

- Masterthesis -

Teachers' interpersonal behaviour during study coaching in higher education

What is teachers' interpersonal behaviour during study coaching and what are the determinants of that behaviour?



"I expect you all to be independent, innovative, critical thinkers who will do exactly as I say!"

Author: Jacqueline van Hoven, 3252868

Email: J.vanHoven@students.uu.nl

1st Assessor: Heleen Pennings, Msc

2nd Assessor: Prof. Dr. Jan van Tartwijk

Utrecht University

June 5th, 2013

Abstract

In this empirical research two theories were pieced together to answer four research questions. The Interpersonal Theory (Wubbels, Brekelmans, & Hooyman, 1992) was used to investigate the teachers' actual interpersonal behaviour in study coaching in higher education. The Theory of Planned Behaviour (TPB; Ajzen, 1991) was used to examine the determinants of that behaviour. The main research question of this study is: *What is teachers' interpersonal behaviour during study coaching and what are the determinants of that behaviour?* This question was answered by means of four sub-questions. Study coaches of the Marnix Academie were participating in the study ($n = 64$).

The first research question looked into the underlying beliefs of the attitude towards, subjective norm, and perceived behavioural control about teachers' interpersonal behaviour during study coaching. A newly developed TPB-questionnaire was used for this purpose. The behavioural and normative beliefs about interpersonal teacher behaviour in study coaching did predict the attitude and subjective norm very well. Control beliefs did not determine the perceived behavioural control.

Second, the intentions towards the actual interpersonal teacher behaviour in study coaching were investigated. The intentions were primarily determined by teachers' attitudes towards their interpersonal behaviour in study coaching. The subjective norm and perceived behavioural control towards their behaviour did not significantly predict their intentions.

Third, the ideal, self-image, and students' image of teachers' interpersonal behaviour were investigated by means of a newly developed QTI (questionnaire of teacher interaction) for study coaching in higher education. As expected for a subject like study coaching, study coaches ($n = 64$) scored higher on the affiliation than on the control dimension. It was remarkable that study coaches like to be more controlling (ideal).

The last question pieced the two theories together and determined to what extent intentions towards the interpersonal teacher behaviour in study coaching determined the actual behaviour. Regressions showed a significant prediction of intentions on the control dimension of study coaches' own and students' perceptions of interpersonal teacher behaviour.

Keywords: theory of planned behaviour, higher education, interpersonal teacher behaviour, study coaching

Globally a transition in education is going on from teacher-centred instruction and knowledge transfer to student-centred instruction and competence-based learning (Baartman, Bastiaens, Kirschner, & Van der Vleuten, 2006). In the Netherlands this transition is visible in vocational competence-based education. Competence-based education focuses on integration of knowledge, skills and attitudes necessary for executing professional tasks in a professional context and on being able to use professional competencies in relevant work situations (Eraut, 1998; Gullikers, Bastiaens, & Kirschner, 2005; Biemans et al., 2009; Baartman & De Bruijn, 2011). Integration is important for transfer to other contexts and students have to recognize the similarities and differences between tasks (Baartman & De Bruijn, 2011). However, transfer to other contexts is difficult; guidance and help by teachers in the school context are necessary to make integration possible (Torraco, 2008). Reflection on practice tasks has to take place. In higher vocational education study coaching is a way to do so. Therefore, it is important that teachers who guide students have coaching skills and balance their roles as coach and expert (Biemans et al., 2009).

Communication in social interaction is critical for learning. For this interaction teacher's interpersonal behaviour is important (Den Brok, Brekelmans, & Wubbels 2004). Interpersonal teacher behaviour can be perceived by the teachers themselves (self-image) and by their students (students' image). Teachers can also have a perception of their ideal interpersonal behaviour in teacher-student interaction (ideal) (Wubbels, Brekelmans, & Hooyman, 1992). According to the Theory of Planned Behaviour (TPB) (Ajzen, 1991) all behaviour is grounded in certain beliefs and attitudes. Kyriakides (2005) argues that teacher's own beliefs and attitudes to teaching are more important than directly observable behaviours. Thus, interpersonal teacher behaviour in this coaching role is determined by beliefs about, attitudes towards, subjective norm, and perceived behavioural control about study coaching. The main focus of this study is to investigate to which extent these factors predict the ideal, self-reported and student-reported interpersonal teacher behaviour.

Theoretical Framework

In this paragraph I will focus on the theoretical background of coaching in higher education, the interpersonal theory, and the theory of planned behaviour. This results in the problem description and research questions of this study. Based on this theoretical background certain outcomes will be expected and described in the section 'hypotheses'.

Coaching in higher education

In higher vocational education integration of knowledge, skills and attitudes are important for learning. Teachers are supposed to guide and support students to make integration possible (Toracco, 2008; Biemans et al., 2009). Coaching used to give feedback on (future) teachers' practices as a means for reflection produces a positive learning experience (Rhodes & Berneicke, 2002). Thus, teachers of (future) primary education teachers have a coaching role. Ketelaar, Den Brok, Beijaard and Boshuizen (2012) found some overarching characteristics in the coaching role of teachers, namely:

- students' learning processes are the starting point
- teacher facilitates students' learning processes by guiding, supporting and anticipating on different needs
- focus on improvement of students' self-directed and independent learning
- good teacher-students relationship

Giving feedback and stimulating reflection in the education of primary education teachers can improve students' instructional effectiveness. Study coaching is a kind of cognitive coaching; the internal thought processes have to change behaviour. Study coaches need to build trust, ask questions, respond in a non-hostile way, and empower the students to let this happen (Veenman, De Laat, & Staring, 1998). Furthermore, joint reflection can be a powerful tool for professional growth (Beatty, 2000). Dewey (1933) mentions that problems and issues in teaching experiences are the source for reflective thinking. Explanations coming up in a joint reflection can be embedded in future teaching practices. Frick, Carl & Beets (2010) distinguish three levels of reflective practices for (future) teachers: their professional identity, their sense of mission, and their meta-cognition to become a self-regulated teacher. In study coaching getting grades is not important, but study motivation, reflection, development of professional identity, and collaborative learning are more important issues. Thus, in study coaching affective outcomes are far more important than cognitive outcomes.

Study coaching needs a special kind of interpersonal teacher behaviour; the balance between closeness and control of a study coach is a special one. Interpersonal teacher behaviour has been investigated in different contexts, but mainly in secondary education. Little is known about interpersonal teacher behaviour in competence-based higher education (Fraser, Aldridge, & Soerjaningsih, 2010). In this study the interpersonal theory was used to investigate interpersonal teacher behaviour (Wubbels, Créton, & Hooymayers, 1985). In the next section I will elaborate on the interpersonal theory.

Interpersonal theory

Teaching can be investigated from different perspectives: subject-content, learning activities, interpersonal, moral, and organisational perspective (Den Brok et al., 2004). In the interpersonal perspective, which describes and analyses teaching while considering student-teacher relationship, the pragmatic orientation of the communicative systems approach is important. It concerns the effect of communication on someone else (Den Brok et al., 2004; Wubbels, Brekelmans, Den Brok, & Van Tartwijk, 2006). Student-teacher relationship is an important determinant for student learning (Fraser et al., 2010). Moreover, the interpersonal relationship between students and teacher is important because a healthy relationship is prerequisite for student involvement (Maulana, Opdenakker, Den Brok, & Bosker, 2012). Besides, good interpersonal teacher-student relationships prevent burnout and teachers are more satisfied with their job (Wubbels & Levy, 1991). And above all, students' perceptions of the interpersonal teacher behaviour are related to students' motivation and achievement (Den Brok et al., 2004).

Wubbels et al. (1985) developed the interpersonal theory with a system perspective in mind. Students' perceptions, teacher's own perceptions, and teacher's ideal of interpersonal teacher relationship are mapped in the Model of Interpersonal Teacher Behaviour (MITB). This is a two-dimensional model, based on Leary's model for human interaction (1957), adapted for education-use (Wubbels et al., 1992; Den Brok et al., 2004; Wubbels & Brekelmans, 2005; Wubbels et al., 2006). The two dimensions are *Control* (dominance versus submission), describing who is in control in the teacher-student relationship and *Affiliation* (cooperation versus opposition), describing the degree of cooperation between teacher and students (figure 1) (Kyriakides, 2005; Wubbels & Brekelmans, 2005; Wubbels et al., 2006).

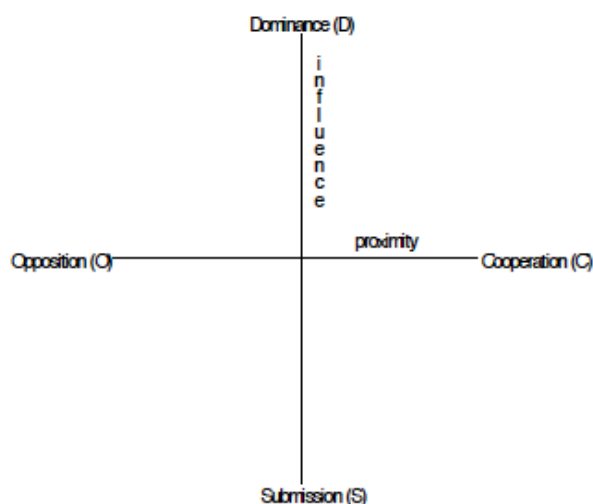


Figure 1. Two-dimensional model for interpersonal teacher behaviour (Wubbels et al., 2006)

observation. The ideal image is how teachers like to be seen by their students in the classroom. It guides their interpersonal behaviour, but teachers are not able to behave completely in accordance with that ideal because of context factors (Wubbels et al., 1992). Students' image is the perception students have about their teacher's interpersonal behaviour. Overall, teachers overrate their behaviour that is positively related with student motivation and cognitive outcomes and underrate their negatively related behaviour compared with students' perceptions (Maulana et al., 2012; Wubbels & Brekelmans, 2005; Wubbels et al., 2006). For most teachers ideal QTI-characteristics are higher than the self-reported QTI-characteristics. For another group of teachers the ideal and self-image were far more apart. Actually, students had a better view on teachers' actual behaviour than teachers themselves (Wubbels et al., 1992).

According to Korthagen (2001) teacher's behaviour is visible but the inner beliefs determine his behaviour. Thus, teachers' interpersonal behaviour is based on inner beliefs. But there is no direct link between beliefs and the actual behaviour. There are some intermediating factors, which determine the actual interpersonal teacher behaviour. In the next section I will focus on the Theory of Planned Behaviour (TPB). This model shows the intermediating factors between teacher's beliefs and actual behaviour.

Theory of Planned Behaviour (TPB)

Ajzen first described the TPB (figure 3) in 1985 and the theory focuses on the behaviour itself and considers attitudes, social norms and self-efficacy beliefs. Actual human behaviour, as for instance interpersonal teacher behaviour, is influenced by the attitude towards behaviour, the subjective norm, and the perceived behavioural control (Ajzen, 1991; Ajzen & Cote, 2008). The *attitude* towards the behaviour is defined as 'the degree to which performance of the behaviour is positively or negatively valued', the *subjective norm* as 'the perceived social pressure to engage or not to engage in a behaviour', and the *perceived behavioural control* as 'people's perceptions of their ability to perform a given behaviour. Those factors form the behavioural intention. *Intentions* are indications of how hard people are willing to try. The stronger the intention the more likely the behaviour should be performed (Ajzen, 1991). Wubbels & Brekelmans (2005) state that teacher's intentions are important variables, which may influence teaching behaviour. Intentions can also be important factors in teacher development, specifically about changes in patterns in

interpersonal relationships between students and teachers (Wubbels, Brekelmans, Den Brok, & Van Tartwijk, 2006).

Behavioural beliefs form the subjective probability a person has that certain behaviour will lead to certain outcomes. The overall attitude towards the behaviour is determined by all positive and negative images a person has about the outcomes. *Normative beliefs* are the basis for perceived social pressure or subjective norm. A normative belief is the expectation or subjective probability a person has that the behaviour would be approved or disapproved by an individual or group. Accessible *control beliefs* are beliefs about factors, that facilitates or impedes the performance of behaviour and they form the perceived behavioural control. All these factors can facilitate or disturb the behavioural intention and the actual behaviour. Control factors are for instance required skills and abilities, (un)available resources, and collaboration. Although sometimes inaccurate, unfounded, or biased behavioural, normative and control beliefs produce attitudes, subjective norms and perceptions of behavioural control. These determine the behavioural intention that will result in actual behaviour (Ajzen, 1991; Ajzen & Cote, 2008).

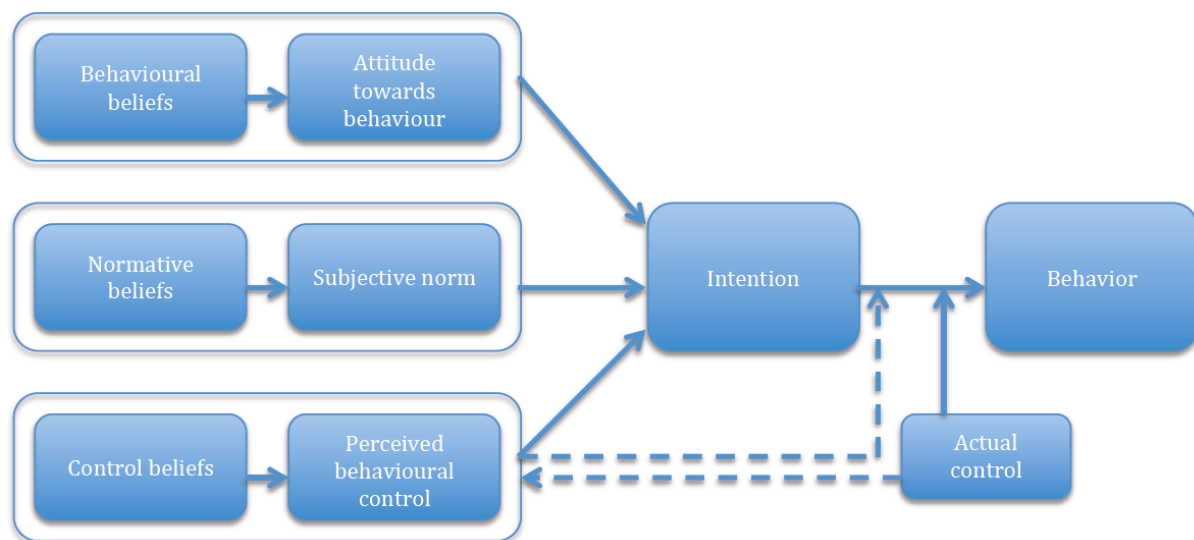


Figure 3. Theory of Planned Behaviour (Ajzen & Cote, 2008).

Problem description & research questions

Given the necessity of study coaching for learning experiences in higher vocational education the coaching role of teachers is important. Study coaching, just as teaching, is happening in interaction and teacher's interpersonal behaviour is important for learning

experiences to take place. Besides, for enhancing professional development of teachers it is important to reveal teachers' beliefs and the discrepancies between teacher's ideal, self-reported and student-reported interpersonal behaviour.

Teacher's interpersonal behaviour in study coaching is the behaviour investigated in this research. It is defined as the behaviour (verbal and non-verbal) between teachers and students during study coaching. According to the TPB teacher's attitude towards, subjective norm and perceived behavioural control are predicted by their underlying beliefs (behavioural, normative, and control). For intervention use and professionalising teachers the beliefs are the first point of interest in this study. Besides, it is interesting to know to what extent those beliefs determine the attitude towards, subjective norm, and perceived behavioural control about interpersonal teacher behaviour during study coaching. To what extent attitudes, subjective norms and perceived behavioural control about interpersonal teacher behaviour predict the intentions to that behaviour during study coaching is unknown. This will be the second point of interest in this study.

The third point of interest is the actual interpersonal behaviour of study coaches. From a professionalising point of view it is interesting to know if there are any differences between the perceptions of the teacher (ideal and self-image) and their students. Do teachers' perceive themselves the same as their students do? And do they ideally like to behave themselves differently? This actual interpersonal teacher behaviour is measured on the two dimensions: affiliation and control.

According to Wubbels & Brekelmans (2005) teacher's intentions are important variables, which may influence teaching behaviour. They might even explain some differences in student-teacher relationships. The predictive value of study coaches' intentions to their interpersonal behaviour, on both the control and the affiliation dimension, are the last points of interest in this research. Because controlling factors are already investigated in the perceived behavioural control the 'actual control' part of the TPB-model is not investigated in this study.

In the present study an attempt was made to answer the following main research question: *'What is teachers' interpersonal behaviour during study coaching and what are the determinants of that behaviour?'* This question was divided into four sub-questions:

1. To what extent predict the underlying beliefs the attitude towards, subjective norm and perceived behavioural control about teachers' interpersonal behaviour during study coaching?

2. To what extent do teachers' attitude towards, subjective norm, and perceived behavioural control about their interpersonal behaviour predict their intention to their interpersonal behaviour during study coaching?
3. What are the ideal, self-image, and students' image of the interpersonal teacher behaviour, specifically on the control and affiliation dimensions, during study coaching?
4. To what extent does the intention towards the interpersonal behaviour during study coaching, predict the ideal, self-image, and students' image of interpersonal teacher behaviour (on the control and affiliation dimensions)?

The conceptual model of the research is shown in figure 4. It is an adaption of the TPB-model to the interpersonal behaviour in study coaching.

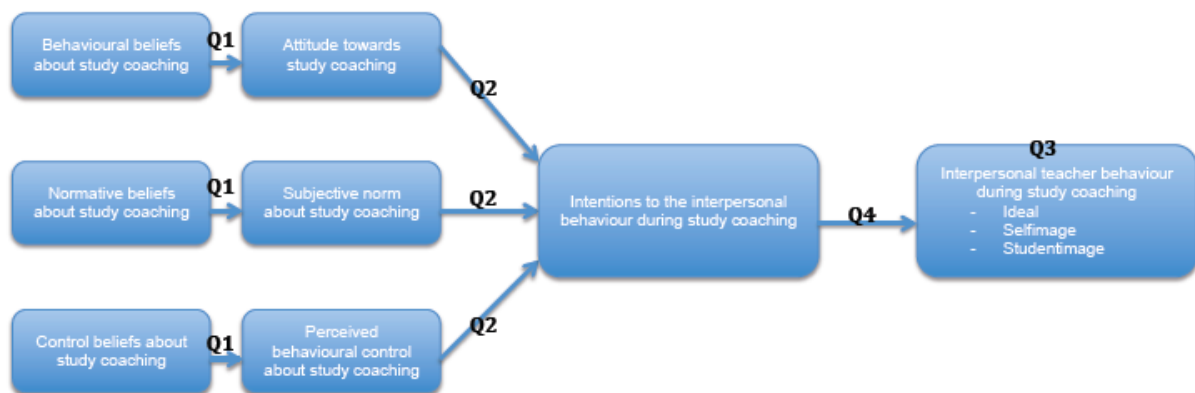


Figure 4. Conceptual model of determinants of teachers' interpersonal behaviour during study coaching.

Hypotheses

According to Ajzen (1991, 2011; Ajzen & Cote, 2008), behavioural, normative, and control beliefs form the attitude towards, subjective norm, and perceived behavioural control about behaviour. Thus, it is hypothesized that each of study coaches' underlying beliefs about their interpersonal behaviour during study coaching will significantly predict respectively their attitude towards, subjective norm, and perceived behavioural control about their interpersonal behaviour.

According to the TPB the intentions to teacher's interpersonal behaviour in study coaching will be determined by teacher's attitude towards, subjective norm and perceived behavioural control about this behaviour (Ajzen, 1991; Ajzen & Cote, 2008). To what extent

which determinant will predict the intention is difficult to hypothesize because, to my knowledge, predictors of interpersonal teaching behaviour have never been investigated in any study using the TPB.

Veenman et al. (1998) state that a good student-teacher relationship and a safe environment are important in coaching. Moreover, it has been proven that the closer the teacher is to his students, the higher students' affective outcomes, like motivation and engagement, are (Kyriakides, 2005; Wubbels & Brekelmans, 2005; Martin & Dowson, 2009; Fraser et al., 2010). Because these are important outcomes in study coaching it is hypothesized that *affiliation* will be a more important dimension of the interpersonal teacher behaviour than *control*. Besides, it is hypothesized that the scores of the ideal image will be higher than the scores of teachers' self-image, which will be higher than students' scores of interpersonal teacher behaviour (Wubbels et al., 1992).

Because Wubbels et al. (1992) regard that teachers' ideal about education and their role in it will guide their behaviour and according to the TPB the intentions to interpersonal teacher behaviour will determine the actual behaviour (Ajzen, 1991; Wubbels & Brekelmans, 2005) it is hypothesized that the intentions will best predict teachers' ideal interpersonal teacher behaviour in study coaching. When the hypothesis of the former question will be proven to be true the intentions will predict teachers' self-image less than the ideal image but a significant prediction is expected because teachers' self-image is a reflection of their actual behaviour (Wubbels et al., 1992).

Methods

Researchdesign

This empirical study has a mixed-method design (Robson, 2002): a small qualitative research was conducted to validate the content of the items in the TPB-questionnaire. In an individual free response format, a written structured interview, four respondents were asked to elicit their salient beliefs about study coaching (Ajzen, 2011). The main part of the study had a quantitative design; an online questionnaire was conducted. In the beliefs-part of the TPB-model the independent variables were teacher's behavioural, normative, and control beliefs about their interpersonal behaviour in study coaching. The attitude towards, subjective norm and perceived behavioural control about their behaviour were the dependent variables. In the second part of the study the former dependent variables were the independent variables, which predicted the dependent variable 'teachers' intentions to their interpersonal behaviour in study coaching' and these intentions determined the actual interpersonal behaviour. The actual behaviour was measured by means of a newly constructed QTI, which measures the ideal and self-reported interpersonal teacher behaviour as perceived by teachers, and their students' perception of this behaviour. The QTI has mostly been used in specific subjects in secondary education and just a few times in other contexts. It has been proven a valid and reliable instrument (Wubbels et al., 2006; Fraser et al., 2010). To my knowledge, interpersonal teacher behaviour in study coaching in higher education has never been investigated before. Thus, the QTI will be adapted to measure teachers' and students' perceptions of interpersonal teacher behaviour in study coaching.

Context description. This study was conducted at the Marnix Academie in Utrecht. This school for higher vocational education is specialized in teaching and professionalizing primary school teachers. There are approximately 1500 bachelor students and 150 employees. The Marnix Academie is an open Christian institution. Key aspects are 'engaged, passionate and competent'. This is elaborated in the competencies a student has to possess at the end of his education at the Marnix Academie (Marnix Academie, 2012).

At the Marnix Academie guidance and support for valuable learning take place in study coaching. All students have to follow 80 minutes of study coaching each week of every year of their education. Study coaching has the following main goals: development of student's own professional identity and learning to learn cooperatively (Marnix Academie, 2007). Several features of study coaching at the Marnix Academie (2007) are similar to

characteristics of coaching in higher education. First, teachers guide and support students to reflect on their experiences in practice. Development of meta-cognitive skills (self-regulated learning) is also important. Teachers facilitate a safe environment and anticipate on the students' needs. As education proceeds, guidance and support are reduced. The three levels of reflective practices (professional identity, sense of mission, and meta-cognition) are also visible in the goals of study coaching (Frick et al., 2010). Besides, the Marnix Academie (2007) emphasizes the importance of asking questions, giving feedback to facilitate students' reflection, and a good teacher-students relationship (Ketelaar et al., 2012).

Procedure

After the management of the study coaches authorized the research four study coaches were asked for their cooperation in the pilot study, the free response format. With the results of the pilot study the TPB-questionnaire was constructed. The QTI was constructed in cooperation with a fellow researcher. Both questionnaires were combined in one online-survey, including measurements of demographic characteristics, personal and other background variables.

Then all study coaches received an email with information about the research. A few days later the study coaches received another email with a link to the online questionnaire for each study coach group ($n = 86$). Because of the spam filter not all study coaches received the email with the link to the questionnaire, and a week later another email was sent. Two weeks after the initial email the study coaches did receive a reminder.

The ideal as well as the self-image of study coaches' interpersonal behaviour during study coaching was assessed in one questionnaire. If the study coach was completing the questionnaire for the first time he had to complete it entirely, including the TPB-part of the questionnaire. If that was not the first time he just had to complete the self-image part of the questionnaire with a specific study coach group in mind. After four weeks of data gathering the datasets were exported from the online program to SPSS. After that data analysis was started.

Participants

For the main research a selective cluster sample was used, because all study coaches ($n = 54$) of the Marnix Academie have been approached. Study coaches with more than one group received an email for every group. So a response of $n = 86$ was possible. Seventy-four

percent of the study coaches responded ($n = 64$). Forty-two unique participants completed the questionnaire, 22 of them completed it more than once. Eleven study coaches were male (26.2%) and 31 were female (73.8%). Half of them attended a study coach course and half of them did not. The average age was 42.3 years ($SD = 9.38$). The average amount of years study coaches taught at the Marnix Academie was 7.7 years ($SD = 7.43$) and the years they were giving study coaching were on average 4.9 years ($SD = 2.77$). Twenty-seven study coaches were teaching in year one (42.2%), 13 in year two (20.2%), 12 in year three (18.8%), and 12 in year four (18.8%).

Instruments

In this study three instruments were used: the free response format, the questionnaire on teacher interaction (QTI), and the TPB-questionnaire. In the next section the instruments, their validity and reliability, and the constructs they measure are discussed.

Free response format. The free response format was used to elicit teachers' accessible behavioural outcomes, normative referents and control factors, so possible beliefs would become clear. This format was constructed according to Ajzen's (2011) instructions. It is a written structured interview with lots of room for input of the respondents. An example of a question is 'which advantages do you see in study coaching? For yourself as well as your students?' It was analyzed manually: all the salient beliefs, normative referents and control factors that were mentioned by the four respondents were used to formulate items for the TPB-questionnaire.

TPB-Questionnaire. Because of the input of the pilot study and the item construction according Ajzen's (2011) instructions the content of the TPB-items are supposed to be sufficiently valid. As recommended a seven-point bipolar adjective scale was employed, because this scale is optimal for assessing behaviour (Ajzen, 2011). Study coaches had to score this scale with a figure (1-7), which matched their opinion best. To make sure the study coaches understood the scoring a simple question with the scale was used to explain (figure 5). The adjectives were all formulated the same way, negative answers had to be scored low and positive answers had to be scored high. Six items were recoded.

Today, the weather in Utrecht is.....:														
bad:	1	:	2	:	3	:	4	:	5	:	6	:	7:	good
	Extremely	-	quite	-	a little	-	neither	-	a little	-	quite	-	extremely	

Figure 5. Example question and scoring of the seven-point bipolar adjective scale.

Belief scales. To measure the underlying beliefs of the attitude towards, subjective norm, and perceived behavioural control about the interpersonal behaviour in study coaching 42 items were constructed. Belief indices were computed by multiplying each belief item with its subjective evaluation.

Confirmative factor analyses and calculating Cronbach's α 's for the subscales of the belief scale lead to deleting seven indices and replacing one index from the control beliefs subscale to the normative beliefs subscale. The final principal component analysis (PCA) with orthogonal rotation (varimax) showed the simplest structure with a loading of each index of $>.50$ on one factor. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, $KMO = .67$ (mediocre; Field, 2009). Bartlett's test of sphericity $\chi^2(136) = 822.10, p < .001$, indicated that correlations between indices were sufficiently large for PCA. In combination the three subscales explained 62,8% of the variance. Table 1 shows factor loadings, Eigenvalues, and percentages of explained variance by the indices after rotation. The indices that cluster on the same factors confirmed that factor 1 represents behavioural belief indices, factor 2 normative belief indices, and factor 3 control belief indices.

After factor analyses and determining the internal consistency (reliability) of the subscales 30 items were left. To assess *attitude beliefs* about interpersonal teacher behaviour in study coaching four items and five items assessing the evaluative outcomes of these beliefs. This *behavioural belief indices* scale ($n_{indices} = 5$) had a Cronbach's α of .93 and was considered to be reliable. To assess *normative beliefs* four items about normative referents of the teacher and five items about the motivation of the teachers to comply with these referents. The *normative belief indices* scale ($n_{indices} = 5$) had a Cronbach's α of was .87, which was reliable. To assess *control beliefs* six items to ask about the control factors and six about the power of these control factors. The *control belief indices* scale ($n_{indices} = 6$) had a sufficiently reliable Cronbach's α of .73. An example of a behavioural belief item is 'I expect to develop coaching skills during study coaching' and of its matching evaluative outcome item 'With respect to content: for me as a teacher study coach classes are non-valuable versus invaluable'

Table 1.

*Summary of confirmatory factor analysis results for the belief-indices-scales of the TPB-questionnaire.**

	Rotated Factor Loadings		
	1 = behavioural belief indices	2 = normative belief indices	3 = control belief indices
BB31ATTOC1	.93		
BB31ATTOC3	.91		
BB32ATTOC7	.86		
BB33ATTOC5	.89		
BB34ATTOC2	.72		
CB35POC47			.54
CB38POC49			.69
CB40POC51			.54
CB41POC54			.63
CB42POC53			.75
CB43POC55			.68
NB58MTC26		.83	
NB59MTC27		.50	
NB60MTC28		.93	
NB60MTC30		.82	
NB61MTC29		.74	
EIGENVALUES	5.81	2.72	2.14
% of variance	34.20	15.98	12.61

*Note: Factorloadings >.50

Direct measure scale. Intentions and attitudes towards, subjective norm and perceived behavioural control about interpersonal teacher behaviour in study coaching were directly measured by means of the TPB-questionnaire. Seventeen items were constructed according to Ajzen's (2011) instructions. A separate factor analysis was executed on these subscales because they would correlate too much with the belief subscales. For all four subscales Cronbach's α 's were calculated to look into the internal consistency (reliability).

After factor analysis and determining the reliability of the subscales 13 items were left. Five items assessed teachers' intentions to interpersonal behaviour in study coaching. This intentions scale ($n_{items} = 5$) showed sufficient internal consistency with a Cronbach's α of .74 (Field, 2009). Four items assessed teachers' attitudes towards their interpersonal behaviour in study coaching. This attitude scale ($n_{items} = 4$) had a Cronbach's α of .93 and was considered

to be reliable (Field, 2009). After deleting two items the *subjective norm* scale ($n_{\text{items}} = 2$) had a Cronbach's α of .77, sufficiently reliable (Field, 2009). These two items assessed teachers' subjective norm to interpersonal teacher behaviour in study coaching. After deleting one item, the *perceived behavioural control* scale ($n_{\text{items}} = 3$) had a Cronbach's α of .59, which was not sufficient, but this was considered to be acceptable in this case (Field, 2009). Thus, three items were left to measure the teachers' perceived behavioural control about their interpersonal behaviour during study coaching. An example of an item of the *intentions* subscale is 'I put an effort in the preparation of study coach classes'.

The final principal component analysis (PCA) with orthogonal rotation (varimax) showed the simplest structure with a loading of each item of $>|.33|$ on one factor. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, $KMO = .73$ (good; Field, 2009). Bartlett's test of sphericity $\chi^2(91) = 564.11$, $p < .001$, indicated that correlations between items were sufficiently large for PCA. The four subscales in combination explained 74.9% of the variance. Table 2 shows factor loadings, Eigenvalues, and percentages of explained variance by the factors after rotation. The items that cluster on the same factors confirmed that factor 1 represents attitudes, factor 2 perceived behavioural control, and factor 4 subjective norms. The items of the *intentions* scale loaded on diverse factors. This is not surprising because it was expected that intentions were predicted by the other factors.

Together the belief scales and the direct measure scales resulted in a questionnaire of 43 items.

Table 2.

*Summary of confirmatory factor analysis results for the direct-measure-scales of the questionnaire.**

	Rotated Factor Loadings			
	1 = attitudes	2 = perceived behavioural control	3 = intentions	4 = subjective norm
ATT9: For me, the idea to be a study coach next year is93			
ATT10: For me, regularly teaching a study coach class is: difficult vs easy	.66			
ATT11: For me, regularly teaching a study coach class is: pleasant vs unpleasant	.85			
ATT12: For me, regularly teaching a study coach class is: non-valuable vs invaluable	.83			
PBC13: I am confident to give study coaching the way I should.		.71		
PBC14: I am sure I am well qualified to give study coaching		.82		
PBC15: I would like to attend a course to be a better study coach		.77		-.33
SN18: Most people, who personally mean a lot to me, think I should keep giving study coaching.				.88
SN20: Most people, who professionally mean a lot to me, think I should keep giving study coaching.				.82
INT21: I put an effort in the preparation of study coach classes.			.92	
INT22: I always like to give study coaching.	.40		.78	
INT23: I am on time for study coaching classes.	.32	.56	.41	
INT24: I intend to give study coaching next year.	.81			
INT25: I will go an extra mile for study coaching	.76		.37	
EIGENVALUES	5.34	2.25	1.51	1.38
% of variance	38.10	54.22	64.98	74.85

*Note: Factorloadings >.30

Actual interpersonal teacher behaviour in study coaching. The construct *actual interpersonal teacher behaviour in study coaching* was assessed by means of a questionnaire of interpersonal teacher behaviour (QTI). This QTI was constructed by using the items of the QTI-24 (Wubbels et al., 1992), complemented with some items of the QSDI (De Kleijn, Mainhard, Meijer, Pilot, & Brekelmans, 2012). This validates the content of the questionnaire. This resulted in a questionnaire of 35 Dutch items, adapted for use for study coaches and their students in higher education. The items were distributed over eight scales corresponding with the eight teacher behaviour types. An example of one item of the scale ‘leadership (DC)’ is ‘my study coach gives structure in class’. An example of the ‘understanding (CS)’ scale is ‘my study coach is patient’. A five-point Likert scale ranging from ‘Never/not at all’ to ‘Always/Very’ was used to formulate response possibilities (figure 6; Robson, 2002).

For the self-image of their interpersonal behaviour every study coach had to complete this questionnaire with a particular study coach group in mind: how do you think this group will see your interpersonal behaviour? Every study coach also completed the same questionnaire with the question ‘how would you like to be seen by your students?’ in mind. This resulted in the ideal image of the teachers of their interpersonal behaviour during study coaching.

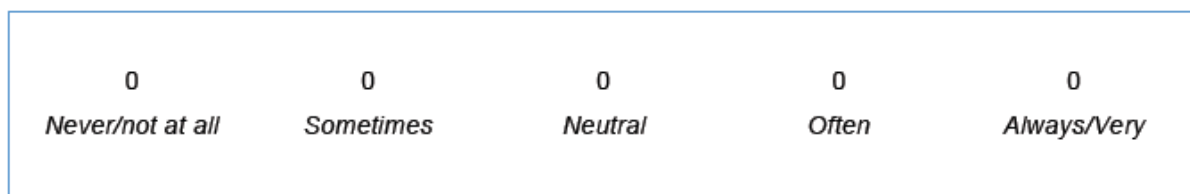


Figure 6. 5-point Likert scale of the used QTI

To establish the reliability of the QTI Cronbach’s α ’s were computed for each scale (octant) for the ideal, self-, and the students’ image about study coaches’ interpersonal behaviour during study coaching (table 3). Except for the SC-octant (students’ $\alpha = .58$; ideal $\alpha = .38$; self $\alpha = .47$) and the DO-octant (students’ $\alpha = .61$; ideal $\alpha = .52$; self $\alpha = .40$) every other octant was sufficient internally consistent (reliable) with a minimum Cronbach’s α of .67 and a maximum of .90 (Table 3). No items were deleted.

Table 3.

Reliability (Cronbach's α) of the QTI for students, ideal, and self for each octant.

Octant	<i>n</i> of items	Cronbach's α		
		Students (<i>n</i> = 85)	Ideal (<i>n</i> = 64)	Self (<i>n</i> = 64)
DC-leadership	4	.88	.73	.85
CD-Helpful/Friendly	4	.90	.88	.71
CS-Understanding	4	.85	.87	.79
SC-Student Responsibility/Freedom	4	.58	.38	.47
SO-Uncertain	5	.91	.85	.72
OS-Dissatisfied	4	.69	.73	.71
OD-Admonishing	5	.75	.67	.79
DO-Strict	5	.61	.52	.40

Results

In this chapter the results of the data analyses are described for every sub-question.

Predictive value of beliefs

To answer the first sub-question simple regression analyses were conducted. First the belief indices were summed up to produce composites of behavioural, normative, and control beliefs about teacher's interpersonal behaviour in study coaching (independent variables). Then, the *attitude*, *subjective norm*, and *perceived behavioural control* items were summed up to totals of attitude towards, subjective norm, and perceived behavioural control about teacher's interpersonal behaviour in study coaching (Ajzen, 2011).

The continuous independent variable *behavioural beliefs* significantly predicted the dependent variable *attitude* towards interpersonal teacher behaviour in study coaching, $R^2 = .43$, $F(1, 62) = 46.50$, $B = 14.29$, $p < .001$, and $b_{behaviouralbeliefs} = .66$, $p < .001$. Thus, 43% of the variance of study coaches' attitudes towards their interpersonal behaviour in study coaching was explained by their behavioural beliefs.

The continuous independent variable *normative beliefs* significantly predicted the dependent variable *subjective norm* about interpersonal teacher behaviour in study coaching, $R^2 = .45$, $F(1, 62) = 50.29$, $B = 8.21$, $p < .001$, and $b_{normativebeliefs} = .67$, $p < .001$. Thus, 45% of the variance of study coaches' subjective norm was explained by their normative beliefs.

The continuous independent variable *control beliefs* did not significantly predict the dependent variable *perceived behavioural control* about interpersonal teacher behaviour in study coaching, $R^2 = .02$, $F(1, 62) = 1.42$, $B = 12.63$, $p < .001$, and $b_{controlbeliefs} = .15$, $p = .24$.

Predictive value of direct measures

To answer the second sub-question a multiple linear regression analysis was conducted to determine if the hypothesized predictors of intentions to teachers' interpersonal behaviour in study coaching (dependent variable) were correct. The totals of attitude towards, subjective norm, and perceived behavioural control about teacher's interpersonal behaviour in study coaching were the independent variables.

Cases 3, 22, and 23 were deleted because they were outliers in the dataset. Hereafter, all assumptions for a multiple linear regression analyses were met: all the variables were quantitative continuous variables. The predictors did have some variance and there was no multi-collinearity between them. All the hypothesized predictors were put in the regression

model and the variances of the residues of the independent variables were homogeneous. The participants of the research were independent and there was a linear relation between the dependent and independent variables. The total of attitudes towards interpersonal teacher behaviour in study coaching significantly predicted the intentions towards interpersonal teacher behaviour in study coaching, $R^2 = .66$, $F(3, 57) = 36.55$, $B = 5.62$, $p = .05$, and $b_{attitudes} = .75$, $p < .001$. Subjective norm was a non-significant predictor, $b_{subjectivenorm} = .14$, $p = .10$. Perceived behavioural control also did not significantly predict the intentions towards interpersonal teacher behaviour in study coaching, $b_{pbc} = .07$, $p = .37$. The attitudes of the study coaches towards their interpersonal behaviour in study coaching explained 66% of the variance in study coaches' intentions towards their interpersonal behaviour.

Interpersonal teacher behaviour in study coaching

To answer the third sub-question the results of the QTI were analyzed. The scores of the control and affiliation dimension on the circumplex model were calculated for every group that the study coaches completed the QTI for (self-image). Moreover, the same scores were calculated for the study coaches' ideal image. Students also completed the QTI for their study coaches. The raw data to determine students' image of their study coaches' interpersonal behaviour were received from a colleague researcher.

The *ideal* image of study coaches' interpersonal teacher behaviour ($n = 64$) for the control dimension had an average of $M = .07$ ($SD = .06$) and a range of $[-.09, .17]$. The affiliation dimension had an average of $M = .39$ ($SD = .08$) and a range of $[.16, .47]$. The paired samples *t*-test showed that ideally teachers scored significantly higher on the affiliation dimension than on the control dimension, $t(63) = 35.60$, $p < .001$, $r = .52$.

The study coaches' *self*-image ($n = 64$) for the control dimension had an average of $M = .02$ ($SD = .07$) and a range of $[-.16, .13]$. The affiliation dimension had an average of $M = .31$ ($SD = .09$) and a range of $[.13, .47]$. The paired samples *t*-test showed that the study coaches scored their self-image significantly higher on the affiliation dimension than on the control dimension, $t(63) = 24.91$, $p < .001$, $r = .36$.

The *students'* image of their study coaches interpersonal behaviour ($n = 85$) for the control dimension had an average of $M = .02$ ($SD = .05$) and a range of $[-.10, .09]$ and the affiliation dimension had an average of $M = .34$ ($SD = .08$) and a range of $[.07, .47]$. The students scored the interpersonal behaviour of their study coaches significantly higher on the affiliation dimension than on the control dimension, $t(84) = 42.00$, $p < .001$, $r = .50$.

An ANOVA was conducted to determine if the averages on the control dimension between the ideal, self-, and students' image were significantly different. Levene's test of homogeneity showed that the variances of the three groups differed significantly in the control dimensions ($p = .03$). For that reason Welch's F was used. The control dimension showed a significant difference between the ideal, self-, and student image of the study coaches' interpersonal behaviour in study coaching, Welch's $F(2, 125.87) = 14.07, p < .001$. The LSD post hoc test showed a significant difference between *ideal* and *student* image of interpersonal teacher behaviour in study coaching ($M_{\text{difference}} = .04, p < .001$). Furthermore, the *ideal* and *self*-image showed a significant difference ($M_{\text{difference}} = .04, p < .001$). Teachers' *self*-image of their interpersonal behaviour in study coaching did not significantly differ with their *students'* image of that behaviour on the control dimension, $M_{\text{difference}} = .001, p = .90$.

An ANOVA on the results of the affiliation dimension also showed a significant difference between the ideal, self-, and student image of the study coaches' interpersonal behaviour in study coaching, $F(2, 210) = 13.30, p < .001$. The LSD post hoc test showed a significant difference between teachers' *ideal* image and the *students'* image about teachers' interpersonal behaviour in study coaching, $M_{\text{difference}} = .05, p = .001$. There also was a significant difference between teachers' *ideal* image and their *self*-image about their interpersonal behaviour in study coaching, $M_{\text{difference}} = .08, p < .001$. Teachers' *self*-image of their interpersonal behaviour in study coaching did not significantly differ with their *students'* image of that behaviour on the affiliation dimension, $M_{\text{difference}} = -.03, p = .06$.

Relationships between intentions and actual behaviour

To answer the last sub-question the results of both the TPB-questionnaire and the QTI were used. Six simple regression analyses were conducted on the total of intentions (independent variable) and the *control* and *affiliations* dimension scores of the *ideal*, *self*-, and *student image* of the actual interpersonal teacher behaviour in study coaching (dependent variables).

Intentions towards study coaches' interpersonal behaviour in study coaching did not significantly predict study coaches' *ideal* in interpersonal behaviour in study coaching on the *control* dimension, $R^2 = .001, F(1, 62) = 0.07, B = 0.06, p = .23$, and $b_{\text{intentions}} = .03, p = .80$. It also did not significantly predict the *ideal* interpersonal behaviour in study coaching on the *affiliation* dimension, $R^2 = .06, F(1, 62) = 3.73, B = .264, p < .001$, and $b_{\text{intentions}} = .24, p = .06$.

For the *self*-image *intentions* towards study coaches' interpersonal behaviour

significantly predicted the dependent variable (dimension) *control* in interpersonal teacher behaviour in study coaching, $R^2 = .07$, $F(1, 62) = 4.38$, $B = -0.08$, $p = .11$, and $b_{intentions} = .26$, $p = .04$. This indicates that 7% of the variance on the control dimension was explained by the intentions to the behaviour as measured by the TPB-questionnaire. The continuous independent variable *intentions* towards study coaches' interpersonal behaviour in study coaching did not significantly predict the dependent variable (dimension) *affiliation* of the *self*-image of teachers' interpersonal behaviour in study coaching, $R^2 = .03$, $F(1, 62) = 1.99$, $B = 0.21$, and $b_{intentions} = .18$, $p = .16$.

The *intentions* towards study coaches' interpersonal behaviour in study coaching significantly predicted the *student* image of teachers' interpersonal behaviour in study coaching on the *control* dimension, $R^2 = .17$, $F(1, 62) = 12.87$, $B = -0.10$, $p = .005$, and $b_{intentions} = .42$, $p = .001$. 17% of the variance in the scores on the control dimension was explained by study coaches' intentions towards their interpersonal behaviour in study coaching. But the *intentions* did not significantly predict the *student image* of teacher's interpersonal behaviour in study coaching on the *affiliation* dimension, $R^2 = .04$, $F(1, 62) = 2.58$, $B = 0.21$, $p = .003$, and $b_{intentions} = .20$, $p = .11$.

Conclusion & Discussion

In this chapter the main research question ‘*What is teachers’ interpersonal behaviour during study coaching and what are the determinants of that behaviour?*’ will be answered by drawing conclusions on the four sub-questions. Furthermore, the study will be critically reviewed and suggestions for further research will be given.

Conclusions

The first sub-question was ‘*To what extent predict the underlying beliefs the attitude towards, subjective norm and perceived behavioural control about teachers’ interpersonal behaviour during study coaching?*’ The expectation was that each underlying belief would significantly predict its direct measure (Ajzen, 1991; Ajzen & Cote, 2008). The attitudes towards and subjective norm about teacher’s interpersonal behaviour in study coaching were highly predicted by their underlying beliefs; behavioural beliefs predicted the attitude and normative beliefs predicted the subjective norm. Surprisingly, the control beliefs did not predict the study coaches’ perceived behavioural control about the teachers’ interpersonal behaviour in study coaching.

The results of the multiple linear regression analysis answer the second research question: ‘*To what extent do teachers’ attitude towards, subjective norm, and perceived behavioural control about their interpersonal behaviour in study coaching predict their intention to that behaviour?*’ It was expected that teachers’ attitudes towards, subjective norm, and perceived behavioural control about their interpersonal behaviour in study coaching would be significant determinants of their intentions to their interpersonal behaviour (Ajzen, 1991; Ajzen & Cote, 2008). It turned out that teachers’ intentions to their interpersonal behaviour in study coaching were mainly determined by their attitudes towards the behaviour. Subjective norm and perceived behavioural control about study coaching were non-significant determinants.

The non-significances of the control beliefs and the perceived behavioural control of the former two questions can be explained by the fact that teachers do not have a free choice to give study coaching. Although, teachers can control the way they behave in their study coaching groups.

The third research question was ‘*What are the ideal, self-image, and students’ image of the interpersonal teacher behaviour, specifically on the control and affiliation dimensions,*

during study coaching?' Because study coaching has mainly affective outcomes, for instance study motivation, reflection and development of professional identity (Marnix Academie, 2007), it was expected that teachers would score higher on the affiliation dimension than on the control dimension. As hypothesized, teachers perceived their interpersonal behaviour significantly higher on the affiliation than on the control dimension, as well in teachers' ideal image, as in teachers' self-image, as in students' image about teachers' interpersonal behaviour.

There was a significant difference between the ideal, self, and student scores on both the control as well as the affiliation dimension. It seemed that the ideal image teachers have about their interpersonal teacher behaviour significantly differed with their self-image. The ideal image also significantly differed with the students' image about their study coaches' interpersonal behaviour. Both results were hypothesized (Wubbels et al., 1992). Because the self-image of teachers usually is more corresponding their ideal it was expected that there would be a significant difference between the teachers' image and the students' image (Wubbels et al., 1992). Besides, teachers would probably overrate their interpersonal behaviour on the affiliation dimension (Maulana, 2012; Wubbels et al., 2006). But the results showed no significant differences on both dimensions. Thus, study coaches did have a good perception of their interpersonal behaviour during study coaching. An explanation for the similarity between study coaches' self-image and their students' image could be that in higher education teachers and students are more equal than in secondary education, so study coaches have a better image of the way their students perceive teacher's interpersonal behaviour.

The last question *'To what extent does the intention towards the interpersonal behaviour during study coaching, predict the ideal, self-image, and students' image of interpersonal teacher behaviour (on the control and affiliation dimensions)?'* made a connection between the results of the TPB-questionnaire and the results of the QTI. It was hypothesized that the intentions would best predict teachers' ideal interpersonal teacher behaviour in study coaching, because an individual's intentions to perform a behaviour, capture motivational factors and are an indication of how hard someone is willing to try (Ajzen, 1991). Besides, Wubbels et al. (1992) regard that teachers' ideal about education and their role in it will guide their behaviour. Unfortunately, on both dimensions the intentions did not significantly predict the ideal image of the study coaches.

A small part of the interpersonal behaviour on the control dimension as perceived by the study coaches themselves was determined by their intentions. Study coaches' intentions

even better predicted students' perceptions of their study coaches' interpersonal behaviour on the control dimension. Both the perceptions of teachers themselves and their students on the affiliation dimension were not significantly predicted by teachers' intentions towards interpersonal behaviour in study coaching. Thus, the self-perceived and students' perceived interpersonal teacher behaviour on the control dimension were influenced by the teachers' intentions, but the affiliations scores were not. An explanation for the results that were not according to the expectations could be that intentions influence the actual behaviour (Ajzen, 1991) and students' image of their study coach's interpersonal behaviour is more corresponding to the study coach's actual behaviour. Thus, students' image of the study coach's actual behaviour shows the real behaviour the teacher shows in his classroom (Wubbels et al., 1992). An explanation of the non-significant prediction of the intentions on the perceived affiliation of study coaches is that regressions were conducted separately on each dimension. The actual interpersonal teacher behaviour is a combination of the scores on the two dimensions. And it is possible that this whole teacher behaviour is more determined by their intentions.

Limitations and suggestions for future research

The results of the research should be interpreted with some care because of some limitations of the research. Besides, the data of this study can be used for future research.

First, the results of the ideal, self-, and students' image of the QTI on both dimensions are related with each other. It is possible that the results are too related for use of ANOVA's. In that case, multilevel analyses could be an alternative.

Second, because the adapted QTI was used for the very first time (after a small pilot among students) further research will be necessary to refine this questionnaire for use in higher vocational education. Special attention should be given to the reliability of the SC- and DO-octant. It is possible that with other subjects with less affective outcomes and more cognitive outcomes these octants will have higher reliability scores. But it is also possible that some items should be reformulated. To research the actual teacher behaviour it is recommended that, next to the QTI, a second research method, for instance observations of actual teacher behaviour, will be used to determine the whole of the actual interpersonal teacher behaviour and not just the separate dimensions. The results of these observations can be used to determine if the intentions predict the behaviour as a whole.

Further research should be done with a TPB-questionnaire that measures underlying ideas of interpersonal teacher behaviour in study coaching or another subject in higher

education. Because of the small amount of items of the subjective norm scale, some items should be added. An extra point of attention is the belief-part of the TPB-questionnaire: for every belief-item a matching power of that belief item should be constructed. In the questionnaire used in this research this was not the case, so a reconstruction of the belief-part of the questionnaire is in order. It is also important to give attention to the fact that teachers have no free choice to give study coaching. This could be the explanation of the non-significant prediction of the control-part of the model. According to Ajzen (1991) the behaviour should be under voluntary control of the teachers. The 'actual control' construct of Ajzen's Theory of Planned behaviour is of interest here and should be taken into account in further research. A good way to do this is to set up a focus group of teachers in higher vocational education to get more input about control beliefs, the perceived, and actual control teachers have on their interpersonal behaviour in class.

Furthermore, the existing data could be used to examine the differences between the diverse scores of study coaches who give study coaching to two or more groups. It is useful to see differences between groups and look into the reasons for different interpersonal behaviour of the same teacher. Besides, the differences between the diverse years could be of interest: is it true that, as one of the goals of study coaching suggests, teacher control is getting less over the years? For the professionalization of the study coaches it could be important to take a closer look into the differences of a study coach's own ideal, self-, and students' image of his interpersonal behaviour. The data of the colleague researcher could be used for this purpose.

According to Wubbels et al. (1987), attitudes correlate with interpersonal teacher behaviour, therefore it is recommended to take a closer look into the existing data for the predictive value of the separate constructs of the TPB (attitude, subjective norm, perceived behavioural control) and the interpersonal teacher behaviour. Furthermore, it would be interesting to investigate the actual affective outcomes of students who are attending study coach classes and the influence affective or control dimension scores of their teachers have on these outcomes.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50, 179-211. <http://www.cas.hse.ru/data/816/479/1225/Oct%2019%20Cited%20%231%20Manage%20THE%20THEORY%20OF%20PLANNED%20BEHAVIOR.pdf>
- Ajzen I., & Cote N. G. (2008). *Attitudes and the prediction of behavior*. In W.D. Crano & R. Prislin (Eds.), *Attitudes and attitude change* (pp. 289-311). Retrieved from <http://people.umass.edu/aizen/publications.html>
- Ajzen, I. (2011). *Constructing a theory of planned behavior questionnaire*. Retrieved from <http://people.umass.edu/aizen/pdf/tpb.measurement.pdf>
- American Psychological Association (2012). *Publication Manual of the American Psychological Association, 6th Edition*. Washington, DC: American Psychological Association.
- Beatty, B. R. (2000). Teachers leading their own professional growth: self-directed reflection and collaboration and changes in perception of self and work in secondary school teachers. *Journal of In-Service Education*, 26 (1), 73-97. doi: 10.1080/13674580000200102
- Baartman, L. K. J., Bastiaens, T. J., Kirschner, P. A., & Van der Vleuten, C. P. M. (2006). The wheel of competency assessment: Presenting quality criteria for competency assessment programs. *Studies in Educational Evaluation*, 32, 153-170. doi: 10.1016/j.stueduc.2006.04.006
- Baartman, L. K. J., & De Bruyn, E. (2011). Integrating knowledge, skills and attitudes: conceptualising learning processes towards vocational competence. *Educational Research Review*, 6, 125-134. doi: 10.1016/j.edurev.2011.03.001
- Biemans, H., Wesselink, R., Gulikers, J., Schaafsma, S., Verstegen, J., & Mulder M. (2009). Towards competence-based VET: dealing with the pitfalls. *Journal of Vocational Education & Training*, 61 (3), 267-286. doi: 10.1080/13636820903194682
- De Kleijn, R. A. M. , Mainhard, T. , Meijer, P. C., Pilot, A., Brekelmans, M. (2012). Master's thesis supervision: relations between perceptions of the supervisor–student relationship, final grade, perceived supervisor contribution to learning and student satisfaction. *Studies in Higher Education*, 37 (8), 925-939. doi: 10.1080/03075079.2011.556717
- Den Brok, P., Brekelmans, M., & Wubbels, T. (2004). Interpersonal teacher behaviour and student outcomes. *School effectiveness and school improvement*, 15(3-4), 407-442. doi: 10.1080/09243450512331383262
- Dewey, J. (1933). *How We Think*. [Epub version]. Retrieved from www.gutenberg.org.
- Eraut, M. (1998). Concepts of competence. *Journal of Interprofessional Care*, 12, 127-139.
- Fraser, B. J., Aldridge, J. M., & Soerjaningsih, W. (2010). Instructor-student interpersonal interaction and student outcomes at the university level in Indonesia. *The Open Education Journal*, 3, 21-33. Retrieved from <http://benthamscience.com/open/toeduj>

/articles/V003/21TOEDUJ.pdf

- Field, A. (2009). *Discovering statistics using SPSS, 3rd edition*. London: Sage Publications Ltd.
- Frick, L., Carl, A., & Beets, P. (2010). Reflection as learning about the self in context: mentoring as catalyst for reflective development in pre-service teachers. *South African Journal of Education*, 30(3). Retrieved from <http://www.ajol.info/index.php/saje/article/viewFile/60038/48295>
- Gullikers, J. T. M., Bastiaans, T. J., & Kirschner, P. A. (2005). Authentieke toetsing, de beroepspraktijk in het vizier. *Onderwijsinnovatie*, 2, 17-25.
- Ketelaar, E., De Brok, P., Beijaard, D., & Boshuizen, H. P. A. (2012). Teachers' perceptions of the coaching role in secondary vocational education. *Journal of Vocational Education & Training*, 64 (3), 295-315. doi: 10.1080/13636820.2012.691534
- Korthagen, F. (2001). *Waar doen we het voor? Op zoek naar de essentie van goed leraarschap*. Utrecht: WCC. Retrieved from <http://www.magixwebsite.com/mppo16/50/461/46153E4024B611E0ABB5FC3A5451776D.pdf>
- Kyriakides, L. (2005). Drawing from Teacher Effectiveness Research and Research into Teacher Interpersonal Behaviour to Establish a Teacher Evaluation System: A Study on the Use of Student Ratings to Evaluate Teacher Behaviour. *Journal of classroom interaction*, 40(2), 44-66. Retrieved from <http://www.eric.ed.gov/PDFS/EJ768695.pdf>
- Leary, T. (1957). *An interpersonal diagnosis of personality*. New York: Ronald Press Company. Retrieved from <http://ia700307.us.archive.org/20/items/interpersonaldia00learrich/interpersonaldia00learrich.pdf>
- Marnix Academie (2007). *Nota studiecoaching*. Utrecht: Marnix Academie.
- Marnix Academie. (2012). *Betrokken, bevlogen, bekwaam*. Utrecht: Marnix Academie.
- Martin, A. J., & Dowson, M. (2009). Interpersonal relationships, motivation, engagement, and achievement: Yields for theory, current issues, and educational practice. *Review of Educational Research*, 79(1), 327-365. doi: 10.3102/0034654308325583
- Maulana, R., Opendakker, M. C. J. L., Den Brok, P., Bosker, R. J. (2012). Teacher-student interpersonal relationships in Indonesian lower secondary education: Teacher and student perceptions. *Learning Environ Res*, 15, 251-271. doi: 10.1007/s10984-012-9113-7
- Rhodes, C., & Beneicke, S. (2002). Coaching, mentoring and peer-networking: challenges for the management of teacher professional development in schools. *Journal of In-Service Education*, 28 (2), 297-310. doi: 10.1080/13674580200200184
- Robson, C. (2002). *Real world research: a resource for social scientists and practitioner - researchers*. Oxford: Blackwell Publishing.
- Torraco, R. J. (2008). Preparation for midskilled work and continuous learning in nine community college occupational program. *Community College Review*, 35 (3), 208-236. doi:

10.1177/0091552107310119

- Veenman, S., De Laat, H., & Staring, C. (1998). Evaluation of a Coaching Programme for Mentors of Beginning Teachers. *Journal of In-Service Education*, 24 (3), 411-431. doi: 10.1080/13674589800200061
- Wubbels, T., Créton, H.A., & Hooymayers, H. P. (1985). *Discipline problems of beginning teachers, interactional teacher behavior mapped out*. Abstracted in *Resources in Education*, 20, 12, p.153, ERIC document 260040. Retrieved from <http://www.eric.ed.gov/PDFS/ED260040.pdf>
- Wubbels, T., & Levy, J. (1991). A comparison of interpersonal behavior of Dutch and American teachers. *International Journal of Intercultural Relations*, 15, 1–18. doi: 10.1016/0147-1767(91)90070-W
- Wubbels, T., Brekelmans, M., & Hooymayers, H. P. (1992). Do teachers ideals distort the self-reports of their interpersonal behaviour? *Teaching & Teacher Education*, 8 (1). 47-58. doi: 10.1016/0742-051X(92)90039-6
- Wubbels, T., & Brekelmans, M. (2005). Two decades of research on teacher–student relationships in class. *International Journal of Educational Research*, 43(1), 6-24. doi: 10.1016/j.ijer.2006.03.003
- Wubbels, T., Brekelmans, M., den Brok, P., & van Tartwijk, J. W. F. (2006). An interpersonal perspective on classroom management in secondary classrooms in the Netherlands. Retrieved from <http://igitur-archive.library.uu.nl.proxy.library.uu.nl/fss/2006-0915-200819/handbook%20classroom%20management%20ipp.pdf>