classroom management. Research, practice and contemporary issues* (pp.1161-1191).United States, NJ: Lawrence Erlbaum Associates.

Wubbels, T., Brekelmans, M., den Brok, P., Levy, J., Mainhard, T., & Van Tartwijk, J. (2012). Let's make things better. In T. Wubbels, P. Den Brok, J. Van Tartwijk & J. Levy (Eds.), *Interpersonal relationships in education* (pp. 225-250). The Netherlands, Rotterdam: Sense Publishers.

Yeung, K., Martin, J. L. (2003). The looking glass self: An empirical test and elaboration. *Social Forces, 81*(3), 843-879.

Chapter 6

6.
General discussion and conclusion

> *"I felt very much I had to act then and there. Which I found very difficult to do, I did not really want to because I thought, why, we're having a good time together and why can't it stay like that without me having to play the bogeyman. Because I really felt that if I intervened and so on, they would hate me for that."*
>
> (Debora, a 24 year old student teacher)

Student teachers are not yet fully skilled teachers, and building and maintaining a positive classroom climate are amongst their major concerns (Fuller & Brown, 1975; Ghaith & Shaaban, 1999; Liston, Whitcomb, & Borko, 2006; Veenman, 1984). In this thesis, the teacher-class relationship and student teachers' discipline strategies are conceived as elements of the classroom climate. As is illustrated by the quote above, student teachers experience a tension between a good interpersonal relationship with students and the need to discipline (McLaughlin, 1991; Weinstein, 1998; Woolfolk Hoy & Weinstein, 2006). Therefore, in this thesis, we explored student teachers' characteristics, in particular their practical knowledge in relation to their discipline strategies and the teacher-class relationship. Besides that, the connection between the two components of classroom climate, namely the teacher-class relationship and discipline strategies, was investigated.

Teachers' practical knowledge is defined as all the knowledge at the disposal of the teacher and underlying his or her actions (Carter, 1990). In our case, we investigated components of teachers' practical knowledge that are relevant to the teacher-class relationship and discipline strategies (i.c., self-image, anticipated student responses, self-efficacy and pupil control orientation). The teacher-class relationship was conceptualised as student

perceptions of the teacher in terms of control (i.c., the degree to which the teacher is perceived as being in charge) and affiliation (i.c., the emotional distance between teacher and class); or in terms of interpersonal profiles (i.c., behavioural patterns of the teacher). Three main discipline strategies were distinguished: sensitive, directive and aggressive.

In the first section of this chapter we will summarise the main findings and conclusions that follow from the studies in this thesis. Then, these findings will be integrated and their implications for practice will be discussed. In the final section, we will discuss the strengths, limitations and future directions.

6.1 Summary of research findings and conclusions

The aim of this thesis was to gain more understanding of the classroom climate as it is established by student teachers. With the teacher-class relationship and discipline strategies as important contributors to the classroom climate, the general question of this thesis was how student teachers' characteristics, in particular their practical knowledge, are connected to discipline strategies and the teacher-class relationship. This general question was divided into four sub questions and discussed in the following chapters of this thesis:

Chapter 2. What do teachers' expectations of teacher-class interaction look like?

Chapter 3. How are student teachers' personality traits, self-efficacy and discipline strategies related to the teacher-class relationship?

Chapter 4. How are components of student teachers' practical knowledge related to their discipline strategies?

Chapter 5. Are student teachers' interpersonal profiles and the accuracy of their self-images at the end of the internship different from the beginning? If so, how are they different and how is the accuracy of self-images related to the quality of the teacher-class relationship?

In the study described in the **second chapter** of this thesis we applied relational schema theory to teachers' expectations on teacher-class interaction. These interpersonal expectations are regarded as specific components of teachers' practical knowledge about classroom climate.Lortie's (1975) 'apprenticeship of observation' refers to the fact that student teachers' socialization into teaching starts when they are students. It was hypothesised that through the process of socialization, experiences with recurring teacher-class interactions, such as classroom discussions or correcting disruptive student behaviour, have been internalised in relational schemas of both teachers and students (Locke, 2005). However, to this date teachers' internalised experiences with recurring teacher-class interactions are largely unexplored, certainly in terms of interpersonal expectations. That is why, in the first study, we tried to gain insight in teachers' interpersonal expectations. An instrument was developed to capture teachers' interpersonal expectations in the classroom. Interpersonal expectations were

operationalised as if-then expectations with a prescribed situation starting with "If I.." and an anticipated response of the students ("then they…"). Common interaction sequences follow the so called complementarity principle (Carson, 1969; Tracey, 2004): dominant behaviours invite submissive responses and vice versa, whereas friendly behaviour evokes friendly responses, and hostile behaviour calls for hostile reactions.

Teachers (N = 46) were asked to respond to so called vignettes in which a specific classroom situation with teacher behaviour was described. They were requested to respond by describing anticipated student responses. The general answer to the research question was that interpersonal expectations of teachers are mostly complementary and comparable to what was found in previous research with people in non-hierarchical relationships (Hill & Safran, 1994), with the exception that teachers expected more submissive student behaviour in response to hostile teacher behaviour. Earlier, researchers (Markey, Funder, & Ozer, 2003; Moskowitz, Ringo Ho, & Turcotte-Tremblay, 2007) found that complementarity can be strengthened or weakened, depending on the specific relationship (hierarchical or non-hierarchical) and the context in which partners are interacting with one another (work or non-work settings). The interpersonal expectations that we measured seemed to be generally applicable to teachers, in the sense that they did not differentiate very much between different levels of experience of teachers. The only significant difference between teachers was that female teachers expected friendlier student responses than male teachers.

In the **third chapter** the connection between student teachers' personality traits, self-efficacy, discipline strategies and the teacher-class relationship was investigated. Over 100 student teachers of three teacher education institutes responded to questionnaires, and students of one of their classes answered student questionnaires. Student teachers' friendliness and extraversion (Goldberg, 1990), and self-efficacy in classroom management, instructional strategies and student engagement (Tschannen-Moran & Hoy, 2001) were investigated with self-reports. Of each student teacher, students of one of their classes responded to questionnaires on the teacher-class relationship and discipline strategies (on average 22.6 students per class; 2,506 students in total).

To be able to look into the association between the teacher-class relationship and discipline strategies (Lewis, 2001), three clusters of discipline strategies were distinguished: sensitive (e.g., rewarding positive student behaviour), directive (e.g., punishing) and aggressive discipline strategies (e.g., yelling in anger, sarcasm). This three factor structure in discipline strategies is a result by itself, with which detailed questions could be answered. Multivariate multilevel regression analyses were conducted with students at level 1 and teachers at level 2.

Effects of friendliness, extraversion, and self-efficacy were all suppressed by the effects of discipline strategies on the teacher-class relationship. Just as Mainhard, Brekelmans and Wubbels (2011a) found for in-service teachers, sensitive discipline strategies proved to be positively related to the teacher-class relationship in terms of affiliation, and aggressive discipline strategies were negatively related to the teacher-class relationship in terms affiliation. Furthermore, it was found that sensitive strategies were positively related to the teacher-class relationship in terms of control, whereas aggressive strategies were negatively related to control. Directive discipline strategies had a positive relation with control, but the relation between directive discipline strategies and affiliation was effected by gender: it was negatively related for men, and positively for women. There was also a gender-effect of aggressive discipline on affiliation (more negative for women than for men).

Considering the importance of discipline strategies in connection to the teacher-class relationship, in **chapter four** it was investigated how self-images, anticipated student responses and pupil control orientation contributed separately to the three discipline strategies. Questionnaires of 104 student teachers and students of one of their classes were analysed with multiple stepwise regression analysis. We found that all student teachers' beliefs correlated significantly with at least one of the discipline strategies, with the exception of anticipated student responses in terms of affiliation. In other words, with regard to teachers' discipline strategies, anticipated student responses in terms of control, self-images in terms of control and affiliation and pupil control orientation were relevant, but anticipated student responses in terms of affiliation were not. Not surprisingly, pupil control orientation

explained variance on aggressive as well as sensitive discipline strategies. The more submissive student responses the teacher anticipates, the more he or she makes use of sensitive discipline strategies. For both sensitive and directive strategies the self-image of the student teacher was important, especially whether they believed they were perceived as being in control. The more student teachers believed to be perceived as hostile, the more use they made of aggressive discipline strategies.

Finally, in **chapter five** the interpersonal profiles and self-images of 35 student teachers were reported. The typology of interpersonal profiles developed by Brekelmans and colleagues (Brekelmans, 1989; Brekelmans, Levy, & Rodriguez, 1993), is a typology of the behavioural patterns of teachers as perceived by students. These profiles are named directive; authoritative; tolerant-authoritative; tolerant; uncertain-tolerant; uncertain-aggressive; repressive and drudging. Some profiles are considered more preferable than others, since they are positively related to student outcomes (Ertesvåg, 2011; Walker, 2009; Wentzel, 2002). These are profiles in which dominant and warm interpersonal teacher behaviour are combined (i.e., authoritative, directive and tolerant-authoritative).

Students of one class and student teachers themselves answered questionnaires at the beginning and end of the internship. It was found that 47% started with a preferable profile and 35% of student teachers had a preferable profile at the end of the internship. This is comparable to what Brekelmans, Wubbels, & van Tartwijk (2005) reported: in their sample 31% of student teachers had a preferable profile at the end of the internship. The level of accuracy is defined as the difference between self-images and student perception. In terms of accuracy of self-images, in the beginning of the internship, student teachers were likely to underestimate their level of control and affiliation, whereas at the end of the internship, the majority were overestimating themselves.

Interpersonal profiles of student teachers were related to accuracy of self-images: student teachers with preferable profiles at the end of the internship had more accurate self-images at the end of the internship (on both control as affiliation) compared to student teachers with less preferable profiles. Two

third of student teachers had a higher accuracy on control, affiliation, or on both dimensions at the end of the internship, as compared to their accuracy at the beginning of the internship. Improving the accuracy of self-images was less likely for student teachers who were overestimating themselves in the beginning of the internship.

6.2 General discussion of the main findings

The aim of this thesis was to gain more understanding of the classroom climate as it is established by student teachers. Since from both students' and teachers' perspective the teacher-class relationship and classroom discipline are fundamental for the experience of the classroom climate (Pianta, 2006) we investigated how the teacher-class relationship and classroom discipline (i.e., discipline strategies) are connected. Besides that, we wanted to explore student teachers' characteristics, in particular their practical knowledge, in connection to discipline strategies and the teacher-class relationship.

Taken the research findings together, the general picture is that of all concepts in connection to the teacher-class relationship, discipline strategies showed the strongest and most meaningful relation. Previous studies have investigated the connection between students' perceptions of coercive and supportive teacher behaviour and the teacher-class relationship, with a sample that consisted of in-service teachers (Mainhard, et al., 2011a). Mainhard et al. (2011a) could not find significant relations between coercive and/or supportive teacher behaviour and the teacher-class relationship in terms of control. This thesis adds to the body of knowledge concerning teacher behaviour and the teacher-class relationship of *student* teachers. A merit of this thesis is the distinction between sensitive, directive, and aggressive discipline strategies, and that it demonstrated the precise relation between these discipline strategies and the teacher-class relationship in terms of affiliation and also control. Nonetheless, based on this thesis we cannot draw any conclusions about the causality of the relations. For instance, it was found that aggressive discipline strategies were negatively related to the teacher-class relationship in terms of control and affiliation. It might be that student teachers who frequently use

aggressive discipline strategies are as a result perceived as less friendly and in control. On the other hand, it is equally possible that this is the other way around: if the teacher-class relationship is all ready sub optimal, this might cause the student teachers to make more use of aggressive discipline strategies.

The complexity and immediacy of classroom situations, in particular disorderly situations, call for immediate reactions and sometimes intuitive decisions which are based on teachers' implicit beliefs (Calderhead, 1987; Kaplan, 1992). In these particular situations the impact of teachers' practical knowledge on their use of discipline strategies might be substantial, although yet largely unknown. Several researchers have looked into teachers' beliefs about classroom discipline (Balli, 2011; Weinstein, 1998; Woolfolk Hoy & Weinstein, 2006), however without connecting it to actual teacher behaviour. Kaplan (1992) and Riley (2009) investigated how specific components of personal knowledge (i.e., teacher's own punishment histories and attachment history respectively), were related to punishment and teachers' aggressive behaviour. Besides punishment and aggressive behaviour, we know that teachers also employ other discipline strategies, namely sensitive and directive strategies. In that sense the finding that student teachers' use of these three discipline strategies was indeed related to their practical knowledge (i.e., self-images, anticipated student responses and pupil control orientation) is a new finding, adding to the body of knowledge on the reciprocity between teachers' practical knowledge and teacher behaviour (Verloop, van Driel, & Meijer, 2011).

As was found in this thesis, student teachers' practical knowledge was related to their discipline strategies (teacher behaviour), and discipline strategies were connected to the teacher-class relationship. The connection between practical knowledge and the teacher-class relationship was not strong enough to remain significant when also discipline strategies were taken into account. This might be because the connection between practical knowledge and the teacher-class relationship is mediated by teachers' behaviour, whereas the connection between teachers' behaviour (discipline strategies) and the teacher-class relationship is a direct relation.

We would like to pay extra attention to the interaction principle of complementarity since it is rather new in educational research. We found that teachers' interpersonal expectations of the teacher-class interaction were complementary. Also, student teachers' interpersonal expectations were related to their behaviour, as was illustrated by the finding that student teachers, who anticipated more dominant student responses, were less likely to use sensitive discipline strategies. The finding that teachers expected rather submissive student responses in hostile teacher behaviour vignettes might be an effect of the nature of the hierarchical teacher-class relationship. In non-hierarchical relationships the anticipated response in hostile situations is neutral in terms of control (Markey & Kurtz, 2006; Moskowitz, et al., 2007).

Student teachers' self-image seemed not only related to their discipline strategies, but it also appeared to be of relevance with respect to their interpersonal profiles at the beginning and end of the internship. In the beginning of the internship, student teachers were likely to underestimate their level of control and affiliation, whereas at the end of the internship, the majority was overestimating themselves. These two ways of not accurately estimating oneself (Wubbels, Brekelmans, den Brok, & van Tartwijk, 2006) apparently occur at different moments in the internship, and it may be that the specific timing of the inaccuracy has different effects on the learning process of the student teacher. We found that student teachers with too flattering self-images at the beginning of the internship, were unlikely to have preferable interpersonal profiles at the end of the year, and it was less likely that their self-images were more accurate at the end of the internship. This suggests that overestimating oneself in the beginning of the internship might hinder student teachers' development: unaware of their actual behaviour they might not acknowledge the need to change. For instance, student teachers who believe to have more control in the classroom than they have according to students might not see the necessity to change their behaviour.

In general, it was found that not so many student teachers have a preferable interpersonal profile at the end of their internship. As was already found for in-service teachers (Mainhard, Brekelmans, den Brok, & Wubbels, 2011b), student teachers alike should not be too optimistic about improving the

quality of the teacher-class relationship once they started the internship with a less preferable profile: it is appears to be extremely difficult to change from there to a better profile. Moreover we found that of student teachers who started with preferable profiles but ended with less preferable profiles, in all cases this was caused because their perceived levels of control declined.

6.3 Implications

Some implications of the findings of this thesis for teachers and teacher educators might be drawn: there is a straight connection between the teacher-class relationship and discipline strategies, and some strategies are plainly counterproductive.

Teachers should be aware that each of the discipline strategies has specific associations with the teacher-class relationship. This awareness could entail the following knowledge: aggressive discipline strategies are unmistakably negatively connected to the teacher-class relationship. At the same time, it is equally important that teachers know that punishment is for one a universal given in the classroom when misbehaviour occurs. Secondly, students do not necessarily feel that the relationship is undermined when the teacher imposes consequences like that. To the range of discipline strategies available to the teacher also belong the sensitive discipline strategies. Sensitive discipline strategies are not as much in the spotlight as aggressive discipline strategies, at least not when we look at the amount of scholarly articles dedicated explicitly to aggressive strategies (Lewis & Riley, 2009; Riley, et al., 2010; Romi, et al., 2011). The unequal distribution of attention seems to be unjustified, at least in terms of the connection to the teacher-class relationship. The positive correlation between sensitive discipline strategies and the teacher-class relationship is just as noteworthy as the negative connection between aggressive discipline strategies and the teacher-class relationship.

We would recommend teacher education institutes to teach student teachers how to use sensitive strategies as much as possible, directive discipline strategies when it is necessary and how to avoid aggressive discipline strategies. Since teaching is an isolated profession, typically taking place in the

presence of no other adults, we think feedback is an essential first step in the learning process of the student teacher (Joyce & Showers, 1983). Student questionnaires such as the discipline strategy questionnaire could very well be used as a way of providing feedback, so that student teachers obtain a correct view of how he or she is performing with students. To teach student teachers to use sensitive and directive strategies, they must be provided with feedback and sufficient time to practice with these strategies. It is one thing to know what would be the best approach, yet another thing to be aware of one's own performance with regard to that approach. The next step, the actual act of transferring new behaviours into effective classroom practice is fairly difficult, even for experienced teachers. According to Joyce and Showers (1983), what is needed to overcome this, is continuous practice, feedback and the companionship of coaches.

Based on our results and on previous research (Mainhard, et al., 2011b), we might say that student perceptions of the classroom climate appear to be rather stable, and as a result once a teacher started the school year in a particular way, it is difficult to change. Student teachers usually have not had much opportunity to practice, and as a result transferring new behaviours in effective classroom practice might be very difficult. Therefore, we recommend to provide ample time to practice at the teacher education institute with for instance role-plays. This will provide them with the necessary practice, feedback and companionship of coaches. At the institute the teacher educator serves as an important facilitator of the learning process of the student teacher. Fellow student teachers can be seen as peer coaches, who have been found to be very supportive in the learning process of teachers (Joyce & Showers, 1996). In the words of Mary, a 23 year old student teacher:

> *" What really helped me was the contact with fellow student teachers, that I noticed, when I was going through a rough time, that they experienced the same. At some point I thought "I work so hard and what am I doing it for anyway", and at those moments I appreciated it to receive feedback."*

At the teacher education institute, student teachers can practice with peers, and they do not have to be afraid to mess up a lesson, or impair the relationship with their students. This makes it easier to practice, especially with new behaviour.

The basic advice to student teachers would be to build a good teacher-class relationship in the beginning of their internship by showing leadership in class and being warm and friendly to students. Unfortunately, as we know (Brekelmans, et al., 2005) only 30% of the total group of student teachers get to this point, and since the ones who started off not so well with their students are very unlikely to improve (Mainhard, et al., 2011b), we would recommend teacher education programmes to let their student teachers practice as much as possible at the teacher education institute and change classes halfway the internship, especially once they started off on the wrong foot.

An interesting concept for teacher education programmes is complementarity: there is plentiful evidence that complementarity guides moment to moment interactions (Carson, 1969; Dryer & Horowitz, 1997; Markey, et al., 2003; Tracey, 2004), and this might be used in teacher education programmes to teach student teachers to opt for alternative interactions with their students. For instance, when students keep on complaining about a test that was too difficult (student behaviour that might be rated as low on control and low on affiliation), at some point the teacher might react annoyed, telling them to stop nagging (high control and low affiliation). This would be a complementary teacher response, but chances are that students on their behalf respond complementary as well… On the other hand, a teacher who approaches the students by saying, "I heard you are a bit displeased about the last test. We'll do something about it this lesson, just take a look here." probably evokes a complementary reaction that is low control and somewhat cooperative. In this example the teacher responds not complementary to the student's behaviour, and in doing so prevents that the interaction sequence turns into a negative spiral of hostile-hostile and high control-low control behaviour and responses. If student teachers could have enough time to practice with this interaction principle and the accompanying behaviours, they might be better able to stop unproductive interaction sequences with their students.

When it comes to classroom discipline, knowledge about which strategies are effective and which are not may add to beginning teachers' sense of preparedness when faced with discipline issues. Besides formal knowledge about discipline strategies and their differential effect on student and the teacher-class relationship, teacher educators could also help student teachers explore their knowledge and beliefs about teacher-class interaction and classroom discipline. Just like for instance Kaplan (1992) and Balli (2011), we too recommend that teacher education programmes provide plentiful opportunities for student teachers to learn about their beliefs. Also they should be helped to explore the relations between beliefs about teaching, pupil control orientation, student behaviour, self-as-a-teacher and their subsequent teaching practice. This way, student teachers may be able to make more informed choices about classroom discipline and in particular discipline strategies instead of, as Riley, et al. (2010) put it, 'working blind', without a coherent theory of classroom discipline. Insights of this thesis might be helpful to teacher education.

6.4 Strength, limitations and future directions

In this thesis we made use of a number of questionnaires to measure components of practical knowledge, discipline strategies and the teacher-class relationship. Some of these questionnaires had to be translated to the Dutch teaching context, such as the pupil control orientation and the discipline strategies questionnaire. In case of the interpersonal schema questionnaire more adjustments had to be made to make it suitable to the educational context. Some questionnaires were analysed slightly different than in previous research, such as the self-efficacy questionnaire where we explicitly aimed to investigate the three components of self-efficacy. An important merit of this thesis is the discipline strategies questionnaire where we distinguished three components. In terms of psychometric qualities, all questionnaires proved to be reliable, and in terms of construct validity they were also valid. Further analyses might be conducted to improve the quality of the questionnaires. For instance, the newly developed should be tested with larger and different samples. The subscale of

self-efficacy in student engagement was not as good as the other two subscales (self-efficacy in classroom management and in instructional strategies). This was due to the fact that some of the items that originally belonged to the subscale of self-efficacy now had high cross loadings and were therefore excluded. Ideally, the self-efficacy in student engagement scale consists of just as many items as the other two sub scales. For that reason, in future research, it might be attempted to develop new and suitable items for this subscale.

Another suggestion for future research is related to the cultural context of the respondents. In the present study, components of practical knowledge of Dutch student teachers were investigated. Some of these components of practical knowledge were operationalised in terms of control or affiliation,both strongly related to the cultural dimensions of immediacy, collectivism and power distance (van Oord & den Brok, 2004; Hofstede & Hofstede, 2005). These dimensions influence teachers' perceptions, for instance through values and norms, and as a result teachers' practical knowledge is likely to be different across cultures. Future research should compare the differences in practical knowledge between teachers in several cultural settings.

The development of a questionnaire to capture teachers' interpersonal expectations was a more difficult enterprise than we anticipated. The open-ended version (chapter 2) did not differentiate very much between teachers. An issue with the instrument was that participants could not identify themselves with the teacher behaviour described in the submissive vignettes. We tried to solve this in the version with fixed answer categories (chapter 4). However, still a relatively small number of questions were related to submissive teacher situations. Moreover, relations with outcome variables were rather modest. Maybe, for the sake of larger sample sizes, the instrument was made too general, ignoring the essentials of the teacher in his or her classroom. Researchers in social cognition usually study thought processes like interpersonal expectations in laboratory settings or they use fMRI-scanning (Moskowitz, 2005). These are suitable methods to study interpersonal expectations in a general context. However, we strongly doubt that the complexity of teachers' thought processes in a classroom with twenty to thirty students can be captured with fMRI-scanning or laboratory sessions. The issue

of ecological validity imposes specific challenges to educational research. As it concerns future research in teachers' interpersonal expectations, especially in relation to their behaviour, we think it is best to opt for a qualitative approach, with for instance video vignettes, narratives and interviews (e.g., Verloop, 1989; Yinger, 1986). For instance, to gather data about teachers' predictions of student reactions, teachers can be asked to predict students' reactions to teacher behaviour visible on video-vignettes. Or, to be able to compare interpersonal teacher behaviour with the relational schemas that are guiding these behaviours, data might be gathered by videotaping lessons and conducting a post lesson stimulated recall interview with the teacher immediately or close after the lesson. Claessens, van Tartwijk, Verloop and den Brok (2010) actually made a start with this more qualitative approach to capture relational schemas in relation to teachers' behaviour.

Another issue is that student perceptions of the teacher-class relationship and teachers' discipline strategies were aggregated at the class level. Whether individual or collective student perceptions are employed in research actually depends on the research questions. Individual students' interpersonal perceptions of a teacher may be more indicative for the personal ideas of this student and the specific relationship of this student with the teacher (cf. Kenny, 2004). For that reason, in studies where the research interest is about obtaining a detailed picture of interpersonal processes in the classroom, individual student perceptions might better be used. Conversely, as an indicator of the teacher as a person and his or her behaviour towards the students as a group, the collective or consensual part of students' interpersonal perceptions might be more appropriate. Some researchers (den Brok, Brekelmans, & Wubbels, 2006; Lüdtke, Robitzsch, Trautwein, & Kunter, 2009) point out that it might even be better to use classroom aggregated scores in the study of classroom environments, as we did. It follows that the selection of participating classes is of crucial importance. Here, only student teachers' least favourite classes were selected, but this holds the danger of biased results. Brekelmans (1989) found small but significant differences for in-service teachers between their best and their worst classes: in their best class teachers were perceived as more emotionally close than in their worst class. For beginning teachers, differences

between profiles in different classes are even more prominent than for experienced teachers (Levy, Créton, & Wubbels, 1993). So, in future research it might be advisable to take both a favourite and a least favourite class into account.

Based on the results that were obtained in this thesis, we cannot draw conclusions on the causality of the relations. For example, it remains unclear whether more accurate self-images influence more preferable teacher behaviour, or that more preferable teacher behaviour has a positive effect on teachers' self-images. The same applies to the relations between discipline strategies and the teacher-class relationship: based on this study we know that they are connected, and whether it concerns positive or negative relations. But it leaves scholars in the field of education and classroom management the challenge to find out in future research what the direction of these relations are.

Meanwhile, the challenge for teacher educators is to develop routines to stimulate teacher and student teacher to reflect on their practical knowledge, and to teach them to avoid unproductive interactions in order to be able to create a positive classroom climate in their classrooms. Some insights from the present study might be helpful for the development of that part of teacher education programmes that focuses on how to build and maintain a positive classroom climate.

References

Balli, S. J. (2011). Pre-service teachers' episodic memories of classroom management.*Teaching and Teacher Education, 27*, 245-251.

Brekelmans, M. (1989). *Interpersoonlijk gedrag van docenten in de klas*. Doctoral dissertation.University of Utrecht, Utrecht, the Netherlands.

Brekelmans, M., Levy, J., & Rodriguez, A. (1993).A typology of teacher communication style. In T. Wubbels & J. Levy, (Eds.), D*o you know what you look like?*I*nterpersonal relationships in education.* (pp. 46–55). London: The Falmer Press.

Brekelmans, M., Wubbels, T., & Tartwijk, van, J. (2005).Teacher–student relationships across the teaching career. *International Journal of Educational Research, 43*, 55–71.

Brok, den, P., Brekelmans, M., & Wubbels, T. (2006).Multilevel issues in studies using students' perceptions of learning environments: the case of the Questionnaire on Teacher Interaction. *Learning Environments Research, 9*, 199-213.

Calderhead, J. (1987). *Exploring teachers' thinking.*London: Cassell.

Carson, R. C. (1969). *Interaction concepts of personality.*Chicago: Aldine.

Carter, K. (1990).Teachers' knowledge and learning to teach.In W.R. Houston (Ed.), *Handbook of Research on Teacher Education* (pp. 291-310). New York: MacMillan.

Claessens, L.C.A., Tartwijk, J.W.F. van, Verloop, N. & Brok, P.J. den (2010). *Teacher practical knowledge about teacher-students communication: Changes trough out the career. Program International conference on Interpersonal Relationships in Education 2010* (p. 15): Boulder, USA (2010, April 28 - 2010, April 29).

Dryer, D. C., & Horowitz, L. M. (1997). When do opposites attract? Interpersonal complementarity versus similarity. Journal *of Personality and Social Psychology, 72*, 592-603.

Ertesvåg, S. K. (2011). Measuring authoritative teaching.*Teaching and Teacher Education, 27*, 51-61.

Fuller, F. &Bown, O. (1975).Becoming a teacher. In K. Ryan (ed.), *Teacher education: 74th Yearbook of the National Society for the Study of Education. Part 2* (pp. 25-52). Chicago: University of Chicago Press.

Ghaith, G., & Shaaban, K. (1999). The relationship between perceptions of teaching concerns,teacher efficacy, and selected teacher characteristics. *Teaching and Teacher Education, 15*, 487-496.

Goldberg, L. R. (1990). An alternative 'description of personality': The Big-Five factor structure. Journal *of Personality and Social Psychology, 59*, 1216–1229.

Hofstede, G., & Hofstede, G. J. (2005).*Cultures and organizations: Software of the mind (2nd ed.)*. New York: McGraw-Hill.

Hill, C. R., & Safran, J. D. (1994). Assessing interpersonal schemas: Anticipated responses of significant others. *Journal of Social and Clinical Psychology,13*, 366-379.

Joyce, B. & Showers, B. (1983). The coaching of teaching.*Educational Leadership, 40*(1), 4-10.

Joyce, B. and Showers, B. (1996). The Evolution of Peer Coaching.*Educational Leadership, 53*(6), 12–16

Kaplan, C. (1992). Teachers' punishment histories and their selection of disciplinary strategies.*Contemporary Educational Psychology, 17*, 258-265.

Kenny, D. A. (2004). Person: A general model of interpersonal perception. *Personality and Social Psychology Review, 8*(3), 265-280.

Levy, J., Créton, H., & Wubbels, T. (1993).Perceptions of Interpersonal teacher behavior. In T. Wubbels and J. Levy (Eds.), D*o you know what you look like? Interpersonal relationships in education* (pp. 29-45).London: The Falmer Press.

Lewis, R. (2001). Classroom discipline and student responsibility: the student's view. *Teaching and Teacher Education, 17*, 307-319.

Lewis, R., & Riley, P. (2009).Teacher misbehaviour. In L. J. Saha & A. G. Dworkin (Eds.), *The new international handbook of teachers and teaching* (pp. 417-431). Norwell, MA: Springer.

Locke, K. D. (2005). Interpersonal problems and interpersonal expectations in everyday life. Journal *of Social and Clinical Psychology, 24*, 915-931.

Lortie, D. (1975). *Schoolteacher: A sociological study*. London: University ofChicago Press.

Liston, D., Whitcomb, J., & Borko, H. (2006). Too little or too much: Teacher preparation and the first years of teaching. *Journal of Teacher Education, 57*, 351-328.

Lüdtke, O., Robitzsch, A., Trautwein, U., & Kunter, M. (2009).Assessing the impactof learning environments: How to use student ratings of classroom

or schoolcharacteristics in multilevel modeling.*Contemporary Educational Psychology, 34*(2), 120-131.

Mainhard, M. T., Brekelmans, M., & Wubbels, T. (2011a).Coercive and supportive teacher behaviour: Within- and across-lesson associations with the classroom climate. *Learning and Instruction, 21*, 345-354.

Mainhard, M. T., Brekelmans, M., Brok, den, P., & Wubbels, T. (2011b). The development of the classroom social climate during the first monthsof the school year.*Contemporary Educational Psychology, 36*, 190-200.

Markey, F. M., Funder, D. C., & Ozer, D. J. (2003). Complementarity of InterpersonalBehaviors in Dyadic Interactions.*Personality and Social Psychology Bulletin, 29*(9),1082-1090.

Markey, P. M., & Kurtz, J. E. (2006).Increasing Acquaintanceship and Complementarityof Behavioral Styles and Personality Traits AmongCollege Roommates. *Personality and Social Psychology Bulletin, 32*(7), 907-916.

Markey, F. M., Funder, D. C., & Ozer, D. J. (2003). Complementarity of interpersonal behaviors in dyadic interactions.*Personality and Social Psychology Bulletin, 29*(9), 1082-1090.

Moskowitz, D. S., Ringo Ho, M., & Turcotte-Tremblay, A. (2007). Contextual influences on interpersonal complementarity. *Personality and Social Psychology Bulletin, 33*, 1051-1063.

Moskowitz, G. B. (2005). *Social cognition.Understanding self and others. New* York: The Guilford Press.

McLaughlin, H. J. (1991). Reconciling care and control: Authority in classroom relationships. Journal *of Teacher Eucation, 42*(3), 182-195.

Oord, van, L., & Brok, den, P. (2004). The international teacher.Students'and teachers' perceptions of preferred teacher-student interpersonal behaviour in two United World Colleges. Journal *of Research in International Education, 3*(2), 131-155.

Romi, S., Lewis, R., Roache, J., & Riley, P. (2011). The impact of teachers' aggressive management techniques on students' attitudes to schoolwork. The *Journal of Educational Research, 104*(4), 231-240.

Riley, P. (2009). An adult attachment perspective on the teacher-student relationship & classroom management difficulties.*Teaching and Teacher Education, 25*, 626-635.

Riley, P., Lewis, R., & Brew, C. (2010). Why did you do that? Teachers explain the use of legal aggression in the classroom. *Teaching and Teacher Education, 26*, 957-964.

Tracey, T. J. G. (2004). Levels of interpersonal complementarity: A simplex representation. *Personality and Social Psychology Bulletin, 30*, 1211-1225.

Tschannen-Moran, M. & Woolfolk Hoy, A. W. (2001).Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805.

Veenman, S. (1984).Perceived problems of beginning teachers. *Review of Educational Research, 54*(1), 51-67.

Verloop, N. (1989). *Interactive cognitions of student teachers. An intervention study.* Doctoral dissertation, Leiden University, Leiden, the Netherlands.

Verloop, N., Van Driel, J., & Meijer, P. (2001). Teacher knowledgeand the knowledge base of teaching.*International Journal of Educational Research, 35*, 441-461.

Walker, J.M.T. (2009). Authoritative Classroom Management: How Control and Nurturance Work Together. *Theory Into Practice,48*, 122–129.

Weinstein, C. S. (1998). "I want to be nice, but I have to be mean": Exploring prospective teachers' conceptions of caring and order. *Teaching and Teacher Education, 14*, 153-163.

Wentzel, K.R. (2002). Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence.*Child Development,73*(1), 287-301.

Woolfolk Hoy, A. W., &Weinstein, C. S. (2006).Student and teacher perspectives on classroom management.In C. M. Evertson & C. S. Weinstein (Eds.), *International handbook of classroom management. Research, practice and contemporary issues* (pp.181-223).United States, NJ: Lawrence Erlbaum Associates.

Wubbels, T., Brekelmans, M., Brok, den, P., & Tartwijk, van, J. (2006). An interpersonal perspective on classroom management in secondary classrooms in the Netherlands.In C. M. Evertson & C. S. Weinstein (Eds.), *International handbook of classroom management. Research, practice and contemporary issues*(pp.1161-1191).United States, NJ: Lawrence Erlbaum Associates.

Yinger, R. J. (1986). Examining thought in action: A theoretical and methodological critique of research on interactive teaching. *Teaching and Teacher Education, 2*, 263-282.

Summary

Summary

Social aspects of the learning environment, further to be called the classroom climate, are important for students' cognitive and affective learning outcomes. In this thesis the classroom climate is operationalised by means of two components: the teacher-class relationship and classroom discipline. The teacher-class relationship is described with the dimensions of control and affiliation, and classroom discipline is described with sensitive, directive and aggressive discipline strategies. The teacher-class relationship in terms of control has been found to be positively related to students' cognitive learning outcomes, and affiliation to students' affective learning outcomes. In terms of its effects on students' motivation, attitude and behaviour, sensitive discipline strategies proved to have positive effects, aggressive discipline strategies negative effects, and directive strategies, such as punishment, were ambivalent in its effects on students.

Both discipline strategies and the teacher-class relationship are of major concern to student teachers who just started teaching. Therefore, in the course of this thesis, it was investigated how student teachers' characteristics, in particular their practical knowledge, are related to the teacher-class relationship and student teachers' discipline strategies. Also, the interrelatedness of the teacher-class relationship and discipline strategies was investigated. Most teacher education institutes in the Netherlands pay explicit attention to the teacher-class relationship. However, it was found that the majority of student teachers were not successful in establishing a positive teacher-student relationship at the end of the programme. In this thesis, student teachers' interpersonal profiles (e.g., patterns of interpersonal behaviour as perceived by students) at the beginning and end of their internship during the teacher education programme were compared. Also, the accuracy of student teachers' self-images was investigated by comparing them to student perceptions.

The goal of the first study, described in **Chapter 2**, was to develop an instrument with which we could capture teachers'interpersonal expectations. Interpersonal expectations connect self with other schemas by expecting the interaction between self and others. The most common interaction pattern is the so called complementary pattern: in terms of control, dominant behaviour calls for submissive reactions and vice versa. In terms of affiliation, friendly behaviour invites friendly responses and hostile behaviour evokes hostile reactions. Common interaction patterns are thought to be internalised in relational schemas, that consists of a self-schema, a schema of others, and expectations of interactions between self and others. These interpersonal expectations are operationalised as "if I… (do/say/act X)", "then they…(will react Y)". Supposedly people in general have complementary interpersonal expectations; however teachers' interpersonal expectations have not been investigated. To be able to explore teachers' interpersonal expectations an instrument was developed with vignettes describing teacher behaviour in a specific classroom context. These vignettes were divided in four groups: friendly, dominant, submissive and hostile vignettes. Teachers (N= 46) were asked to respond to these vignettes by describing in their own words which student responses they expected, after which these responses were coded in terms of friendliness-hostility and dominance-submissiveness. Results indicated that teachers indeed have complementary interpersonal expectations. Female teachers expected friendlier responses than male teachers, but otherwise there were no differences between teachers. Compared to people in non-hierarchical relationships, teachers in hostile vignettes expected more submissive responses.

In the second study, of which the results are described in chapter three and four, over 100 student teachers and their students participated. In **Chapter 3** we investigated how personality traits, discipline strategies and self-efficacy in student engagement and classroom management were related to the teacher-class relationship. Student teachers answered questionnaires about personality traits and sense of self-efficacy. Of the five personality traits that are commonly used in research we only took into account the two that are generally acknowledged as the ones that are involved with social interaction,

namely extraversion and friendliness. Students of one class of each participating student teacher answered questionnaires about the discipline strategies of their student teacher and the teacher-class relationship. The discipline strategies questionnaire, for the first time applied in the context of Dutch education, produced three clusters of strategies: sensitive (e.g., reward), directive (e.g., punishment) and aggressive (e.g., yelling in anger at students). With multivariate multilevel analyses it was investigated how the above mentioned variables were related to the teacher-class relationship. The connection of personality traits and self-efficacy with the teacher-class relationship was not significant when also discipline strategies were taken into account. Sensitive discipline strategies were related to the two dimensions of the teacher-class relationship, control and affiliation. Aggressive discipline strategies had a negative relation with control as well as with affiliation. There was an interaction effect for gender: female student teachers who disciplined more aggressive were perceived as more hostile, than male student teachers who disciplined as such. The effect of gender on the relation between directive discipline strategies and affiliation is more complicated: for male student teachers this relation is negative, for female student teachers this is a positive relation.

Considering the importance of discipline strategies for the teacher-class relationship, in **Chapter 4** we investigated student teachers' practical knowledge on discipline strategies. In the beginning, when student teachersare still looking for how he or she wants to be as a teacher, they struggle with questions like "how do they [students] see me? How will they react to me? Which student behaviours are unacceptable to me?" These issues are translated to the following elements of practical knowledge: the self-image of the teacher about his or herself in relation to students (self-image in terms of control and affiliation); interpersonal expectations (anticipated student responses in terms of control and affiliation); and pupil control orientation (humanistic versus custodial). Student teachers answered questionnaires, and students of one of their classes answered the discipline strategies questionnaire. Multiple regression analyses were conducted to answer the question how these variables were connected to the teacher-class relationship. Most important was student

teachers' practical knowledge about control, both in self-image and in anticipated student responses. As student teachers expect students to respond more submissive, have a higher self-image on control, and a more humanistic pupil orientation, they disciplinemore sensitive. The higher the self-image on control, the more directive the student teacher disciplines. Student teachers with a lower self-image on affiliation and a more custodial pupil control orientation discipline more aggressive. The relation between affiliation and aggressive discipline strategies was unexpected: the more student teachers believe to be perceived as hostile, the more they employ aggressive discipline strategies. Whether or not student teachers expect their students to respond friendly or hostile, was not related to their discipline strategies.

Teacher education programmes pay attention to the development of preferable interpersonal profiles (directive, authoritative and tolerant-authoritative profiles) of their student teachers because it is known to be positively related to student outcomes. In **Chapter 5** it was investigated how interpersonal profiles of student teachers at the beginning of the internship were related to their interpersonal profiles at the end of the internship. Also, the accuracy of student teachers' self-images at the beginning of the internship was compared to their accuracy at the end. Finally, the relation between student teachers' interpersonal profiles and accuracy of self-images was investigated. Of 35 student teachers we gathered data at two time-points: two months after the start of the internship, and at the end of the internship. Students of one class of the student teachers answered a questionnaire about their relationship with the teacher and student teachers answered a questionnaire about their self-image. Accuracy of self-image was defined as the level of accordance between self-image and student perceptions. Results indicated that at the beginning of the internship, according to students, less than half of student teachers had a preferable profile; at the end of the internship this group is not any larger, even slightly smaller. It seemed unlikely that student teachers, once they started off with a less preferable profile, would be able to change to a preferable profile. The inaccuracy of self-images in the beginning of the internship was due to under-estimations of oneself, both on control and on affiliation. At the end of the internship inaccuracy was caused by over-estimations on both dimensions.

Two third of student teachers in this sample had more accurate self-images at the end of the internship than at the beginning on control, affiliation or on both dimensions. Student teachers, who had a preferable interpersonal profile at the end of the internship, had significantly more accurate self-images than student teachers with less preferable interpersonal profiles at the end of the internship.

This thesis showed that there are clear and meaningful relations between discipline strategies and the teacher-class relationship. This connection appeared to be much stronger than the direct connection between student teachers' practical knowledge and the teacher-class relationship. However, teachers' practical knowledge was found to be related to the way the student teacher disciplines. Practical knowledge or beliefs in general, are thought to be even more relevant in classroom situations that call for immediate teacher actions, such as disorderly situations, or students' misconduct. In that sense results of this thesis provide insight into which components of practical knowledge are related to student teachers' discipline strategies. Another merit of this thesis is that it showed that in the context of education, it is worthwhile to perceive discipline strategies as consisting of three (sensitive, directive and aggressive) instead of two (sensitive and coercive) factors. In the two factor view, directive strategies, consisting of punishment, belonged to the clusterof coercive discipline strategies. However, punishment might be something that just comes with the specific challenges and demands of the classroom situation, and is not observed to be as negative as aggressive discipline strategies in terms of its effects on students. In previous research, the specific associations between the three discipline strategies and the teacher-class relationship in terms of control and affiliation have not been investigated into detail, and are of relevance for teachers, student teachers, teacher educators and in general teacher education institutes.

In this thesis we just started to unravel the specific relations between components of practical knowledge and discipline strategies, and the teacher-class relationship. Future research into other teacher characteristics or components of practical knowledgewould be interesting. Besides that, we would recommend to conduct intervention studies to investigate how student

teachers as well as in-service teachers might be trained in applying discipline strategies and establishing a positive teacher-class relationship.

Samenvatting

Samenvatting

De leerkracht-leerlingrelatie kan worden beschreven aan de hand van de door leerlingen ervaren mate van invloed en nabijheid van de leerkracht. Daarbij wordt met 'invloed' bedoeld de mate waarin de leerkracht bepaalt wat er in de klas gebeurt en met 'nabijheid' de emotionele afstand tussen leerkracht en leerlingen. Op basis van de mate van invloed en nabijheid kan een zogenaamd interpersoonlijk profiel van de leerkracht worden opgesteld. Het is gebleken dat naarmate leerlingen hun leerkracht als meer dominant ervaren, zij hogere resultaten behalen, en naarmate zij hun leerkracht als meer nabij ervaren, leerlingen een hogere motivatie voor bijvoorbeeld het vak tonen. Een leerkracht-leerlingrelatie die wordt gekenmerkt door een hoge mate van invloed van de leerkracht, en een hoge mate van nabijheid tussen leerkracht en leerlingen, is dus aanbevelenswaardig en niet alleen vanuit het oogpunt van de effecten op leerlingen. Voor leerkrachten blijkt een als negatief ervaren leerkracht-leerlingrelatie één van de eerste en meest genoemde redenen te zijn om de professie de rug toe te keren.

Voor leerkrachten-in-opleiding (lio's) speelt dit alles in versterkte mate: zij kunnen weliswaar zeer gemotiveerd zijn voor het beroep, maar moeten zich nog ontwikkelen als leerkracht. In de universitaire lerarenopleiding kunnen zij tijdens het opleidingsjaar de specifieke eisen ontdekken, die het beroep en met name leerlingen in de klassituatie van hen vragen. Wat betreft de relatie met leerlingen blijkt dat de mate van invloed van de leerkracht in de eerste drie tot zes jaar toeneemt tot een niveau dat daarna gedurende de loopbaan min of meer stabiel blijft. De mate van nabijheid tussen leerkrachten en leerlingen is over heel de loopbaan min of meer stabiel, hoewel er aanwijzingen zijn dat die aan het einde van de carrière licht afneemt. Voor de meeste lio's geldt dat zij de specifieke vaardigheden ten behoeve van succesvol klassenmanagement, zoals invloed uitoefenen door te structureren en leiding te nemen, maar ook disciplineren (d.i. voorkomen of in de hand houden van wangedrag van leerlingen), nog verder moeten ontwikkelen.

Dit proefschrift richt zich op twee factoren die indicatief zijn voor het sociale klasklimaat, namelijk de leerkracht-leerlingrelatie en disciplineringsstrategieën, beide essentiële thema's voor lio's.

De hoofdvraagstelling draait om de vraag hoe lio's een positief klasklimaat bereiken. Om die vraag te kunnen beantwoorden, is onderzocht hoe de kenmerken van de lio, met name praktijkkennis, met de leerkracht-leerlingrelatie en disciplineringsstrategieën samenhangt. De volgende elementen van praktijkkennis zijn onderzocht: self-efficacy, beeld van zichzelf als leerkracht in interactie met leerlingen (nader te noemen: zelfbeeld), verwachte leerlingreacties in reactie op specifiek leerkachtgedrag, en oriëntatie op orde. Daarnaast is de samenhang tussen de leerkracht-leerlingrelatie en disciplineringsstrategieën onderzocht door te kijken naar de leerlingperceptie van de manier van disciplineren van de lio en de leerkracht-leerlingrelatie zoals zij die met de lio ervaren. Gezien het belang van een positieve leerkracht-leerlingrelatie voor zowel leraren als leerlingen, wordt hier op veel lerarenopleidingen expliciet aandacht aan besteed. Echter, uit onderzoek is gebleken dat aan het einde van de lerarenopleiding het grootste deel (69%) van de lio's er niet in is geslaagd een positieve leerkracht-leerlingrelatie te bewerkstelligen. In deze dissertatie is de leerkracht-leerlingrelatie aan het begin van de stage vergeleken met de relatie aan het einde van de stage. Ook hebben we onderzocht in hoeverre het beeld dat lio's zelf van de relatie met leerlingen hebben, overeenkomt met het beeld dat leerlingen van de relatie hebben.

Er zijn twee studies uitgevoerd. De eerste was een kleinschalige studie onder leerkrachten in het voortgezet onderwijs waarin een nieuw ontwikkeld instrument is getest. De tweede was een grootschaliger vragenlijststudie onder lio's. Van deze groep heeft een klein gedeelte zowel aan het begin als aan het eind van de stage vragenlijsten ingevuld. Ook hebben leerlingen van één hun klassen vragenlijsten ingevuld, over de leerkrachtleerling-relatie en de disciplineringsstrategieën van de lio.

Het doel van de eerste studie **(hoofdstuk 2)**, was een instrument te ontwikkelen waarmee interpersoonlijke verwachtingen van leerkrachten gemeten konden worden. Interpersoonlijke verwachtingen zijn onderdeel van zogenaamde relationele schema's en verbinden zelf-schema's met ander-

schema's: het zijn de verwachte interacties tussen zelf en de ander. Uit onderzoek is bekend dat de meeste mensen primair geneigd zijn complementair op een ander te reageren, en dat de meeste veelvoorkomende interactiepatronen volgens het principe van complementariteit verlopen. Complementair op de invloedsdimensie wil zeggen dat als de één dominant handelt, de primaire reactie van de ander hoogstwaarschijnlijk meegaand is, en vice versa. Voor de nabijheidsdimensie geldt dat als de één vriendelijk doet, de primaire reactie van de ander ook vriendelijk is, terwijl als de één bijvoorbeeld boos kijkt, de ander in eerste instantie niet geneigd is vriendelijk terug te lachen. In hiërarchische relaties, waarvan de relatie tussen leerkracht en leerling een voorbeeld is, werkt het principe van complementariteit voor interacties op de invloedsdimensie in versterkte mate, terwijl het op de nabijheidsdimensie minder sterk aanwezig is. Veel voorkomende interacties, zoals complementaire interacties, worden geïnternaliseerd in relationele schema's. De verwachte interactie tussen zelf en anderen is geoperationaliseerd in de vorm van als-dan verwachtingen: "Als ik…", "dan zullen zij…" Van leerkrachten is tot op heden niet onderzocht welke interpersoonlijke verwachtingen zij hebben. Om te kunnen onderzoeken welke interactiepatronen geïnternaliseerd zijn in het relationele schema van leerkrachten is een vragenlijst ontwikkeld. Voor de vragenlijst zijn vignetten opgesteld die bepaald leerkrachtgedrag omschrijven, onderverdeeld in dominante, vriendelijke, meegaande en onvriendelijke situaties. Deze zijn voorgelegd aan 46 leerkrachten met de vraag te omschrijven hoe zij dachten dat hun leerlingen zouden reageren op de situaties in elke vignette. Het bleek dat leerkrachten inderdaad hoofdzakelijk complementaire verwachtingen hadden. Vrouwen verwachtten vriendelijker leerling-reacties dan mannen, maar verder waren er geen verschillen tussen leerkrachten, ook niet op grond van ervaring. In vergelijking met mensen in niet-hiërarchische relaties, verwachtten leerkrachten in onvriendelijke situaties opvallend meer meegaandheid.

In **hoofdstuk 3** is de vraag beantwoord hoe persoonlijkheidstrekken, self-efficacy en de manier van disciplineren samenhangen met de leerkracht-leerlingrelatie in termen van invloed en nabijheid.

Ruim 100 lio's hebben vragenlijsten ingevuld over hun persoonlijkheidstrekken en hun gevoel van self-efficacy met betrekking tot

specifieke onderwijscompetenties, namelijk klassenmanagement, leerlingbetrokkenheid en instructie-strategieën. Van de vijf persoonlijkheidstrekken die dikwijls worden onderscheiden (openheid, emotionaliteit, nauwkeurigheid, extraversie en vriendelijkheid) zijn alleen de laatste twee in het onderzoek meegenomen, omdat deze conceptueel en empirisch aan de leerkracht-leerlingrelatie te verbinden zijn. De leerlingen uit één klas van deze lio's hebben door middel van vragenlijsten aangegeven hoe zij de interpersoonlijke relatie en de manier van disciplineren van de betreffende lio hebben waargenomen. De disciplineringsstrategieën-vragenlijst werd voor het eerst toegepast in het Nederlandstalig taalgebied en bleek na factor-analyse in plaats van de gebruikelijke twee, drie factoren te bezitten. Zoals ook uit eerder onderzoek naar voren is gekomen, bleek "Straffen" noch bij agressief, noch bij sensitief disciplineren te passen, maar een op zich zelf staand cluster van gedragingen te zijn, dat we hebben aangeduid als 'directief'. In de verdere analyses zijn de drie disciplineringsstrategieën agressief, sensitief en directief onderscheiden.

Met behulp van meerniveau-analyses is onderzocht wat de onderlinge bijdrage van de genoemde variabelen aan de leerkracht-leerlingrelatie was. Zo werd duidelijk dat de belangrijkste bijdrage aan de leerkracht-leerlingrelatie werd geleverd door de manier van disciplineren van de lio. Effecten van self-efficacy en persoonlijkheidstrekken op de leerkracht-leerlingrelatie konden niet aangetoond worden. Sensitief disciplineren bleek positief gerelateerd te zijn aan invloed én nabijheid, terwijl agressief disciplineren juist een negatieve relatie heeft met zowel invloed als nabijheid. Vrouwelijke lio's werden als minder nabij gezien, en hier bleek een interactie met de manier van disciplineren: voor alle lio's geldt dat agressief disciplineren negatief samenhangt met de mate van nabijheid, maar dit geldt voor vrouwen sterker dan voor mannen. Met andere woorden: naarmate vrouwelijke lio's vaker sarcastische opmerkingen tegen leerlingen maken, of boos schreeuwen, ervaren leerlingen haar als meer vijandig dan wanneer een mannelijke lio dit doet. Het verband tussen directief disciplineren en nabijheid is gecompliceerder: voor mannelijke lio's is de relatie tussen directief disciplineren en de door leerlingen ervaren mate van nabijheid negatief, maar voor vrouwelijke lio's juist positief.

Gezien het blijkbaar grote belang van de manier van disciplineren voor de leerkracht-leerlingrelatie, is in **hoofdstuk 4** nader onderzocht hoe bepaalde elementen van de praktijkkennis van de lio samenhangen met zijn of haar disciplineringsstrategieën. In de eerste jaren als leerkracht, wanneer deze nog op zoek is naar zijn of haar manier van lesgeven en disciplineren, spelen vragen als "hoe word ik gezien door de leerlingen?", "hoe zullen leerlingen op mij reageren?" en "wat vind ik (on)wenselijk leerlinggedrag?". Deze zaken zijn vertaald naar de volgende elementen van praktijkkennis: het beeld dat de lio van zichzelf heeft in interactie met leerlingen (zelfbeeld), interpersoonlijke verwachtingen en de oriëntatie op orde. In het geval van zelfbeeld gaat het om hoeveel invloed/nabijheid de lio denkt te hebben in de ogen van leerlingen, bij interpersoonlijke verwachtingen gaat het om de mate van invloed/nabijheid die de lio in het gedrag van leerlingen verwacht. De oriëntatie op orde heeft betrekking op hoe de lio denkt dat je met leerlingen om moet gaan (humanistische versus een bevoogdende en autoritaire oriëntatie). Ruim 100 lio's hebben vragenlijsten ingevuld, en hun leerlingen hebben de vragenlijst over disciplineringsstrategieën van de leerkracht ingevuld. Om te kunnen bepalen wat het relatieve belang van deze aspecten van praktijkkennis is op disciplineringsstrategieën, zijn meervoudige regressie-analyses uitgevoerd. Hieruit werd duidelijk dat het met name belangrijk is hoe de lio over invloed en orde denkt. Het gaat dan om de mate van invloed die de lio zelf denkt te hebben, en de mate van invloed die hij of zij verwacht in de reactie van leerlingen. Naarmate lio's meer meegaand gedrag van leerlingen verwachtten, van zichzelf denken meer dominant te zijn, en een oriëntatie op orde hebben die meer humanistisch is, disciplineerden zij meer sensitief. Het zelfbeeld met betrekking tot de mate van invloed bleek ook van belang in relatie tot directief disciplineren: hoe dominanter de lio dacht te zijn, des te meer disciplineerde hij/zij directief. In relatie tot agressief disciplineren bleek minder nabijheid in het zelfbeeld, samen met een meer bevoogdende oriëntatie op orde, een rol te spelen. De relatie met nabijheid is onverwachts: naarmate lio's meer het idee hadden door leerlingen als onvriendelijk gezien te worden, disciplineerden zij meer agressief. Of er van leerlingen meer of minder vriendelijke reacties

verwacht werden, bleek met geen van de disciplineringsstrategieën samen te hangen.

In **hoofdstuk 5** is de vraag beantwoord hoe de interpersoonlijke profielen van lio's aan het begin en einde van hun stage zijn waargenomen door hun leerlingen, en hoe de accuratesse van het zelfbeeld van de lio aan het begin en aan het einde van de stage is. Bij alle drie deelnemende lerarenopleidingen wordt expliciet aandacht besteed aan het leren opbouwen en onderhouden van een positieve leerkracht-leerlingrelatie. Deze opleidingen maken gebruik van een vragenlijst die leerlingen invullen over hoe zij de relatie met de lio ervaren. De uitslag daarvan wordt gebruikt als een vorm van feedback voor de lio en gerapporteerd in termen van interpersoonlijke profielen van de lio. Tot de gunstige interpersoonlijke profielen worden het directieve, gezaghebbende en tolerant-gezaghebbende profiel gerekend. Opleidingen proberen lio's te begeleiden in het proces naar een gunstig interpersoonlijk profiel, en er wordt daarbij ook gepoogd de lio te leren kritisch en accuraat te reflecteren op zichzelf. In vergelijking tot de leerlingperceptie, kan het zelfbeeld van de lio meer of minder accuraat zijn.

Van 35 lio's van één lerarenopleiding is materiaal verzameld over hoe hun leerlingen de leerkracht-leerlingrelatie aan het begin en einde van het opleidingsjaar hebben waargenomen. Daarnaast is bij lio's hun zelfbeeld aan het begin en eind van het opleidingsjaar bevraagd. Accuratesse is de mate van overeenstemming tussen het beeld dat de leerlingen van de relatie met de lio hebben en het beeld dat de lio zelf heeft over de leerkracht-leerlinrelatie in termen van invloed en nabijheid. Het blijkt dat aan het begin van het opleidingsjaar nauwelijks de helft van de lio's een van de gunstige profielen heeft; aan het eind van het jaar is die groep niet gegroeid. Eenmaal gestart met een van de ongunstige profielen is het blijkbaar lastig is om aan het einde van de stage een gunstig profiel te bereiken.

De inaccuratesse van het zelfbeeld wordt in het begin van het opleidingsjaar vooral veroorzaakt doordat lio's zichzelf onderschatten op invloed en nabijheid. Aan het einde van het jaar wordt de inaccuratesse veroorzaakt doordat lio's zichzelf overschatten op invloed en nabijheid. Tweederde van de lio's heeft aan het einde van het opleidingsjaar een meer

accurate inschatting van de eigen mate van invloed of nabijheid of beide. Daarbij viel op dat lio's met een gunstig interpersoonlijk profiel aan het einde van het opleidingsjaar, significant meer accurate zelfbeelden op invloed en nabijheid hadden dan lio's met een ongunstiger interpersoonlijk profiel.

Uit dit onderzoek blijkt een sterk verband tussen disciplineringsstrategieën en de leerkracht-leerlingrelatie. Dit verband is veel sterker dan de relaties tussen praktijkkennis van de lio en de leerkracht-leerlingrelatie. Bovendien hangt praktijkkennis samen met de manier van disciplineren zodat deze gedachten en opvattingen aan het verband van disciplinering met de leerkracht-leerlingrelatie niets meer toevoegen. In ogenschouw nemend dat de koppeling tussen gedrag en de relatie directer is dan die tussen cognitie en de relatie, is deze bevinding niet verrassend. Dit wel echter niet zeggen dat praktijkkennis niet van belang is. Aangenomen wordt dat met name in situaties waar leerkrachten gedwongen zijn snel te reageren en in te grijpen, praktijkkennis in relatie tot gedrag wel degelijk een belangrijke rol speelt. In relatie tot disciplineringsstrategieën hebben we daarom onderzocht welke rol praktijkkennis speelt. Beide inzichten, disciplineringsstrategieën in relatie tot de leerkracht-leerlingrelatie en praktijkkennis in relatie tot disciplineringsstrategieën zijn relevant voor lerarenopleidingen. Gezien de gevonden verbanden tussen disciplineringsstrategieën en de leerkracht-leerlingrelatie, zou tijdens de opleiding niet alleen expliciet aandacht aan de leerkracht-leerlingrelatie besteed moeten worden, maar ook aan de manier van disciplineren en vooral hoe deze met elkaar interacteren. Er zijn lio's die niet durven disciplineren uit angst de band met leerlingen te beschadigen. Dat het verband tussen disciplineren en de leerkracht-leerlingrelatie genuanceerder is dan dat, blijkt uit dit proefschrift. Sensitief disciplineren hangt positief samen met meer nabijheid en meer invloed, en het bleek dat zelfs straffen (onderdeel van directief disciplineren) niet per definitie betekende dat de leerkracht als minder nabij werd gezien. Dit bleek namelijk voor mannen en vrouwen verschillend. Wel is agressief disciplineren duidelijk negatief gerelateerd aan de leerkracht-leerlingrelatie: leerlingen vinden de leerkracht bij agressief disciplineren niet alleen minder nabij, deze boet in hun ogen ook aan invloed in.

Dankzij dit onderzoek is een aantal nieuwe instrumenten beschikbaar gekomen voor het Nederlandstalig taalgebied, zoals de oriëntatie-op-orde-lijst, de vragenlijst interpersoonlijke verwachtingen en de disciplineringsstrategieën-lijst. Wat deze laatste betreft is duidelijk geworden dat 'straf geven' niet tot het cluster dwingende strategieën behoort zoals dat eerder in Australisch onderzoek was gevonden, maar binnen de context van het onderwijs een op zichzelf staand cluster vormt. De driedeling sensitief - directief - agressief disciplineren draagt op die manier bij aan een dieper en breder begrip van disciplineren. In het kader van dit proefschrift is onderzocht hoe disciplineren zich verhoudt tot de leerkracht-leerlingrelatie, maar er zijn meerdere toepassingen van de disciplineringsvragenlijst denkbaar. Zo is er bijvoorbeeld nu slechts een begin gemaakt met het onderzoeken van wat er ten grondslag ligt aan de manier van disciplineren door van een aantal aspecten van de praktijkkennis van lio's te onderzoeken hoe die zich verhouden tot hun manier van disciplineren. Gezien de moeite die lio's hebben met disciplineren, en het belang ervan voor de relatie met leerlingen, zou vervolgonderzoek naar overtuigingen, of persoonlijke kenmerken zoals emotionele intelligentie de moeite waard zijn. Behalve nader onderzoek naar achtergronden van de manier van disciplineren, zou het zeker ook aan te bevelen zijn door middel van interventiestudies te onderzoeken of en hoe disciplineringsstrategieën op de initiële lerarenopleidingen, maar ook als na- of bijscholingtrajecten trainbaar zijn.

Publications

SCIENTIFIC PUBLICATIONS

Jong, R.J. de, Tartwijk, J. van, Wubbels, T., Veldman, I., & Verloop, N. (2012). Teachers' expectations of teacher-class interaction: Complementary and distinctive expectancy patterns. *Teaching and Teacher Education, 28*, 948-956.

Jong, R.J. de, Tartwijk, J. van, Verloop, N., Veldman, I., & Wubbels, T. (2013). Persoonlijkheid, self-efficacy, disciplineringsstrategieën en de leerkracht-leerlingrelatie bij leerkrachten in opleiding. *Pedagogische Studiën, 90,* 21-39.

MANUSCRIPTS SUBMITTED FOR PUBLICATION

Jong, R.J. de, Tartwijk, J. van, Wubbels, T., Veldman, I., & Verloop, N. (resubmitted). Student teachers' discipline strategies: Relations with self-images, anticipated student responses and pupil control orientation.

Jong, R.J. de, Mainhard, T., Tartwijk, J. van, Veldman, I., Verloop, N., Wubbels, T. (resubmitted). How pre-service teachers' personality traits, self-efficacy and discipline strategies contribute to the teacher-class relationship.

Jong, R.J. de, Tartwijk, J. van, Wubbels, T., Veldman, I., & Verloop, N. (submitted). Student teachers' interpersonal profiles and self-images at the beginning and end of the internship.

PAPERS

Jong, R.J. de, Tartwijk, J. van, Wubbels, Th., Veldman, I., & Verloop, N. (2008, June). *Teachers' prototypical interpersonal scripts about teacher-*

*students interactions in the classroom.*Paper presented at the Onderwijs Research Dagen (ORD), Eindhoven, theNetherlands.

Jong, R.J. de, Tartwijk, J. van, Wubbels, Th., Veldman, I., & Verloop, N. (2009, May). *Teachers' expectancy patterns of student reactions.* Paper presented at the Onderwijs Research Dagen (ORD), Leuven, Belgium.

Jong, R.J. de, Tartwijk, J. van, Wubbels, Th., Veldman, I., & Verloop, N. (2010, April). *Complementarity of teachers' interpersonal scripts on teacher-class interactions.* Paper presented at the Interpersonal Conference on Interpersonal Relationships in Education (ICIRE), Boulder, Colorado, USA.

Jong, R.J. de, Tartwijk, J. van, Wubbels, Th., Veldman, I., & Verloop, N. (2010, May). *Teachers' Expectations about Teacher-Students Interactions.*Paper presented at the 2010 Annual Meeting of the American Educational Research Association (AERA), Denver, Colorado, USA.

Jong, R.J. de, Tartwijk, J. van, Wubbels, Th., Veldman, I., & Verloop, N. (2010, June). *Leerkracht cognities over leerkracht-leerling interacties: Algemene en context-specifieke interpersoonlijke scripts.* Paper presented at the Onderwijs Research Dagen (ORD), Enschede, theNetherlands.

Jong, R.J. de, Tartwijk, J. van, Wubbels, Th., Veldman, I., & Verloop, N. (2011, June). *De relatie tussen persoonlijke kenmerken, interpersoonlijk gedrag en disciplineringsstrategieën van DiO's.*Paper presented at the Onderwijs Research Dagen (ORD), Maastricht, theNetherlands.

Jong, R.J. de, Tartwijk, J. van., Wubbels, Th., Veldman, I., & Verloop, N. (2012, April). *Classroom management: How pre-service teachers' thinking and their discipline strategies are connected.* Paper presented at the Interpersonal Conference on Interpersonal Relationships in Education (ICIRE), Vancouver, Canada.

Jong, R.J. de, Tartwijk, J. van, Wubbels, Th., Veldman, I., & Verloop, N. (2012, June). *Samenhang tussen overtuigingen en disciplinerings-*

strategieën van leerkrachten in opleiding. Paper presented at the Onderwijs Research Dagen (ORD), Wageningen, the Netherlands.

Curriculum Vitae

Romi de Jong was born in The Hague, the Netherlands on March 18th 1975. After completing pre-university education at the Herman Jordan Lyceum (1987-1993), she attended the Bernard Lievegoed College for Liberal Arts. From 1995-1999 she attended the HAN University of Applied Sciences, concluded with a Bachelor's degree in Social Work. Straight after, she attended the Radboud University Nijmegen where she earned a Master's degree in Philosophy of Education in 2003.

After graduating she worked from 2003-2005 as a lecturer at the Child and Family Studies department of Radboud University Nijmegen, with a half year break in which she participated as a gender and education specialist on a development project in West-Bengal, India. She worked from 2005-2006 as a cognitive-behavioural trainer with clients with Substance Use Disorders (SUD's), after which she worked again as a lecturer at the Child and Family Studies department of Leiden University (2006-2010).

In 2007 she started her PhD-project "Student teachers' practical knowledge, discipline strategies, and the teacher-class relationship" at the ICLON Leiden University Graduate School of Teaching, in close cooperation with Professor Nico Verloop, and Professor Theo Wubbels and Professor Jan van Tartwijk at Utrecht University.

In 2009 she paid a two month visit to the Stanford University School of Education as a guest of Professor Pam Grossman. She frequented various master classes, among which the Teacher Professional development course of Professor Hilda Borko and the Scientific Educational Research course of Professor Richard Shavelson. In the Netherlands, she attended master classes and courses at the ICO Research School (among which Qualitative Research; Teaching and Teacher Education; Analysis of Measurement Instruments; Designing and implementing randomized field trial at the school level).

Since 2010 she was based at LeidenUniversity as well as at Utrecht University. Alongside her PhD-project, Romi continued working as a lecturer

at the department of Child and Family Studies of Leiden University and also conducted several courses at the teacher education programme of the ICLON Graduate School of Teaching. She presented her research at several national (ORD) and international (AERA, ICIRE) conferences.

Currently Romi works in Phnom Penh, Cambodia, as research consultant and education specialist.

Woord van dank

Aan de mensen die wetenschap bedrijven omdat ze de kunst van het verwonderen verstaan: Anna Bosman, Judi Mesman en Leonieke Vermeer.

Aan mijn kamergenotes in Leiden, Tamara Platteel en Nelleke Belo, voor wie ik te vaak een pain-in-the-ass geweest moet zijn: ik was duidelijk in opleiding…

De “Meisjes van het Aandachtsgebied” Anna van der Want, Heleen Pennings en vooral Luce Claessens: niets leukers dan met jullie op congres gaan en op de camping te staan!

Aan de bovenstaande dames en de andere kamergenotes in Utrecht, Ada Kool, Anouschka van Leeuwen en Marloes Hendrickx: onze kamer is gepubliceerd in het grote *A Day*-boek [www.aday.org/book].

To my Stanford Professors: Pam Grossman,AnnaRichert, Richard Shavelson, Hilda Borko and Ray McDermott: you taught me so much, but besides that I very much appreciated your kindness. Thank you!

Also thanks to all the graduate students of Stanford University with whom I enjoyed classes, coffee, rooftop-parties, tennis, beachvolleybal, dinners, et cetera. It was great to be with you guys, thanks! To Lisa Barker: thanks for crossing over the ocean to go where the kabouters go: it was fun to have you in Leiden!

Aan het ICLON en het Leids studiefonds voor de financiele ondersteuning waarmee ik naar Stanford heb kunnen gaan.

Ook dank aan m’n lichtlamp - helemaal uit Finland overgekomen om mij de winter door te stralen. Volleybal en de volleyballers van RVC Libanon’50

hebben me letterlijk en figuurlijk in beweging gehouden gedurende de jaren waarin ik doctor moest worden. Dank voor alle lichtheid!

Aan de leden van mijn begeleidingscommissie Theo Wubbels, Jan van Tartwijk en Ietje Veldman, maar in het bijzonder aan Nico Verloop voor het steken van een stokje voor een ongunstig verloop van mijn project.

“They are one person, they are two alone, they are three together, they are for eachother.”

Crosby, Stills and Nash.Helplessly Hoping.

ICLON

Leiden University Graduate School of Teaching

PHD DISSERTATION SERIES

Hoeflaak, A. (1994). *Decoderen en interpreteren: een onderzoek naar het gebruik van strategieën bij het beluisteren van Franse nieuwsteksten.*

Verhoeven, P. (1997). *Tekstbegrip in het onderwijs klassieke talen.*

Meijer, P. C. (1999). *Teachers' practical knowledge: Teaching reading comprehension in secondary education.*

Zanting, A. (2001). *Mining the mentor's mind: The elicitation of mentor teachers' practical knowledge by prospective teachers.*

Uhlenbeck, A. M. (2002). *The development of an assessment procedure for beginning teachers of English as a foreign language.*

Oolbekkink-Marchand, H. W. (2006). *Teachers' perspectives on self-regulated learning: An exploratory study in secondary and university education.*

Henze-Rietveld, F. A. (2006). *Science teachers' knowledge development in the context of educational innovation.*

Mansvelder-Longayroux, D.D. (2006). *The learning portfolio as a tool for stimulating reflection by student teachers.*

Meirink, J. A. (2007). *Individual teacher learning in a context of collaboration in teams.*

Nijveldt, M. J. (2008). *Validity in teacher assessment: An exploration of the judgement processes of assessors.*

Bakker, M. E. J. (2008). *Design and evaluation of video portfolios: Reliability, generalizability, and validity of an authentic performance assessment for teachers.*

Oonk, W. (2009). *Theory-enriched practical knowledge in mathematics teacher education.*

Visser-Wijnveen, G. J. (2009). *The research-teaching nexus in the humanities: Variations among academics.*

Van der Rijst, R. M. (2009). *The research-teaching nexus in the sciences: Scientific research dispositions and teaching practice.*

Platteel, T. L. (2010). *Knowledge development of secondary school L1 teachers on concept-context rich education in an action-research setting.*

Kessels, C. C. (2010). *The influence of induction programs on beginning teachers' well-being and professional development.*

Min-Leliveld, M. J. (2011). *Supporting medical teachers' learning: Redesigning a program using characteristics of effective instructional development.*

Dobber, M. (2011). *Collaboration in groups during teacher education.*

Wongsopawiro, D. (2012). *Examining science teachers' pedagogical content knowledge in the context of a professional development program.*

Jong, R. J., de (2013). *Student teachers' practical knowledge, discipline strategies, and the teacher-class relationship.*

Appendix:
Teacher Interpersonal Schema Questionnnaire

		Teacher behaviour Vignettes
Section	No.	Description
Dominant	V1	You position yourself in front of the classroom and indicate you would like to start the lesson.
	V2	A student did not perform well. You tell him/her that you expect him/her to try harder next time.
	V3	To make something clearer, you tell the students about your own experiences.
	V6	A couple of students arrive in class late. You resolutely confront them with the rules regarding attendance.
	V15	This lesson is about a particular topic. You enthusiastically explain a particular part of it.
	V17	You explain an assignment that has to be carried out in the lesson. While distributing it, you tell the students they have to work individually and in silence.
Friendly	V5	It is the beginning of the lesson, the students are all seated and getting ready. You ask how they are doing.
	V7	The last couple of lessons you taught some difficult topics. At the end of the final lesson, you ask the students if there is anything they still need regarding these topics.
	V8	You gave your students a difficult and demanding task. While distributing the task, you also said you were fully confident in them.
	V9	Students have been working well. You show your appreciation.
	V16	Students are allowed to work for themselves. You remain present so they can ask for help whenever they have any questions or problems.
Submissive	V4	In the previous lesson, you made a mistake in your explanation of a particular topic. In this lesson you again pay attention to this explanation, and you have just admitted that you have made this mistake.

	V13	The lesson is almost finished, you have told the students they may do something for themselves for the last ten minutes.
	V10	In your view, students have shown a lack of effort. In the lesson you show them your dissatisfaction.
	V11	Three students are not paying attention. You react in an irritated way.
	V12	Two students are playing with a mobile phone or something, and because of that are not paying attention to the lesson. You give them both a straight look, without saying anything.
Hostile	V14	You tell students the consequences of not abiding by the rules.
	V18	You are a bit ill-tempered today. A student makes the wrong remark at the wrong time. You react somewhat snappily.
	V19	A group of girls is talking and giggling. You look sternly in their direction and call out their names one by one.
	V20	Students' results are disappointing. You are quite certain they did not work hard enough and you show you are displeased.